

Business students' perspective of choice of assessments. A case from Norway.

Abstract

A student's performance and study habits may depend on the institution's choice of examination form. This study examines the attitudes of business students to different forms of exams. Information is collected from a business school in Norway. The findings show considerable variation in study habits and assessment of success depending on the form of the exam. Many students value the traditional closed-book school exam, although they expect a better grade for multiple choice assignments or home-based exams. These are factors that must be considered when institutions assess different exam arrangements.

Keywords: assessments, business schools, study habits, performance

INTRODUCTION

There is a lot of research related to the choice of exam forms. Assessment is an important and necessary part of attending school. Access to new technology and the experiences of COVID-19 have caused increased interest in this topic, namely, how to design exam papers so that they capture students' knowledge, encourage them to study and learn more while simultaneously having the exam form be perceived as fair. This article focuses on factors that influence students' efforts depending on the type of exam.

Assessments play an important role in higher education. Students are affected by selected educational testing (Pareira ,Flores, and Niklasson 2016). Performance is an indicator of students' skills and should be useful information for employers and admission to further studies.

Due to COVID-19, most colleges and universities applied open-book exams with free access to the resources available through internet (Slack and Priestley 2022). The change occurred almost overnight. How the institutions and the students dealt with this varied. Some students saw this as positive and as providing new opportunities. The exam was more like tasks that must be solved later in the working life. Other students were negative about this change and missed traditional exams. There were also challenges for the instructors who created the task, i.e. how to design the exam so that they safeguarded its different purposes?

In Norway there is a long tradition of an end-of-module examination in higher education. It is largely an essay-based test of 4–6 hours without the use of textbooks at the bachelor's level. One objection to this test is that there is too much focus on testing and not on learning. Many students cannot handle this type of exam. Some students become nervous and perform at a level less than their potential.

Internationally, there are different kind of assessment methods applied in undergraduate business programmes, like oral exams, multiple choice test, cases studies and group work (Lakhal, Sévigny, and Frenette 2013; Richardson 2015). Due to technical tools (internet and more) and the communities' closure during COVID-19, there has been increased interest and engagement in this topic. The portfolio of assessments has changed in recent years.

The internet enables online courses with many registered students and no physical boundaries anymore. This creates challenges for the established exam form that is quite resource-intensive. Alternative forms of examination are therefore being considered, such as greater use of multiple choice or home-based exams.

Students are not a uniform group. There are large individual variations, and this reflects students' preferences regarding different types of exam forms (Vickerman 2009). The selection of assessments influences the students' ability and motivation to gain understanding and knowledge in different courses. A student's approach of learning varies depending on preferences and characteristics; this is closely linked to assessment (Struyven, Dochy, and Janssens 2005). Therefore,

the ranking of the students depends on the chosen exam form. It is challenging to find the form of examination that reflects the students' skills to the greatest extent possible. The different types of exams have their advantages and disadvantages, and one should consider the various factors in order to come up with a good solution (Harlen 2007).

The purpose of this article is to obtain information about business students' views and attitudes to different forms of exams by questioning students at a business school in Scandinavia. This is useful knowledge in the planning of teaching arrangements and exam forms. This article highlights the traditional school exam and compares it with alternative exam forms (oral exams, multiple choice assignments as well as home-based exams).

LITERATURE REVIEW

According to Pittaway et al. (2009), important requirements for assessments are that they are reliable, consistent and valid. Furthermore, the criteria should be understandable and should catch up individual differences. The assessment should be linked to the learning process. Other issues are fairness (Brückner et al. 2015). Important aspects of justice are equal treatment and that the grades reflect the skills of the students (Pepper and Pathak 2008). The possibility that students may have opportunities to cheat on exams will challenge students' perception of justice (Teixeira and Rocha 2010).

The oral exam is only used to a limited extent among undergraduate business students. This may be due to the large number of students and the fact that it is quite cost-intensive to arrange. This form of examination, however, has nevertheless received great attention. One reason may be that many jobs in the business sector require that one can handle communicating face to face (Burke-Smalley 2014). This test method captures a dimension that is important in working life. This method is well suited to test the students' understanding and ability to reason and to express themselves. It also limits the ability to cheat. Another advantage is that the instructor can help the student onto the right track in situations where the candidate is unsure how to handle the question. The research shows that there is a positive correlation between performance on oral exams and traditional essay-based exams. Furthermore, students tend to achieve better results on oral exams. Rawls, Wilsker and Rawls (2015) indicated that business students increased their effort and had positive learning experiences with this method.

Many researchers have compared constructed response (CR) tests with multiple choice (MC) tests (Kuechler and Simkin 2010; Opstad 2021a). There are many ways to design MC tests and CR tests, but there is a significant difference between these two methods. In the case of CR tests, the candidates must formulate their own answers and express themselves in writing. For MC-based exams, students are only required to choose from a few options. In the literature, whether an MC exam can measure higher levels of learning using Bloom's taxonomy (analysis, application and evaluation) to the same degree as a CR test can is discussed (Agormedah 2019). There is some disagreement among students, faculty and educators about this issue (Kaipa 2020; Monrad et al. 2021). For certain kinds of MC questions, students get higher scores compared to scores for CR questions. Krieg and Uyar (2001) have argued that there are considerable variations. Personal characteristics can determine on which form of examination the individual student has the greatest success.

Several studies have shown a strong relationship between the assessments' design and the students' approach to learning (Gielen, Dochy, and Dierick 2003; Marton and Säljö 1997; Ramsden 1997; Struyven, Dochy, and Janssens 2005). If there is a gap between students' knowledge and what is tested on the exam, the students may not get the desired grade. If the students apply deep learning approaches but is not well organised, they will probably not be successful on the final exam, but the result depends on the kind of assessment (Asikainen et al. 2013). Hence, there can be a weak link between course grade and the quality of a student learning outcome. However, many students adapt to the learning strategy that they believe gives the best result for the actual assessment. One must be conscious in the choice of learning strategy (Entwistle and McCune 2004).

If an institute changes the exam format, students will adapt their learning approach (Eley 1992). Many focus on the requirements of the test and do the preparation for obtaining a high score on the exam. A shift from one exam form to another (for instance from CR-based to MC-based exams) will have an impact on the students' behaviour and planning. It varies from student to student which exam form is preferred. Struyven, Dochy and Janssens (2005) have suggested that most students favour an MC test. But those who like a deep approach to learning seem to prefer CR exams. Those who prefer MC-based exams tend to focus on facts and details in their preparation for assessment.

According to Struyven, Struyven, Dochy and Janssens (2005), students are keen to be tested on large parts of the curriculum. By asking for only a small part of the curriculum, the performance can turn out more randomly. Students are concerned about whether the exam is fair from different aspects (Sambell, McDowell, and Brown 1997). One important issue is to ensure the exams reflect the skills and knowledge of the individual student and give the correct range. If the form of the exam favours certain students and opens the possibility of cheating, this may lead to an undesirable ranking of the students. Bengtsson (2019) has argued there are advantages and disadvantages of going from a school-based exam with a closed book to a home-based exam with an open book. Some of the advantages are lower student anxiety, providing a better learning experience, offering more flexibility and being able to apply a higher level of Bloom's taxonomy. Some disadvantages may be that it will promote unethical student behaviour and that students are hunting more for answers by using different kind of tools. Many students think home-based assessments will increase their chances for better grades; therefore, they favour this kind of assessment (Langenfeld 2020). A change to home-based tests will probably affect study habits. Bengtsson concluded that a home-based test is not appropriate for a low level for Bloom's taxonomy.

Entwistle and McCune (2004) reported that students' motivation and effort depends on the kind of assessments. Furthermore, higher motivation leads to better performance. Personal qualities will affect motivation. The authors distinguished between four types of students: meaning, reproducing, achieving and non-academic orientation. The first group prefer a deep approach to learning, while those who focus on reproducing have a surface approach. Some of them fear failure and this causes anxiety. The achievement-orientated students are targeted, concentrated and are good at adapting to different systems. They are good at managing their time. The last group can easily adopt negative attitudes and have less focus on the content of a course. This helps explain why students have different motivation and approaches to learning.

A good individual student will achieve a better grade on individual exams than when applying a group exam (Almond 2009), and the person in question receives a poor reward if the grade is passed or not passed. This will influence students' motivation.

Many students have anxiety related to exams. Betts et al. (2009) reported that students are less anxious and more confident when taking an MC test and an open-book examination.

The exam has many different purposes, and it affects how students acquire knowledge. From such a perspective, one must think which exam form is best suited to different groups of students (Rowntree 2015).

METHODOLOGY AND DATA

The sample

The study is based on collected data from undergraduates at the NTNU (Norwegian University of Science and Technology) Business School. A questionnaire was distributed at a compulsory course in the 3rd semester in 2020. Due to the coronavirus, few students were physically present at the lectures. Therefore, there were only responses from 50 students (20 per cent). This resulted in a digital questionnaire, which led to an additional 49 students responding. In all, about 100 students gave responses, but it was not a random sample; thus, it

can lead to biased answers. We do not have data on the 60 per cent who did not respond. Hence, it is difficult to say how representative the answers are.

A 7-point Likert scale where the students were asked about their attitudes (effort, expected performance, providing learning, fairness, motivation, anxiety, how to learn and understanding) to five different type of assessments (see Table 1) was used: school-based test constructed response questions (CRT), school-based exam with multiple choice test (MCT), oral-based test (OBT), home-based test (essays) with open book and traditional grades from A to F (HBTg) and home-based test (essay) with open book and with grades of passed or not passed (HBTng).

TABLE 1. DESCRIPTIVE STATISTICS (Likert scale on which 1: completely disagree and 7: completely agree; standard deviation in parentheses)

	CRT	MCT	OBT	HBTg	HBTng
Effort (I will exert a high level of effort.)	5.53 (1.29)	4.15 (1.50)	5.09 (1.31)	5.40 (1.40)	3.06 (1.29)
Performance (I receive good grades.)	4.40 (1.52)	4.96 (1.23)	4.28 (1.41)	5.24 (1.19)	-
Learning (It provides good learning.)	5.03 (1.30)	4.17 (1.25)	4.76 (1.42)	4.96 (1.44)	3.41 (1.57)
Fairness (The assessment is fair.)	4.92 (1.53)	4.04 (1.61)	4.09 (1.78)	3.94 (1.87)	3.35 (1.88)
Motivation (This assessment motivates me.)	4.61 (1.51)	4.10 (1.51)	4.40 (1.61)	4.92 (1.53)	3.08 (1.52)
Anxiety	4.89 (1.73)	2.56 (1.51)	5.88 (1.65)	3.25 (1.59)	2.48 (1.64)
How to learn (It affects the way I acquire knowledge.)	5.15 (1.74)	4.81 (1.57)	5.42 (1.45)	5.34 (1.44)	4.97 (1.66)
Understanding (I emphasise understanding.)	5.33 (1.52)	4.30 (1.66)	5.57 (1.34)	5.13 (1.68)	3.73 (1.63)

The students were asked how the choice of assessments influences their view of effort, success, learning, fairness, motivation, anxiety, learning style and understanding (see Table 1).

Instruments

Since business schools traditionally apply school-based exams with closed books in Norway, we would like to compare this with alternative forms of exams. In some subjects, MC-based tests are used, and during COVID-19 there were mostly home-based exams. Therefore, students are familiar with alternative forms of assessments. Although the oral exam is not used in the business schools in Norway, many students have experience with this type of exam from other studies. Methodically, this was done by calculating how the students' attitudes towards CRT were correlated with other types of exams. A pairwise t-test was used to see if there were significant differences in the students' perceptions by comparing average values.

FINDING AND DISCUSSION

CRT versus MCT

This research shows that students have different attitudes and behaviours towards these two forms of examination (see Table 2, assuming both are school-based with closed books). The students will

change their learning style to adapt to the actual exam design. The impact is statistically significant (Table 2). The average student also expects to get significantly better grades on MC-based tests compared to CR-based tests. It confirms earlier investigations that business and economics students believe it is easier to have success on MCT than CRT (Chan and Kennedy 2002).

This study found a significant negative relationship between students' assumptions about success on MCT and CRT (Table 3). Undergraduates with high scores on CRT will not necessarily obtain the same results with MCT and vice versa. Not surprisingly, this will affect students' preferences. The majority of students prefer MCT (Iannone and Simpson 2015a), for which there might be two reasons. Firstly, students expect higher grades (Traub and MacRury 1990), and secondly, MCT cover a wider range of issues (Zeidner 1987). Opstad (2020) reported a significant negative link between students' performance on MCT and preference for CRT. Students who perform well on MC-based exams prefer to have MCT. Students with high scores on essay questions favour a CRT exam when given the choice between CRT and MCT.

Even the average student expects better grades on MCT; this assignment format gets significantly lower scores regarding other factors, like effort, learning, understanding, motivations and fairness (see Table 2). By switching from the traditional CR-based exams to MC-based exams, students tend to study less, are not as motivated, will learn less and with feeling of lower level of fairness. The differences are substantial. Except for motivation, the gap is significant, and the correlations are also significantly negative. Students with high effort on CRT will reduce their energy if the exam is replaced with MCT and vice versa. This is in line with previous research. MCT and CRT measure different levels of understanding (Birenbaum and Feldman 1998; Opstad 2021a). Therefore, students achieve different scores by comparing those two methods (Mbonigaba and Oumar 2017; Opstad 2021b). Simkin and Kuechler (2005) verified that MC-based exams will change students' learning styles.

The traditional form of exams provides the highest level of study work. According to Asikainen et al. (2013), students with a deep learning approach prefer CRT, while students who focus on facts and memories and who apply more a surface approach tend to favour MC-based tests.

This study confirms earlier findings that students' anxiety is considerably higher with CRT compared to MCT (Betts et al. 2009). An explanation for this is that CRT is more demanding, and it is easier to fail than MCT. Students struggle more to finish within a time limit with essay questions (Zeidner 1987). Hence, students are less nervous and expect better performance when MC questions are used.

A reason why students find MCT less fair than CRT is that MCT do not give students the opportunity to show how one manages to reason out a correct answer (Iannone and Simpson 2015a). Students are not able to prove they have understood the subject as they might just get the correct answer by luck (randomly).

TABLE 2. COMPARING MEANS (using t-test)

	Difference			
	CRT-MCT	CRT-OBT	CRT-HBTg	CRT-HBTng
1. Effort	1.371*** (2.13)	0.413** (1.79)	0.124 (0.17)	2.448*** (1.96)
2. Performance	-0.554** (2.28)	0.093 (1.86)	-0.844*** (0.19)	–
3. Learning	0.865*** (2.04)	0.209 (1.62)	0.072 (1.97)	1.578** (2.10)

4. Fairness	0.866*** (2.54)	0.804*** (1.81)	0.976*** (1.97)	1.517*** (2.26)
5. Motivation	0.500 (2.40)	0.187 (1.84)	-0.309 (2.21)	1.500*** (2.17)
6. Anxiety	2.368*** (2.10)	-0.933*** (1.91)	1.635*** (1.99)	2.457*** (2.08)
7. How to learn	0.323* (1.84)	-0.308* (1.67)	-0.186 (1.54)	0.167 (1.78)
8. Understanding	1.082*** (2.54)	-0.217 (1.69)	0.202 (2.40)	1.642*** (2.29)

*** p < 0.01, ** p < 0.05, * p < 0.1.

CRT versus OBT

Except for the two variables 'Fairness' and 'Anxiety', this investigation revealed a small variation in students' attitudes towards applying constructed or oral response questions (Table 2). The approach to learning seems to be quite similar. Students who study hard and are motivated with CRT will also do the same with OBT. The relationship between the two methods is significant (see Table 3). The same pattern appears for performance, learning and understanding. There will be only minor changes in the students' behaviour by switching from CRT to OBT.

Other studies have shown that students value oral exams and believe they can contribute to good learning, mostly to same degree as CRT (Iannone and Simpson 2015a). According to Iannone and Simpson (2015b), there are two challenges with oral exams. The first one is anxiety. Many students struggle with oral exams. They get nervous and perform worse than their potential (Sparfeldt et al. 2013). The other one is justice. The oral exam is not anonymous. One may risk that the instructor discriminates and favours certain groups (Heyneman 2004). Those factors may explain why students experience CRT and OBT so differently in terms of anxiety and justice.

TABLE 3. CORRELATION ON THE VARIABLES BETWEEN CRT AND THE OTHER KIND OF ASSESSMENTS.

	Correlation to CRT			
	MCT	OBT	HBTg	HBTng
Effort	-0.161*	0.285***	0.222 **	0.042
Performance	-0.343***	0.227**	0.144*	
Learning	-0.286***	0.276***	-0.21	-0.077
Fairness	-0.280***	0.404***	-0.315***	-0.135
Motivation	-0.257***	0.301***	-0.059	-0.035
Anxiety	0.149*	0.356***	0.285	0.226 **
How to learn	0.271***	0.351***	0.438***	0.349***
Understanding	-0.276***	0.303***	-0.138*	-0.049

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

CRT versus HBT

If both exams were short essays with grades, this study found rather small variations in effort, learning, motivations and understanding (Table 2). However, the correlations for those factors comparing CRT and HBTg were much weaker than for CRT and OBT with the exception of 'How to learn' (Table 3). For the three items performance, fairness and anxiety, there are substantial differences. Students expect to perform better, find it less fair and have lower anxiety by changing from classroom exams to take-home exams.

Students have access to other tools, the internet and more for home-based tests. This leads to them perform better. On the other hand, home exams may lead to an increase in requirements for getting a specific grade and the instructor changing the questions. Several studies have not shown any changes in letter grades by moving to home-based exams (Spiegel and Nivetta 2021). Opstad and Pettersen (2022) suggested that a home-based exam favours academically weaker students, who achieve better grades, while for skilled students, it can have the opposite effect.

Moore and Jensen (2007) have argued that open-book assessments can lead to more surface learning, while others have suggested that it gives an opportunity to test the higher level of Bloom's taxonomy (Tam 2022). These two effects work in opposite directions and may explain why this research detects only small differences when comparing CRT and HBTg with regard to effort and learning. Wijayati et al. (2022) argue for close cooperation between lectures and students when using online assessments.

Bengtsson (2019) reported that students feel more comfortable with and study less for HBT. This effect might explain why students in this study were significantly less nervous about HBT. Performing at home in familiar surroundings helps reduce anxiety (Dave et al. 2021).

The reason why students experience a school-based test as fairer than a home-based test may be because the latter provides different opportunities for accessing tools, and it can also open the possibility for cheating (Bilen and Matros 2021). This can influence the ranking of students (Opstad

and Pettersen 2022). School-based exams ensure equal conditions for everyone to a much greater extent.

Student effort depends on the chosen assignment. By removing the letter grades, the effort will be significantly reduced (Table 1 and 2). Many students will study less if they do not get grades. One does not get any reward by studying extra if one is sure one will pass the exam. This is in line with the finding of Almond (2009). Unless skilled students are particularly interested in the subject, they will reduce their effort if the schools do not rank students by performance. Furthermore, students find this scheme unfair.

This research shows that removing ranked grades has a major impact on learning approaches. Motivation is greatly reduced, and the interest in acquiring new knowledge is significantly less. This confirms that using ranking grades is an important tool for motivating business students and achieving a good learning environment.

LIMITATION

This research has clear limitations. First, data were collected only from a business school. Furthermore, the response rate was relatively low due to absences from campus during COVID-19. In this survey, students were asked about attitudes. Finally, there is a lack of information about actual behaviour under different forms of examination.

CONCLUSION

In this study, information was collected about how the students at a business school in Norway relate to different forms of examination. The traditional CRT is perceived as quite fair, leads to high effort, and provides a good learning environment, but many students are reluctant to take this type of exam. By moving to MCT or HBT, anxiety will decrease, and the average student expects better grades.

There are significant differences in students' attitudes towards CRT and MCT. They capture different dimensions, of which the students are aware, as reflected in their behaviour. The gaps are significantly smaller between CRT and HBT, as well as CRT and OBT (cheerful exam).

The fact that students' behaviour and expectations depend on the choice of exam form creates challenges in exam-form choices where the internet and online resources offer far more opportunities than before.

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