

An Evaluation of Teacher Trainees' Opinions of the Peer Assessment in Terms of Some Variables

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Abstract: Teacher trainees' opinions about advantages and disadvantages of peer assessment were investigated to determine whether or not their opinion differs according to their gender, having taken part in peer assessment process before and believing in helpfulness of peer assessment process. The research was carried out with 175 teacher trainees attending Teaching Certification Program in Dumlupinar University, Kutahya, in the 2008. Data were collected through a questionnaire about Peer Assessment. The findings of the research revealed that teacher trainees' opinions about peer assessment were positive and were significantly associated with gender, taking part in peer evaluation process before and believing in helpfulness of peer assessment process.

Key words: Alternative evaluation • Alternative assessment • Peer evaluation • Peer assessment • Advantages of peer assessment • Disadvantages of peer assessment

INTRODUCTION

Peer assessment is one form of alternative assessment. In brief, is defined as 'students assessing students' [1]. The different definitions of peer assessment exist in the literature. According to Turkish Republic Ministry of National Education (TMNE), peer assessment is an evaluation form requirement for evaluating of student performances as home works, searches, projects and reports [2]. According to another definition, peer assessment 'is assessment of students by other students, which provide formative reviews of both feedback and summative grading'. Peer assessment is one form of innovative assessment, which aims to improve the quality of learning and empower learners, where traditional forms can by-pass learners' needs" [3,4]. In a study conducted by Topping [5], peer assessment is defined as 'an arrangement in which individuals consider the amount, level, value, worth, quality, or success of the products or outcomes of learning of peers of similar status'.

Peer assessment and self-assessment are often considered together. When investigated It is seen that several researches include advantages and disadvantages of peer assessment [1,3, 6-14]. According to these studies, it may describe some potential advantages and disadvantages of peer assessment for students are as follows:

- Gives students a sense of ownership of the assessment process and improve their motivation.
- Encourages a sense of ownership of the process, so students are committed to the outcomes, rather than dismissing them as the ramblings of an inadequate or biased external evaluator.
- Stimulates learning.
- Enables assessment to become part of the learning process rather than an adjunct to it.
- Encourages students to take responsibility of their own learning, developing them as autonomous learners.
- Helps students become more autonomous learners, better able to recognize the strengths and weaknesses of their own work.
- Encourages students to critically analyze work done by others, rather than simply seeing a grade.
- Develop self-assessment abilities.
- Encourages deep rather than surface learning.
- Help students to become more autonomous, responsible and involved.
- Helps clarify assessment criteria.
- Reduces the marking load on the lecturer.
- Always provides high quality feedback.
- Gives students a wider range of feedback.
- Several groups can be run at the same time as not all groups require the lecturer's presence.

- More closely parallels possible career situations where judgment is made by a group.
- Develops a whole arrange of transferable skills, valuable to students during their course and in subsequent employment and facilitates lifelong learning.
- Provide opportunities for rehearsal of the process in stress-free contexts.
- Collaborate with colleagues who have already used self and peer assessment.
- Don't expect to get everything right the first time. Note what worked and did not work in the first instance and build in the results of the learning experience to the assignment with the next cohort of students.

In spite of some potential advantages of peer assessment of students, there are some potential problems of peer assessment. First of all, there must be difficulties with the validity and reliability of assessment done by students. In a recent study, Kaufman, Felder and Fuller [15] examine the incidence of hitchhiking and other aspects of group work to determined the validity of peer assessment. According to results of their research, minority students on average receive lower ratings and give higher ratings than non-minority students, with the differences being statistically significant in one class but not in another class. The results of a study conducted by Layton and Ohland [16] are nearly identical to the results of Kaufman et al. In fact, the two studies found similar evidence of the effects of race/ethnicity on peer assessments. In deed, students may lack the ability to evaluate each other; students may not take it seriously, allowing friendships, entertainment value, etc. to influence their marking; students may not like peer marking because of the possibility of being discriminated against, being misunderstood, etc and without lecturer intervention, students may misinform each other [17, 18]. Besides, Stefani (1994) found student gradings to be closely related to tutor gradings but somewhat lower. But a study conducted by Van den Berg, Admiraal and Pilot [14] displayed most students took assessing the work of their fellow students seriously and included the peer feedback in the revision of their work. In a study conducted by Brown, Rust ve Gibbs [6] rules for involving successfully in peer assessment of students are determined. These rules can describe following as:

- Brief knowledge must be given to students and fellow tutors before introducing the processes, making it quite clear in advance what is expected of them.
- Explain carefully the purposes of self and peer assessment to all parties.
- Make sure that students are working with explicit criteria for success.
- Ensure that whenever students are evaluating work they provide full and appropriate evidence for the marks or awards given, based upon the agreed criteria.

According to Bostock [3], peer assessments' weaknesses can be avoided with anonymity, multiple assessors and tutor moderation.

When literature on this subject is examined, it is seen that research on advantages and disadvantages of peer assessment is conducted in Western countries mostly. Compared to the West, it seems that studies on peer assessment in Turkey are very recent and limited. On the other hand, recently there has been an increase of interest in the studies about peer assessment and its questionnaires. Considering the limited number of studies on peer assessment in Turkey, this study was conducted to determine advantages and disadvantages of peer assessment and it is hoped that it will contribute to the existing literature on this subject. An attempt was made to answer the following questions:

1. What are the teacher trainees' opinions about advantages and disadvantages of peer assessment?
2. Do the teacher trainees' opinions about advantages and disadvantages of peer assessment differ according to their gender, their having taken part in peer assessment process before and believing in helpfulness of peer assessment process?

MATERIALS AND METHODS

Participants: Participants were 175 teacher trainees attending Teaching Certification Program in Dumlupinar University, Kutahya, in the 2008. Fifty-seven of participants (32.57%) were from Science and Mathematics for Secondary Education Graduate Program-Non Thesis at Graduate School of Sciences and 118 (67.43%) were from Social for Secondary Education Graduate Program-Non Thesis at Graduate School of Social Sciences. The students graduated from faculties of science and/or humanities attend these programs. One hundred and twenty-three of participants (70.30%) were female and the remaining 52 (29.70%) were male. The mean age of the participants was 27.8 years ranging from 21 to 34. Twenty-six of participants (14.90%) had taken

part in at any peer evaluation process and the remaining 149 (85.10%) had never taken part in at a peer evaluation process. Nine of participants (5.10%) believed in helpfulness of peer assessment process greatly, 44 (25.10%) believed in helpfulness of peer assessment process, 41 (24.40%) had no idea about believing in helpfulness of peer assessment process, 63 (36.00%) did not believed in helpfulness of peer evaluation process and the remaining 18 (10.30%) did not believed in helpfulness of peer evaluation process completely. All the university students in the sample are Turkish citizens and participated in the study voluntarily.

Data Collection: In this study, a questionnaire, developed by researcher, was used. This questionnaire about peer assessment is a measure for determining the teacher trainees' opinions about advantages and disadvantages of peer assessment, scanning literature on this subject and benefiting from the views of a group of specialist. The questionnaire about peer assessment (QPA) consists of two sections. The first part is the form relating to demographic and personal information. The second part includes 18 expressions related to opinions about advantages and disadvantages of peer assessment on a 5-point Likert-type scale consisting of 5 choices, from 1=strongly Disagree to 5=Strongly Agree [20].

The QPA was administered to 176 teacher trainees in the study group. One respondent' form was omitted, because they were not filled out according to the instructions. Responses in questionnaires were coded according to choice number of each expression. As such coded responses can be used to determine frequency distribution of responder to each choice [21]. Because measurement information relating to the research data are in level of classification scale, non-parametric statistic tests were conducted to research data. Non-parametric statistics is a branch of statistics concerned with non-parametric statistical models and non-parametric inference, including non-parametric statistical tests. Non-parametric methods are often referred to as *distribution free* methods as they do not rely on assumptions that the data are drawn from a given probability distribution. The opposite is parametric statistics [22]. Accordingly, frequency distribution of given responses for each expression in the questionnaire was examined and its mod and median was calculated. Data were analyzed with Chi-square statistics. It was accepted that significant level was .05 in all analysis.

Procedure: QPA was administered to the teacher trainees in the study group within a one-week period in the

autumn term of the academic year 2008–2009. The purpose of the study was explained to the teacher trainees and they were asked to read the instructions. The teacher trainees completed the questionnaires independently in approximately 25 minutes.

RESULTS AND DISCUSSION

Opinions about Advantages and Disadvantages of Peer Assessment of Teacher Trainees: The findings related to opinions about advantages and disadvantages of peer assessment of teacher trainees are indicated in Table 1.

As in Table 1, the teacher trainees responded in the form of 'agree' and 'strongly agree' to opinions about peer assessment. Accordingly, three of the opinions about advantages and disadvantages of peer assessment in which they agree most strongly level are 'Peer assessment encourages students to critically analyze work done by others', 'Peer assessment allows students to take part in the assessment process' and 'Peer assessment promotes interaction among students in a course'. Three of the opinions about advantages and disadvantages of peer assessment in which they disagree most strongly are 'Students may lack the ability to evaluate each other', 'Students may not take it seriously, allowing friendships, entertainment value, etc. to influence their marking in peer assessment' and 'Students may not like peer assessment for the possibility of being discriminated against, being misunderstood, misinterpreted etc.'.

The findings obtained from this study show that the teacher trainees agree at a lower level on disadvantages of peer assessment, they agree at a higher level on advantages of peer assessment. Accordingly, it can be implied that the teacher trainees adopt peer assessment as a positive assessment method.

Opinions about Peer Assessment of Teacher Trainees in Terms of Some Variables: Whether or not the teacher trainees' opinions about advantages and disadvantages of peer assessment vary according to their gender, having taken part in peer assessment process before and believing in helpfulness of peer assessment process was also analyzed with Chi-square statistics. The results of analysis revealed that pore number in which expected value was smaller than five got over 20% of total pore number. This case was required combination in the level of line and column in which was low of expected value [23]. Accordingly, given response categories for items in the questionnaire were reduced to four from five in the form of 'strongly agree', 'agree', 'disagree' and 'strongly

Table 1: Opinions about peer assessment of teacher trainees in sample group

Opinions about peer assessment		Median	Mod
1.	Peer assessment allows students to take part in the assessment process	4	4
2.	Assessing peers can enhance understanding	3	4
3.	Peer assessment helps students to become more autonomous, responsible and involved	4	4
4.	Peer assessment promotes interaction among students in a course	4	4
5.	Peer assessment encourages students to critically analyses work done by others	4	5
6.	Peer assessment helps clarify assessment criteria	4	4
7.	Peer assessment gives students a wider range of feedback	4	4
8.	Feedback from peer assessment is as useful as assessment by a teacher	3	4
9.	Peer assessment more closely parallels possible career situations where judgment is made by a group	3	4
10.	Peer assessment reduces the marking load on the lecturer	3	4
11.	Several groups can be run at once as not all groups require the lecturer's presence in peer assessment	4	4
12.	Assessing peers is a way to learn from each other	4	4
13.	Peers are able to assess fairly and accurately	4	4
14.	Additional workload from peer assessment is worth the effort	4	4
15.	Students may lack the ability to evaluate each other	4	4
16.	Students may not take it seriously, allowing friendships, entertainment value, etc. to influence their marking in peer assessment	3	4
17.	Students may not like peer assessment because of the possibility of being discriminated against, being misunderstood, etc.	3	4
18.	Students may misinform each other because of without lecturer intervention in peer assessment	3	4

Table 2: The Results of Chi-square statistics related to opinions about peer assessment of teacher trainees in terms of some variables

Item No	Gender			Having taken part in peer assessment process before			Believing in helpfulness of peer assessment process		
	χ^2	sd	p	χ^2	sd	p	χ^2	sd	p
1	7.032	4	0.134	2.903	3	0.407	36.581	6	0.000*
2	2.172	4	0.704	1.695	3	0.638	16.795	6	0.010*
3	8.122	4	0.087	3.895	3	0.273	26.216	6	0.000*
4	8.774	4	0.067	1.088	3	0.780	19.890	6	0.003*
5	1.792	4	0.774	2.455	3	0.483	28.497	6	0.000*
6	5.063	4	0.281	2.783	3	0.426	22.492	6	0.001*
7	5.954	4	0.203	8.688	3	0.034*	18.414	6	0.005*
8	16.109	4	0.003*	4.523	3	0.210	10.350	6	0.111
9	9.124	4	0.058	6.819	3	0.078	18.504	6	0.005*
10	0.764	4	0.943	1.572	3	0.666	7.288	6	0.295
11	4.273	4	0.370	.216	3	0.975	11.660	6	0.070
12	8.856	4	0.065	4.965	3	0.174	24.391	6	0.000*
13	3.350	4	0.501	6.393	3	0.094	12.852	6	0.045*
14	2.100	4	0.717	1.078	3	0.782	21.174	6	0.002*
15	3.744	4	0.442	5.397	3	0.145	11.886	6	0.065
16	0.755	4	0.944	1.025	3	0.795	8.925	6	0.178
17	3.656	4	0.455	.869	3	0.833	8.553	6	0.200
18	3.515	4	0.476	.801	3	0.849	10.228	6	0.115

disagree' in terms of either variables. Categories related to believing in helpfulness of peer assessment process were reduced to three and analyses were repeated. The findings obtained were indicated in Table 2.

As in Table 2, the results of Chi-square statistics revealed a significant difference in levels of agree with

opinion specified in just item 8 in terms of gender; in levels of agree with opinion specified in just item 7 according to having taken part in peer assessment process before; in levels of agree with opinion specified in item 1, 2, 3, 4, 5, 6, 7, 9, 12, 13 and 14 in the questionnaire according to believing in helpfulness of

peer assessment process. Accordingly, the female teacher trainees' 'agree with' opinion for the item 'feedback from peer assessment is as useful as assessment by a teacher' is at a higher level when compared to that of the male teacher trainees'. Furthermore, the results revealed that the teacher trainees who had taken part in peer assessment process before, 'agree with' the opinion 'peer assessment gives students a wider range of feedback' at a higher level, compared to the teacher trainees who have never taken part in peer assessment process before. Finally, according to findings of the research, the teacher trainees who were believed in helpfulness of peer assessment process agree with all the opinions about advantages of peer assessment at a higher level compared to the teacher trainees who were not believed in helpfulness of peer assessment process.

CONCLUSION

The peer assessment is a new assessment model that allows students to take part in the assessment process. Knowing the teacher trainees' opinions about peer assessment is essentially important in terms of obtaining peer assessment competencies of teacher trainees and teacher and applying the peer assessment method more effectively.

The findings of the study show that the teacher trainees' opinions about peer assessment are positive and significantly associated with their gender, having taken part in peer assessment process before and believing in helpfulness of peer assessment process. The results of research revealed that the teacher trainees found peer assessment useful in several ways as an assessment method to encourage students to critically analyze work done by others, to allow students to take part in the assessment process and to promote interaction among students in a course. Furthermore in the research, the teacher trainees emphasized that peer assessment can have some disadvantages as 'Students may lack the ability to evaluate each other', 'Students may not take it seriously, allowing friendships, entertainment value, etc. to influence their grading in peer assessment' and 'Students may not like peer assessment because of the possibility of being discriminated against, being misunderstood, etc. In the literature, this result is in parallel with the findings of the researches conducted by Weaver and Cotrell [9], Brown, Rust and Gibbs [6], Bostock [3], Stefani [19], Topping [5], Zariski [7], Race [8], Hartley [12], Heywood [17], Hughes [1], Van den Berg,

Admiraal and Pilot [14] about the peer assessment. It was also determined in the aforementioned researches that there are many possible advantages of peer assessment in learning in terms of both assessor and individual who is assessed. Furthermore, in a great many of the aforementioned researches, it was emphasized that disadvantages of peer assessment can be overcome and pointed out some suggestions about disadvantages of peer assessment.

As in every research, there are also some restraints in this research. The most important of these restraints is based on the opinions about peer assessment of 175 teacher trainees in this research. Considering this restraint, a number of studies should be conducted in all of the programs under faculties of education with the other variables as type of teaching program and general academic achievement grade averages related with the opinions about advantages and disadvantages of peer assessment and the findings obtained should be compared with the findings of this research.

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