

# Today's Program Is Brought To You By The Letters – Debit And Credit And By The Number Income

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## ABSTRACT

*As each generation comes of age they receive a label. Currently, we are teaching the new millennials. Their learning style and time management preferences may respond better to a constant task and feedback cycle similar to the popular Public Television Series, Sesame Street. This paper examines the effects of requiring student to take an assessment as part of the grade in principles of financial accounting. In particular, this paper attempts to identify the effects on both performance and satisfaction.*

**Keywords:** millennials; performance; satisfaction

## INTRODUCTION

Eighteen years before the year 2000, the first members of the “millennials” were born. They are now the cultural group on campus today. Like each preceding group, they bring a different history and function in a different society. The millennials were born in the eighties and nineties and have come of age with the Internet and the War on Terrorism. They live in a world filled with more electronic devices for entertainment and information than any previous generation. The only common trend they have with all generations is that they must function in the same “24-7” week.

Different students have different strategies for acquiring, organizing and retaining information. Frequently, textbook and seminars on educational psychology will address the learning style of the student. Tuckman (1992) states that “Quite apart from the question of a person’s intelligence is the question of how the person typically goes about thinking and learning.” (p. 350.) Different generations come of age at different moments in history, bringing with them their own perspectives and needs.

According to Howe and Straus (2003) the millennials have wide range of characteristics which impact their experiences. They enjoy a close tie to their parents. Millennials are more interested in extracurricular activities and community services. They have developed a greater expertise with technology and demand a more secure and regulated environment. Further, they are “extremely focused on grades and performance.” These characteristics and the educational program which the millennials experience before starting college might have changed their focus from process to outcome. All too often a student perceives that time spent studying should cause a certain grade. The focus is more on the task than the learning. Consequently, this past semester students in principles of accounting class completed daily assessments, more open book than closed book, in lieu of daily homework.

Specially, Howe and Straus have identified several traits among new millennial which directly impact their classroom performance. The new millennials are “special.” They suggest that today’s college students expect to be monitored regularly and frequently praised for their performance. “For all students, the key is feedback and structure.” (p. 46.) They preferred to work in groups on short-term projects. Assessments which allow small groups of students to work together will provide more motivation and learning. The new millennials feel a greater need to organize the enormous amount of information available to them for any course. Finally, they are “pressured” and “achieving.” “Pushed to study hard, avoid personal risks, and take full advantage of the collective opportunities

adults are offering them, Millennials feel a ‘trophy kid’ pressure to excel.” (p. 31) To better suit these traits and needs daily homework assignments were replaced with daily assessments which often allowed for collaborative efforts while a significant minority of assessment were “quizzes.”

Finally, the research of Michaels and Mieth (1989) demonstrated that there is a significant effect of academic effort on college grades. Using undergraduate students enrolled in courses that fulfilled general educational requirements, they conduct a survey related to grades and study habits. They reported that study time was a significant impact on grades while class attendance did not. Their results further indicated that “class attendance and amount of study are associated with higher grades for those who study throughout the week, but not for ‘crammers.’” (p. 317) Activities which require students to study throughout the week should increase a steady effort on their part as well as provide constant feedback on their abilities.

The purpose of this research was to examine the immediate effects of replacing daily homework assignments with assessments, both open-book and closed book. More specifically we will test the following three hypotheses:

- H<sub>1</sub>:** Students who take daily assessments will earn higher grades;
- H<sub>2</sub>:** Students who take daily assessments will outperform students on the final exam, and
- H<sub>3</sub>:** Students who take daily assessments will report higher satisfaction.

## **METHODS**

The study involved 52 students enrolled in Principles of Financial Accounting, representing the entire enrollment of a small Economics and Business program. The control group was the previous students from the previous three years. Three years were chosen because it provides a significant base line and several changes in the course had been incorporated in the course at that point which would blur the effects. The subjects were simply told that the homework portion of the course grade had been replaced by daily assessments. These assessments were approximately 25 percent closed book and 75 percent open books.

Replacing homework with daily assessments was the only change in the structure of the course from the prior three years. The assessments were developed during the summer prior to the start of school to follow along with the previously developed lectures. As the school has a single sanction honor code (any student convicted of academic dishonesty is dismissed.) the assessments were made available on the faculty member’s door. This approach is the norm for the school. Further, the distribution of grades indicated that the integrity of the assessments scores had been maintained. Methods for managing the daily assessment for different academic operating constraint will be discussed below.

Each hypothesis had its own measurements. Performance in the course was measured based on the assign grade in the course and the percentage of students who received a satisfactory grade, a grade which would not required them to repeat the course. Performance on the final was based on the average percentage grade on each topic of the final exam. Students' satisfaction was based on scores on the student evolution.

## **RESULTS**

Performance as measured in grades: Results from the experiment are shown in Tables 1 through 3 and Figures 1 through 3. These results represent the relationship between the performances of the experimental group using daily assessment versus the control group, the previous three year population of grades earned. The first hypothesis predicts that higher grades will be earned in the experimental group. The grade distributions for both groups are presented in Table 1.

Table 1: Grade Distributions

	Without Daily Assessments		With Daily Assessments	
	Quantity	Percentage (Cumulative Percentage)	Quantity	Percentage
A	15	9.9 ( 9.9)	6	11.5 ( 11.5)
B	37	24.5 ( 34.4)	15	28.8 ( 40.3)
C	54	35.8 ( 70.2)	22	42.3 ( 82.6)
D	16	10.6 ( 80.8)	1	1.9 ( 84.5)
F	8	5.3 ( 86.1)	0	0 ( 84.5)
W	21	13.9 (100.0)	8	15.4 ( 99.9)
Total	151	100 %	52	100 %

When reviewing these results it is clear that the students earned higher grades when using the daily assessments. In the highest three grade (A, B, and C) not only did the cumulative percentages of the experimental group outpace the grades earned by the control groups, there actual was a higher percentage in each of the categories. Consequently there are lower percentages of students earning grades of D, F and W for students who used daily assessments.

The grade of “W” which represents students who withdraw from the class, leaves some room for interpretation. The grade cannot be assumed to represent a performance value in particular. However, the grade is often associated with students receiving D or F. Occasionally, students realized that for personal reason, they no longer need the course to graduate and leave the course. This later group will not be returning to re-take the course and cause no additional cost to the department. The minimum grade in Principles of Financial Accounting varies from programs, generally between “C” and “D.” Another measure of performance is satisfactory versus unsatisfactory performance. Using either a cutoff based on “C” or “D,” the results a similar. Figure 1 is a graphical representation using “C” as the cutoff and Figure 2 is a graphical representation using “D” as the cutoff.

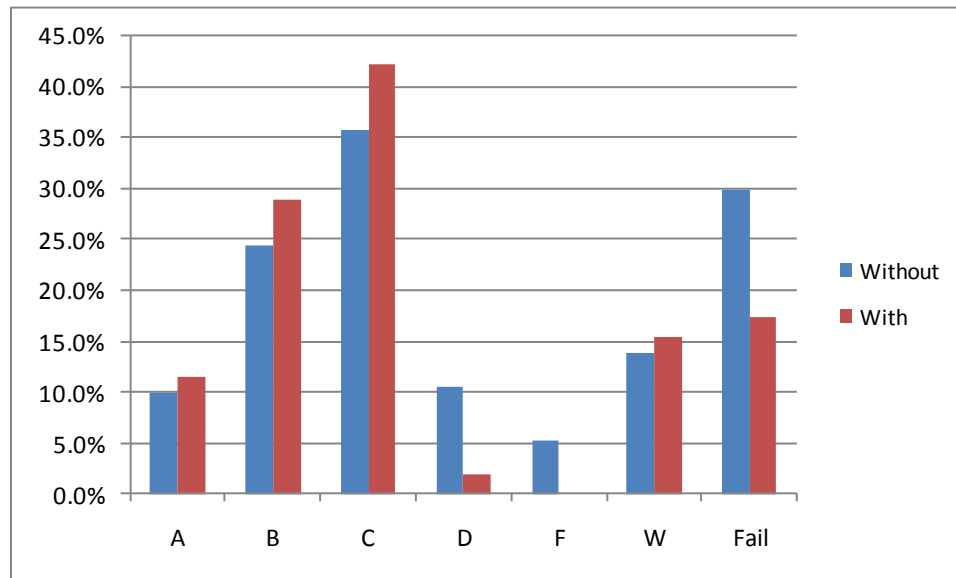


Figure 2: Grade Distributions where Fail is any grade below C

Students who took daily assessment were more likely to earn a satisfactory score on in Principles of Financial Accounting. Using the grades of A, B, and C as satisfactory grades, only 70.2 percent successfully completed the course without the assessment, while 82.7 percent successfully completed the course with the assessments. Using the grades of A, B, C, and D as satisfactory grades, only 80.8 percent successfully completed the course without the assessment, while 84.6 percent successfully completed the course with the assessments.

Finally, the grade of “W” offers an interesting contradiction. Students required to take daily assessments were more likely to withdraw from class than those who simply did homework problems. Although exit surveys were not used for the students who withdrew, there was some antidotal evidence that most of these students had decided to switch majors. It is possible that daily assessment provided earlier feedback to the students about their performance, making the decision on a timelier basis.

Performance as measured on the final: Generally, the final exam is a significant portion of the final grade. The final represented thirty percent of the final grade for these students. Consequently, the second hypothesis is consistent to expect that the performance on the final will be stronger for the students who received daily assessments. However, an examination of the students’ performance allows a closer examination on various topics and the ability of students to retain information. Table 2 summarizes the average percent correct on each section of the final exam in fall of 2008, without daily assessments, and 2009, with daily assessment. There were 45 students who completed the course in 2008. Previous years were not considered as certain polices related to the final exam had been changed.

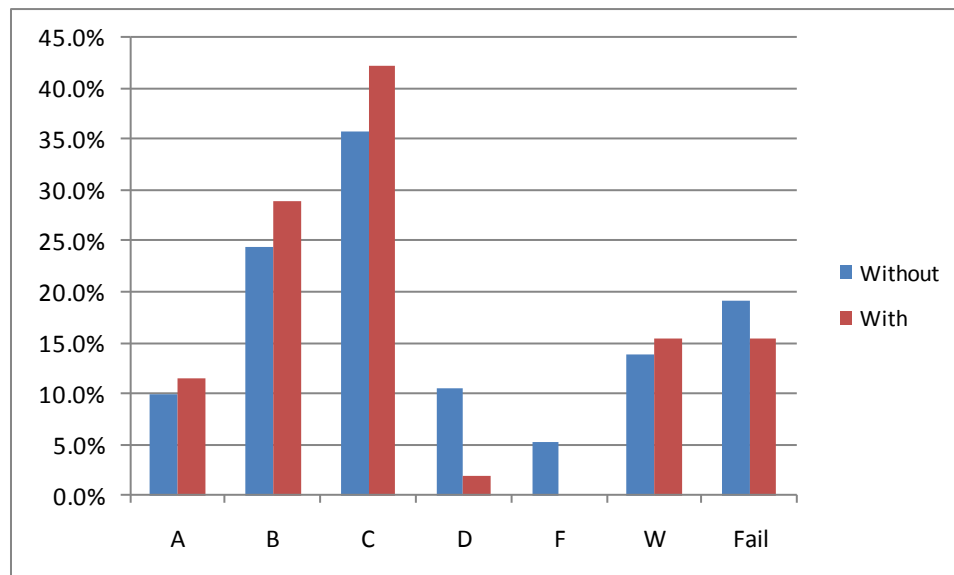


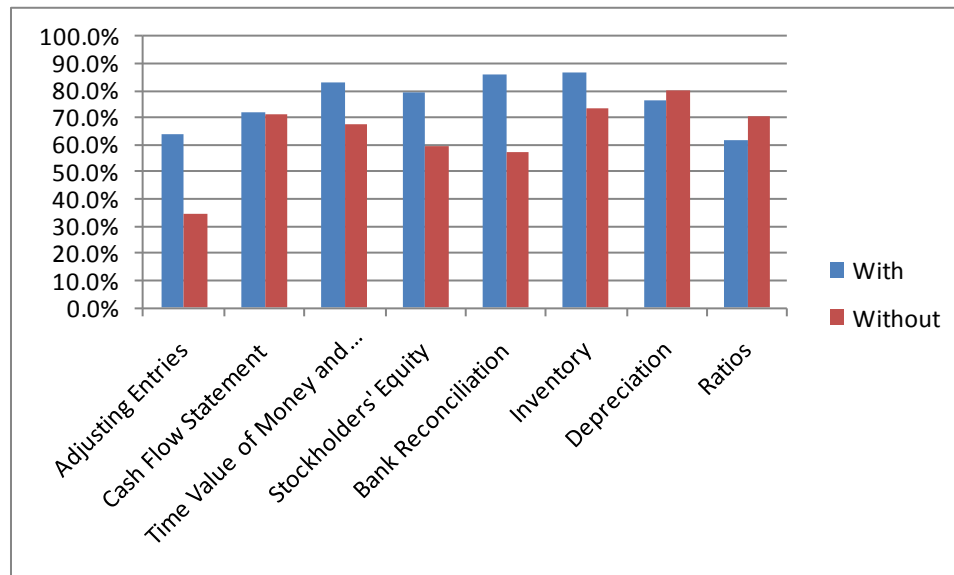
Figure 2: Grade Distributions where fail is any grade below D

Table 2: Average Final Scoresby Topic

Topic	Without	With
Adjusting Entries	34.4%	64.2%
Cash Flow Statement	71.4%	72.3%
Time Value of Money and Bonds	67.6%	82.9%
Stockholders' Equity	59.6%	79.3%
Bank Reconciliation	57.6%	86.3%
Inventory	73.8%	86.9%
Depreciation <sup>i</sup>	80.2%	76.1%
Ratios <sup>ii</sup>	70.2%	61.5%

Although, the results in general support the second hypotheses, there were some notable exceptions. As shown in Figure 3, students who received daily assessments performed better in five of the eight areas on the final – Adjusting entries, time value of money and bonds, stockholders’ equity, bank reconciliation, and inventory methods. The performance on the cash flow statement was approximately the same. Depreciation and ratios were the exceptions. Students who did not received daily assessments performed better on these topics. Ratios are not covered as a unit. Depreciation is the final unit of the course. The difference is less than five percent which might

be a random observation or the students possibly have reached their limit to acquire information for the term from the prior material. Further research could investigate this issue. Overall, students who took daily assessments were better able to retain information.



**Figure 3: Average Final Scores by Topic**

Satisfaction as measured on course evaluations: Generally at the end of the semester students are asked to complete course evaluations. In particular the course evaluation for Principles of Financial Accounting has two questions related to the use of assessments. First, students are asked “The instructor demonstrated interest in my success in this course.” This question is the closest measure to student satisfaction. It appears that the students were less satisfied when receiving daily assessments. The results are presented in Table 3.

**Table 3: Students Ranking of Instructor’s Interest in their Success**

Student Ranking	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
With	30	7	1	2	0	40
Without	38	2	3	0	0	43

Although, the professor’s rating was still strong, they was a slight decline in the percentage of students who “strongly agreed” with the statement. However, it should be noted that significantly more students withdrew from the course which might have had higher level of dissatisfaction, a point for further research.

Another measure was available on the course evaluations. Students were asked to respond to the following question: “What course activity provided the most intellectual simulation? Which was least stimulating?” Although a comparison with the previous year is not possible, the result for the semester in which the daily assessments were used is. Thirty percent of the students left this question blank and 42.5 percent did not address the daily assessment in their comments. Those who commented directly appeared to favor the assessment in approximately a three-to-one ratio. Students’ reactions to daily assessment would probably be best described as mixed.

**Conclusions and Future Considerations**

Results demonstrate that students on average perform better when required to do daily assessments as opposed to completing homework assignments. These improvements come with mixed effects on student

evaluations of faculty. Both measures of performance, course grades and final exam scores, are stronger for students who received daily assessments. Performance on the individual section of the final exam indicate that student appear to have greater retention. Performance on the course grade and passing rates are driven in part by the improved performance on the final as well improved performance on the individual exams. It should be noted that the course grade is also composed of average assessment scores which were significantly lower than homework scores. Although there is some contradictory evidence, in terms of satisfaction, students appeared to slightly lower the performance of the faculty member.

There are three limitations that should be discussed, the decline in student evaluation of faculty, that lack of long-term retention, and the nature of the teaching environment. The first point is perhaps one of institutional choice. The increase in performance has provided a decline in seats in excess of fifteen percent, which has significant budget impacts or class size. This positive effect as well as the impact of students' performance should improve the faculty member's overall evaluation. The second point will be tested when these students take their field exams as seniors. The third point is more difficult. The school is a small liberal arts school having only 50 to 60 majors per year, one professor and three sections of approximately 25 students per year. Not every institution has these parameters.

Although it is beyond the scope of this paper, daily assessment can be applied in various environments with creative planning. For example, an extreme opposite instructional environment would be a large state, research university in which the Principles of Financial Accounting is coordinated by a senior faculty and handled by numerous doctoral students. In this environment, the doctoral students could simply maintain a testing room where student's identification could be managed and the assessment scored. Another approach could put the assessments on line. This approach may limit the use of partial credit. Each program adopting daily assessments would have to determine the specifics of the applications. However, the cost savings in terms of resources makes the option most deserving of consideration.

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<sup>i</sup> Deprecation is the last topic covered during the semester. The last exam takes place at the end of the term and the final again a few days later.

<sup>ii</sup> Ratios are covered a various points during the semesters. Generally they are associated with the actual preparation of financial statements which is not specifically covered on the final exam.