

DISRUPTIVE TIMES AND HIGHER EDUCATION IN ECONOMICS AND MANAGEMENT: IMPORTANCE OF DUAL ASSESSMENT

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DOI: <https://doi.org/10.31410/EMAN.2021.215>

Abstract: *This paper examines quantitative methods of dual assessment of students' skills in higher education. Through dual assessment, it tests skills important to adapt to a volatile, uncertain, complex, and ambiguous environment (VUCA). It does so by comparing on the one side student-generated grades and on the other side grades generated by their lecturers. The study was done on the sample of the entire 3rd-year generation of Zagreb School of Economics and Management students (N=79). Lecturers (N=2) who were doing the assessment have multiple years of grading experience. Findings suggest that overall, there are differences between self-assessment of students and assessment made by lecturers. Furthermore, there are also gender differences in student's self-assessment. Whether for online or face-to-face courses, faculty and students may benefit using the dual assessment approach in developing more skilled students that are capable to adapt to working in ever changing and uncertain environments.*

Keywords: *VUCA Environment, Self-assessment, Presentation skills, Zagreb School of Economics and Management.*

1. INTRODUCTION

In education, the term assessment refers to the wide variety of methods and specific tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students (Bound, 2003). It represents an integral part of conducted lessons and determines whether or not the goals of education are being met. As stated by Sadler (2010), assessment inevitably shapes how students approach learning, including what they focus on and how they go about learning it. This research focused on disruptive times and higher education in economics and management. It looked at skills important to adapt to a volatile, uncertain, complex, and ambiguous environment (VUCA), as well as ways to measure these skills.

Assessment can be considered as the systematic process of documenting and using empirical data to measure skill and knowledge, as well as to measure beliefs and attitudes among students. To maximize the potential of pedagogical innovations, assessment is the lynchpin (Evans et. al., 2015). A key aspect of assessment is to determine how well the desired student learning goals and outcomes have been met. Assessment has increasingly become a requirement imposed by accrediting agencies and state legislatures. Most accreditation agencies address the need for establishing learning goals and objectives, measuring results, and using assessment results to

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guide curriculum improvement, especially focusing on the skills that students will need to work in the future VUCA work environment (Mitri, 2005). Through assessment, the accomplishment of the intended goals may be more easily quantified for review, validation, and reporting (Bayless and Wilson, 2010). Different assessment modalities can be used for evaluation, for example, the dual assessment provided either by two or several lecturers, business community representative(s), and/or students who can evaluate the qualities of their own learning processes or can evaluate their colleagues. This research used rubrics to compare on the one side student-generated grades and the other side grades generated by their lecturers.

2. THEORETICAL REVIEW

Assessment in higher education and its possible measurement, total performance, the concept of creativity as well as management of assessment in higher education are recently a frequent topic of interest among many practitioners and scientists in the academia (Yorke, 1998, Brown and Glasner, 2003; Bhamani et al. 2014., Lynam and Chachia, 2018; James et al. 2019). Together with the recent changes in learning and teaching pedagogies, alternative assessment methods, such as self-assessment, are becoming more and more appreciated in educational practice. Self-assessment is one form of alternative assessment and has been suggested as a reliable and valid method for assessing students' communicative competence (Thanh Tran, 2019).

In the disruptive times that the world is facing today, together with its unprecedented complexities, higher education is expected to educate and prepare students for dealing with complex issues in both scientific as well as professional environments (Hanžek, 2020). The education system, therefore, needs to adapt to the process of obtaining students with skills helping them in adapting to what companies term as a VUCA environment, meaning volatile, uncertain, complex and ambiguous (Davie, 2013). Therefore, higher education institutions should develop problem-solving skills so that students are able to solve problems that have no clear solutions (Delaney et al., 2017). Grasping challenges need to be supported with appropriate skills; Institute for the Future released report "The Future Work Skills 2020", where they have identified adaptive thinking and multidisciplinary skills important for the future work environment (Davies et al., 2011). More so, skills needed for the VUCA work environment have been identified and these are: communications skills, the ability to learn independently and in trans-disciplinary ways, teamwork in real and virtual ways, thinking skills, digital skills, ethics and responsibility, self-management, cross-cultural competency, social intelligence, and flexibility (Hogan et al., 2016).

During the process of learning, in order to get clear, more precise and complete picture of the total learning results quality, it is more than important to provide students with the ability to consider and to estimate their own level of performance during classes, as well as to identify the areas of their own possible further improvement, seen by their own eyes. This goes hand in hand with the level of their own self-perception and the image they have about themselves. The knowledge generated through the process of self-assessment can be further used in future student's professional life while directing their efforts in specific areas where they have recognized by themselves a possible need for further improvement, especially focusing on preparing students for the future VUCA work environment (Brown and Glasner, 2003).

The process of self-assessment can be considered as a serious learning and teaching exercise with the final purpose of providing a much better and clearer picture of the generated result dur-

ing the course and/or during the semester. On the other side, self-assessment requires students to reflect on their work and to judge how well they have performed in relation to the total set-up of assessment criteria. The focus is not necessarily on having students generate their grades, but rather providing opportunities for them to be able to identify what constitutes a good (or poor!) piece of work and to provide them with more detailed feedback. Some degree of student involvement in the development and comprehension of assessment criteria is, therefore, an important component of self-assessment (Boud, 2013). Self-assessment requires examination of work and determination of whether the work meets selected standards (Boud, 2013).

The concept of dual assessment in higher education, in contrast to assessment methods themselves as well as self-assessment conducted by students, has received surprisingly little attention in the literature, yet is of significant importance. The concept of dual assessment in higher education represents a challenge for the total outcome of learning quality in the field of higher education. The concept itself should be valuable for the betterment of the total educational process and quality of total student learning outcomes. As a result, there is an obvious place for improvement in the field of conducting dual assessment methodology in higher education, starting from a sharper focus on quality. It is to be considered as a possible source of competitiveness in higher education, as well as a potential source of satisfaction for the user. It belongs to the new teaching methodology in the era of global education competition where innovations are required.

Yet surprisingly, there is no significant number of authors such as Adachi et al. (2017) who have recently paid serious attention connected with strategic challenges of dual assessment process and concept in higher education, its relevance and possible further development within a highly competitive educational market, where competitive advantage can be gained based on total quality management. This can be applied to the total dual assessment concept, which, if properly conducted, can influence significantly on total satisfaction level among lecturers as well as among students (Xiao and Lucking, 2008; Beaumont et al., 2011; Maggs, 2014). The concept itself should be considered as a logical and needed innovation in the field of higher education.

The strategy of integration of assessment methods in higher education combined with student's self-assessment contribution can help in developing of effective grading strategy and effective course execution. Additionally, this practice represents a challenge of feedback in higher education which sets completely new standards for better-qualified learning and grading outcomes. Assessment feedback is one of the most important components of the learning process (Hendersson et al., 2019). Due to the competitive and turbulent nature of higher education, even the best organizations will start experiencing performance problems if they are not willing or able to innovate and introduce change (Warter, 2019).

By analyzing the important features of assessment and self-assessment and taking into account the fact that there are not enough papers dealing with the concept of applying dual assessment in higher education focusing on the future VUCA work environment and important skills that students need to have, the question arises of the untapped potential of applying dual assessment in terms of raising the level of satisfaction with the service provided and delivered, both on the part of the students and the lecturers. It also raises the question of the potential of creating a more concrete and comprehensive picture regarding the quality of the final grade. As such, there are significant assumptions that dual assessment as an innovative concept might also have an impact on competitiveness in today's highly competitive higher education segment.

3. METHODOLOGY

3.1. Participants

The participants in this study were students enrolled in the course “Marketing Management” at the Zagreb School of Economics and Management (ZSEM). All students enrolled in the course were in their third year of study and had a previous self-assessment experience from some of the previous listened courses. This study is therefore done on the sample of the entire third generation of full-time students (N=79) during the academic year 2017/2018. Lecturers (N=2) who were doing the assessment have multiple years of grading experience.

3.2. Procedures and Analysis

This research focused on one of the quantitative methods of dual assessments of students’ knowledge in higher education. It was done through comparing, on the one side, student-generated grades, and on the other side grades generated by their lecturers. As a formal part of the course, students were expected to deliver final presentations. The presentations given during the course lasted approximately 25 minutes. Before presentations, all students have been instructed about effective presentation skills by their lecturers. Also, in the second year of their study, they have three mandatory communication courses: Business Communication, Business communication in English, and Rhetoric. In all three it is mandatory to do a presentation or give a speech, as well as to analyze other speakers’ and students’ speeches and presentations.

Following each presentation, students were asked to individually complete presentation rubrics comprised of eight categories as follows: (1) organization of the presentation; (2) visual quality; (3) voice quality and speech tempo; (4) performance and non-verbal communication; (5) professionalism; (6) media usage; (7) knowledge of the subject and (8) ability to answer the questions. Students graded their presentations using the scoring matrix ranged from 0-5 (0 and 1 points for low performance, 2 and 3 for average performance and 4 and 5 for above average performance), yielding a maximum possible score of 40 points. These performance levels which differ from 0 to 5 were explained to students and were in detail explained in rubrics. The self-assessment and lecturers’ assessments were carried out independently of each other, using the same rubrics and scoring matrix. After all presentation sessions finished the total score for each participant was calculated. The weighting of the assessment task was 15% of the overall course grade. Participants were informed about this percentage of weighting at early stage in the course semester. Final grades of students for presentation were made by calculating an average of lecturers’ rubrics and self-assessments were used for the purpose of this research and for the calculation of the 15% mentioned previously.

The research answered the following questions: (1) did students over or underrated themselves in comparing to lecturers’ assessments? (2) are there gender differences in self- assessment? (3) what are the categories in rubrics where grades overlap and what are the categories where they differ the most? and (4) how do results correlate with student’s final grade? After all the rubrics were conducted, the analysis was made using excel tools. Results and discussion of the research are described below in detail.

4. RESULTS AND DISCUSSION

Results for lecturers' assessment and self-assessment are presented in Table 1, as well as the final grades that students got from lecturers at the end of the semester (second column).

Table 1. Overall results of rubrics evaluations

Gender	Final grade on the course	Overall results Lecturers	Overall results Students
M+F	3.67	32.85	33.39
M	3.22	31.3	33.28
F	4.38	35.19	33.57

The first set of research questions (1. and 2.) aimed to answer if there are differences between self-assessment and lecturers' assessment and if there are gender differences in self- assessment. For both questions, the answer is yes. The results show that overall students rate themselves with slightly higher grades than lecturers'. This goes in favor of what Bolívar-Cruz and Verano-Tacoronte (2018) discovered about self-assessment of oral presentations. Their results show that students give themselves higher scores when self-assessment has an impact on their grades.

Looking into gender differences among students, it can be seen that male students rate themselves with a slightly lower grade than lecturers' while female students rate themselves with a slightly higher grade than lecturers'. Overall self-assessment of both female and male students is the same, i.e., average score is the same for both groups (F=33.57, M=33.28). However, female students have higher final grades on the course (F=4.38, M=3.22) which are given at the end of the semester for overall success on the course by lecturers (Table 1). Since these presentations are held at the end of the semester it may be that the female students were already assessed better during the semester by lecturers so they were more encouraged to grade themselves better. Bolívar-Cruz and Verano-Tacoronte (2018: 98) calculated the effect of confidence on self-assessment and discovered that speaker's confidence significantly affects women's self-assessment. Meaning, that it may be that the notion of higher grade in case of female students in this study enhanced their confidence and influenced their self-assessment.

Table 2. Results of rubrics by category

Gender	Organization of the presentation		Visual quality		Voice quality and speech tempo		Performance and non- verbal communication	
	PROF	STU	PROF	STU	PROF	STU	PROF	STU
M + F	4.36	4.03	4.27	4.31	4.14	3.94	4.09	4.08
M	4.13	4.09	4.11	4.26	3.91	3.94	3.83	4.13
F	4.71	3.95	4.52	4.40	4.48	3.95	4.48	4.02
Gender	Professionalism		Media usage		Knowledge of the subject		Ability to answer the questions	
	PROF	STU	PROF	STU	PROF	STU	PROF	STU
M + F	4.01	4.2	4.01	3.96	4.08	4.60	3.92	4.35
M	3.85	4.17	3.87	4.02	3.94	4.55	3.7	4.4
F	4.26	4.24	4.23	3.85	4.29	4.66	4.26	4.27

Differences according to the categories in rubrics are illustrated in the table above. In the current study, students graded themselves with the lowest grade for Voice quality and speech tempo, while lecturers graded them with the lowest grade for Ability to answer the questions (Table 2).

On the other hand, they gave themselves the higher grade for the Knowledge of the subject, while lecturers thought they deserved the highest grade for the category Visual quality. Interestingly, the overall highest grade was given by the students for category Knowledge of the subject (4.60).

As can be seen from Table 2, there are some gender differences according to results for categories in rubrics. Closer inspection of the table shows that female students gave themselves lower grades for non-verbal communication and voice than that of lecturers', and male students graded themselves with a higher grade for professionalism and knowledge than that of lecturers'. These results can be linked to some stereotypes that exist in society and that are connected with gender roles. More precisely, that males are perceived as more confident in their knowledge and females as less confident in their non-verbal communication. As mentioned before, Bolívar-Cruz and Verano-Tacoronte (2018) found that women's self-assessment is conditioned by their confidence as a speaker, while male students' self-assessment is not. On the other hand, female students were closer to lecturers' grades while rating their knowledge (categories: Knowledge of the theme and Ability to answer the questions). This may be due to their higher final grade. Here it has to be pointed out, that when analyzing gender differences, one has to be careful and not only look at gender as biological sex, but rather as social construct (Wodak and Benke, 1998). For the category in the rubrics Organization of the presentation, both groups of students assessed themselves with a lower grade than that of lecturers'. This result may be explained with their knowledge of how a great presentation should look like that they learned in Business Communication courses in their second year of study that maybe made them more critical in assessing that category.

Since communication skills are among key skills that students need to develop for working in a volatile environment (Hogan et al., 2016), and one way of improving them is through assignments of self-assessment, these types of activities in higher education are very important. Furthermore, self-assessment assignments can help students to be more self-critical and that could lead to greater objectivity and better thinking skills – again skills needed in VUCA environment (Hogan et al., 2016). Of course, there are some setbacks too, namely, our results confirmed that summative evaluation (self-assessment affecting the final grade) also have an influence on self-assessment results, i.e., students tend to grade themselves with higher grade when they know that self-assessment influences their final grade on the course. This could be improved by changing the grading of self-assessment and its goal. More precisely, to instruct students that they will get a higher grade for self-assessment task, the more similar it is their self-assessment rubrics with that of the lecturer.

5. CONCLUSION

Findings suggest that communication skills are very important for today's ever-changing work environment, especially VUCA one (Hogan et al., 2016). One of the possible ways of their improvement is through assignments of self-assessment in higher education. This study confirmed that in general there are differences between self-assessment of the students and assessment made by the lecturer, and there are also gender differences in self-assessment. The results show that male students rate themselves with a slightly lower grade than lecturers' while female students rate themselves with a slightly higher grade than lecturers'. Overall self-assessment of both female and male students is the same. However, female students have higher final grades on the course. These findings confirmed that summative evaluation (self-assessment affecting the final grade) also influences self-assessment results.

Due to the positive reactions of students to self-assessment tasks, this strategy of integration of assessment methods in higher education combined with student's self-assessment contribution is believed to help in developing of effective grading strategy, better course execution and continuous improvement in general. Also, the ultimate goal is to produce graduates who are equipped to be successful in their chosen careers, and assessment plays an integral part in the process (Bayless and Wilson, 2010). Findings suggest that whether for online or face-to-face courses, faculty and students may benefit from using the dual assessment approach in developing more skilled students that are capable to adapt to working in ever changing and uncertain environments. It is therefore decided that dual assessment will also be introduced in other courses within the ZSEM program to set a new standard for better-qualified learning and grading outcomes. Self-assessment and other measures of learning can assure external constituents such as potential students, business community, trustees, supporters, and accreditors, that the organization better meets its goals.

Finally, this research was done on a limited number of third year students from higher institution in Croatia, so it would be interesting to expand the study on students from other study years and countries. Also, other skills important for the VUCA work environment proposed by Davies et al. (2011) should be measured in the same way through dual assessment and rubrics, especially because student perceptions of rubrics are generally positive (Reddy and Andrade, 2010). Suggestions for future research may include the use of more rigorous research methods, more attention to validity and reliability, and research in diverse educational contexts.

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