A Comparison between Students' Self-Assessment and Teachers' Assessment

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Abstract

This study aimed to compare between the students' self-assessment and teachers' assessment. The study sample consisted of 71 students at Tafila Technical University studying Introduction to Psychology course. The researcher used 2 students' self-assessment tools and 2 tests. The results indicated that students can assess themselves accurately if they are trained how to implement self-assessment.

Keywords: *self-assessment, teacher assessment, students, assessment*

1. Introduction

Assessment is the process of gathering, analyzing, interpreting data to make decisions, and provide stakeholders with the feedback. (Melhem, 2000 and Allam, 2007).

Assessment as an integral part of teaching – learning process is divided into 3 types: a) assessment of learning: which provides data reports about student achievement, b) assessment for learning: it is the type of assessment which integrates teaching and assessment together, and concentrates upon ongoing (formative) assessment that allows teachers to monitor the students' progress, c) assessment as learning: this type of assessment concentrates upon metacognitive skills and helps students to become lifelong learners, it depends upon different assessment strategies, one of them is self- assessment. (McNamee and Jie-Qi, 2005; burns, 2005)

The assessment process was accompanied in students' minds by instructors, since they are the authorized persons to make decisions about students' progress and achievement, but the transition of the educational system from teacher-centered to student-centered and the shift from assessment for learning to assessment as learning, encouraged decision makers in education to support students by providing them with the different types of strategies that enable them to be partners in the education system, encourage them to make decisions about their study, utilize learning resources, and manage their time; sssessment process was affected by that transition; students were involved in the assessment process through peers assessment and self-assessment and to be more accountable for their learning and assessment. Allam (2007) indicated that the increase in knowledge, involvement of technology in teaching, globalization, and the diversity of learning outcomes motivate teachers to involve students in the assessment process in order to save teachers' time, facilitate learning, develop students' abilities and encourage students' self-learning. Those things helped students to be intrinsically motivated and encourage them to apply authentic assessment in their learning process. Self-assessment is a form of formative assessment in which students reflect the quality of their work, judge the degree to which it reflects explicitly stated criteria, and revise accordingly. Andrade and Valtcheva (2009). Allam, 2004 and Rourke (2013) defined Self-assessment as a set of abilities which encourages students to play an effective role in monitoring their learning process, provide themselves with suitable feedback and enhance their self-learning which enable them to be active learners.

Louis and Harada (2012) compared between the role of teacher and student in self-assessment, table (1) represents the comparison.

Table 1. Comparison between Students' Self- Assessment and Teacher - Assessment

Teacher focus	Student focus
Teacher tells and student listens	Teachers and students are co-learners
Teacher uses summative assessment	Teacher and student together use formative assessment
Teacher is uncertain of the student ability to assess his work	Teacher believes that self- assessment is a learnable skill

Self-assessment is not popular among educational institutions because:

1-students feel that assessment is the responsibility of teachers, 2- teachers are not yet ready to trust students judgment and, 3- students lack the sufficient assessment skills. (Lee, 2016)

Self – assessment increases the interest and motivation level of students for the subjects leading to enhanced learning and better academic performance, helping them to develop critical skills to analyze their work. (Sharma, Jain, Gupta, Garg, Batta, and Dhir, 2016).

Galbraith, Hawkins and Holmoe (2008) concluded that the following must be taken into consideration for effective self-assessment: 1- effective self- assessment should be based on a clear understanding of the practical learning outcomes, 2- self- assessment should include knowledge, behaviors and skills outcomes, 3- the students should regularly obtain external validation of his/her self-assessment activities.

Wragg (2001) and Goodrish (1997) determined 4 steps to train students to implement self-assessment effectively:1- awareness of the value of self-assessment, 2- determination of learning outcomes, 3- determination of assessment criteria, 4- providing students with opportunities to implement self-assessment and, 5- students have to reflect about their self-assessment by justifying and providing feedback to themselves and to the teachers. Allam (2004) and Rourke (2013) listed the following methods to engage students in effective self-assessment:

1- Questioning technique: instructors provide students with questions and they are asked to answer these questions.

2- Classroom discussion: it is a verbal interaction between teacher and students about certain subject, through which the teacher leads the discussion and use this method to evaluate the contributions of each student in the discussion.

3- Conferences and Interviews: through this technique students' reflects about the learning outcomes they mastered.

4- Checklists and Rubrics: these instruments contain a list of the learning outcomes and students have to indicate the learning outcomes he/she mastered.

5- Students Journals: students use these journals to reflect about their learning, abilities, difficulties they are subjected to, attitudes toward subject, teacher and activities that they enjoyed doing.

Researchers conducted various studies relating to self-assessment. Duchy, Segers and Sluijsman (1999) reviewed previous studies about self- assessment; they indicated that self-assessment developed students' achievement and learning. The results of Lindblom- ylanne. Pihlajamaki and Kotkas (2006) showed a strong positive correlation between students' self- assessment and teacher assessment.

Karnilowic (2012) conducted a study which aimed to compare between self- assessment and tutor assessment. The sample was consisted of 64 undergraduate psychology students. The results indicated that students were able to assess their own achievement accurately. However, low achieving students were less accurate than high achieving students and higher achieving students tended to underestimate their self- assessment while lower achieving students tended to overestimate their performance relative to tutor assessment.

The study of Paravattil (2012) aimed to evaluate preceptors perception of their ability to perform structured practical experiences in pharmacy learning objectives through self-assessment activity, so he developed a self- assessment instrument consisted of 28 learning objectives associated with clinic community and hospital pharmacy practice experiences. The results indicated that 77% of the preceptors completed the self-assessment survey instrument. They evaluated their mastery of learning outcomes from good to excellent. Years of experience, practice experience sitting and involvement as structured practical and experience had no influence on their self- report skills.

The study of Birjandi and Hadide (2012) prevailed that students experienced maximum improvement in their writing when they adopted self and peer assessment alongside tutor assessment in their assignments.

The study of Lundquist, Shogbon, Momary and Rogers (2013) aimed to compare students' self-assessment of their communication skills with faculty members' evaluation. The participants were the 2nd year pharmacy students at Mercer University, Atlanta, USA. The results indicated that faculty evaluation scores of students for both the individual and group oral assessment were significantly higher than students' self-assessment scores.

Sharma, Jain, Gupta, Garg, Batta, and Dhir (2016) conducted a study that aimed to assess the impact of self-assessment by students on their learning, the results indicated a significant improvement in the academic performance after the process of self-assessment was observed, and there was a significantly positive correlation between students and teacher marking (r = 0.79).

The study of Lee (2016) compared between self- assessment and teachers' assessment in interpreter training, the population of the study consisted of teachers and students of a Korean- English Program at the 2nd year graduate school of translation. The study found that the students' self-assigned grades were similar to the teachers' evaluation, but not similar in content of the teacher evaluation.

2. Purpose of the Study

This study aimed to investigate the accuracy of students' self-assessment and its relation with teachers' assessment. It will provide an evidence about the involvement of students in assessment process, It also add new research to the educational literature, especially in the Arab region because the researcher could not find similar studies in the Arabic data bases.

3. Problem Statement

Assessment is an integral part of the learning process. Students are the key persons in education; they are affected by the success or failure in that process. The goals of this study were to investigate the effectiveness of self-assessment and to examine the relationship between students' self-assessment and teachers' assessment.

In order to achieve the above goals, the study will answer the following questions:

1- Is there statistically significant differences(α=0.05) in means between students' self-assessment and teachers' assessment?

2- What is the correlational relationship between students' self-assessment and teachers' assessments?

4. Procedural Definitions

Students' Self-Assessment: type of assessment which involves students in evaluating their work. In this study it is the number of learning outcomes that the student mastered as indicated by the students' self-assessment tool.

Teachers' Assessment: The score that the student gets by answering test items for the 1st and 2nd semester exams according to the university calendar.

5. Methodology

5.1 Design

Quasi-experimental design was adopted for this study.

5.2 Participants

The Participants of the study consisted of 70 1st year students who study Introduction to Psychology course in Tafila Technical University (TTU), they were chosen purposively.

5.3 Instruments

To achieve the study objectives 2 students' self-assessment tools and 2 tests were constructed. Each students' self-assessment tool consisted of 20 learning outcomes; these learning outcomes cover the psychology units assigned for the 1st and 2nd semester exams. Students were asked to indicate if he/ she mastered those learning outcomes by putting (√) in column **Yes** if he/ she mastered these learning outcomes, or (√) in column **No** if he/she did not master them. Each of the 2 tests was consisted of 20 multiple choice items. The test items were accompanied with the learning outcomes. Table 2 represents a sample of students' self-assessment items and teachers' assessment.

Table 2. Sample of Students' Self-Assessment Items and Teachers' Assessment

Students' Self-Assessment			Teachers' Assessment
Learning outcomes	**yes**	**No**	**Test item**
I can determine the developmental stage characterized by egocentrism.			According to " Piaget" the developmental stage characterized by egocentrism is called: a- Sensorimotor b- Preoperational c- Concrete operational d- Formal operational
I can distinguish between independent and dependent variables.			The independent variable in the study " The effect of motivation upon achievement" of the 6th grade students is : a- Motivation b- Achievement c- 6th grade d- Students

5.4 Validity

The validity of these tools was approved by experts judgment; 5 faculty members at TTU and Mutah University were asked to check if the learning objectives were accurate and cover the assigned units for 1st and 2nd tests, test content analysis was compared with the test table of specifications to ensure content validity of the 2 tests. The psychometric characteristics of the test items (item difficulty and item discrimination index) were ensured by evaluating the test item pool (40 items for each test, 2 items for each learning outcome) using a pilot sample consisted of (25) students from students studying Introduction to Psychology course in the semester which preceded the semester where the study was conducted. The selected items had 0.35-0.71 item difficulty and more than 0.40 item discrimination. Content validity of the tests was approved by comparing test content analysis with test table of specifications.

5.5 Reliability

The reliability coefficient was computed for the pilot sample by using test re-test technique. During the scheduled time for the 1st exam according to the university calendar, the 1st students' self-assessment tool and 1st test were applied, and after 10 days. The same instruments were re-applied. The procedure was done for the 2nd students' self-assessment and the 2nd test. Table 3 represents the Pearson correlation coefficients between the two applications.

Table 3. Reliability

Instrument	Test-Retest
Students self-assessment 1	0.79
Teachers assessment 1	0.83
Students self-assessment 2	0.81
Teachers assessment 2	0.80

According to the reliability indicators shown in table 3, they were appropriate for the study purpose.

5.6 Procedure

The researcher was the instructor of Introduction to Psychology course, he trained the students how to use self-assessment using the following procedures:

1- Clarifying the concept of self-assessment.

2- Conducting a classroom discussion about the advantages, and disadvantages of self-assessment.

3- Clarifying the procedure that could be used by students to assess themselves.

4- Providing students with exemplars of self-assessment tools and training students on how to use them.

5- Asking students to provide a feedback about their self-assessment and determine their areas of strength, weaknesses, and the learning outcomes they achieved.

6- Using the 1st and the 2nd tests by the researcher to collect data; during each test session, he provided the students with a checklist to be used as a self-assessment tool; when the students completed the self-assessment tool they were provided with teacher assessment tool " the test".

7- After the 1st test the researcher provided students with a feedback about their test results and self-assessment, he also provided them with the suitable techniques to be accurate in evaluating their abilities, and to be objective in assessing themselves.

8- During 2nd test the same procedure was repeated (the students were provided with 2nd self-assessment tool which contained the learning outcomes for the test and each student checked if he /she mastered them or not).

6. Results

Question 1: Are there statistically significant differences in means between students self-assessment and teachers' assessment?

For answering question 1, means and standard deviations were calculated figure 1 represents the findings.
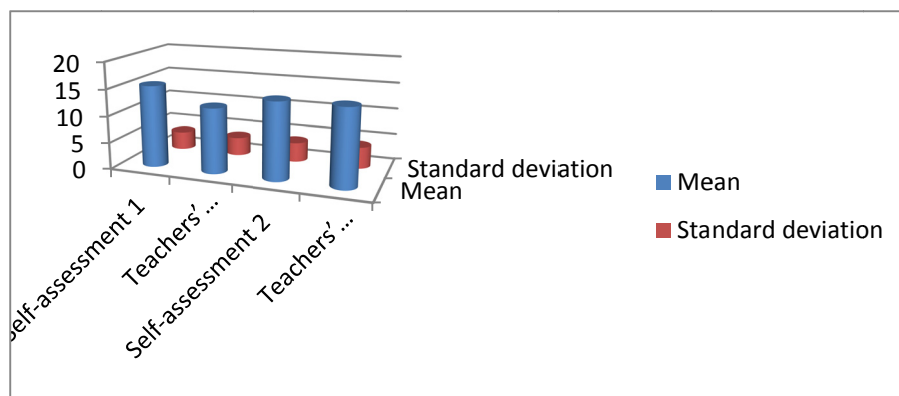

Figure 1. Means and Standard Deviation for Students' Self-Assessment and Teachers' Assessment

Figure 1indicated that the students overestimated themselves in the 1st trail of self-assessment; whereas, they underestimated themselves in the 2nd trail. In order to examine if the differences in means were significant ($\alpha = 0.05$) independent sample t-test was used, tables (4) and (5) represent the findings for 1st and 2nd trails.

Table 4. T-test for the Independent Sample for Comparing Self-Assessment and Teachers' Assessment for the 1st Trail

variables	Mean	Standard Deviation	t-test for Equality of Means		
			t	df	Sig. (2-tailed)
Self-assessment 1	15.34	3.45	5.384	140	.000
Teachers' assessment 1	12.17	3.47			

Table 5. T-Test for the Independent Sample for Comparing Self-Assessment and Teachers' Assessment for the 2nd Trail

variables	Mean	Standard Deviation	t-test for Equality of Means		
			t	df	Sig. (2-tailed)
Self-assessment 2	14.42	3.67	-.043-	140	.965
Teachers' assessment 2	14.45	4.04			

Table (4) showed statistically significant differences between students' self-assessment and teachers' assessment which were in favor of students' self-assessment (α= 0.05) in the first trial of applying students' self-assessment. Table (5) showed that the differences were not significant between the two types of assessments for the second trial.

Question 2: What is the correlational relationship between students' self-assessment and teachers' assessments?

To answer question 2, Pearson coefficient correlation was used, as table 6 represents.

Table 6. Person Correlations between Students' Self-Assessment and Teachers' Assessment

		Students' Self-assessment 1	Teacher assessment 1	Students' Self-assessment 2	Teacher assessment 2
Students' Self-assessment 1	Person correlation	1	.410***	.195	.131
	Sig. (2-tailed)		.000	.104	.276
	N	71	71	71	71
Teacher assessment 1	**Person** correlation	.410***	1	.045	.076
	Sig. (2-tailed)	.000		.711	.530
	N	71	71	71	71
Students' Self-assessment 2	Person correlation	.195	.045	1	.770***
	Sig. (2-tailed)	.104	.711		.000
	N	71	71	71	71
Teacher assessment 2	Person correlation	.131	.076	.770***	1
	Sig. (2-tailed)	.276	.530	.000	
	N	71	71	71	71

*** correlation is significant at the 0.01 level

As indicated in table (6), the correlation between students self-assessment and teachers' assessment was statistically significant (α= 0.05) for the 2 trials, but it was higher in the 2nd trail.

7. Discussion

The results indicated that the students assessed themselves in the first experiment more than their teachers' estimation. There were statistically significant differences and this could be due to the exaggeration of students' self-confidence for their abilities, non-mastering for self-assessment skills, and non-understanding the nature of university tests since they are new comers for the university (first year level). This result is similar to finding of Karnilowic (2012) which stated that students tended to overestimate their performance.

The results also indicated in the second experiment that the students' self-assessment is close to teachers' assessment and there are no statistically significant differences, this may be attributed to the feedback that the teacher offers for students about the criteria of self-assessment, and the necessity in taking care of objectivity for assessing themselves. This result is similar to the results of Lee (2016) which stated that: the students' self-assigned grades were similar to the teachers' evaluation.

The correlation coefficient between teachers' assessment and students' self-assessment was statistically significant (α= 0.01), it was changed from (0.41) in the first trial to (0.77) in the second trial. This result is similar to the findings of Sharma, Jain, Gupta, Garg, Batta, and Dhir (2016) and Lindblom- ylanne. Pihlajamaki and Kotkas (2006); they found significant correlation between students' self-assessment and teachers' assessment.

8. Conclusion

The study aimed to compare between the teachers' assessment for students and the students' assessment for themselves. It showed that the students are able to assess themselves accurately if they are provided with assessment criteria and trained on how to use them, and by offering them with feedback about self-assessment. The involvement of students in the assessment process increases students' self-confidence, achievement, and satisfaction with scores

they get for tests prepared by the instructor, subsequently; this makes them feel that they are partners in the process of learning and teaching.

Recommendations

Upon to the conclusion of the study, the researcher recommends the following:

1. The necessity for engaging students in the process of assessment and training them on how to use it in different subjects.

2. The necessity for providing students with the criteria of assessment that the instructor uses in assessing their works especially in the scientific subjects as graduating projects, researches, and reports.

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