

Conference Paper

Construction of Peer Assessment Instrument to Assess Students' Character

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Abstract

Character education is an integral part in elementary education. Elementary teacher utilized various strategy to instill good character to the students. Teachers are also expected to assess the students' character to know its development. Character assessment through observation is limited to a few students per time. therefore, this study aims to construct an appropriate peer assessment instrument to assess characters such as: discipline, and teamwork, as well as understanding the efficacy of peer assessment in measuring the character of discipline and teamwork. Research data was obtained by conducting field trials in the Elementary School under the Yohanes Gabriel Foundation, Surabaya. Results from this research showed that peer assessment was found to be effective to assess the character of discipline and teamwork among grade 5 students of elementary school.

Keywords: peer assessment; character of discipline; teamwork.

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1. Introduction

Character education is a program from government to be implemented in school learning process [20]. Here, learning is focused on the formation of students' competence and character supported by an instrument to assess the students' character. The appropriate assessment can assist the teacher to know how far the students apply good character in their life during the school activity. The government with the regulation of Minister of Education and Culture no. 104 urges the teachers to assess the student character through various strategies, such as observing the students during the lesson or inviting them to reflect, and to assess the peers.

In fact, many teachers still find it hard to assess the students character in the classroom, especially in making good assessment or character judgement. They also complained on the absence of other instruments to assess the students character. Since, they get difficulty to observe and to assess a big number of students one by one.

One of the assessments method to overcome the condition above is peer assessment. It is considered to be one of the best alternatives in assessing the students'



character [9]. As mention earlier that the assessment by teacher alone as an observer is difficult to do especially if they have to supervise many students [5]. Therefore, teachers need to involve students in assessing their own friends so that teachers can get the affective value of each student effectively. In addition to assisting teachers in conducting assessments, peer assessment can also increase the students' role as an active learner and an assessor in order to improve students' responsibility and self-discipline in case of making an assessment for their peers. Also, they can have a more understanding of the attitude that should be owned as a student, and invites them to reflect based on the indicators of attitudes for their own.

Two characters that must be applied in everyday life, that is discipline and teamwork. The first one, discipline concerns on one's self-control over the forms of rules and it is an important value for life and education. The school success and failure can be seen from the level of achievement in applying discipline to students [1]. Self-discipline emphasizes the students to always behave positively to make them better person.

The second attitude that is also crucial, i.e. teamwork with others. Teamwork for positive things can give a good influence for the development of student attitudes in the future. Teamwork is an attempt between one individual and another in a group to achieve a certain goal [17]. Teamwork is needed by students in their everyday life because as social creature, they can not live alone. Positive interdependence between individuals can make teamwork work well.

To develop the character of the government to realize when the children perform learning by grouping. When, group students can learn to do a proper partnership with his friend and learn to respect his opinion. Working through the students also invited to make friends with anyone without Choose. Teachers to improve student discipline attitude when the children finished the task group given. Learning is gregarious taught many characters in daily life which can be applied in accordance with the guidelines that men cannot live alone but need help from others.

Through peer assessment applied by teachers in the class, it is expected to be a reference for students to generate discipline and teamwork in schools, family, and community. The discipline indicators that are read and understood by the students can help them to reflect on whether they already behaved based on those or not.

This article reveal a test on the effectiveness of peer assessment to assess the character of discipline and teamwork among the fifth grade students of elementary school. The effectiveness test of peer assessment was conducted in five elementary schools under private foundation in Surabaya. This peer assessment is expected to some additional references for teachers in assessing the students' character. The

research question of this article are “How a device the peer assessment worthy of to assess the character of discipline and teamwork in fifth grade students of elementary school?” and “How the current effectiveness of peer assessment to assess the character of discipline and teamwork in fifth grade students of elementary school?”

2. Literature Review

Assessment is a process of collecting and processing information to determine the achievement of student learning outcomes and one alternative assessment is peer assessment. It is generally used to assess employee performance [12]. Peer assessment involves students to judge each other (Regulation of Minister of Education and Culture, As stated, peer assessment can be used by teachers as one of alternative assessments to assess student's character [9]. It can be done by the teacher to support the observation result. The results of peer assessment are to find out how far students already have and demonstrate discipline and teamwork in the life school. Peer assessment can be applied with indicators that have been suited based on the child language.

Peer assessment has several goals and advantages. The purpose of peer assessment is to elicit positive feedback to the students related to their attitudes [14]. Through peer assessment students are invited to be actively involved in learning and assessing. Active engagement from students can make them more responsible for what they have done [2]. In addition, the peer assessment statements can help students to reflect their attitude deficiencies. It helps students to acquaint with judgment objectively regardless of race, tribe, and culture [16]. Through peer assessment many positive habits can be applied of which positive habits can help students become better human beings with the assistance of teachers who guide students in appropriate way.

The statements in peer assessment are taken from indicators of discipline and teamwork character. Discipline is an attitude in which students live orderly and regularly in accordance with the rules that apply. Being disciplined also means refraining in doing actions that can make self-destructive and do something positive that can bring the self-development [10], [6], [21]. Discipline attitude is formed by getting used to behave positively in everyday life. The indicators for the character of discipline are obedient to the school rules, the rules of learning activities, the norms that apply in school and lesson tasks. The four existing indicators of discipline were explained into 12 statements in the peer-assessment book.

The next attitude is a teamwork including four indicators. These indicators are interaction among group members, group responsibilities, the existence of positive interdependence, and one's interpersonal skills. Teamwork in this case is the attitude of students who are willing to be with their friends to complete the given task by the teacher [17], [7], [11]. When working in a group the student has the responsibility to accomplish the task that has been assigned to him in the tasks distribution [19]. Students should be able to share opinions, to help each other, participate actively, to engage all students and to complete tasks on time [8]. A group can be formed with several considerations, such as: 1) the similar goal, 2) the diverse abilities, 3) goal requirement [19]. The four existing indicators are then transformed into 8 statements as a benchmark of student judgment by using peer assessment books.

Primary school student could focus to be considered a friend objectively, they playing together is also one of factors that support their involvement in assessing their peers. The peer assessment it should be combined with the of teachers and portfolios owned students so that the result more accurate. The peer assessment can be done when the children learning infrequently groups with the same person several times that observe they do can be accurate and valid. Through peer assessment, students are invited to be more objective with his friend another. The use of peer assessment need adjustment.

The peer assessment can also be used to assess student skills. Through the observation that which is wrought by his friend, students can also motivation to do work done by a friend. Of learning which he done either in groups can help students to do peer a tutor that is usually will be more effective than the teacher explained in front of the class. Students who have been able to can help the teacher to teach his friends has not been able to. The Hypothesis of the article is Peer assessment can be used to assess the character of the students who will be combined with the results of performances as well as the judgment of teachers

3. Material & Methodology

3.1. Data collection

The development model was ADDIE [3]. The implementation of peer assessment book was done in two stages, they were small group test and field test. The study involved 213 students over grade 5 elementary schools in the foundation of John Gabriel Surabaya. Data collection techniques were using non-test techniques in the form of validation scale from the evaluation expert and the character experts while questionnaires were used

to measure the level of understanding and interest of students to the developed peer assessment books. Validity by expert lecturers was in the form of content validity done before the researcher went into the field for product testing [15]. The used instrument was the validation scale sheet and questionnaire for teacher. The distributed questionnaires consisted of the suitability aspects between the content and the language in the peer assessment books for the fifth grade students of elementary level.

3.2. Data analysis

The obtained data from the test results of peer assessment books were analyzed using factor analysis and interater reliability of Kappa Cohen. Test validity was using factor analysis of *KMO* and Bartlett’s test of sphericity. The criterion of factor analysis was done if the price of Sig (2-tailed) <0,05 and the item was declared valid while for criteria as peer assessment result can be used as assessment reference by considering the level of agreement in interrater reliability test of minimal moderate. Quantitative data of questionnaire results of validation scale and questionnaire that had been tabulated then categorized as follows [3]:

TABLE 1: Guideline of score interpretation category.

No	Range	Category
1	$M_i + 1,5 SD_i \leq M \leq M_i + 3,0 SD_i$	Very Good
2	$M_i + 0 SD_i \leq M < M_i + 1,5 SD_i$	Good
4	$M_i - 1,5 SD_i \leq M < M_i + 0 SD_i$	Bad
5	$M_i - 3 SD_i \leq M < M_i - 1,5 SD_i$	Very Bad

Explanation:

M = obtained score

M_i = ideal mean

M_i = ½ (maximum score + minimum score)

SD_i = (1/2) (1/3) (maximum score - minimum score)

4. Results and Discussion

4.1. Result

The peer assessment results filled out by the students using the book “*ayo menilai teman*” (let’s assess friend) was tabulated then tested its validity using factor analysis. Validity test was done for each variable. The validity test results for peer assessment of the character of discipline and teamwork can be described as follows:

TABLE 2: the score of Measures of Sampling Adequacy (MSA) for discipline character.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.712
Bartlett's Test of Sphericity	Approx. Chi-Square	258.479
	Df	66
	Sig.	.000

TABLE 3: The score of Measures of Sampling Adequacy (MSA) for teamwork.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.605
Bartlett's Test of Sphericity	Approx. Chi-Square	105.615
	Df	28
	Sig.	.000

The assessment data conducted by the students was then tested for its reliability by using Kappa Cohen's interrater reliability. Here is a table of interrater reliability test results for each statement:

TABLE 4: The test result of Interrater Reliability.

Statement Indicators	Valid Percent	Level of Agreement
Tidy uniform	68.07	Strong
Keeping cleanliness	68.07	Strong
Asking permission for out of class	59.73	Moderate
Studying hard	65.27	Strong
Class rules	65.27	Strong
Obedying the teacher	59.73	Moderate
Respecting to the teacher	58.33	Moderate
Being polite to the teacher	66.67	Strong
Being polite to a friend	66.7	Strong
Speaking nicely	52.8	Moderate
Collecting assignments on time	50	Moderate
Doing tasks	63.9	Moderate
Communication	63.87	Moderate
Good interaction	58.33	Moderate
Taking an active role	62.5	Moderate
Task completing	63.87	Moderate
Helping friends	63.87	Moderate
Mutual trust	63.87	Moderate
Be friends with all	63.9	Moderate
Accepting group answers	69.43	Moderate

The result of validity and reliability of peer assessment was then added with the questionnaire analysis of student response by using categorization which had been

disclosed in data analysis earlier. The result of questionnaire of student and teacher response can be described as follows:

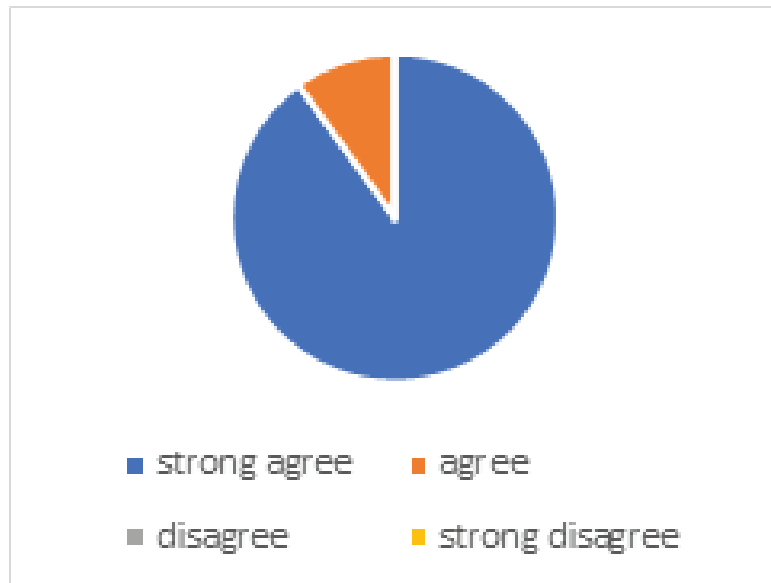


Figure 1: The teachers' questionnaire result.

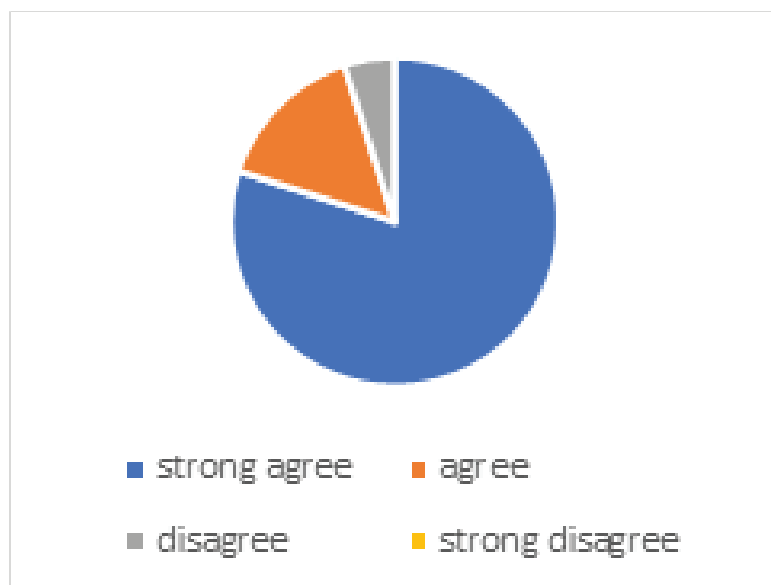


Figure 2: The students' questionnaire result.

4.2. Discussion

This study aimed at determining the effectiveness of the use of the book "*ayo menilai teman*" that can be used to assist teachers in assessing the students' character. Peer assessment book is expected to be an additional reference for teachers to make character judgments along with observation techniques. The result of validity test using

factor analysis showed that each statement in each variable was valid because it had *KMO* score > 0.5 and Sig (2-tailed) $< 0,05$. The validity of each variable indicated that the statements contained in the book "*ayo menilai teman*" can be used as a reference to assess the character of discipline and teamwork among the fifth grade students of elementary level..

The second analysis was interrater reliability test. It was used to determine whether peer assessment results can be trusted and used as a reference of supplement assessments made by the teacher. From the test results, it can be seen that each statement had a level of agreement for minimal moderate. Interrater reliability test results indicated that the assessment of three rater to assess a friend can be trusted. In other words, the existing results can be used as a reference to help teachers as additional assessment result for the student character.

The student questionnaire It is important to see which should be improved book assessment peers have made and filled by students. The results of the student questionnaire described that they strongly agreed the book "*ayo menilai teman*" was interesting because it was colorful, they can understood the language used in every statement, they can be able to cooperate with friends of a group, they can reflect on the deficiencies that have not been achieved and most importantly, it improves their motivation because they are actively involved in the learning process. The active involvement of students indirectly support the learning process since it becomes conducive class [2]. The student's ability to reflect on his or her shortcomings can have a positive impact in their social life [2]. In addition, the students' ability to make reflection can be a self-control in terms of monitoring their learning progress [16].

Peer assessment can be categorized as evaluation diagnostic because this assessment can help teachers in assessing students' affective aspect during the learning process. The results of the teacher questionnaire response revealed that they strongly agreed with the implementation of "*ayo menilai teman*" book. They also strongly agreed with the peer assessment books which were colorful and easy to be understood by the students. In terms of the content, the teacher also agreed that the statements contained in the assessment book had already represented the indicators of discipline and teamwork character. Further, they strongly agreed with the implementation of peer assessment because the students could reflect their deficiencies during the learning process, they also became able to cooperate with all friends without any discrimination, as well as students could acquaint themselves to behave in discipline way. This is consistent with the theory which stating through peer assessment students are taught to be able to judge people objectively and not discriminate in friendship. Peer assessment

makes the students become collaborative learners to complete each other because they are required to work together in accomplishing the assigned tasks by the teacher [18]. Therefore, peer assessment can be used as an alternative assessment to assess the character of discipline and teamwork among the fifth grade students of elementary school to bring a positive impact on student development.

5. Conclusion

The implementation of peer assessment books entitled "*ayo menilai teman*" has proved effective in assessing the character of discipline and teamwork among the fifth grade students of elementary school. Peer assessment can be a beneficial reference for teachers in assessing the students' character. The assessment results made by students can be combined with teacher observation results as part of character assessment. However, in this study, there are still limitations on the peer assessment form that must be printed so it requires the cost for production. Therefore, for further development of the assessment "*ayo menilai teman*" can be made as application-based or online.

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