Self, Peer and Teacher Assessment as Active Learning Methods

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Abstract
This paper provides an example of self and peer assessment among Spanish students pursuing a business administration degree (first and third year) as well as the results of our study and concluding remarks. We point out differences between the results for the first- and third-year students. Whereas students in their first year are beginners with respect to this kind of task, third-year students are proficient at this kind of assessment.

Keywords: Self-assessment, peer assessment, teacher assessment, the European Higher Education Area.

1. Introduction
Self and peer assessments are being increasingly used in higher education to help students learn more efficiently. However, there are few papers discussing these methods.

In higher education, the teacher normally instructs by using the expository method. Students are assessed with a single final exam related to the presented subject material. The grades obtained by students using this teaching method are typically very poor for both the ordinary and extraordinary exam sessions, in spite of the fact that tests have been adjusted to the presented content. The diagnosis is very straightforward: students have not regularly worked on the problems and reviewed the explanations given in class, and the students are not aware of their mistakes or any learning deficiencies accumulated during the academic year. New teaching methodologies used in our classes (such as self-assessment) provide the necessary feedback to achieve the teaching goals (Nicol and Macfarlane-Dick, 2006).

Self-assessment develops the self-judgmental ability of students through analysis of their own work in class and at home (Kayler and Weller, 2007, and Mok et al., 2006). Peer assessment provides feedback related to the ability of the student to make this judgment (Brown and Glasner, 2007).

Students have always thought of assessment as the worst part of their studies (Becker and Rosen, 1992). They have sometimes even considered it as revenge by their teachers or professors. In the current European Higher Education Area (Vidal, 2003), students must understand that self-assessment is a key part of their learning (De Miguel, 2006, and Prieto Navarro, 2007).

When using a correct assessment system, students perceive assessment as a motivating and productive part of their education because this procedure informs them if they are good at learning and are able achieve proposed goals (Martin et al., 2002, and Munns, G. and Woodward, 2006).
Before selecting the type of assessment, teachers should think about these questions: Why assess? Which aspects should be evaluated? How will the assessment work? And when would this assessment be the most timely and productive? After reflecting on these questions, teachers can select the most suitable tools to achieve the goals. There are many assessment techniques (Fallows and Chandramohan, 2001). In this study, we selected only two types of assessment—self and peer assessment—to develop the students’ critical awareness, which is a very important skill for professionals (Boekaerts, 1991, and Ridgway, 2004).

Thus, our research analysed some differences and similarities between two different groups of students that use self and peer assessment in their learning processes. We concluded that students in the first year of the business administration degree did not seem to be very good at judging their own work; meanwhile, students in the third year seemed to be good at peer and self-evaluation after performing such assessments several times.

This paper is organised as follows. Section 2 describes self and peer assessment and the aims, methodology and results of our practical application. Section 3 includes a summary of the main results and conclusions.

2. Self and Peer Assessment: Practical Application among Spanish Students

Normally, self and peer assessment are used jointly as a single assessment method, although they pursue very different goals. Self-assessment develops skills of critical awareness and enables students to become reflective and self-managing, to identify the next steps in learning and to move forward ‘under their own steam’. Peer assessment offers feedback between students and also allows students to make comparisons with each other (Liu and Carless, 2006). Another aim of this sort of assessment is student motivation because this type of assessment involves the students in their final results.

2.1. Aims, Methodology and Development of the Activity

This paper presents evidence on the use of self and peer assessment as a pilot test in two groups of business administration students. The evaluated activity was work that students had presented in class.

Our research sample consisted of one group of students in the first year of the business administration degree (47 students) and another group of students in the third year (22 students).

Each work group was made up of 4 or 5 students. When their work was finished, they had to explain it, and all of the students were supposed to participate in this presentation. All of the students were present during the presentations, and, after the presentations, they assessed themselves and their classmates.

The students did not assess content or structure; they only evaluated the public presentation. This process began with a consensus on the assessment criteria between teacher and the students. These criteria should always be clear from the beginning of an assessment session to obtain the highest possible objectivity.

The students and teacher agreed on the following idea: the teacher would globally assess each group, and students would assess each other individually.

The aspects evaluated by the teacher were the following:
- They correctly modulate their voice.
- They speak directly to the public to keep their attention.
- They use a suitable language.
- They clearly present their subject matter.
- They manage their time well.

Teachers assessed the presentations based on the previous aspects using scores between 0 and 5. Finally, we used the following qualification rubric:
A score of two or lower: the presentation was bad (B)
A score of three: the presentation was normal (N)
A score of four: the presentation was good (G)
A score of five: the presentation was very good (VG)

The teacher’s assessment was worth double the weight of the self and peer assessments.

2.2. Results

In this section, we show our results and figures. These give a clear idea of the process and enable a comparison between the results for both groups.

As we can see in Figure 1, students in the first year assigned significantly higher assessment scores than the objective teacher did. However, in the third year, this tendency radically changes, and their evaluations were consistently lower than those of the objective teacher.

**Figure 1:** Relationship between self, peer and teacher assessment scores (displayed by group)

Panel 1: First-year students

Panel 2: Third-year students
These results were confirmed by the relative proportions of the following three possible situations:

- Teacher evaluation higher than student assessment (positive difference).
- Teacher assessment equal to student evaluation (null difference).
- Teacher evaluation lower than student assessment (negative difference).

**Figure 2:** Cases in which the teacher evaluation score was higher than (positive)/equal to (null)/lower than (negative) the student assessment score (in percentages)

Panel 1: First-year students

Panel 2: Third-year students

Figure 2 shows the tendency of first-year students to assign themselves higher evaluation scores than they deserved (70% in the case of self-evaluation and 64% in the case of peer evaluation). Third-year students were more critical of themselves and their classmates; thus, the case in which the teacher assessment was higher than the student assessment reached a significant percentage in this subsample (86% in both cases: self and peer evaluation).

Finally, we analysed the main statistics for the differences between the teacher assessment scores and student evaluation scores. We also tested the equality of the means, medians and variances among our groups of students using parametric and nonparametric tests, and these statistics confirmed the previous results. The statistically significant and negative mean in the case of first-year students corroborates the fact that the teacher evaluation scores were lower than those assigned by the students.

In the case of third-year students, the evaluation difference was significantly positive (around one percentage point) when we compared the teacher and peer evaluation scores (0.954) and when we compared the teacher and self-evaluation scores (0.818). These results demonstrate that third-year students are more critical when they evaluate themselves because their self-evaluation scores were always lower than the teacher assessment score.
Table 1: Main statistics describing the differences between the teacher and student (self and peer assessment) evaluation scores

<table>
<thead>
<tr>
<th></th>
<th>Diff.Teach-Clas. 1st</th>
<th>Diff.Teach-Clas. 3rd</th>
<th>Diff.Teach-Self 1st</th>
<th>Diff.Teach-Self 3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-0.840426</td>
<td>0.954545</td>
<td>-0.772340</td>
<td>0.818182</td>
</tr>
<tr>
<td>Median</td>
<td>-1.000000</td>
<td>1.000000</td>
<td>-0.700000</td>
<td>0.750000</td>
</tr>
<tr>
<td>Maximum</td>
<td>2.000000</td>
<td>1.500000</td>
<td>2.500000</td>
<td>1.500000</td>
</tr>
<tr>
<td>Minimum</td>
<td>-3.000000</td>
<td>0.000000</td>
<td>-3.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.277338</td>
<td>0.433949</td>
<td>1.217571</td>
<td>0.524301</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.421795</td>
<td>-1.168233</td>
<td>0.317292</td>
<td>0.010481</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.759938</td>
<td>4.001982</td>
<td>2.647763</td>
<td>1.801290</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>1.506497</td>
<td>5.924454</td>
<td>1.031588</td>
<td>1.317567</td>
</tr>
<tr>
<td>Probability</td>
<td>0.470834</td>
<td>0.051704</td>
<td>0.597026</td>
<td>0.517480</td>
</tr>
<tr>
<td>Observations</td>
<td>47</td>
<td>22</td>
<td>47</td>
<td>22</td>
</tr>
</tbody>
</table>

*p < 0.10, ^p < 0.05, °p < 0.01

2.3. Strong and Weak Points

In this study, we detected a number of weak and strong points that were common to both types of evaluation. To summarise, we present the advantages and disadvantages that we found when using this sort of evaluation (see Figure 3).

**Figure 3:** Advantages and disadvantages of self and peer assessment

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Students are more motivated to be involved in their work.</td>
<td>• Students may think that evaluation is the teacher’s responsibility and that the professor uses student evaluation to avoid correcting tests.</td>
</tr>
<tr>
<td>• Students become observers of their own and others’ work, and they learn from these observations.</td>
<td>• Students do not like to evaluate their classmates.</td>
</tr>
<tr>
<td>• Students participate in their evaluation process, promoting their responsibility (to themselves and to their classmates).</td>
<td>• They may be too critical.</td>
</tr>
<tr>
<td>• The student’s critical awareness is developed.</td>
<td>• They may take the opportunity to rate themselves far above what they deserve.</td>
</tr>
<tr>
<td></td>
<td>• What do we do when the student and teacher evaluation scores are very different?</td>
</tr>
<tr>
<td></td>
<td>• To what extent is it necessary to reach a consensus with students on their grades?</td>
</tr>
</tbody>
</table>

3. Concluding Remarks

We show the main findings of this research in Figure 4, classified into two groups: quantitative findings (percentages reflecting the number of students who showed a certain tendency during the activity), and qualitative findings (an overview based more on observation than on the data).

**Figure 4:** Quantitative and qualitative findings of our analysis

**Panel A: Quantitative findings**

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>THIRD YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In 64 % of cases, peer evaluation scores were higher than teacher evaluation scores.</td>
<td>• In no case were peer evaluation scores higher than teacher evaluation scores.</td>
</tr>
<tr>
<td>• In 23 % of cases, peer assessment scores were equal to teacher assessment scores.</td>
<td>• In 14 % of cases, peer evaluation scores were similar to teacher assessment scores.</td>
</tr>
<tr>
<td>• In 13 % of cases, peer evaluation scores were lower than teacher evaluation scores.</td>
<td>• In 86 % of cases, peer assessment scores were lower than teacher evaluation scores.</td>
</tr>
<tr>
<td>• In 70 % of cases, self-assessment scores were higher than teacher evaluation scores.</td>
<td>• In no case were self-evaluation scores higher than teacher assessment scores.</td>
</tr>
</tbody>
</table>
Figure 4: Quantitative and qualitative findings of our analysis - continuous

- In 4% of cases, self-evaluation scores were very similar to teacher assessment scores.
- In 14% of cases, self-assessment scores were equal to teacher evaluation scores.
- In 26% of cases, self-assessment scores were lower than teacher evaluation scores.
- In 86% of cases, self-evaluation scores were lower than teacher assessment scores.

Panel B: Qualitative findings

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>THIRD YEAR</th>
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<tr>
<td>Students did not feel that they were partners in their evaluation process,</td>
<td>Students were motivated, and they participated in the evaluation process as</td>
</tr>
<tr>
<td>but rather they considered this kind of activity as an obligation.</td>
<td>part of their learning.</td>
</tr>
<tr>
<td>Students rated themselves very highly, thinking that this evaluation may</td>
<td>Self assessment was very objective, and results were quite similar to those</td>
</tr>
<tr>
<td>be taken into account by the teacher.</td>
<td>of the teacher evaluation.</td>
</tr>
<tr>
<td>Peer evaluation scores were very similar to (or slightly lower than) self-</td>
<td>Peer evaluation scores were very similar to (or even slightly higher than)</td>
</tr>
<tr>
<td>assessment scores.</td>
<td>self-assessment scores.</td>
</tr>
<tr>
<td>Students had some difficulties when they evaluated each other, although</td>
<td>Students did not have difficulties when they evaluated each other after</td>
</tr>
<tr>
<td>the standards of assessment were previously agreed upon.</td>
<td>the standards of assessment were agreed upon.</td>
</tr>
<tr>
<td>Students did not seem to be very good at judging their own work.</td>
<td>Students seemed to be good at peer and self-evaluation after they did it</td>
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<td></td>
<td>several times.</td>
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References


