

## THE INVESTIGATION OF THE PROSPECTIVE TEACHERS' OPINIONS RELATED TO PEER ASSESSMENT: A QUALITATIVE STUDY

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### ABSTRACT

The aim of this study is to analyze the opinions of prospective teachers' opinions on peer assessment. The research was conducted in Buca Education Faculty Primary School Mathematics Department, third grade course "Measurement and Evaluation in Education". There were in 46 participants in the study (m=20, f=26). The study lasted for 5 weeks. The lessons were conducted according to cooperative learning method. At the end of sessions peer assessments were conducted and students' written opinions on the implementation were received. Students' responses were coded with Maxqda12 software program for qualitative research in order to analyze and organize the data. In the end two themes emerged. First were the positive and second were the negative opinions. The positive opinions were grouped under four sub-themes as accurate assessment, perform the task, rating learning, and confidentiality; whereas there were three negative sub-themes as reliability, impartiality, and concern.

**Keywords:** Peer assessment, prospective teacher, cooperative learning.

### INTRODUCTION

Constructivism has presented a new, wide, authentic, more practice-oriented conceptual framework to organization of learning applications and structuring assessment processes. This conceptual framework caused learning environments to move from traditional to student-centered (Collins, 1991). With the change in learning environments towards being student-centered, there is a requirement for the learners to take an active role during learning process. This requirement led the way to the birth of active learning methods (Açıköz, 2003). The most commonly emphasized point on active learning is the active participation of students to the learning process. Active participation to learning process is closely related to students making decisions, reflecting about the learning process and self-regulation skills (Yurdabakan, 2011b).

Many researchers (Messick, 1995; Boud, 1995; Hargreaves, 2007) have mentioned about the impact of assessment on learning. This understanding started to gain importance within the framework of educational applications which have emerged with the active learning methods. Because, the active learning methods necessitating active participation requires individuals who are aware of their competencies, who know the subjects to improve, who are conscious enough about their progress, who question, lead and manage their own learning (Yurdabakan, 2011a). In addition to this, Boud (1995) and Arter (1996) state that goals could be achieved if materials in which learning and assessment are used together and added that assessment practices should change form to enable students to see their own progress and deficiencies they need to complete, and treated as a learning tool that requires better participation. These requirements also have lead to the discussion of the relationships between alternative assessment methods and learning.

The assessments according to the influence of constructivist theory on testing and assessment processes and in literature they are those methods named as self-assessment, peer assessment, co-assessment, group assessment, portfolio assessment and so on (Boud, 1995; Birenbaum & Dochy,

1996; Boud & Falchikov 2006; Dochy, Segers & Sluijsmans, 1999; McMahon, 2009; Somervell, 1993; Sundström, 2005). These alternative methods of assessment have received much attention in the last decade and several forms of assessment have been used in higher education.

Peer assessment which is one of the alternative methods of assessment is the process where individuals in a group assess their peers (Boud, 1995; Falchikov, 1995). Peer assessment is also more than students grading their peers' work, as it forms part of a learning process where different skills are developed (Lindblom-Ylänne, Pihlajamäki & Kotkas, 2006). In recent years, there has been an increase in the number of studies that investigate the peer assessment used in group work due to its compatibility with the social constructivist approach (Birenbaum & Dochy, 1996; McMahon, 2009; Vickerman, 2009). A large number of these assessment studies deal with issues such as the student perceptions, effectiveness, acceptability, fairness or reliability of peer assessment (Gielen, Dochy, Onghena, Struyven & Smeets, 2011; Patton, 2011).

Peer assessment basically concentrates on two skills. First, assessment results of peers can be considered a part of self-assessment (Somervell, 1993) and develop self-assessment skills (Yurdabakan, 2011). Second, peer assessment in group learning can help us focus on issues like student responsibility (Van den Berg, Admiraal & Pilot, 2006). In the assessment of cooperative skills and the learning from cooperation, peer assessment has an important influence. In their research, many authors have stated that peer assessment improves skills of criticism and learning levels of students working in groups (Freeman, 1995), and it encourages cooperation instead of competition (Orsmond, Merry & Reiling, 1996; Lejk & Wyvill, 2001). Peer assessment can also serve several goals. Sorting them on a scale from external control to autonomy support gives us the following list: peer assessment as a tool for social control; for assessment; for learning; for learning-how-to-assess; and for active participation of students (Gielen, Dochy, Onghena, Struyven & Smeets, 2011).

### **The Purpose of the Study**

Many authors have mentioned the benefits of peer assessment used during cooperative group work. For example, peer assessment helps the students to get feedback from others besides their teachers. Also, peer assessment 'stresses skills, encourages lesson participation, increases concentration on learning, provides feedback to the students, increases course attendance and teaches responsibility' (Weaver & Cotrell, 1986; Nicol & Boyle 2003, 2003; Vickerman, 2009). According to many other authors, peer assessment develops critical thinking (Searby & Ewers, 1997; Stainer, 1997; Topping, 2009), increases student learning (Michaelsen, 1992, as cited in Freeman, 1995) and encourages cooperative learning as opposed to competitive learning (Lejk & Wyvill, 2001; Orsmond, Merry & Reiling, 1996).

According to the results of some qualitative studies investigating participants in cooperative learning groups, where peer assessment was utilised, the students stated that these kinds of studies increase active participation and said that peer assessment was an interesting experience for them (Lourdusamy & Divaharan, 2000). Actually, in addition to the fact that cooperative learning where peer assessment was used was found to be rewarding and encouraging, it was also observed that students expected their group members to take the work more seriously and participate more, this way strengthening the sense of interdependence among group members (Purchase, 2000; Hanrahan & Isaacs, 2001). On the other hand, as Yueh and Alessi (1988) stated, one way of getting students to take part more actively in lessons is to reward their interests and participation in the lesson. Some studies done on this issue have shown that using peer assessment to reward student efforts was encouraging and motivating. Also as Conway et al. (1993), Goldfinch (1994) and Freeman (1995) stated, peer assessment was effective in checking those students who neglected their duties and added that the students who took part in assessment found it a good experience for them.

On the other hand, Dancer and Dancer (1992) stressed that without an extensive training peers tend to assess themselves according to similarity, race and friendship, and there can be sham/tricky scoring because of reciprocity and secret agreement among members (Magin, 2001; Edgerton &

McKechnie, 2002). Another concern about peer assessment is that those cham/tricky scorings can lead to indiscriminate assessments among group members (Edgerton & McKechnie, 2002; Magin, 2001; Parsons & Drew, 1996; Wen & Tsai 2006). Also, in the presence of a dominant individual in the group, there is a risk of power (decibel) scoring or scoring in line with the powerful. Such scorings can create assessments where the dominant figures have high scorings which they may not deserve. Another concern frequently worded is the risk of parasite scoring. Parasite scoring is where some group members make use of the group points even when they have no contribution to group work (Pond et al., 1995). Besides, another hot discussion is that other group members can resent the assessment results, conflicts may arise and they may try to retaliate in the subsequent applications (Kaufman et al., 1999; Hanrahan & Isaacs, 2001; Lindblom-Ylänne, Pihlajamäki & Kotkas, 2006).

In this study, which was conducted during cooperative learning group works, peer assessment was used as a learning and assessment tool. In addition, in order to improve students' skills of group participation, cooperation, taking responsibility and reflective skills, peer assessments were used during cooperative learning process. Hence, the aim of the present study is to describe prospective students' opinions on peer assessment.

## **METHOD AND PARTICIPANTS**

The research was conducted in Dokuz Eylul University Education Faculty Primary School Mathematics Department, third grade course "Measurement and Evaluation in Education". There were 46 participants in the study (m=20, f=26). The study lasted for 5 weeks. The lessons were conducted according to learning together and expertise group techniques (Johnson, Johnson & Smith, 1998) of cooperative learning method. With this purpose in mind, the students were put into heterogeneous groups of 4-6 by taking their previous semester grade averages, genders and social communication skills into account. 14 objectives were defined for the Measurement and Evaluation in Education Course, activities and accompanying worksheet were prepared for each session in light of these objectives. Before the main sessions, pre-sessions were designed for 2 weeks in all groups to make them internalize the necessary conditions of cooperative study method, their roles and peer assessment processes. In the first main session, all groups were informed that at the end of the all sessions they would receive a peer assessment form, the aim and content of which were explained briefly.

With the aim of improving the assessment skills of students, the following stages were done in the pre-sessions: 1) Short introduction to peer assessment practices, 2) Explanation of aims of peer assessment, 3) Discussion and identification of assessment criteria for cooperation. 4) All students attending to co-assessment under the guidance of the teacher, 5) Students attending to sample peer assessment practices concerning on activities at the end of an appropriate group activities, 6) Observation of assessment processes and results together with students and 7) Giving feedback to members about the assessment processes and results.

After the pre-sessions, sessions were held for 5 weeks. At the end of main sessions; peer assessments, the details of which are given in the Instrumentation and Data Collection section, were conducted and the written opinions of students were received in the end.

## **Instrumentation and Data Collection**

Peer assessment form (see the Appendix) given at the end of the sessions was designed in such a way that enables students to make peer assessments by taking the group members' cooperation skills into account. The peer assessment form (generated from group work skills-GWS), which the members used to assess cooperation skills of themselves and their peers, comprised of 13 items, with measures from "very good" (5) to "very bad" (1). For the reliability and validity of GWS checklist, while writing the items, the behaviors that would harm the function of cooperative group work (Açıkgöz, 2003; Johnson, Johnson & Smith, 1998) were taken into account. Also, the assessment criteria were discussed together with the students and students were informed on how they would fill

in the form and how the scoring would be done. At the end of the sessions, the students were given the peer assessment form inside envelopes and assessment results were collected the next day. The reason to conduct secret peer assessments rests upon the idea of Sharp (2006), "if peer and self-assessments are used as final assessments, they should be made secretly". In addition, students were given open-ended question, which asked them to write the positive and negative aspects of peer assessment at the end of applications.

### Data Analyses

Of the 46 students, 41 responded to the open-ended questions. Students' responses were coded with Maxqda12 (demo version), a software program for qualitative research, in order to analyze and organize the data. For this reason, the answers of students were analyzed so as to determine common themes. Then, students' responses underwent open coding, that is two persons (the researcher and a colleague) independently read student responses and ascribed subject categories to develop an initial set of codes. We discussed the codes that emerged from this level of analysis and applied this coding scheme to that all of data. This coding process continued until no new codes were created. After the encoding process, intercoder agreement was performed for reliability analysis with proposed method by Miles and Huberman (1994), and intercoder reliability was found .89 ( $p < .01$ ).

### FINDINGS

At the end of analysis of student responses with Maxqda 12 (demo version), two main themes were conceptualized. First were the positive and second were the negative opinions. The positive opinions were grouped under four sub-themes as accurate assessment, perform the task, rating learning, and confidentiality; whereas there were three negative sub-themes as reliability, impartiality, and concern. Additionally, each sub-theme has its various own themes. The distribution of themes is depicted in Figure 1 separately as positive and negative opinions. Also, sample statements regarding the positive main and sub-themes are presented in Table 1 and those regarding the negative ones are given in Table 2.

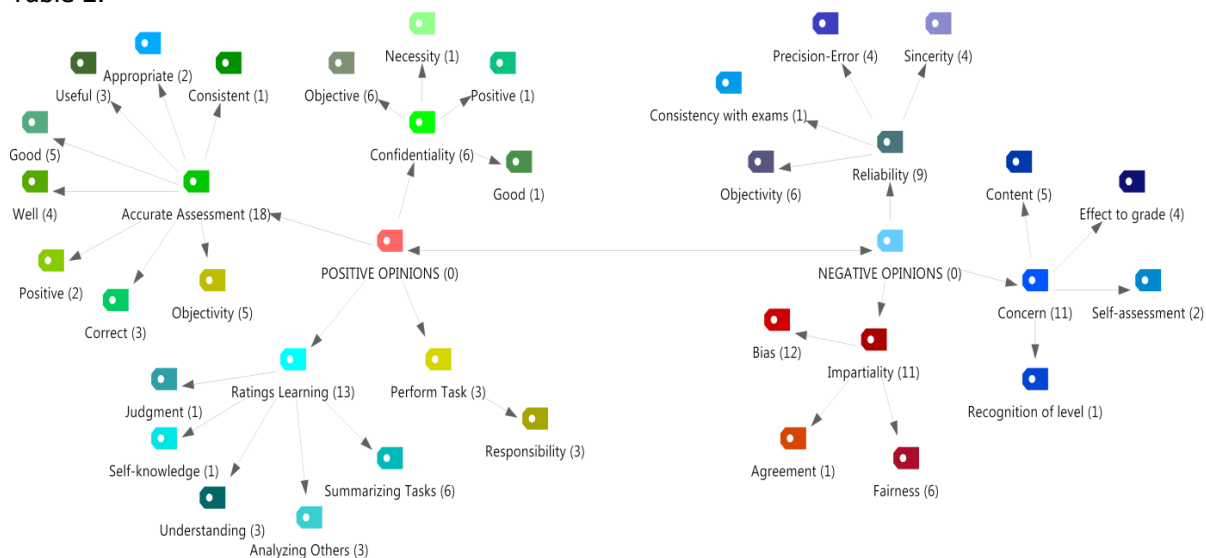


Figure 1: The distribution of opinions on peer assessment

The analysis results revealed main themes and sub-themes as (1) Accurate Assessment (objectivity, consistency, correct, positive, good, well, usefull and appropriate), (2) Perform The Task (responsibility), (3) Rating Learning (self-knowledge, analyzing others, summarizing tasks, understanding and judgement) and (4) Confidentiality (necessity, objective, positive and good) (see Table 1).

Table 1: The distribution of positive opinions on peer assessment and sample statements

Positive Opinions and Sub Themes	Qualitative Findings
<b>1. Accurate Assessment</b>	"Good assessment indeed. I believe it gives positive results. This assessment application summarized all the things we have done and observed through the semester."
1.1. Objectivity	"I think I was quite objective in my assessments."
1.2. Consistency	"I believe this assessment will be quite consistent."
1.3. Correct	"In this type of assessment errors will be minimal if group members give scores objectively without involving their feelings."
1.4. Positive	"I find this assessment quite right and I believe it gives positive results."
1.5. Good	"To me this assessment application is very good."
1.6. Well	"I think this assessment method is quite well."
1.7. Useful	"This method we've learned is quite a useful application and I think it will contribute to my teaching."
1.8. Appropriate	"An appropriate way of assessing group performance"
<b>2. Perform The Task</b>	"Being aware of the fact that students will be assessed by group members, each member tries to connect to the group as a whole. Performs his/her responsibilities, finishes his/her part, this increases group success eventually"
2.1. Responsibility	"I have seen my friends reluctant to take part. This application was effective touching on this issue."
<b>3. Rating Learning</b>	"This type of assessment helps us know how to and according to which criteria we assess our friends and ensures a healthier assessment."
3.1. Self-knowledge	"While assessing group members, this application helped me see my own weaknesses."
3.2. Analyzing Others	"A positive application since it helps us analyze the group members."
3.3. Summarizing Tasks	"This assessment summarized all the things we've done and observed in half-semester in almost one page."
3.4. Understanding	"This type of assessment helps us know how to and according to which criteria we assess our friends and ensures a healthier assessment."
3.5. Judgement	"It helped us reach real judgements about group members."
<b>4. Confidentiality</b>	"In my opinion, keeping the assessments confidential is correct."
4.1. Necessity	"It is good to have confidential assessment. To me it is necessary to do this assessment this way."
4.2. Objective	"Confidentiality ensures more objective assessment."
4.3. Positive	"I find having the assessments in closed envelopes quite positive."
4.4. Good	"It is good to keep the assessments confidential."

The students giving positive opinions expressed that peer assessment would affect the group cooperation, involvement in group works and the level of taking responsibility and this situation would provide an increase in the group performance. Furthermore, as the members' contribution levels for the group works can be best known only by the other members, they stressed that peer assessment is a correct application. For example, Melike (girl) stated, *"I think there is just a little error part in this assessment, since only those who work in group in collaboration can understand who are responsible, hardworking and who are more efficient in group activities."*

The others giving positive opinions have expressed that peer assessment create an opportunity of analyzing both themselves and the other members, help more realistic judgment regarding the members and besides teach them according to how and what criteria they should assess their friends, that's why they stress "they are able to make correct and healthy (accurate) assessments." For instance, Cihan (boy) says, *"this form of assessment enables us to know according to how and what criteria we ought to evaluate our group friends."* Esra (girl) says *"I strongly believe that the so-called assessment is to be coherent to a great extent. An assessment method comprising well established items related to which ways to assess our friends."*

Some of the students have voiced for the assessment to be made secretly is a convenient method, thus they are able to make more realistic assessment. For example, Nurgül (girl) says, *"I find this assessment method quite useful. Especially confidential scoring enables individual to be more objective."* Kenan (boy) says, *"I find it positive for its closed envelope scoring. Because with this method possibility of objective assessment increases."*

The analysis results revealed main themes and sub-themes as (1) Reliability (consistency with exam, precision-error, sincerity and objectivity) (2) Impartiality (agreement, bias and fairness) and (3) Concern (recoognition of level, effect to grade and content) (see Table 2).

Table 2: The distribution of negative opinions on peer assessment and sample statements

Negative Opinions and Sub Themes	Qualitative Findings
<b>1. Reliability</b>	"I don't believe in the reliability of this assessment."
1.1. Consistency with exam	"There is a possibility of having no parallelism between the results of this assessment and exams."
1.2. Precision-Error	"To me this assessment won't give precise results. This assessment will have high errors."
1.3. Sincerity	"I am not sure how sincere the scoring will be in this assessment."
1.4. Objectivity	"I don't think this assessment is totally objective."
<b>2. Impartiality</b>	"I have the opinion that I, my friends and even the friends in other groups won't have impartial assessments."
2.1. Agreement	"Many groups can agree to give high scores."
2.2. Bias	"Anyone can give low scores to the other he/she has problems with. I mean personal problems can be involved in the assessments."
2.3. Fairness	"For friends who have problems among themselves won't have fair assessments."
<b>3. Concern</b>	"This assessment can be consistent, but everybody should leave aside their feelings towards their friends during assessments."
3.1. Recognition of level	"I couldn't answer some items. Because I don't have a full knowledge of his/her level."
3.2. Effect to grade	"I don't lean towards the effect of these assessments to the pass grade."
3.3. Content	"Some items seem to have close meanings, so to me repetition of these items is unnecessary." "Items look alike."

It is possible to categorize group students with negative opinions into two groups. While the students in the first group find the assessment moderate, they have the concern that feelings would be involved in the assessment results. Some of the students in this groups stated that they tried to be objective in their assessments. For example, Adem (boy) says, *"It is good to have group members assess each other with observations. However, the feelings towards each other could decrease the reliability of the assessments. But I tried to be impartial in my assessments anyway."*

The students in the second group are those who have total negative opinions towards this type of assessments. Among the reasons are, not being objective during scorings, being partial, having agreement among group members, and having impartial assessments. For example, Irem (girl) says, *"I think people with a reason or not won't grant objective assessments. That's why I think it's not a healthy assessment."* Fatma (girl) states, *"I don't think this assessment will be that much reliable. Your personal feelings can have major impact on your assessments. Hence, I favor giving equal scores to everybody."*

## DISCUSSION AND CONCLUSION

According to results obtained in the present study, the opinions of students on peer assessment are conceptualized under two groups. Those in the first group have positive opinions. They expressed that peer assessments during group work are accurate. Also under the theme of accurate assessment they stated that peer assessments are objective, consistent, correct, good, well, positive, useful, and appropriate. Under another sub-theme of positive opinion, they said that peer assessments ensure performance of task and increase responsibility; whereas as in the third sub-theme, under the theme of rating learning they stated that it helped them realize self-knowledge and improved their skills of analyzing, understanding and judging the others. Lastly, they expressed that confidentiality in this method is necessary, objective, positive and good.

The students with negative opinions stated under the sub-theme of reliability that peer assessments wouldn't be consistent, precise, sincere and objective as compared to other tests and that there would be erroneous scorings. Under the sub-theme impartiality they stated that there would be agreement among group members and it wouldn't be a fair assessment; and lastly under the sub-theme of recognition of level, they expressed their concern that peer assessments wouldn't be a correct method when the students don't know the levels of their friends, when they don't believe in the contribution of assessment scores to their final or pass grades and when the content was not well defined.

According to the results of present studies on peer assessment in literature, peer assessment in group learning can help us focus on issues like student responsibility (Van den Berg, Admiraal & Pilot, 2006). In the assessment of cooperative skills and the learning from cooperation, peer assessment has an important influence. In their research, many authors have state that peer assessment improves skills of criticism and learning levels of students working in groups (Freeman, 1995), and it encourages cooperation instead of competition (Orsmond, Merry & Reiling, 1996; Lejk & Wyvill, 2001). On the other hand, Dancer and Dancer (1992) stress that without an extensive training peers tend to assess themselves according to similarity, race and friendship, and there can be sham/tricky scoring because of reciprocity and secret agreement among members (Magin, 2001; Edgerton & McKechnie, 2002).

The results obtained in this study are similar to the results of many other. However, taking the positive findings into account, peer assessment seems to be valuable. It is believed that practitioners can have better applications by considering the negative findings obtained in the present study.

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**APPENDIX**

**Some sample items from the self- and peer assessment forms measuring the group work skills**

**Please answer by circling one of these choices:**

**Very good (5), Good (4), Average (3), Bad (2), Very bad (1)**

<b>Group Members</b>	Self	Peer 1	Peer 2 ...
1. Is volunteered to take responsibility.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
2. Fulfills his/her responsibilities.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
3. Fulfills his/her responsibilities on time.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
4. Participates the group discussion.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
5. Contributes positively to discussions.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
6. Contributes to group work.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
7. Shares the group work.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
8. Communicates with other members.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
9. Helps the others' learning.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
10. Brings the learning material to class.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
11. Uses materials clean and tidy.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
12. Does his/her homework on time.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
13. His/Her general participation to group work.	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)	(5) (4) (3) (2) (1)
<b>TOTAL SCORE</b>			

