The Question of the Week Approach for Online Teaching

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Abstract

The objective of the paper is to introduce a teaching strategy designed to improve students' engagement in management accounting classes. During the pandemics, the authors of this paper introduced a new requirement for the students, the question of the week. Instead of a normal homework, the teachers designed new questions, involving aspects from several chapters, with a higher degree of difficulty, or designed questions which required each student to introduce his or her own figures. The method describes the context and an example of application with solution. The results indicate that the questions improved the student engagement and their understanding of the concepts. The approach is original, as it helps the teacher to create example for each student. It can be used in both online and face-to-face teaching.

Keywords

Online teaching; student engagement; online platform; management accounting.

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Introduction

The beginning of the COVID-19 pandemic determined the universities to completely switch from exclusive face-to-face to exclusive online learning. The objective of the paper is to introduce a teaching strategy designed to improve students' engagement in management accounting (MA) classes.

In an online environment this is important because the teacher has limited access to the students and limited tools to interact with them (Tartavulea et al., 2020; Januszewski and Buchalska-Sugajska, 2022; Blondeel, Everaert and Opdecam, 2023). Also, the solution introduced in this paper is represented by a homework, a form of formative assessment. By sending the students varied applications as homework, the teacher overcomes the obstacle imposed by the pandemic and represented by proctoring for the evaluation.

The study answers the objective by introducing a new teaching approach: the question of the week, which is a homework received by the students, designed for that particular cohort and sent to them as part of their homework. The questions are also special because they include rules regarding the variables instead of numbers and each student has to adapt the text to his or her particular context.

The paper is organised as follows. First, we discuss the challenges brought by the pandemic in terms of lectures design and assessment. Next, we present the context under which the applications were created. The paper continues with an example of an application. We finish with our conclusions.

1. Literature review

Formative assessment is represented by assessing the learning process during the semester. They may include homework (Tartavulea et al, 2020). Yet, the homework is in general the same for the entire cohort and even from one cohort to another. At an undergraduate level, the critical thinking skills and interpretation of the results are less frequent than the technical skills required, meaning that it is easier for the students to be inspired by their peers in solving their homework. To a greater extent than summative assessment,

formative assessment is thought to have a positive impact on students' performance (Brookhart, 1997). Formative assessment helps students feel less stressed as they are able to review learning material, can self-reflect and discuss with other students which helps them to better understand the course content (Cheng and Ding, 2021).

Online assessment has been widely used in both summative and formative assessment for many years. Literature suggest that online assessment promotes active engagement, stimulates interaction with content, encourages students to become responsible for the learning process which is the key of future success. The online activity of students tends to peak in the week of the assessment and in the week before the assessment and this may be a sign that weekly online assessment may encourage class participation and active learning (Cheng and Ding, 2021).

Learning accounting implies reviewing the learning material multiple times during the semester. Accounting in general and management accounting in special is a technical course that involves acquiring of concepts, techniques and technical competences. This is the reason many students perceive accounting as a difficult course which leads to failure and poor course perception. Moreover, studies show that procrastination is a frequent practice among students (Steel, 2007; De Paola, Gioia and Scoppa, 2023) and this is a major problem in the case of technical courses such as accounting. Formative assessment is thought to have a positive influence on procrastination behaviour and therefore on students performance, increasing self-efficacy and decreasing test anxiety (Blondeel, Everaert and Opdecam, 2023).

A study on online learning conducted in Poland in the field of managerial accounting shows that students have highly appreciated the e-learning method used during the COVID-19 pandemic. Despite some drawbacks that were caused by social distancing (a sense of isolation, the lack of immediate contact with the tutor) the students results are evidence of the fact that this form of learning achieved the expected educational outcomes and, even more important, it was very well appreciated by students (Januszewski and Buchalska-Sugajska, 2022).

Flipped or inverted classrooms is an approach in which students are encouraged to become responsible for the learning process while the classroom time is not used to deliver information but to solve problems, discussions, hands-on activities and guidance. The literature indicates that flipped classrooms have many positives outcomes but also some limitations are associated with this approach. As positive educational outcomes of flipped classroom most authors cite students learning achievements and satisfaction, learning performance, better retention, improved attendance, more efficient class time, more time for practice, improvement of critical thinking skills (Akçayır and Akçayır, 2018). Among the drawbacks of this approach, the authors highlight the need of quality instructional videos and also the need of more interactive tools required to provide feedback to students immediately as they see the content for the first time or when they are doing homework outside the class. Also, literature shows that it is not clear how much of the benefits of flipped classrooms are actually due to active learning methods and future research should address the differences between flipped model and non-flipped active learning models (Jensen and Kummer, 2015; Akçayır and Akçayır, 2018).

2. The method

The context in which the applications were developed

The COVID-19 pandemic determined in March 2020 the complete switch from face-to-face to online learning in Romania after three weeks of study in the case university (out of a total of fourteen weeks included normally in a semester). The cohort described in this paper was in the second year of studies, second semester, and one of the compulsory disciplines included in the syllabus was MA. MA is usually considered more difficult by the students than financial accounting because they study it in a lower number of classes, the rules are not as strict as in the case of financial accounting, the applications require interpretation, logic, basic math knowledge, and, sometimes, the creativity of the students.

In March 2020, for MA the teacher who had the lecture at this cohort started to use immediately the online platform provided by the university and zoom for synchronous classes. The platform, which is adapted from Moodle, allowed the teacher to post files, homework, quizzes, short questions during the lectures or tutorials in order to test if the students were paying attention to the classes. As the semester was already started and the students had the didactic materials before the switch to online learning, it was difficult to change the applications significantly.

However, the online teaching continues during the next academic year, which starts in Romania in October. The authors of this paper were teaching the cohort a discipline which continued the aspects introduced in MA. The new lecture was Performance measurement and control (PMC). The chapters covered were costing, decision making, transfer prices, budgeting, performance reporting. The discipline is more difficult than the MA, it introduces many new concepts but also builds on existing knowledge. The teachers decided to apply a different approach. Thus, noticing during the first semester of pandemic that the students' engagement with the lecture decreased (e.g. some of them didn't focus during the lectures, they didn't turn on their cameras on zoom), they decided to ask the students to solve during each week an application for which they needed good knowledge of the aspects discussed in MA and PMC. This was named by them "question of the week" and it was designed to raise the students' interest in PMC, to offer them more attention and also satisfaction when understanding the problems. Eight such questions were distributed to the students. Each week, the teacher graded them and offered feedback during the classes, which is an advantage for the students (Cheng and Ding, 2021).

Some of the questions of the week were represented by a template in which the students had to include the missing variables. The variables were represented by numbers specific to each person, such as the birth date, the birth month, the birth year, mother's birthday, the number of the student in the group or series of students. They were created for contexts with which the students were familiar, such as an accounting firm, a firm producing chocolate, ice cream, or bicycles. They were all new, this cohort being the first to see them. Before distributing the applications, the students solved them with two sets of numbers: one was January 1st, 2001, a small number, and another one was October 25th, 1978, a larger number. All the issues were addressed, so that the solutions to be obtained were realistic (e.g. comparable figures for revenues and expenses). The teachers created excel templates in which they solved the application for each student who sent it. Next, we present the application created for full costing.

Example of application

VSD manufactures two types of puffs: plain puffs and flavored puffs. The information obtained from the financial accounting is presented in Table 1.

Table no. 1. Information obtained from financial accounting

No.	Items	Text received by the students		Data for birthday: October 25, 1978	
		Plain puffs	**Flavored puffs**	**Plain puffs**	**Flavored puffs**
1	Selling price	Min(3; month of birth)	Min(4; month of birth)	3	4
2	Raw materials (sorghum) needed for a bag of puffs (grams)	Max(10; birthday)	Max(8; birthday*5)	25	125
3	Unit price for one kilogram of sorghum	Min(3; month of birth)		3	
4	Direct labor hours for 100 bags of fluff (hours)	Min(0.5; month of birth/10)	Min(0.6; month of birth/10)	0.5	0.6
5	Cost of one hour of direct labor	Max(month of birth*10; 100)		100	
6	Quantity obtained	Min(birthday*birth month*birthyear; 50,000)	Min(birthday*birth month*3,000; 5,000)	50,000	5,000
7	Manufacturing overheads	Max(100,000; month of birth*year of birth)		100,000	
8	Administration and selling expenses	Min(500,000; day of birth*month of birth*50)		12,500	

Source: authors' compilation 2023

Calculate:

a) The manufacturing cost using the traditional method, knowing that for the apportionment of manufacturing overheads the number of direct labor hours is used as the absorption basis;

b) The full cost knowing that the manufacturing cost is used as the basis of absorption for the apportionment of administration and selling expenses;

c) The result of the enterprise knowing that the entity did not have initial and final inventories.

Solution for the date October 25, 1978

The full cost is computed in table 2.

Table no. 2. Full cost

No.	Items	Plain puffs	Flavored puffs
1	Raw materials (kg)	0.025	0.125
2	Unit price (monetary units – mu/kg)	3	3
3	Raw materials expenses per bag of puffs (rows 1*2)	0.075	0.375
4	Labor hours per piece (bag of puffs)	0.005	0.006
5	Cost per labor hour	100	100
6	Labor cost per bag of puffs (rows 4*5)	0.5	0.6
7	Quantity obtained	50,000	5000
8	Total number of labor hours (rows 4*7)	250	30
9	Prime cost (rows 3 + 6)*(row 7)	28,750	4875
10	Manufacturing overheads (see below)	89,285.71	10,714.29
11	Manufacturing cost (rows 9 + 10)	118,035.7	15,589.29
12	Administrative and selling expenses (see below)	11,041.69	1458.305
13	Full cost (rows 11 + 12)	129,077.4	17,047.59
14	Selling price per bag	3	4
15	Turnover (rows 7*14)	150,000	20,000
16	Result (rows 15 – 13)	20,922.59	2952.409

Source: authors' compilation 2023

We compute the overhead absorption rate (OAR) for the manufacturing overheads:

OAR = ΣManufacturing overheads/ΣAbsorption base (1)

The absorption base is represented by the total number of labor hours (row eight in the table 2). With the data presented here, the OAR will be:

OAR = 100,000/(250 + 30)

OAR = 357.1429.

Thus, the manufacturing overheads for each type of product are:

Manufacturing overheads for Plain puffs = 357.1429*250 = MU 89,285.71

Manufacturing overheads for Flavored puffs = 100,000 – 89,285.71 = MU 10,714.29.

We compute the OAR for administrative and selling expenses. The absorption base is represented by the manufacturing cost (row 11 in the table).

OAR = 12,500/(118,035.7 + 15,589.29) = 0.093545.

The administrative and selling expenses apportioned to each product are:

Administrative and selling expenses for Plain puffs = 118,035.7*0.093545 = MU 11,041.69

Administrative and selling expenses for Flavored puffs = 12,500 – 11,041.69 = MU 1458,31.

3. Results and discussion

Grading of applications

The grading was conducted according to table 3.

Table no. 3. Grading the applications

No.	Item	Maximum marks
1	Text with variables for each student	2
2	Prime cost	2
3	Apportionment of manufacturing overheads	1
4	Manufacturing cost	1
5	Apportionment of administration and selling expenses	1
6	Full cost	1
7	Result	1
8	Default point	1
9	Total	10

Source: authors' compilation 2023

The results obtained by the cohort

Eight such "questions of the week were distributed to the cohort during the first semester of the academic year 2020-2021. The number of respondents is included in figure no. 1.

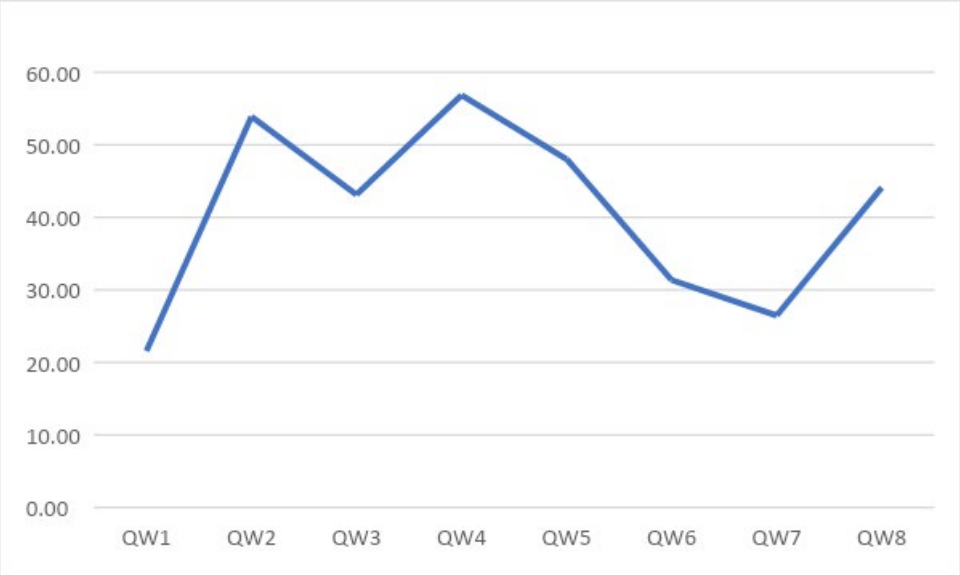

Figure no. 1. The number of respondents

Source: authors' compilation 2023

We notice that the number of respondents varied from one week to another. The lowest number was registered for the first question of the week (22 out of 102 students), because the students were not used, yet, to this type of homework. The biggest number of respondents was registered for the fourth question of the week (55 responses).

The average of the marks registered for the homework is presented in figure 2.

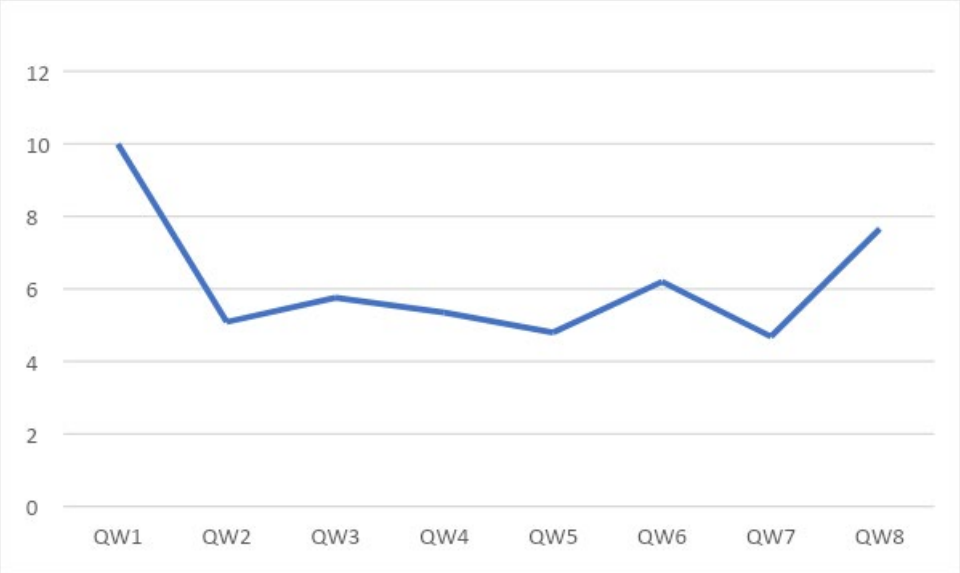

Figure no. *2*. The average of the marks for "the question of the week"

Source: authors' compilation 2023

The average was 10 (out of ten) for the first question of the week. The lowest average was 4.69 (out of ten) for the seventh question of the week. Thus, the marks obtained are, in general, average, meaning that the concern of the educators related with too high marks in online environment can be mitigated when developing new applications.

Conclusions

The COVID-19 pandemic determined the universities worldwide to switch within days from exclusive face-to-face to online education. Online assessment raised many questions for the teachers and determined them to innovate and change the traditional assessment. The study contributes to the literature by introducing a new approach regarding a part of the formative assessment, the homework. Thus, a type of question in which the students adapt the text based on their own data is introduced. The novelty raised their curiosity and they were more willing to do their homework. The type of application described here was used both in online and face-to-face environment. Psychologically, by seeing that their teachers were determined and tried to continue their education process, showing that they cared about the cohort, the students were determined to show their engagement, too.

Future research can address teaching strategies which can help students who fall behind their peers to recover. Another avenue to explore is the use of the information technologies in teaching accounting in general and management accounting in particular. The development of simple applications by the teachers and their impact on the learning process should be studies.

References

Akçayır, G. and Akçayır, M., 2018. The flipped classroom: A review of its advantages and challenges. *Computers & Education*, 126, pp.334–345. https://doi.org/10.1016/j.compedu.2018.07.021.

Blondeel, E., Everaert, P. and Opdecam, E., 2023. Does practice make perfect? The effect of online formative assessments on students' self-efficacy and test anxiety. *The British Accounting Review*, p.101189. https://doi.org/10.1016/j.bar.2023.101189.

Brookhart, S.M., 1997. A Theoretical Framework for the Role of Classroom Assessment in Motivating Student Effort and Achievement. *Applied Measurement in Education*, 10(2), pp.161–180. https://doi.org/10.1207/s15324818ame1002_4.

Januszewski, A. and Buchalska-Sugajska, N., 2022. Online Managerial Accounting education during the COVID-19 pandemic: A case study from Poland. *Procedia Computer Science*, 207, pp.215–226. https://doi.org/10.1016/j.procs.2022.09.054.

Cheng, P. and Ding, R., 2021. The effect of online review exercises on student course engagement and learning performance: A case study of an introductory financial accounting course at an international joint venture university. *Journal of Accounting Education*, 54, p.100699. https://doi.org/10.1016/j.jaccedu.2020.100699.

De Paola, M., Gioia, F. and Scoppa, V., 2023. Online teaching, procrastination and student achievement. *Economics of Education Review*, 94, p.102378. https://doi.org/10.1016/j.econedurev.2023.102378.

Jensen, J.L., Kummer, T.A. and Godoy, P.D.D.M., 2015. Improvements from a Flipped Classroom May Simply Be the Fruits of Active Learning. *CBE — Life Sciences Education*, 14(1), p.ar5. https://doi.org/10.1187/cbe.14-08-0129.

Steel, P., 2007. The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), pp.65–94. https://doi.org/10.1037/0033-2909.133.1.65.

Tartavulea, C.V., Albu, C.N., Albu, N, Dieaconescu, R.I. and Petre, S., 2020. Online Teaching Practices and the Effectiveness of the Educational Process in the Wake of the COVID-19 Pandemic. *Amfiteatru Economic*, 22(55), pp.920-936. https://doi.org/10.24818/EA/2020/55/920.