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Is There a Place for Regular Mid-Semester Assessments in Higher Education?

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Abstract

By the 21st century, higher education has evolved into an essential component of the global economy, influenced by economic forces and societal expectations [1]. The increasing student population, coupled with growing diversity, necessitates ongoing innovation as traditional knowledge transfer methods prove inadequate [2][3]. Core challenges include enhancing quality and minimizing attrition [7], demanding continual adaptation to diverse student needs and objectives [19]. Innovative thinking becomes imperative in this context [20]. This empirical study investigates the effectiveness and student acceptance of a novel assessment system implemented in the accounting department of a prominent Central European university of economics. The system allocates 30% of scores through diligence-based regular tests and 70% through end-of-semester exams. Utilizing qualitative research methods, including questionnaire data collection in correspondence courses, the study targets students engaged in online video course materials within the 1st semester of 2023/2024, amassing responses from over 220 participants. Results indicate a favourable shift in student effectiveness (grades and dropout rates) under the new system, with clear student endorsement. Feedback highlights that the test schedule enhances curriculum adherence, offers practice opportunities, facilitates continuous progress, and serves as an exam model, providing ongoing feedback on knowledge levels. This formative assessment approach supplements summative evaluations, contributing to students' developmental growth. Conclusively, the findings endorse the utility of the new assessment system, recommending its continued use with potential for minor adjustments, such as percentage modifications and test reopening for practice purposes. Despite limitations tied to a specific scientific field and institutional context, positive outcomes prompt further educational development and research.

Keywords: formative assessment, student satisfaction, dropout, part-time training, regular assessment

1. Problem Statement

The international, economic, social, and technical environment of higher education has radically changed by the 21st century, making the complex world of higher education significantly different from the past. It has become an integral part of the global economy, partly financed by society, thus accountable, profit-oriented, service-oriented, and a participant in market competition, with the university environment shaped by economic actors. Institutions are becoming internationalised, student diversity is increasing, as well as the technological background is changing, and the knowledge about learning [1]. Alongside the massification of higher education [2], the increase in institutional and student diversity has become a defining factor in recent years [3]. Student diversity manifests in atypical age groups, studying while working, diversity in chosen educational forms [3], differences in nationality and prior education, as well as in different social opportunities and learning abilities [4]. Students enter higher education with different life experiences and prior knowledge, concepts, views, and attitudes, making the management of these differences essential. A flexible learning environment is needed to support less certain and independently less successful learners and to develop learning abilities, where it becomes possible to adaptively respond to individual learning needs of students. From the perspective of adult learning, it is particularly important to promote students' awareness of their own knowledge, learning habits, and goals, as often the lack of self-diagnosis and realistic goals is the cause of dropout [5]. Life-long learning and changing labour market

intentions result in different learning goals, urging continuous renewal amidst increasing labour market skill demands and social, community expectations, as traditional educational forms seem unable to satisfy these needs [7].
The consequences of the COVID-19 pandemic [8] also pose serious challenges. Online education caused technological problems for many students and methodological difficulties for almost everyone. In the virtual space, instructors lost a significant part of their pedagogical toolkit, trying to capture and retain students' attention, engage, and activate them while exerting much less control. The current generation of university students likes to multitask, making it difficult for them patiently and attentively sitting through traditional lectures. They have a strong desire for reinforcement and rewards, which also became cumbersome in a virtual space [9]. The new online environment was less retentive than the personal institutional setting, thus only focused, determined students thrived easily. Seeing this, institutions began to reconsider their expectations to find some balance in this previously unknown situation, and national education policy regulations also changed. All this did not favour learning efficiency. Another significant consequence of the pandemic was the lack of community, school environment, and the social network that develops there, which likely weakened many students' motivation to learn and their commitment to learning [10].
This leads to tension in terms of goals: simultaneously wanting to develop both the education that develops students and their learning and to produce easily measurable outcomes [11]. Today, while a key educational policy goal is to reduce student dropout, enhance international student mobility, and improve the proportion of higher education graduates [4], as well as to introduce measures aimed at improving quality and increasing the efficiency of programs (supporting life-long learning, competence-based education focused on learning outcomes, efforts towards quality improvement, and measures aimed at increasing the efficiency of programs [12]), it is fundamental to assist students in confidently navigating a complex, changing, and uncertain world, preparing them for workplace challenges unknown today, use of yet-to-exist technologies, and unpredictable future societal situations [13].
The goal of teaching appears simple: to enable students to learn [14]. Teaching and learning are inseparable concepts, interpreted in various ways depending on the specific context. Nilson [15] transcends different interpretations but emphasizes the importance of students, positioning them at the centre of educational thought: "we must think of our work primarily not as teaching art, biology, mathematics, etc., but as teaching students" [15]. The aim of education is to assist the student's progress, actively involve them in their own learning processes, and elicit their best learning performance [16]. Thus, education can no longer be viewed merely as a collection of methods and techniques, but as an activity where we select, organize, and transform our discipline so that students can engage and deeply understand. Effective education leads to effective, successful, meaningful, and deep student learning, causing positive changes in students cognitively (specific and general skills) and affectively (attitude, interest in the subject, and social skills) [16].
Although the need for change is recognized, it is slow to occur in terms of goals, curriculum, teaching methods, and assessments alike. The international literature on effective higher education that supports effective learning is abundant, with thematic journals and books available [15], [16], [17], [18] that help navigate this area. Their consistent findings indicate that instructors' task is no longer primarily the classical sense of knowledge transfer but supporting the entire learning process: setting learning outcomes as goals, organizing and facilitating learning processes that fit these goals, and transforming the assessment system in a way that it includes formative, developmental purpose assessments alongside summative final evaluations, providing feedback within the learning process, and feedback to students about their current knowledge level and its possible further development.
Based on the theoretical introduction, our conclusion is that an adaptive approach, continuous renewal considering different needs and goals, is vital in the world of higher education [19], and innovative thinking is indispensable [20]. Following the theoretical foundation, we present and examine a practical implementation introduced and continuously monitored at the Department of Accounting of the Faculty of Finance and Accountancy at the Budapest Business School, a leading Central European institution of applied sciences, in the spirit of quality improvement. The change aimed at increasing student effectiveness (course completion) and providing a system of regular formative assessments to support learning.

2. Methods

The aim of the empirical research is to examine the effectiveness and student acceptance of the evaluation system introduced at the university's Department of Accounting among distance learning students. Since 2020, the distance learning program has been conducted in an absentee format, with

the processing of materials through e-learning, video materials, and online video conference consultations. However, with the lifting of the pandemic restrictions, assessments returned to an in-person format, conducted under supervision at the institution, ensuring a controlled, fair assessment that truly reflects students' knowledge. Until the end of the spring semester of 2023, grades were determined based on exams written at the end of the semester, with the passing threshold uniformly set at 60%.

The essence of the evaluation system introduced in the fall of 2023 is that 30% of the scores determining the outcome can be earned during the academic term through regular test completions, and 70% during the exams at the end of the term. The mid-term tests (30%) are accessible online through a learning management system, with scheduling varying by subject: conducted in three or more rounds, tailored to the content of the material, supported by an unlimited number of attempts at similar practice tests for each "live" point-gathering test. The exams (70%) remain in-person, covering the material previously assessed in tests as well as additional topics built upon it. The pedagogical foundation of the introduced evaluation system is the logical, comprehensive, and strictly professional content of accounting subjects.

The evaluation of the system was dual-purpose (examining effectiveness and student satisfaction), relying on two data sources and using a mixed methodology. The data sources included official university system performance data and comparisons with previous year's results to examine improvements due to the new evaluation system. Another tool was a short questionnaire, which gathered information on student satisfaction. The questionnaire required both quantitative and qualitative data analysis through its closed and open-ended questions, which were as follows after selecting the subject from a dropdown menu:

- How do you evaluate the midterm assessment (30%)? (Options on a five-point Likert scale)
- What did you like about the midterm assessment? (Open-ended response)
- What did you dislike about the midterm assessment? (Open-ended response)

Data collection occurred among students studying accounting in the distance learning program during the fall semester of 2023/2024. The exact total number of students is not specified as some study multiple subjects concurrently, deviating from the standard curriculum. Thus, the total number of courses in the first semester of 2023/2024 was 826 (which exceeds the actual number of students). Out of these, 239 students completed the questionnaire during the exam period (January 2024), resulting in a 29% response rate. The sample is not representative in terms of subject distribution, but since the responses did not significantly differ by subject, their importance lies more in the examination of student performance.

Based on the data analysis, the following results will be presented:

- Effectiveness: improvement in course completion from the first (fall) semester of 2022/2023 to the first (fall) semester of 2023/2024 by subject
- Students' opinions on the new evaluation system (Likert scale responses)
- The reasons (supported by quotes) why the new evaluation system was favoured by students.
- Reasons (supported by quotes) why the new evaluation system was not favoured by students.

3. Results

3.1 Subjects' results for 2023 and 2022 (Autum semester)

Table 1. Completion rates for accounting subjects in the fall semester of 2023.

Subjects	Number of students	Passed	Failed	Did not attend
Basics of accounting FA	136	78%	22%	20%
Basics of accounting BA	129	56%	44%	36%
Basics of accounting HR	59	54%	46%	39%
Financial accounting 2 FA	252	80%	20%	10%
Management accounting BA	182	66%	34%	27%
Special issues in accounting FA	68	78%	22%	13%

The results for the fall of 2023 are first presented by subject grouping (Table 1). Students in the finance and accounting (FA), management and business administration (BA), and human resources undergraduate programs (HR) study the basics of accounting with nearly identical content, as it serves

as a foundational subject in the first semester of the curriculum for all three undergraduate programs. 78% of students in the finance and accounting program successfully completed the subject, with 20% of the non-completing students not appearing for any exam. It is assumed that students in the finance and accounting program have a higher interest in accounting-related subjects than those in the other two programs. This assumption is supported by the completion rates, which are significantly lower in the other two programs (BA 56%, HR 54%), and a major challenge from the teaching side is the significantly higher rate of absence from exams (BA 36%, HR 39%). The data indicates that most students who do attend the exams meet the requirements, so the focus should be on reaching and motivating those students who enrolled in the program, took up the subject, but did not engage sufficiently with the material to even attempt the exam for subject completion.

Our Financial Accounting 2 subject is taught in the finance and accounting undergraduate program during the 3rd semester and includes significant accounting expertise. Further accounting-related subjects are built on Financial Accounting 2 according to the curriculum. In the fall of 2023, differentiated assessment was introduced for this subject: students who successfully wrote the final written paper (above 60%) could choose to be satisfied with a passing grade (2) or to take an oral exam in hopes of a better grade. (In the fall of 2022 and before, the oral exam was mandatory, and students with a successful written paper went to an oral exam, and their performance there was graded.) In the new system, 80% of students successfully earned the credit, with only 20% not succeeding, of which 10% failed and 10% did not appear for the exam.

For Managerial Accounting, it is particularly important that the subject is taught in the management and business administration undergraduate program in the 3rd semester, and there are no subsequent subjects built on it; this is the last accounting-related subject in the program. Two-thirds of the students successfully completed the subject, with a non-completion rate of 34%, within which the proportion of students who did not take the exam at all is considered high (27%). This may be explained by the orientation of students in the program (less interested in accounting) and the fact that there is no subsequent subject.

The statistics of accounting characteristics are specifically presented because it concerns a 5th-semester accounting specialization subject found at the end of the undergraduate curriculum. Its completion rate is 78%, with the proportion of students not appearing for the exam at all being 13%, a low rate which may also be explained by the fact that students at the end of their program cannot afford to delay subjects to a later semester, suggesting a certain level of awareness on their part.

Table 2. Completion rates for accounting subjects in the fall semesters of 2022 and 2023

Subjects	Number of students 2022	Number of students 2023	Passed 2022	Passed 2023	Did not attend 2022	Did not attend 2023
Basics of accounting FA	78	136	53%	78%	41%	20%
Basics of accounting BA	106	129	52%	56%	37%	36%
Basics of accounting HR	51	59	59%	54%	31%	39%
Financial accounting 2 FA	226	252	38%	80%	37%	10%
Management accounting BA	150	182	47%	66%	30%	27%
Special issues in accounting FA	26	68	69%	78%	15%	13%

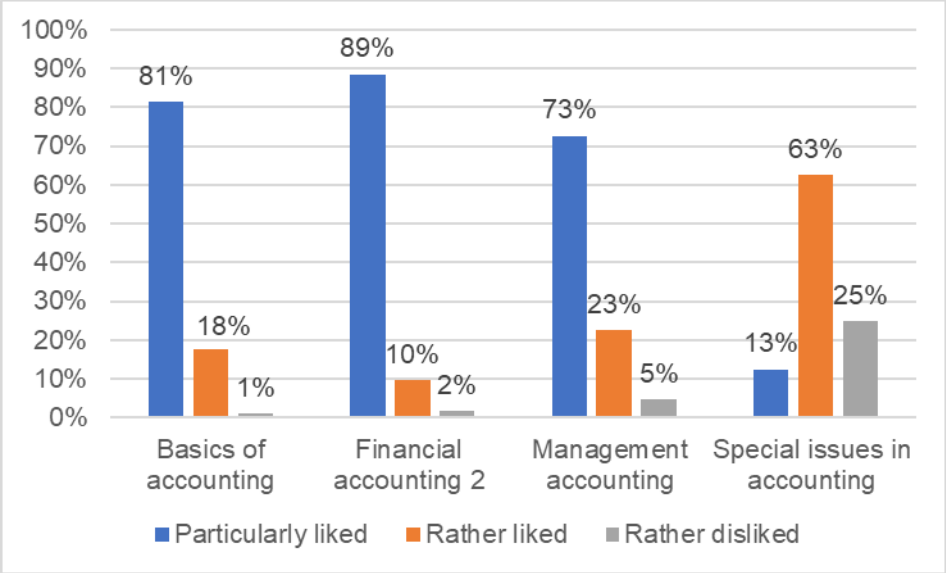
Table 2 presents the fall 2023 results alongside the fall 2022 results for comparison purposes. It is evident that the midterm point-gathering activities introduced in fall 2023 had a positive effect on the outcomes, with significant improvements observed in completion rates for all subjects within the finance and accounting (FA) program. For the Basics of Accounting subject, the completion rate in the finance and accounting program increased from 53% to 78%. The results for the Basics of Accounting subject in the other two programs did not improve significantly or at all. The most notable change was seen in Financial Accounting 2, where completion improved from 38% to 80%, a result explained not only by the encouragement of midterm work but also by the opportunity for differentiated assessment. Managerial Accounting also saw favourable improvements in completion, from 47% to 66%, which is particularly significant given the challenge of motivating 3rd-semester management and business administration students to study accounting, especially when there is no subsequent subject, and they have enough semesters left in their program that delays do not pose a problem. Fewer improvement is

noted for Accounting Characteristics, but it's important to consider that the completion rate started from a higher level.
Overall, the improvements in the fall 2023 results raise the question of how much the proportion of students who did not take the exam at all can be reduced and whether there is an acceptable and natural rate for distance learning programs. We are aware that in-person assessments are one of the reasons students do not attend exams but considering the need to maintain professional standards and the seriousness of accounting content, we continue to prefer in-person examinations.

3.2 Student satisfaction with the introduced assessment system

The midterm point collection (30%) and practice tasks clearly won the students' favour, as presented in the following figure. The motivation and positive reception of the midterm work were clearly evident in the 1st and 3rd semesters. In the case of Accounting Characteristics (5th semester), the students' opinions were not as clear and unanimous, which can be explained by the fact that the students were not accustomed to this system, nor to the complex, multifaceted form of assessment, thus they reacted in various ways to the innovations introduced towards the end of the program.

Fig.1. Review of midterm scoring opportunity (30%-70%)



In response to the question of why they liked the new form of assessment, students mentioned several aspects. According to the opinions of those who completed the questionnaire, the scheduling of the midterm point collections complemented and made the available study material, received in e-learning format, followable. It's important to remember that as distance learning students, finding time to study amidst the daily pressures of work and personal life is a significant challenge. Having the opportunity to collect points for smaller sections of the material better aided understanding and practice and was more effective than having a single larger point collection opportunity at the end of the semester or just before the exam. Many also highlighted that the harmony between the e-learning material to be processed and the tests to be completed at the time served as a motivating force for them.
The opportunity for midterm point collection occurred during the academic term with an evenly distributed schedule. Students could earn the 30% by completing 3-6 tests throughout the semester, for which they could practice for 2 weeks in advance (in the form of practice tests and tasks). A one-week window was provided for completing the live tests and small tasks. The practice and live tests followed each other week by week, building on each other's content. The scheduling of the point collections encouraged continuous learning and the constructed test system served as a model for the end-of-semester exam as well.
Finally, from a higher education pedagogical perspective, it was highlighted as a significant result that many mentioned the midterm point collection also served as immediate feedback regarding their current knowledge. That is, it was possible to provide regular formative, developmental assessments alongside summative final assessments for the students, serving as a motivation for them. The key topics are supported by quotes selected from student responses according to Figure 3.

Table 3. Excerpts from student opinions

The schedule made the material easy to follow	"I was able to master the material much better than if only videos and uploaded tasks had been provided." "...they set the pace in which it was worthwhile to learn the material. I really liked that there were practice tasks included with the material, and you could check the solutions as well, so you could figure out what you did wrong." "The breakdown of the material for the given assessments was of an appropriate amount, it was possible to prepare, and the assessment was similar to the practiced tasks." "It was fully based on the material to be learned, thereby making the knowledge integration more effective."
Provided an opportunity to practice	"It was useful that I could test my preparedness in parts, and it was especially useful that we were given the opportunity to practice." "The fact that there were smaller assessments covering 2-3 topics made preparation and learning easier for me." "The midterm assessments and the practice tasks made preparation much easier. The timing between the practice tasks and the point-gathering tasks was just right for comfortably scheduling my time alongside work."
Was in harmony with the video material	"I liked it because it made me continuously prepare throughout the semester, progress with the material, and it was motivating that I could earn points. Also, the fact that it was 100% related to what was in the video material." "It helped me to study continuously for the subject and exactly what we had practiced before was assessed." "The tasks to be solved were in harmony with the provided study material."
Facilitated continuous progress	"Studying alongside work is not easy, it motivated me to make continuous progress with the material." "It spurs continuous preparation and reduces end-of-semester exam stress by allowing part of the points to be earned in advance." "I particularly liked that it encouraged the student to engage with the topic, making it much easier to prepare for the exam."
Served as an example for the exam	"It thoroughly prepared me for the exam." "It helped in practicing and summarizing the given topic, highlighting what to pay attention to and what and how it needs to be known. It also aids in preparing for the exam."
Provided feedback on the current level of knowledge	"It's a good opportunity for earning points during the semester and helps to ascertain our current knowledge." "It's good to test knowledge in real-time, part by part. It helped motivate regular preparation, thus the learned material was better understood."

"The most important aspect was receiving continuous feedback and motivation, which is crucial for successful preparation for the subject." "It facilitated preparation in detail, and with many opportunities for practice, I received continuous feedback about my knowledge."

Naturally, not every student likes the new system, which can be attributed to individual learning habits: while some would prefer even more midterm tasks and practice opportunities, happily embracing the need to "continuously engage with the material," and wish that "this would be the case for every subject!", others were dissatisfied precisely because they feel this system "takes away the opportunity for students to study flexibly, at their own pace and schedule." Based on our experience since the transition of in-person education to an online system, a significant portion of students falls behind due to the lack of regular study during the semester, because they face a large amount of material to learn just a few weeks before the exams. Thus, assuming a narrow segment of highly goal-oriented students who can progress independently and who might find the restrictions problematic, we see it beneficial to support the majority with a mandatory scheduling of the material.

4. Conclusions, implications, limitations

Due to student diversity, every assessment system has well-developed parts loved by the majority of students and areas that need improvement. There could always be more practice assignments, more sample papers, and more detailed solutions available, but we must also keep in mind that it's not practical to provide too much material for students, as they might get lost in it. The question of the quantity of sample exams is a perpetual dilemma because if we publish too many, students might focus only on those instead of the basic/e-learning material. In distance learning, finding a balance between video materials, live consultations, uploaded practice assignments, and sample papers is a big challenge, so students feel the subject is achievable, and the material is sufficient but manageable. When designing methods and setting up the educational toolkit, we must aim to ensure students complete the planned learning process, thus achieving successful subject completion, knowledge transfer, and progress. Based on the results of the study, we currently see that incorporating midterm assessments in distance learning is feasible, as it supports the majority of students in their learning. Moreover, the midterm points act as a motivating force for the students in terms of exams, because if they have collected points, they would not want to lose them, thus they complete the assessment process by writing the in-person exam. We trust that if students are socialized into this assessment system from the 1st semester, the rate of successful subject completions will increase, and the rate of students not taking the exam at all will decrease.

The conclusion drawn from the results is that the new evaluation system is useful according to both outcomes and student evaluations, and its further application is recommended not only at the department that introduced it but also across all three faculties of the institution, and even more broadly. Since the evaluation system is not subject-specific, it could be useful at other universities where students need to master a large amount of strictly professional material organized into a logical, sequential system. Possible further refinements could involve changing the percentage ratios so that the point collection does not lose its inspiring effect, but students who only wake up during the exam period also have an easier opportunity to complete the subject. Minor adjustments to the scheduling of tests based on experiences and certainly considering reopening the tests after the deadline for exam practice purposes are worth contemplating. The limitation of the research is that it examined experiences from a single semester within a specific field of study at one institution, yet its positive results warrant further educational development changes and related research.

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