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COMPARING STUDENTS' ATTITUDES IN AN ONLINE PEER ASSESSMENT: DOES ANONYMITY MATTER?

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Abstract

Peer assessment is a fundamental activity aiming to involve students to participate actively in their own learning processes. In the context of EFL online learning, the peer assessment was conducted in the online mode as well. This study aimed to: 1) compare students' attitudes in doing an online peer assessment in two different conditions of anonymity, 2) explore students' perceptions of the anonymous and identifiable online peer assessment. Seventy students of the English language education department in a private university participated this study. Assigned to two different conditions, i.e anonymous and identifiable online peer assessment, the students were engaged in a Workshop activity, which was an asynchronous Moodle-based online peer assessment. Each student assessed three peers' works as well as provide feedback comments. A questionnaire with close-ended and open-ended questions was used to investigate the students' attitudes as well as perceptions of the different peer assessment formats. An independent samples t-test was performed to compare the attitude scores of both groups. The result indicated that students in the anonymous group showed a slightly better attitude compared to those in the identifiable group, yet the difference was not significant ($t = 1.164$, $p > .05$). From the questionnaire result, it was also found that the students in the anonymous group had more positive perceptions towards online peer assessment activity. These findings imply that while the anonymous online peer assessment is more favoured by learners, it might not be able to guarantee positive development in students' overall aspects of attitudes.

Keywords: attitudes, anonymous peer assessment, identifiable peer assessment, online peer assessment

INTRODUCTION

In the student-centered class, assessment is done not only by the teachers, but also among learners. Peer assessment is a process in which learners make judgments and decisions about the work of their peers against particular criteria (Adachi, Hong-Meng Tai, & Dawson, 2017). In doing peer assessment, learners are actively involved in the assessment process (Rotsaert, Panadero, & Schellens, 2018). To date, peer assessment is still used in higher education because of its benefits. Langan, et al. (2005), for example, explained that peer assessment empowers better understanding and initiates deeper learning. By assessing each other's work, students independently have their self-evaluation and reflection. In addition,

students would also be equipped with important skills in the workplace because students are expected to provide constructive assessment. This notion is supported by Winstone, Nash, Parker, & Rowntree (2016) who noted that peer assessment takes students' efficacy, empathy, and trust, which are the required characteristics in the future workplace. Peer assessment, in essence, carries out students to be professional in developing themselves and others. This is in line with Samaka, Miao, & Wang's (2016) notion that peer assessment invites students' contribution and responsibility in advancing excellence and mastering learning skills. From the elaborations above, it can be seen that among others, the success of learning through peer assessment is determined by the attitude of students when giving and receiving peer assessment.

Despite giving numerous benefits as mentioned in the above literature, some research reported several issues related to students' attitudes in peer assessment. (Wilson, Diao, & Huang (2015) found that many students doubt their peer's expertise and feel unfair. Kobayashi (2020) even reported that students feel the peer review is done by only being nice, instead of critical and constructive. Another study by Lin, Liu, & Yuan (2001) discovered that students often give almost similar scores or even lower if they receive unexpected scores. Kilickaya (2017) claimed some students are reluctant to give lower scores to keep their friendship.

The unfavorable attitudes done by students during the online peer assessment made researchers study different modes of peer assessment, i.e. anonymous and identifiable peer assessment. Lu & Bol (2007) defined anonymous peer assessment as a condition where the identification of both assessors and assessee is removed so that the assessors are not able to identify the assessee's identities and they are assured that their assessments will be anonymous to the assessee. On the contrary, the identifiable peer assessment allows the assessors to identify the assessee and know that their assessments will have their names attached. Panadero & Alqassab (2019) emphasized that anonymity in the context of peer assessment can be unidirectional and bidirectional. Unidirectional anonymity is when either the assessor or assessee is anonymous. Meanwhile, bidirectional anonymity is when both the assessor and assessee are anonymous.

Several studies have reported that students show better attitudes in the anonymous condition of peer assessment, which brings some advantages. The nature of anonymous peer assessment creates a more enjoyable and comfortable atmosphere for learners (Panadero & Alqassab, 2019; Raes, Vanderhoven, & Schellens, 2015) and allows both parties to focus only on the quality of the performance being evaluated independently of social aspects between parties (Peterson & Peterson, 2011). Thus, according to Rotsaert, et al. (2018) this makes anonymous peer assessment able to create a less biased assessment as students are being more honest in the anonymous condition than in the identifiable condition. Vanderhoven, Raes, Montrieux, Rotsaert, & Schellens (2015) reported that students experienced less peer pressure and less fear of disapproval when they could give their scores anonymously. Since students perceive anonymous peer assessment to be more honest, they will accept the critics and suggestions positively. Therefore, students may feel more satisfied with the assessment they are receiving from their peers because the feedbacks meet their expectations (Elshami & Abdalla, 2017; Kobayashi, 2020). Besides, when students are comfortable assessing their peers' works, students will gain more confidence. van Gennip, Segers, & Tillema (2009) said that self-confidence in the anonymous setting is higher than in the identifiable setting. Confidence may take different places, students may feel confident

to submit their works because their peers are the assessors, or students may feel confident because of their capabilities as the assessors.

Literature has depicted the that students' attitudes are more favorable in the anonymous setting compared to the identifiable setting of peer assessment. However, in terms of the assessment results, the identifiable peer assessment is reported to yield better assessment results. A recent study by Li, et al. (2016) found that identifiable peer grading was more accurate and most likely similar to the teacher's grades. Students' also perceived fairness in identifiable peer assessment is higher than in an anonymous condition (Lin, 2018; Vanderhoven et al., 2015)

In the context of online learning during the pandemic, the peer assessment activities are also conducted online. Some recent studies have reported online peer assessment using different platforms, such as WhatsApp (Wulandari, Purwati, Setiawan, & Anam, 2021), Facebook (Lin, 2018) and learning management systems such as Blackboard (Liu, Li, & Zhang, 2018), Canvas (Kobayashi, 2020), and Moodle (Bouziane & Zyad, 2018). The online peer assessment has been reported to give various benefits. Fu, Lin, & Hwang (2019) asserted that online peer assessment enables learners to be "more critical, independent, and autonomous in English language learning". Different from this, Liu, et al. (2018) compared voluntary and compulsory formats of conducting the online peer assessment. They found that students who voluntarily participated in the online peer assessment gave more accurate and objective scores compared to those who participated in the compulsory format. Another study conducted by Chen (2021) discovered that student could work out knowledge, solve problems, and develop cognition by doing online peer assessment in a blended learning environment.

As observed in literature, there is hitherto little discussion about what differences are found in students ' attitudes and how they perceive anonymous and identifiable peer assessment in the online setting. This research, therefore, aimed to extend the previous studies by investigating the differences between students' attitudes in the two conditions above. The other objective of this research is to find out students' perceptions of the anonymous and identifiable online peer assessment. Thus, the research questions addressed in this study were:

1) Do students who participate in an online anonymous peer assessment show significantly better attitudes than students who participate in an online identifiable peer assessment?
2) How do the students perceive the anonymous and identifiable peer assessment?

To address the first research question, the researcher constructed the following hypotheses based on the reviewed literatures:

H0: Students who participate in an online anonymous peer assessment do not show significantly better attitudes than students who participate in an online identifiable peer assessment.

$$H0: \bar{X}_{AN} \leq \bar{X}_{ID}$$

HA: Students who participate in an online anonymous peer assessment show significantly better attitudes than students who participate in an online identifiable peer assessment.

$$HA: \bar{X}_{AN} > \bar{X}_{ID}$$

METHOD

To answer the research questions, a mixed-method approach was conducted because mixed methods empower a more comprehensive and meaningful understanding of the topic. Mixed-method approach includes the validity to the findings and helps cultivate new insights more than applying single methods. In this research, the qualitative data were used to explore deeper the quantitative data (Cohen, Manion, & Morrison, 2018; Hurmerinta-Peltomäki & Nummela, 2006).

Seventy students of English Language Education Study Program in a private university in Indonesia participated in this research. They belonged to two classes of Vocabulary course, which was a compulsory course for semester-one students. Each class was comprised of thirty-five students. The two classes were selected randomly using the cluster sampling method since the students naturally belonged to those classes so it was not possible to select random samples (Ary, Sorensen, & Razavieh, 2010).

The research was carried out in the odd semester of 2021/2022, in which all the classes were conducted fully online due to the pandemic situation. Using the Workshop feature of Moodle, the two groups of students were given the same assignment, in which each student had to submit an individual project and independently assess three classmates' works using a lecturer-provided assessment rubric. However, the two groups of students were given different conditions to perform the online peer assessment. The first group was in an anonymous peer assessment condition, while the second group was given the identifiable peer assessment condition. The condition of the anonymous group was based on the bidirectional anonymity (Panadero & Alqassab, 2019), in which both the assessing and assessed students were anonymous. Meanwhile, the identities of the students in the identifiable group were not hidden. To set the different conditions, the researchers manipulated the Workshop settings as well as provided different instructions for the assignment. The total duration for the students to finish the task and the peer assessment was approximately two weeks.

After the completion of the peer assessment activity, a questionnaire consisting of twenty close-ended questions and five open-ended questions was distributed in the aim to portray students' perceived attitudes when performing the online peer assessment, in either the anonymous or the identifiable condition. The five-point Likert scale questionnaire was developed using Ostrom's (1969) attitude theory which is constructed of three dimensions, namely affective, behavior, and cognitive. The affective component deals with how an individual represents the emotional reaction – like or dislike – toward the act. Meanwhile, the behavioural component includes statements representing supportive to opposed actions or ideas. A person is considered supportive to actions or ideas when they agree, trust, and receive positively the actions or ideas. Lastly, the cognitive component deals with the perception of value from every individual experience. It is about how students think and perceive the result of peer assessment cognitively.

Each of the attitude dimensions was examined using the perspectives of peer assessment from previous related literatures (Elshami & Abdalla, 2017; J. Topping, 2017; Kobayashi, 2020; J. Lu & Law, 2012; Lynch, McNamara, & Seery, 2012; Panadero & Alqassab, 2019; Patchan, Schunn, & Clark, 2018; Rotsaert et al., 2018; van Gennip et al., 2009; Wilson et al., 2015; Yastıbaş & Yastıbaş, 2015). The close-ended questionnaire had been checked in terms of validity through a pilot study and reliability through calculating the Cronbach Alpha coefficient. The overall questionnaire was proven valid and reliable with a Cronbach Alpha coefficient of 0.89 for the identifiable group and 0.85 for the anonymous group.

Two data analysis techniques were performed, each for the quantitative and qualitative data. The quantitative data yielded from the close-ended questionnaire were analyzed descriptively and checked for normality. When the data distribution was proven normal, an independent samples T-test was run to test the hypothesis. Further, the qualitative data as a result of the open-ended part of the questionnaire were analyzed thematically based on the given questions. The researcher used the qualitative data analysis procedure by Ary, et al. (2010) as the data analysis techniques. The steps included 1) organizing and familiarizing, 2) coding and reducing, 3) interpreting and representing. The qualitative data were coded into three main scopes of attitudes by Ostrom's (1969) ABC theory, i.e. affective, behavior, and cognitive.

RESULTS AND DISCUSSIONS

Comparison of Students' Attitudes in Anonymous and Identifiable Peer Feedback

To see whether students who participated in an online anonymous peer assessment had significantly better attitudes compared to students who participated in an online identifiable peer assessment, quantitative data yielded from the close-ended questionnaire were examined. The descriptive statistics analysis result is presented in Table 1.

Table 1 Descriptive Statistics of Identifiable and Anonymous Groups

	Descriptives				
Groups	**N**	**Mean**	**SD**	**Minimum**	**Maximum**
Anonymous Group	35	83.54	7.39	66.00	99.00
Identifiable Group	35	81.28	8.78	62.00	97.00

From Table 1 above, it is shown that students who were from the anonymous group (n = 35, M = 83.5, SD = 7.4) had higher averaged positive attitudes than students who were from the identifiable group (n = 35, M = 81.3, SD =8.8). The minimum score of the identifiable group was 62, which was lower than the minimum score of the anonymous group (min = 66). Similarly, the anonymous group obtained a higher maximum score which was 99 compared to the highest score from identifiable group, which was 97.

To conduct the hypothesis test, the data first need to be checked for normality. Thus, the Kolmogorov-Smirnov test was run to examine whether or not the data distribution was normal. As seen in Table 2, the result of the normality test showed that the data were normally distributed as indicated in the p-value that was greater than .05 ($p > .05$).

Table 2 Normality Test Result

Kolmogorov-Smirnov

Groups	Statistic	Df	Sig.
Anonymous Group	.102	35	.200*
Identifiable Group	.066	35	.200*

Since the data distribution was normal, the researchers could continue with the hypothesis test. Table 3 shows the result of the independent samples T-test towards the attitudes of the two groups, i.e., anonymous group and identifiable group, in performing the online peer feedback.

Table 3 Independent Samples T-test Result

	Anonymous	Identifiable
Mean	83.54	81.29
Variance	54.55	77.09
Observations	35	35
df	68	
t Stat	1.1638	
P(T<=t) one-tail	0.1243	

Based on the independent samples t-test result displayed in Table 3, it was found that the T value of the difference between the anonymous group and the identifiable group was 1.164 (df = 68, p > .05). Since the p-value of the difference was not significant at the .05 critical alpha value, it means that the null hypothesis could not be rejected. In other words, it was concluded that the anonymous group's attitude in peer assessment was not significantly better compared to the identifiable group's. Even though the central tendency analysis showed that the anonymous group scored better in attitudes (M = 83.54, n = 35) compared to the identifiable group (M = 81.29, n = 35), the difference was not significant to accept the research hypothesis.

In this study, three aspects were explored to measure students' perceived attitudes during the anonymous and identifiable online peer assessment. Those aspects were affective, behaviour, and cognitive (Ostrom, 1969). These perspectives through which students' attitudes were observed could have influenced the non-significant findings obtained in this study. The study result might suggest that the students' attitudes did not come in the consistent patterns for each of the investigated aspect.

The finding of this study corresponds to Kobayashi's (2020) and Lin's (2018) studies. Kobayashi (2020) found that the anonymous peer assessment was more favoured by students as indicated by the quality of students' feedback comments. However, at the same time she found that the anonymous peer assessment was not the necessary condition to increase student engagement. Kobayashi's (2020) study implied that the anonymous peer assessment supported the cognitive aspect, yet it did not support the promotion of the affective aspect during the peer assessment. Similar to this, another study by Lin (2018) discovered that while anonymity increased the quality of cognitive comments given by assessing students, it reduced the quality of affective comments. Besides, Lin (2018) also found that the students participating in the anonymous peer assessment perceived lack of fairness in the respective setting. Both studies suggest that although students demonstrated a better quality of assessment in the anonymous setting, the anonymous peer assessment itself could not guarantee positive development in students' overall aspects of attitudes.

In sum, the current study along with the two previous studies have a similar implication. Although the anonymous peer assessment was considered to be the more a favourable format of peer assessment indicated by students' more positive attitudes, it also has downsides that might have caused students to not show significantly better attitudes in its conduct.

Students' Perceptions of the Anonymous and Identifiable Peer Assessment

To reveal students' perceptions of the anonymous and identifiable peer assessment, the data from the open-ended questionnaire were analyzed. The qualitative data were classified into three categories according to Ostrom's (1969) ABC theory.

The first aspect through which students' perspectives were explored was the affective aspect. In terms of affective feelings, some students from the identifiable groups expressed negative feelings due to psychological feelings by using negative adjectives. Some keywords such as afraid, hesitant, scared indicated that students were uncomfortable and felt under pressure when they were assessing peers. It also showed identifiable group were not confident enough with their assessment skills. The following excerpts depict identifiable group's students' perceptions of the online peer feedback:

> *"I feel a bit **afraid** because students knew that I was the one who assessed their works, if their grades were bad (because there were errors/inconsistencies) then they would be angry at me. The worst thing was if they revenge by giving bad grades to my assignments even though there were no mistakes"* (student A, from identifiable group)

> *"I feel **uncomfortable** if my friend's assessment must include my identity because it could be that the friend who received the assessment may not accept it or vice versa so that the relationship between friends becomes awkward and disturbed"* (student B, from the identifiable group)

> *"At first I was **hesitant** and **scared** because I was **afraid** that they would see me as 'unsupportive' or that they might stay away from me especially if I gave a bad grade"* (student F, from the identifiable group)

In addition, students from the identifiable groups also expected that there would be a post-activity, such as a discussion, or the lecturer re-check the assessments. The student comment also revealed that they were unconfident with theirs and peers skills. In other words, it could be said that students from the identifiable group were not satisfied enough with the peer assessment results.

> *"I hope the lecturer will check again the assessment because I know we are still in the first semester which still have many weaknesses"* (student B, from the identifiable group)

These findings were quite contradictory to what students perceived in the anonymous peer assessment. The students of the anonymous group tended to show more positive feelings of the anonymous peer assessment. The participants in the anonymous group mostly felt comfortable, no pressure, and satisfied with peer assessment activity.

> *"I feel **free** because without thinking about the name of the person we are going to judge, we are expected to be more objective about the work, not the person"* (student A, from the anonymous group)

> *"I feel it was **helpful** because it allows me to give and receive advice from friends or other people without knowing their names because we can give more objective assessments"* (student A, from the anonymous group)

The qualitative findings of this study were consistent with Panadero & Alqassab's (2019) findings in which they found that students who were assessing peers anonymously perceived more comfortable atmospheres. It can be denoted by how different the use of adjectives anonymous group and identifiable group are. Adjectives have a prominent part when it comes to expressing attitudes because they express speakers' affect to describe and favor the object (Rocklage & Fazio, 2015). While most students from the identifiable group used negative adjectives such as uncomfortable, afraid, hesitant, and scared, most students from the anonymous group tended to use positive adjectives to describe their peer assessment experiences. The findings of the current study also implied that the students in the identifiable group felt more peer pressure and fear of disapproval, which is in line with the finding by Vanderhoven, et al. (2015). Students who did not feel under pressure are potential to set up a motivation to participate in peer assessment and perceive it positively.

In terms of the behavior aspect, students from the identifiable group perceived that the identifiable peer assessment gave them unsatisfactory results in terms of the feedback obtained from peers. The following excerpts support this notion.

> *"Yes, but there are some unclear scores and comments, for example, there is no explanation/suggestion/criticism/reason why they gave that score, so I'm a little disappointed because I don't know where my mistake is and what I have to fix."* (student C, from the identifiable group)
>
> *"Sometimes it fits, sometimes it doesn't. Because sometimes things like this happen, I've added aspects that should be included such as "favorite quotes" but my friend found it unsatisfactory"* (student S, from the identifiable group)

Some students in the identifiable group felt that the assessment result was unsatisfactory, which could be caused by several factors. First, in relation to the affective aspect, it could be caused by students' anxiety and fear in their relationship when their identities are unhidden (Vanderhoven et al., 2015). Furthermore, students' perceptions indicate similarity with Chen's (2010) study that some students would perceive they did not have adequate ability to provide constructive assessment and argued that assessments are lecturer's responsibility. Students felt that lecturer's assessments were much better than assessment from peers.

However, what was found from the anonymous group was different. Students participating in the anonymous peer assessment perceived their assessments and their abilities positively. Moreover, since it was done anonymously, they believed the assessments were honest. They, therefore, intended to agree and admitted their weakness. This was in line with the previous theory students perceive the anonymous peer assessment is more honest, hence, they will accept the critics and suggestions positively (Raes et al., 2015; Rotsaert et al., 2018). From this question, it could be seen that the identifiable group remained more tentative about their peer assessment compared to the anonymous group.

> *"The benefit of peer assessment is to train us to be honest and fair, to be able to accept criticism, even to our own friends"* (student H, from the anonymous group)
>
> *"Yes, because I am also aware of my abilities and I also believe in the judgment of my friends"* (student A, from the anonymous group)
>
> *"Yes, because so far the assessments given have always been accompanied by constructive suggestions and if the results of the work being done are good, friends are happy to appreciate the work"* (student D, from the anonymous group)

> *"Pretty accurate. I admit that my work still has flaws that need to be improved, with the score I get I can reflect on where I need to improve"* (student H, from the anonymous group)

These findings were similar to the statements from previous studies in which the anonymous group felt the peer assessment as a constructive and helpful activity, especially in their initial phase to be a future teacher (Elshami & Abdalla, 2017; Kobayashi, 2020; Yastıbaş & Yastıbaş, 2015). Overall, the anonymous group were mostly satisfied with the assessment they received from their peers. As claimed by van Gennip, et al. (2009), this research also found that the anonymous group feel more confident with their assessing skills because they felt more honest that they were successfully avoiding the bias. In other words, students from the anonymous group were more objective than students from the identifiable group.

Seen from the third aspect of Ostrom's (1969) theory, the cognitive aspect, students' perceptions of the online anonymous and identifiable peer assessment were more likely similar. Both groups agreed that through this peer assessment activity, they had a chance to reflect on their own performances, evaluate their skills using the rubrics provided by the teacher, and increase their critical thinking awareness in line with Lynch, et al. (2012) study. The critical thinking aspects could also be noticed from the answers of students' questionnaires who felt they had gained new knowledge and new perspectives from their friends' comments and feedback. Moreover, apparently, as students had not had the chance to meet their peers face to face, they saw this moment as the opportunity to get to know their peer's characteristics either as assessors or friends.

> *"Help us to understand the material and practice critical, objective, and honest thinking"* (student L, from the anonymous group)

> *"The benefit I get is that I can better identify and evaluate my mistakes in doing assignments, especially for grammar and writing effective sentences in English"* (student F, from the identifiable group)

> *"New knowledge from friends' work, new vocabulary"* (student K, from the identifiable group)

From the open-ended questionnaire findings, it was found that both students from the anonymous group and identifiable group were more likely the same in perceiving the peer assessment. Both groups perceived to have earned better understanding, deeper learning, and even new insights from their peers' work (Langan et al., 2005). Furthermore, both groups also perceived the peer assessment activity in both anonymous and identifiable ways as the opportunity to have a real experience as teachers to their peers. They learned to provide constructive, encouraging, and objective feedback as teachers normally do. They were also trained to be reflective in order to create sensitivity to fix and improve their work. These findings are supported by Samaka, et al.'s (2016) previous study which revealed that peer assessment should be able to invite students' contribution and responsibility in advancing excellence and mastering learning skills.

CONCLUSION

The aims of this research are to compare students' attitudes in doing an online peer assessment in two different conditions and explore students' perceptions of the anonymous and identifiable peer assessment. The result from the hypothesis test demonstrated that students who participated in an online anonymous peer assessment did not show significantly better attitudes than students who participated in an online identifiable peer

assessment. This is in line with previous studies by Kobayashi (2020) and Lin (2018) which stated that the anonymous peer assessment could not guarantee positive development in students' overall aspects of attitudes. However, the analysis of students' perceptions revealed different findings. The qualitative data indicated that the students from the anonymous group mostly perceived the anonymous peer assessment positively. In contrast, the students from the identifiable group had less favourable perceptions towards the identifiable peer assessment. These findings imply that both anonymous and identifiable online peer feedback formats are still necessary to apply with several discretions from the instructors. In other words, instructors need to take into account both students' factors and peer assessment goals when planning the peer assessment activity and format.

After all, the findings of this study might be impacted by some limitations. First, this study only involved a small number of participants. Second, this the data collection of this study was conducted subsequent to only one peer assessment activity using the Moodle-based Workshop. Therefore, it is recommended that future research involve a greater number of participants. Also, future researchers are advised to add the number or frequency of the peer assessment so that the participants have broader experiences of participating in online peer assessment activities in the hope that they can contribute to more meaningful findings.

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