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Peer Review as Teaching Method

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Abstract

It is not easy to make a clear educational sense of the battery of tech tools at the service of university teaching. At present, teachers have multiple resources that facilitate the explanation of contents. The challenge appears when designing didactic procedures that combine methodological strategies that help to construct knowledge. Here we present a teaching experience based on the academic tradition of peer review through which the students, future teachers, make contact with the pedagogical characteristics of evaluation. With a tech tool designed for this purpose, we try to bring the learning contents closer, making students directly responsible for their own learning in a task of collective intelligence. The obtained results show how emotional aspects intervene in peer assessment processes and how tools like this add elements of effective motivation by presenting the learning processes in the same way that students interact with digital devices.

Keywords: Teaching tools; Teaching and learning; Peer review; Learning assessment.

Introduction

Educational dynamics in higher education, encouraged by technological development, stimulate a constant evolution of learning scenarios. Consequently, it requires teachers to be receptive to changes. Teachers need to develop new competencies to navigate adequately in spaces wider than the group-classroom [1].They must broaden their repertoire of didactic communication strategies to move through teaching-learning environments in class or out of class[2, 3] and to design and develop contents and activities that respond to the communication methods used by university students; that is, teachers must have the resources and necessary tools for students to learn [4]. In an ongoing process of improvement, the pedagogic practice linked to educational innovation contributes to the use of active methodologies to boost co-learning [5], to learn with others [6], to the collective intelligence [7]. In this way it harmonizes and makes compatible a reversed learning (flipped learning), by transferring part of the learning contents outside the classroom[8], with a blended learning (B-learning) combining the traditional synchronous communication of face-to-face classes with the asynchronous communication of online learning [9, 10]. This didactic staging goes beyond teachers, issuing students some level of co-responsibility so they commit to their own learning so that they are capable of weighting their competences and of transferring their knowledge according to the demands of context and the problems they face [11].

These changes demand new forms of teaching and assessment: learning and learning assessment form a continuum in higher education and it is not honest to have only teachers perform the evaluation function [12]; even less if we can use in expensive technologies like cloud computing [13] or e-assessment [14] that allow us to link hetero-assessment with self-assessment. In a nutshell, we can combine together different types of evaluation [15] to improve learning assessment [16]. *From this perspective, and taking as reference the peer assessment process [17], we test a personalized teaching-learning process* [18] inspired by the academic tradition of peer review with our 1st year undergraduate students of the Grade in Early Childhood Education. On the one hand, considering how students learn now a days [19], we were trying to reflect on our own teaching practice to channel better strategies of teaching and formative assessment[20, 21]. On the other, and complementary to this one, we were trying to have our students assume responsibilities in the evaluation process [22].

Material and Methods

We designed a digital tool, called Peer Review Workshop that would support the teaching-learning contents of the subject *General Teaching Method* taking into account the need for using tech tools in university classrooms in order to appeal to students who use digital devices constantly in their everyday lives [23]. This was made available to students in the institutional repository "e-campus" of the University of Oviedo. The aim of such teaching resource was to have students upload their tasks and be able to anonymously assess other tasks uploaded to that digital workshop. This resource offered students the advantages of double-blind assessment of their articles and the advantages of the self-assessment of their own learning to see different approaches to the same educational contents. The workshop was designed so that each student uploaded a file to which a key that could not identify its author (their ID number) was assigned, with the content of the scheduled activity, in this case the design of a Teaching Unit for the 2nd cycle of Preschool. Prior to the start of the workshop a guided practice (guidelines) was offered in the classroom so that the whole student body could easily navigate the workshop environment. When the period for uploading files finished (28 were received), all students were randomly designated as anonymous reviewers for 15 documents. In every document they had to weigh four assessment criteria: 1) the Teaching Unit structure; 2) the readability of the proposal; 3) its originality; and 4) the pedagogical usefulness of the activities proposed for this educational stage. On these assessment criteria, each one of the reviewers had to assign a note, from 0 to 5 without decimals, to every reviewed Teaching Unit. Only the teacher could see who authored every work and who reviewed it. After this, the score obtained by each Teaching Unit was communicated to all participating students.

A total of 58 students (2 males and 56 females, between 18 and 21 years of age) of the subject General Teaching Method from the Degree in Early Childhood Education were involved in this teaching practice.

This teaching experience of peer assessment provided training feedback to future preschool teachers, but also we wanted to check which were the real criteria that motivated the ratings when the students were assessing their classmates' work.

Results

When the results obtained by each Teaching Unit were shown in class, we inquired about the peer-assessment processes followed by each of our students-reviewers. All recognized having taken the 4 assessment criteria prearranged in the Workshop as a reference, but they did not hesitate to ensure that other criteria had influenced them more. These other criteria can be seen in Table 1.

Table 1: Personal criteria used to assess

Personal criteria used to assess Teaching Units	Number of students who used this criterion	Percentage of participants
Amount of images	56	96,5%
Visual appearance	55	95%
Attractive aspects of the activities	53	91%
Relevance of the proposal	53	91%
Educational aspects of the activities	48	83%
Recognizable contents	47	81%
Assessment modality	37	64%
Structure of the Teaching Unit	31	53%
Contents related to the subject	29	50%
Amount of text	17	29%

The educational practice develops in interactive contexts where transmitted emotions and attitudes are part of the teaching and assessment processes [24]. Although the need to weigh the operative contents of the programming units had been insisted upon emotional elements were involved in the analysis of proposals. In peer assessment in which the author of the production to be judged is not known, it is easier to avoid socio-affective elements [25] and disloyal valuation [26]. Even so, individual emotional biases are difficult to control. In fact, the majority of our students admitted to having valued more didactic units with an abundance of images against of those that contained more informative load.

Discussion and Conclusions

This teaching experience provides new opportunities for university teaching involving students in tasks that promote learning through group interaction and digital tools. With peer review as a teaching strategy we also intended to introduce co-evaluation processes so that students would see assessment as a resource of teaching-learning and not simply as an instrument of qualification.

In current university teaching we are faced every day with the challenge of presenting learning contents to students accustomed to read screens, to interact with devices and virtual environments. Often we are slow to adapt digital tools for educational use, perhaps influenced by the expository tradition of university environments [27], or perhaps because we cannot always see a clear pedagogical use for them.

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