USING THE SELF-EVALUATION AS A MOTIVATIONAL AND LEARNING TOOL

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Abstract

Evaluation is an educational tool to promote effective learning that can involve students with more guarantees of achieving successfully the objectives. In this way, our objective is the development of strategies to improve teaching quality through the use of self-evaluation rubrics. To use rubrics as evaluation tool offers advantages regarding other resources. By means of the rubric, the students know before the evaluation the criteria with which they will be evaluated, which allows them a global understanding of the subject and to know the relationship of the different abilities. In addition, this tool is very useful to promote the responsibility of the students and, in short, to encourage a much more autonomous learning and for the student to feel part of the educational process. This educational research has been developed within the subject of Environmental and Occupational Optometry of the Degree in Optics and Optometry of the University of Alicante. The educational experience proposed in this project has a double objective: to promote the collaborative work of the student and to promote self-evaluation as an instrument of learning and motivation. The collaborative work to be evaluated consisted of the design of an oral presentation on aspects addressed in the subject. On the other hand, the teachers involved designed and elaborated an evaluation rubric through Corubrics tool. It contains fundamental aspects to be taken into account by the students. Thus, they could think about what they are doing, how they are doing it and identify what they have learnt in the classroom. The rubric is divided into 8 items that evaluate both aspects of the content and aspects related to their attitude. Each category was described with four levels, from 4 (very correct) to 1 (very weak). 43 students participated in this study who were divided into two groups (A and B). In each group, the students worked in subgroups of a maximum of 3 people, with 6 oral presentations in group A and 9 in group B. The evaluation of the oral exposition was carried out in a group way. In this way, the rubric was completed individually by the rest of the students without differentiating between the members of the group. Furthermore, the same rubric was used by the teaching staff. Regarding the results, it is necessary to look at different aspects. On one hand, with respect to academic results, 73% of the students obtained a grade of B, and the remaining 27% obtained the grade of D, which is a good indicator of the degree of involvement of the students. It should be noted that there were maximum deviations of 84% and minimum deviations of 10% between the grades given by the teaching staff and the students. In this sense, it is important to mention that many of the items were systematically evaluated with the maximum score by most students. For this reason, it was thought appropriate to modulate the final grade by means of different percentages between teacher (60%) and student (40%). Finally, the evaluation of educational innovation itself was carried out using a scale designed for this purpose. After the analysis of the results, it can be said that the proposed objective has been achieved. The degree of student participation has been high, as reflected in the academic results. On the other hand, this experience has been valued positively by the students. Therefore, self-evaluation can be considered as a very useful tool for learning and motivation.

Keywords: Innovation, evaluation, rubric, motivation and learning tools.

1 INTRODUCTION

In the current university academic context, the European Higher Education Area (EHEA) requires ensuring a high academic performance in order to satisfy teachers and students and to achieve high levels of academic performance and satisfaction of those involved in the academic context [1]. Furthermore, EHEA and the European Credit Transfer System (ECTS) demand a change in the university teaching methodology. In this context, it is necessary to consider the learning evaluation as
a useful tool to promote effective learning that can involve students with more guarantees of achieving successfully the objectives.

The evaluation fulfills two basic functions: to improve the teaching methodology by adapting them to individual characteristics of students and to know the achievement degree of the planned objectives. In this way, it is possible to improve or change teaching strategies, methods and techniques based on the feedback between teachers and students.

The main learning assessment techniques include theory and practical tests, oral examinations, works and projects, and objective or test type response tests [2]. In this experience, the selected assessment technique was to develop a specific work or project to be evaluated. The realization of works or projects can become another form of evaluation consisting in the design and development of a work. This type of evaluation can also be implemented in groups with a reduced number of students in which each of them takes charge of a project. This format can be especially interesting for encouraging group work by students. To work in group it is essential to develop or to have different skills such as proposing ideas and accepting those of others, managing time well, listening, collaborating, adapting, etc. [3] Furthermore, the world of work appreciates very positively this competence, and almost that demanded, for this reason, must be developed in the period of formation. Therefore, our objective is to combine the evaluation and the teamwork to develop strategies to improve teaching quality, in this case, through the use of self-evaluation rubrics.

The use of rubrics as an evaluation tool offers advantages over other resources. This resource ensures that learners have much more information than with other tools (feedback). By means of the rubric, the students know before the evaluation the criteria with which they will be evaluated, which allows them a global understanding of the subject and to know the relation of the different capacities. In addition, the use of rubrics allows the student to be evaluated objectively, and at the same time allows the teachers to expose previously the criteria with which they are going to evaluate a work, presentation or activity [4]. Therefore, it is a formative evaluation tool, involving students in the process of evaluating their own work (self-evaluation), or the work of the rest of students (co-evaluation), following the criteria proposed by the teacher. On the other hand, the co-evaluation provides the option to learn how to make a critical and constructive analysis of their peers’ work. Finally, this tool is very useful for promoting student responsibility and, in short, for encouraging much more autonomous learning and for the student to feel part of the educational process [5, 6].

This educational research has been developed within the subject of Environmental and Occupational Optometry of the Degree in Optics and Optometry of the University of Alicante [7]. This is an optional subject for the last year course with 6 ECTS credits whose vehicular language is English. The main objective of this course is for the future graduate to be able to take and apply synergistically the knowledge and skills acquired in Optics and Optometry throughout the degree course in order to identify and analyse the environmental and occupational risk factors that can cause eye health or visual functionality problems. The content management used for learning is the Moodle platform in addition with some face-to-face theoretical and practical sessions. This platform or technology was chosen to encourage participatory work and to create collaborative learning in a visual environment.

Therefore, two main purposes are planned with this educational experience project: to promote the collaborative work of the student by means of the teamwork and to promote self-evaluation as an instrument of learning and motivation.

2 METHODOLOGY

The collaborative work to be evaluated consisted of the design of an oral presentation on aspects addressed in the subject “Environmental and Occupational Optometry”. On the other hand, the teachers involved designed and elaborated an evaluation rubric through Corubrics tool. It contains fundamental aspects to be taken into account by the students. Thus, they could think about what they are doing, how they are doing it and identify what they have learnt in the classroom. The rubric is divided into 8 items that evaluate both aspects of the content and aspects related to their attitude. Each category was described with four levels, from 4 (very correct) to 1 (very weak). In Table 1, it is shown the 8 categories to be evaluated and the four levels. This rubric was shared with the students before developing the project in order to be discussed and to reach an agreement about the contents. Students selected the project topic and they worked during two two-hour sessions on the preparation of the material for the oral presentation.
43 students participated in this study who were divided into two groups (A and B). In each group, the students worked in subgroups of a maximum of 3 people, with 6 oral presentations in group A and 9 in group B. The evaluation of the oral exposition was carried out in a group way. In this way, the rubric was completed individually by the rest of the students without differentiating between the members of the group. Furthermore, the same rubric was used by the teaching staff. After collecting all the results and to obtain a mark, the final mark was weighted from 1 to 10.

3 RESULTS

Before conducting a detailed analysis of the results obtained, an overall assessment is carried out. The objectives of this educational experience were to develop group work skills, involve students in their learning and encourage self-evaluation and/or co-evaluation with the use of the rubric. By considering these aspects, the experience shows that these objectives were achieved. It was not developed a specific questionnaire to know the student opinion, but different aspects, such as their level of involvement, the commitment and satisfaction with the result of the final work or the cohesion between the members of the group, were discussed with the students. In general, they valued the experience very positively. In fact, students commented that to know that they were going to be evaluated by their classmates made them get more involved in the work. Therefore, the main objective related to the student motivation was achieved.

Afterwards, a detailed analysis was conducted based on the academical results. In Figure 1, the average answer frequency and the corresponding standard deviation are shown for both groups. The percentages that each item or category obtained were calculated for each student group and finally, the average was computed (Figure 1a). The different bars in the graph correspond to the four levels, from 4 (very correct) to 1 (very weak). It can be shown that the behavior is different for group A and B. The answer frequency for group A and the level 1 (very correct) was higher than for the group B. For the group B, the greatest answer frequency was for the level 2 (correct). With this result, it can be concluded that students from group A answered systematically the level 1 and they did not evaluate correctly their classmates. However, if the standard deviation is considered, it can be checked that the
variability of answers was greater for the group A than for the group B. Therefore, it is possible to get different conclusions from these results. On one hand, students from group A had a more critical attitude than students from group B by distinguishing the quality of the presented works. On the other hand, in average, the quality of the works presented by students from group A was better than those presented in the group B.

Furthermore, other analysis was conducted focused mainly on the academic results. 73% of the students obtained a grade of B, and the remaining 27% obtained the grade of D, which is a good indicator of the degree of involvement of the students (Figure 2). It should be noted that there were maximum deviations of 84% and minimum deviations of 10% between the grades given by the teaching staff and the students. In this sense, it is important to mention that many of the items were systematically evaluated with the maximum score by most students. For this reason, it was thought appropriate to modulate the final grade by means of different percentages between teacher (60%) and student (40%).

Figure 1. Average answer frequency and the corresponding standard deviation obtained for each category according to the group A (a) and the group B (b).

Figure 2. Academic results for the oral presentation.
4 CONCLUSIONS

In this work, the evaluation was used as a tool to increase the student motivation and to improve the student learning. On the other hand, this educational experience tried to develop the collaborative work by means of the development of a project by working in groups.

As conclusion, this educational experience was valued positively by the students since the degree of student participation was high as reflected by the academic results. On the other hand, students improve their group work skills and it was possible to involve students in their learning. Therefore, self-evaluation can be considered as a very useful tool for learning and motivation.

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REFERENCES