RETHINKING THE ASSESSMENT WITH "ON-LINE/OFF-LINE" FLEXIBLE RUBRICS

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Abstract

The COVID-19 pandemic has changed different aspects of the teaching-learning process. The health crisis caused by COVID-19 in March 2020 modified teaching activities to an on-line version during several months. Therefore, the development of on-line tools was required to adapt to these changes and carry out final examination using fully digital platforms. On the one hand, European Higher Education Area (EHEA) promotes an evaluation based on competencies that students need to acquire, using a great variety of assessment tools with a high innovation degree. On the other hand, Rubrics are well-known instruments recommended for performing student evaluations based on competencies. Rubrics also allow the participation of all components involved in this evaluation process, aligning the evaluation and the teaching-learning model, and students' monitoring of their own activity. This way, the process favors the development of responsibility towards the learning process and the capacity of self-evaluation and understanding the quality of the work carried out and methods of improvement.

This work presents a teaching innovation experience that aimed to design a flexible evaluation itinerary (off-line/on-line) adapted to all possible situations in on-line teaching, using learning objects (e-rubrics) in compliance with competence-based assessment. Electronic rubrics (e-rubrics) were used to implement the present work and evaluate competencies acquired by students in the degree of agronomic sciences at the University of Valladolid. The methodology included, i) the design of a flexible off-line/on-line evaluation itinerary, ii) the elaboration of e-rubrics, iii) its implementation in evaluating students from the Degrees and Masters of Agronomic Sciences at the University of Valladolid, iv) the comparison of different tools and their functionalities and finally v) the evaluation and dissemination of results. The results showed that the combination of off-line/on-line assessment tools (e-rubrics) allowed the implementation of a flexible evaluation (off-line/on-line) itinerary, which can be easily applied for evaluating students' performance in Agronomic sciences (Degrees and Master levels) at the EHEA.

Keywords: Innovation, technology, competences assessment, COVID-19, CoRubrics, Moodle.

1 INTRODUCTION

The COVID-19 pandemic has changed different aspects of the teaching-learning process. The health crisis caused by COVID-19 in March 2020 modified teaching activities to an on-line version during several months. Therefore, the development of on-line tools was required to adapt to these changes and carry out final examination using fully digital platforms. A teaching innovation experience was developed to solve the assessment of Agronomic sciences students, by means of flexible "on line/off line" tools.

On the one hand, the teaching and learning process proposed by the Bologna process, encourages an active participation of the student in the learning process. More relevant become these statements for Agronomic science studies due to the need of its pragmatic approach. On the other hand, one of the most prominent characteristic of the present generation is their technology savviness and use of that technology in almost every aspect of their lives. The students spend on average of 33 hours per week on the internet [1], with 83% being engaged with online social networking sites [2]. Almost all the students in developed countries have a smart phone [3]. It is estimated that it won't be long before one-third of the world population will engage in some shape or form with social media. Facebook is the number one global social media site followed by YouTube, QQ, WhatsApp, Qzone, Twitter, SinaWeibo, WeChat, Google+ and Instagram [4]. Moreover, Facebook is the principal social media in America, Europe, Oceania, part of Asia and Africa, while Twitter is the principal social media in Japan [4]. These premises encourage to develop teaching-learning activities, included the assessment, using digital tools and highly involving students.

Additionally, in 2014, the European Commission presented the Agenda for the Higher Education Modernization in order to align the modernization of the higher education with the objectives of the Europe Strategy 2020 [5]. The agenda established the priority to adjust the higher education studies to the labour market promoting the entrepreneurial spirit and enhancing the links between education, research and enterprise. European Higher Education Area (EHEA) promotes an evaluation based on competencies that students need to acquire, using a great variety of assessment tools with a high innovation degree. In doing so, Rubrics are well-known instruments recommended for performing student evaluations based on competencies. The validity of the Rubrics is confirmed to improve the understanding of the expected learning results, providing teachers a continued, varied and collaborative assessment tool aligned with the competences-based learning model [6]. Rubrics also allow the participation of all components involved in this evaluation process, aligning the evaluation and the teaching-learning model, and students' monitoring of their own activity. This way, the process favors the development of responsibility towards the learning process and the capacity of self-evaluation and understanding the quality of the work carried out and methods of improvement. Moreover, various authors [7; 8; 9] have already tested the online evaluation of students and the reliability of the use of e-rubrics for on-line evaluation itineraries.

This work presents a teaching innovation experience that aimed to design a flexible evaluation itinerary (off-line/on-line) adapted to all possible situations in on-line teaching, using learning objects (e-rubrics) in compliance with competence-based assessment. Electronic rubrics (e-rubrics) were used to implement the present work and evaluate competencies acquired by students in the degree of agronomic sciences at the University of Valladolid.

2 METHODOLOGY

The teaching innovation experience followed a linear methodology. In a first step, the competencies needed to be acquired by the Agronomic sciences students were identified. Three competencies were considered to be assessed, i) C1: Critical thinking, ii) C2: Ability to synthesize and iii) C3: Ability to express in expert and non-expert forums.

A flexible off-line/on-line evaluation itinerary was design. Rubrics were elaborated and e-rubrics were design to complete the on-line part of the itinerary. Then, the tools developed were implemented in students of the Degrees and Masters of Agronomic Sciences at the University of Valladolid.

The Rubric was delivered to the students at the beginning of the trimester using the University of Valladolid Moodle platform. Once, the students presented their subject practices to the classroom, all the students and the teachers were invited to give marks using CoRubrics tool.

CoRubrics tool output the students' co-evaluation and the teacher's evaluation for each student. CoRubrics is a digital tool that allows, i) create the Rubric, ii) launch it to students and teachers by mail for evaluation, iii) data gather from students self-evaluation, teachers-evaluation and students co-evaluation, iv) assign a weight to each item measured and v) get the weigh averages of the students self-evaluation, teachers-evaluation and students co-evaluation. Therefore, CoRubrics was used to develop the e-Rubric for the evaluation in the on-line part of the itinerary.

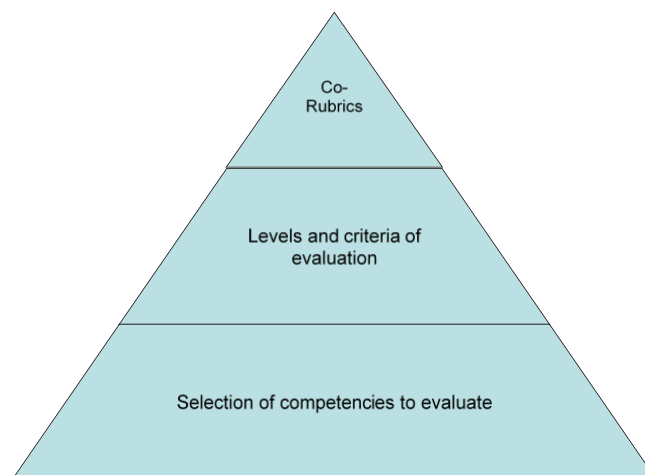Finally, the evaluation and dissemination of the results was conducted.

Figure 1. Methodology to design e-rubrics using CoRubrics digital tool.

3   RESULTS

The results showed that the combination of off-line/on-line assessment tools (e-rubrics) allowed the implementation of a flexible evaluation (off-line/on-line) itinerary, which can be easily applied for evaluating students' performance in Agronomic sciences (Degrees and Master levels) at the EHEA in both scenarios of face-to-face and on-line teaching.

The decisions taken in the flexible on-line/off-line evaluation are presented in the table 1.

Table 1. Strategic decisions for a flexible off-line/on-line evaluation itinerary.

Decisions	Description	Off-line option	On-line option/s
Decision 1	Evaluator	Teacher	Teacher Self-evaluation Co-evaluation
Decision 2	Task group	Students' group	Group students Faculty students Campus students
Decision 3	Object of evaluation	Subject	Theory Practices
Decision 4	Criteria	Subject contents	Competences
Decision 5	Levels	Marks	Advanced Expert
Decision 6	Media	Face-to-face	Moodle Rubric Co-rubrics

The flexible off-line / on-line evaluation itinerary used a combination of tools that would allow at any time to shift from face-to-face teaching into on-line teaching. The teacher's evaluation, the students self-evaluation and the co-evaluation can be completed using the e-rubric placed on the Moodle platform of the University of Valladolid, so it could be used in both offline / on-line evaluation modalities.

The CoRubrics tool allowed the rubric to be published to the students, the teacher evaluation, the students' self-evaluation and co-evaluation. It calculates weight and graphs the teacher and students' evaluations. Therefore, it is concluded the most complete tool.

This project contributes to the alignment of the evaluation with the competences, the student's follow-up of his own activity, favouring their responsibility of the learning and the self-evaluation of the quality of their work and the ways in which it could be improved to change the evaluation from face-to-face to online.

Table 2. Evaluation by teacher, students' self-evaluation and co-evaluation.

Competencies	Co-evaluation	Self-evaluation	Teacher evaluation
C1: Critical thinking	6.30	6.14	6.53
C2: Ability to synthesize	5.00	5.00	5.56
C3: Ability to express in expert and non expert forums	5.56	5.19	4.45

4   CONCLUSIONS

The use of e-rubrics allows the evaluation both offline / on-line evaluation modalities.

The CoRubrics tool allows to publish the rubric to the students, the teacher evaluation, the students' self-evaluation and co-evaluation.

The CoRubrics tool calculated weight and graphs the teacher and students' evaluations.

The Rubrics validity to evaluate the learning process aligned with the competences-based learning model was proved.

The teaching innovation experience raised the consciousness of the teachers to align the evaluation with the competencies to be acquired by the students.

The teaching innovation experience confirmed the compliance of rubrics to align the evaluation with the competencies that the student needs to acquire during the teaching-learning process.

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