DIGITAL PEER FEEDBACK AND STUDENTS' CRITICAL THINKING: WHAT CORRELATION AND TO WHAT EXTENT?

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INTRODUCTION

From a feedback, it can affect the rest of someone's thinking or action. In English as Foreign Language (EFL) classroom, feedback is mostly used in writing and speaking course. By providing feedback, it helps students to notice their errors when they write both in their L1 or L2 (Uymaz, 2019). As daily communication way, students' speaking skill also become one of the concern in English class (Au & Bardakçı, 2020). The prior research revealed that written corrective feedback improved students writing and speaking skills (Esmaeeli & Sadeghi, 2020). Those implementation of feedback in EFL context is proven that feedback has its crucial role to help students improve their English skills. In this research, one of the types of feedback that would be discussed is peer feedback. Moreover, the majority of human endeavours nowadays are technological in nature. There is no exclusion for studying or going to school in this situation. Almahasees, Mohsen, and Amin (2021) supported that in certain condition such as during COVID-19, school is better to be done online through e-learning platforms. A large number of students are given assignments that require them to create videos, write essays, and respond to questions using online resources, particularly e-learning platforms. It also beneficial for students to experienced online learning (Dung, 2020). For instance, in advance of responding, creating, or concluding the peer feedback task, lecturers

and students are required to measure and assess their previous readings. By offering their thoughts and suggestions on the tasks completed by other students, the students could also enhance their critical thinking skills, and the teacher could ensure that offering peer feedback activities is running well. It was clearly found and stated that online peer feedback is beneficial to improve the provider's critical thinking (Wu, Petit, & Chen, 2015; Shang, 2019). Therefore, the implementation of digital or online peer feedback may have relation with students' critical thinking. This research is going to provide students' view towards digital peer feedback, their critical thinking level, and the relationship between the qualification of perceived of providing digital peer feedback and students' critical thinking.

As previously explained, one of the methods of teaching and learning in the educational area nowadays, particularly in learning activities, is the internet or e-learning platforms. Utilize an online peer review process, feedback, allows students to provide and receive comments from others with its purposes to help them in improving their works (Sari, 2019); Wihastyanang, Kusumaningrum, Latief, & Cahyono, 2020; Lv, Ren, & Xie, 2021). In other words, the students were able to read, compare, or question ideas, suggest a modification, or even represent how well one's own work is compared with others. One analyzes the quality of their work as they process various cognitive functions. The researchers would pay close attention to the students' critical thinking while offering insightful suggestions or critiques to the other students. In other words, the researchers wanted to know how students applied critical thinking skills when providing peer feedback. Digital peer feedback has a distinct role in online learning activities, particularly when it comes to offering suggestions or comments on other student's work. From the questionnaire, the researchers obtains a general indicator (Ciftci & Kocoglu, 2012). It incorporates Bloom's Taxonomy (2010) revised version from "A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives" for critical thinking, which has six phases (Remember, Understand, Apply, Analyze, Evaluate, and Create).

Pay close attention to students' critical thinking skills as well, these abilities are vital because they are required for practically all learning activities. For instance, students may be required to present their ideas on a subject in class or to write an argumentative essay focused on its subject. It is demonstrated that students need to be critical thinkers. The ability to think critically is regarded as one of the most important abilities individuals should have in the 21st century and is thus considered to be an important consideration for education, according to Yang et al. (2013). As previously mentioned before offering any suggestions during peer feedback, students must reread and comprehend the work of other students. This requires them to be critical thinkers on their assignments. According to Paul and Elder (2019), "Critical thinking is the art of analysing and evaluating though processes with a view to improving them" (p. 9), this is one method of assisting students develop their critical thinking skills. Then, with peer feedback serving as the second variable, Ravand and Rasekh (2011) stated that feedback is crucial for providing students with the educational and professional literacy skills they need as well as for assisting them in navigating processes and information access.

One of the most crucial skills for students to develop professionally is critical thinking. In peer feedback process, there is part where the students read and reflect to their critical review towards other's work (Pham, Lin, Trinh and Bui, 2020; Muflihah & Authar, 2021; Kumar, Soozandehfar, Hashemifardnia, & Mombeini, 2023). It results to students' activity for them to express their thought, ideas, and comments on what they have read. Ciftli and Cocoglu (2012) believe that utilizing a blog or an online learning platform can help students develop positive interpersonal relationships. In relation to the present research, the issue appeared is that in an Islamic private university in Yogyakarta, the lecturer implements digital peer feedback as one of collaborative learning activity. Therefore the researchers set that

place as the research setting. One of the tasks that students must do for this assignment is to review the work of other students and then provide feedback or suggestions to the students who submitted the original work. Before it was resubmitted, the digital peer feedback process outlined has to be completed. According to the guidelines, students must be careful when reading and comprehending the work of their other classmates. It would be simpler to offer the most valuable suggestions or comments if students understood the objective of the assignment or the significance of other students' work.

The focus of this research will be on students' perceptions of providing digital peer feedback and their critical thinking abilities, as well as the relationship between the level to which students perceive the benefits of providing digital peer feedback and their critical thinking. The previous study on the relationship between feedback and critical thinking was conducted by Ekahitanond (2013). It examined students' critical thinking abilities using Bloom's Taxonomy and found that using a peer feedback strategy along with the critical thinking model resulted in a significant increase in the three critical thinking skills; Analyze, Evaluate, and Create. Students' comprehension would also increase with online learning since they would need to demonstrate or review what they have learned in a prior session and try to comprehend an explanation or text on their own. Based on this context, the researchers intends to investigate the students' views of offering digital peer feedback and their level of critical thinking according to Bloom's Taxonomy.

As sudents become the crucial element in learning and teaching process, knowing what students need is important to support the effective learning, therefore, a research on students' views of perceived of advantages of providing digital peer feedback in EFL classroom should be conducted. Moreover, in providing digital peerfeedback according to the previous statement, the researchers believe that students' critical thinking and the level to which feedback is viewed as advantageous are related. At this point, students' critical thinking is highly essential as it serves as evidence that they were paying attention and carefully reading the assignments of their peers. The aim of this research is to find out in what level critical thinking skills among students in the English department of an Islamic private university in Yogyakarta, as well as how they feel about providing digital peer feedback and the relationship between these factors. Based on the issues identified in the English language education program at an Islamic private university in Yogyakarta, the researchers have formulated three research questions. These are the inquiries: 1.) To what extent do students think providing digital peer feedback in English Language Education Department is advantageous?, 2.) What level of critical thinking do the students possess?, 3.) How do students' critical thinking skills and their perception of the benefits of providing digital peer feedback relate to each other?

Following the formulation of the research questions and problem, the researchers set up the research process with the aim of determining the critical thinking level of the students in that English department, their view of the benefits of providing digital peer feedback, and the relationship between the two. Based on the findings, the researchers could then recommend the English department on the best way to incorporate online peer input for a particular course that requires such an activity.

Literature review
The Differences of Traditional Peer Feedback and Digital Peer Feedback

Conventional peer feedback involves in-person meetings with a minimum of two participants who provide comments or suggestions to one another. The conventional written feedback has expanded in scope with the advancement of information technology (Guardado & Shi, 2007). According to the previous research, conventional written feedback provides a text-only setting that encourages students to compose thoughtful responses that take the

requirements of the reader into consideration. According to Guardado and Shi (2007), some people preferred to provide positive feedback or cover up their negative feedback as reviewers, students who are unsure of themselves tend to give only positive feedback and make few suggestions regarding the work of other students in conventional peer review. Another explanation about traditional or conventional feedback is that in conventional peer feedback, it emphasized on the face-to-face or pen-pencil-paper based of giving feedback (Hoomanfard, 2017). Moreover, in a conventional environment, there is not only peer feedback that can be conducted in the classroom, but also a small group of students also can provide the feedback to one and another. The result of those experiment for university students that has been conducted by Kusumaningrum, Cahyono, and Prayogo (2019) revelaed that both peer and small group feedback give significant improvement of students' writing essay ability. Two of types students' feedback to each other showed positive result.

Almost every element of life has been technologically advanced in this century. That has an impact on the education sector likewise. The researchers would like to present a number of relevant research that back up this investigation. There are several benefits of employing online resources for assignments, allowing students to voice their opinions more than in a traditional classroom setting. Campbell, Borer, and McCarthy (2020) conducted a study using technology as a tool, utilizing a FeedbackFruits as the media to conduct the peer feedback activity. By adding authenticity to approach, reflection, and assessment along with an active learning component, the utilization of FeedbackFruits has prompted students to engage with the concept of self and peer reflection more thoroughly. project with ESL students, they discovered that both the quantity and the quality of feedback students got from their peers affected their willingness to provide comments. Students may be encouraged to clarify on their opinions by using blogs as a platform for online peer review. They should then leave comments on other students' blogs expressing their opinions. This activity demonstrated how using online resources like blogs may also help students become more motivated and thoughtful when they are leaving comments. As a result, peer feedback provided online is similar to a mutually beneficial relationship. However, a research by Wihastyanang, Kusumaningrum, Latief and Cahyono (2020) found that, in some cases digital peer feedback is not really effective for students because of some factors. It turns out that conventional peer feedback is more effective in their study. On the other hand, digital peer feedback gives many benefits for both teacher and students (Van-Geel & Luttikhuis, 2020). When teacher has limit of time, to acquire other's respond towards students' work, teacher can implement the digital peer feedback which also can provide more frequent feedback than from teacher. Wood (2022) added, that digital peer feedback is suitable to be applied in current trend of technology based teaching where it supports teaching learning process can be conducted in blended learning environment.

Peer Feedback In Language Learning and Its Advantages

There are several strategies for improving students' English proficiency, including speaking, listening, writing, and reading are among the skills. Since Hattie and Timperley (2007) defined feedback as any information given by a teacher, peer, parent, or other person on a student's performance or knowledge, the researchers will utilize writing as the example that will be the focus of this research. In an EFL classroom, feedback is also considered a successful instructional competency (Aisyah & Wicaksono, 2020). The researchers may conclude from that remark that feedback plays an essential part in language acquisition and instruction. The statement, "The importance of feedback emerges with the development of

student centred learning, especially in language education context," has been confirmed by the second research, Wirantaka (2019) (p.1). The dimention of language learning also cannot be separated from the collaboration among students or students – teacher work. Therefore, a study by Storch (2019) on peer feedback as collaborative learning found that as the alternative learning, peer feedback is proved to provide the learning environment to enhance students' writing skills by those collaboration. According to earlier studies, the abilities of learners would develop as a result of receiving feedback, which is crucial for their intellectual development.

Peer feedback is helpful in fostering students' critical thinking, learner autonomy, and social interaction, claimed Yang et al. (2006). This highlights the importance of experience in providing meaningful and insightful feedback to peers. In addition to these benefits, digital peer feedback maintains the advantages of conventional written feedback in promoting the development of a meta-language and awareness about written communication by requiring students to concentrate on providing coherent comments in a text-only setting (Guardado & Shi, 2007). Moreover, peer review is another method for evaluating an individual's skills (Wenny & Fajar, 2019). However, the interesting thing from applying peer feedback in the learning writing process is by become an anonymous person. A study by Panadero and Alqassab (2019) revealed that peer feedback or peer assessment can be beneficial if it is conducted anonymously. It gives chance the students to express what they truly feel as the reader towards other students' works. Related to those finding in Panadero and Alqassab's study, another study has support it by a statement that in peer feedback activity, students desire to take an active part in their education and believe that their input is essential to the creation of engaging teaching and learning environments (Ion et al., 2018).

Additionally, students noted that receiving feedback from their peers was a valuable social interaction experience that helped them understand the writing process, develop affective strategies, support critical thinking abilities, and grow both intellectually and socially through teamwork. It also assisted them in honing their skills as independent learners (Kuyyogsuy, 2019). Peer review should therefore be used in L2 writing classes. Therefore, the advantages of peer feedback are mostly enhancing the students to have more chance in expressing their ideas through critical thinking.

The Rank of EFL Students' Critical Thinking

According to Yang et al. (2013), critical thinking is an important concern for education as it is seen to be one of the most crucial skills people should possess in the current world. According to Lai (2011), the component skills of critical thinking include analysing arguments, drawing conclusions through inductive or deductive reasoning, judging or assessing, and making conclusions or solving problems. Consequently, in the modern era, possessing critical thinking skills is important. Every element of human life, including education, has already included critical thinking. As previously explained, critical thinking has emerged as a crucial component of students' self-development. Furthermore, students have a responsibility to be critical thinkers, particularly because it is focused on language acquisition. According to Paul and Elder (2019), "Critical thinking is the art of analysing and evaluating thought processes with a view to improving them" (p. 9). It is clear from Paul and Elder's statements that humans are naturally critical thinkers who always consider their actions before taking them. As a result, while everyone possesses the capacity for thought, not everyone makes use of it to sharpen their critical thinking skills.
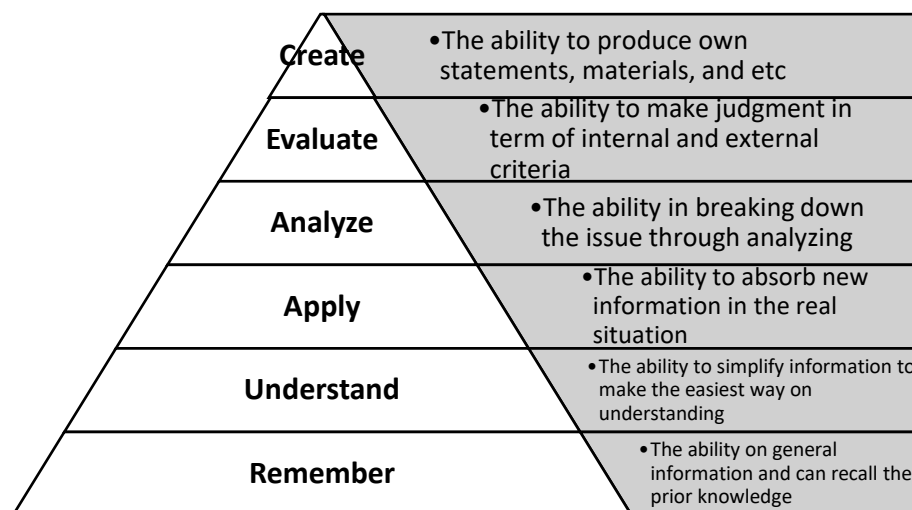
Figure 1. Bloom's Taxonomy by Bloom (2010)

According to Bloom's Taxonomy (2010) in Armstrong (2010), remember is the first level of critical thinking. However, remeber refers to a student's capacity to recall their prior knowledge to recognize something that they are facing. The second level is understand, where the students are able to classify or interpret the meaning from something and it helps them to understand it in the easiest way. Followed by apply, which means that the students can implement what they understand in their real life situation. Next level is analyze, it requires the students to have ability to organizing and attributing their knowledge or information to be used. Then, it is evaluate, a level where the students should make a judgement on their own or others' works or something that need improvement. Last level is create, where it is the ability of critical thinking which requires the students to produce something as a result.

Based on the responses received from Orszag's (2015) questionnaire, the researchers employed Benjamin Bloom's Bloom's Taxonomy (2010) to measure the critical thinking proficiency of the students. According to this hypothesis, every criterion level will indicate an individual's thinking level.

Related Studies

For the purpose of being clear, the primary focus of this research is peer feedback, and the researchers want to define it in several ways. Peer feedback is one of the activities in class that may help students become more successful at learning since it is a preferred learning method that is also attentive and free of prejudicial opinions. Peer feedback activities can be implemented in the classroom by the teacher and completed by the students as a homework assignment or in class. Miller and Olthouse (2013) carried out a related investigation titled "Critical Thinking in Gifted Children's Offline and Digital peer feedback". The results showed that the students who used online social media platforms to provide peer feedback received higher marks or more comments when they did so. Peer feedback can be an effective tool in facilitating the critical thinking process, it indicates that students' critical thinking and the online feedback activity are connected.

Another related study, titled Students' Level of Critical Thinking, Supportive Behaviours and Types of Questions in An Online Forum Learning Environment, was also carried out by Rusdia and Umar (2015). The purpose of this study was to investigate the potential cognitive benefits of online discussion forums for students as well as the ways in which students can help one another through these virtual conversations. As a result, the researchers created eight distinct online discussion forums and encouraged the students to

participate in these forums by exchanging ideas. The outcome demonstrated that Murphy's indication is used by students in the examined "understand" level. Then, since the course topic was the course link, the questions that kept coming up had to do with it. The conclusion from the previous response to research question number three was that the result was Salutations for Supportive Behaviour in Online Learning. It was because in online discussion forums, most students say hello to one another first.

This research investigation and the two linked studies above have both similarities and differences. The first area where the two earlier studies are comparable is that they look at students' critical thinking proficiency in relation to the peer feedback exercise. Regarding the second, in contrast to prior studies, the present research employed a quantitative methodology, with a questionnaire serving as the research instrument. This research is more focus to students' views on perceived of advantages in providing digital peer feedback in quantitative way and searching the students' critical thinking rank. After knowing what level the students' views and critical thinking, then the researchers wanted to investigates whether there is a relation between the two variables or not. The research's hypothesis is as follows, H1: Students' critical thinking and their perception of the benefits of providing digital peer feedback are significantly correlated.

RESEARCH METHOD
Research Design

In this research, a quantitative approach was adopted. According to Creswell and Creswell (2018), quantitative research is "an approach for testing objective theories by examining the relationship among variables" (p. 4). The quantitative method was used because the researchers attempted to locate the numerical data. Beside, the researchers also wanted to investigate the relation among two variables, therefore, quantitative approach with correlation design has been used in this research. The research's descriptive quantitative approach yields a specific figure that illustrates the relationship between students' critical thinking and their perception of the advantages of receiving digital peer feedback. By applying descriptive quantitative in this research, the researchers believed that the results can draw deeper the information related to certain situation and reveal its factors (Lambert & Lambert, 2012). Moreover, the correlational design used also would be presented in correlation descriptive approach.

Two factors were employed by the researchers in this research. Students' critical thinking abilities and their perception of the advantages of providing digital peer feedback were the factors. A correlation study design examines the use of a correlation statistical test to characterize and quantify the degree of correspond (or relationship) between two or more variables or sets of scores (Creswell, 2012). As a result, the statistical prediction and correlation research design is used in the present research were appropriate.

Population and Sample
Research Population

The participants in this study were the third year students from a private institution in Yogyakarta who were enrolled in the English Language Education Department. As the students have learned in the department for about five semesters, the researchers believed that they have experienced the peer feedback activity in some classes. There were 225 students in six classes (A, B, C, D, E, and F) from the third year students. From a prior observation, there were some courses that implement peer feedback as one of the activity for the students which the researchers counted it as the criteria of the respondents. Therefore, the researchers used the students who had completed the courses in Language Learning and Acquisition, Language Assessment and Evaluation, and had passed their fourth semester as the research's population. A population, according to Creswell (2012), is a collection of people who share certain traits

and can be recognized by the researcher. As a result, the researchers thought the population selected was suitable for this research.

Sampling Technique

In a sense of sampling technique, this current research employed simple random sampling. The technique was selected by the researchers due to the fact that the research's population comprises roughly 225 students. Not every student was used in the data collection process, but this would not have a lasting impact on the respondents in the future. According to Cohen, Manion, and Morrison (2011), "the population being selected is unaffected by the selection of the other members of the population," the aforementioned statement is accurate (p. 153). Applying random sampling means that every sample has its chance to be chosen and if the sample was not chosen it will not affect the result (Berndt, 2020). Therefore, the researchers believed that it is suitable to use random sampling technique to decide the respondents chosen in this research. After determining the saple technique, then the researchers got the research sample as the following explanation.

Research Sample

The sample consisted og 225 English department third year students. The entire selection of classes was used by the researchers. As stated by Consuelo and Sevilla (2007), the number of samples that are counted from the population can be determined using the Slovin Formula if the population number (N) is known and constrained. The sample size for the cohort and the case control are determined using the same formula, particularly if a proportional measure is employed. To locate a minimal sample, it is employed (Ismail, Pernadi, & Febriyanti, 2022). From the calculation use Slovin Formula, the minimum number of respondents for this research is 144 students.

Instruments

In order to evaluate the qualification of perceived advantages between students' critical thinking and digital peer feedback, the researchers required numerical data. The effects of digital peer feedback in the department and the students' critical thinking abilities were investigated by the researchers using a questionnaire. The purpose of the questionnaire was to discover more about the students' critical thinking abilities as well as the level to whether the department felt that providing online peer criticism had advantages. A questionnaire is an instrument for gathering data with a highly organized, typically numerical data, and it may be given with or without the researchers present, according to Cohen, Manion, and Morrison (2011). To facilitate the respondent's comprehension of the questionnaire's contents, the researchers translated the questionnaire into *Bahasa Indonesia.*

The questionnaire consisted of demographic information such as name and gender, followed by the option for the respondents which stated if they were willing to be the research's respondents or not. By providing the 'Yes' or 'No' option, the researchers used it as the respondents' concern in this research. For the items of the questionnaire, Huisman et al.'s (2019) questionnaire was adopted by the researchers. They have investigated students' perceptions of peer feedback. Ten statements in total from the questionnaire the researchers intended to use may be useful for this research since the items are related to the issue of digital peer feedback. Then, there was a questionnaire which also used by the researchers to assess the students' critical thinking rank as well. The 43 question survey, which was adapted from Orszag (2013), addresses the statement for critical thinking. In the questionnaire, each item would be selected from a Linkert Scale from strongly agree > strongly disagree.

The researchers utilized their presence to distribute the questionnaire in order to collect data. According to Cohen, Manion, and Morrison (2011), respondents find it helpful to have the researchers' present when they have questions about a statement or question on the questionnaire. The Google Form link has been used to distribute the questionnaire, allowing

respondents to complete it using a smartphone. After getting the result from the first questionnaire and second questionnaire for research question one and two, the researchers could analyze the data gathered use Pearson's product-moment correlation coefficient (r) to know the relationship between those two variables.

Data Analysis

Both descriptive and inferential statistics were employed by the researchers in this data analysis to examine the data. Additionally, the researchers utilized SPSS (Statistical Package for the Social Sciences) software and Microsoft Excel for analyses. The researchers employed descriptive statistics to analyse research questions one and two. Cohen, Manion, and Morrison (2011) stated that the frequency range, data, and percentage included could be explained and provided using descriptive statistics. The researchers would utilize the categories in the table below to determine the level to which students felt that providing digital peer feedback in ELED had advantages.

Table 1
Interval and Category for Students' Qualification of Perceived of Advantages of Giving Digital Peer Feedback

Interval	Category
3.1 – 4	High
2.1 – 3	Intermediate
1 – 2	Low

In addition to determining the extent to which students perceive the advantages of providing digital peer feedback, the researchers would use the criteria shown in the following table to determine the proportion of students that possess a critical thinking level.

Table 2
Interval and Category of Students' Critical Thinking Rank

Interval	Category
3.8 – 5	High (Evaluate – Create)
2.4 – 3.7	Intermediate (Apply – Analyze)
1 – 2.3	Low (Remember – Understand)

Normality Test Assumption

With SPSS, inferential statistics would be used to answer the third research question. Additionally, an inferential analysis based on a mean and correlation comparison was performed. The Kolmogorov-Smirnov test was used to determine the sample's normalcy after verifying the parametric assumptions of normality and in order to select the best analytic method. In advance of computing the association between the qualification of perceived advantages to providing digital peer feedback and students' critical thinking rank. The data could be said normal, if: $P = \geq 0{,}05$. The first questionnaire's normality test score was 0.055, while the second questionnaire's was 0.991. Since both questionnaire values are more than 0.050, which stated that the data distribution result was normal.

The third research question was then measured by the researchers using Pearson's product-moment or correlation coefficient (r). As the alternative hypothesis (H1), the prediction had demonstrated that students' critical thinking and the level to which they consider the advantages of providing digital peer feedback were correlated. "Pearson's product-moment correlation coefficient (r) is ranging statically from -1.0 to +1.0," according to Cohen, Manion, and Morrison (2011) (p. 347). When two variables have a correlation

value of -1.0, they are negatively correlated, and when it is closer to +1.0, they are positively correlated. It explains the correlation coefficient as follow:

Table 3
Correlation Coefficient Interpretation

Standard $r_{x,y}$	Interpretation
>0.86 – 1.00	Very strong correlation
0.66 – 0.85	Strong correlation
0.36 – 0.65	Moderate correlation
0.21 – 0.35	Weak correlation
0.00 – 0.20	Very weak correlation

From the table above, if the result from r value shows < 0.00, it means that there is no correlation between the two variables and the hypothesis H_1 will be rejected. However, if the result from the r value is 0.00 or more, it would be used to determine that the hypothesis H_1 is accepted.

RESEARCH FINDINGS AND DISCUSSION
Research Findings
Result 1. Students' qualification of perceived advantages of giving digital peer feedback

The first research question is "To what extent do students think providing digital peer feedback in English Language Education Department is advantageous?". A questionnaire by Huisman et al. (2019) was used as the istrument to collect the data about it. From the data gathered, the researchers analyzed it to get the result for EFL students' perspectives of the perceived advantages in giving digital peer feedback. The table below is the mean score which answered the research question number one.

Table 4
The Result of Students' Qualification for Perceived Advantages of Giving Digital Peer Feedback

Category	Mean	Standard Deviation
Giving Digital peer feedback	3.48	0.12

Table 5
The Categories of Students' Qualification of Perceived of Giving Digital Peer Feedback

Interval	Category
3.1 – 4	High
2.1 – 3	Intermediate
1 – 2	Low

The mean of the responses from all respondents in the table above indicates that students' perceptions of providing digital peer feedback were 3.48. It indicated that students felt they received a high score for providing digital peer feedback. Thus, the researchers come to the conclusion that students' perceptions of providing digital peer feedback were positive in response to research question one. It demonstrated how students felt that participating in digital peer feedback activities had benefits and aids in the learning process. As a result, the researchers may draw the conclusion that students have a positive or high perspectives on the advantages of providing digital peer feedback.

Result 2. The Rank of Students' Critical Thinking

Besides knowing the students' perspectives on the perceived advantages in giving digital peer feedback, the researchers also investigated the students' critical thinking rank or level. Since the hypothesis stated that whether there is a correlation between the two variables or not, therefore, the researchers collected the data about critical thinking as well. Adopting a questionnaire from Orszag (2013), addressed the statement for critical thinking. The result from the data gathered can be seen in the table and calculation below:

Table 6
The Categories of Students' Critical Thinking Rank

Interval	Category
3.8 – 5	High (Evaluate – Create)
2.4 – 3.7	Intermediate (Apply – Analyze)
1 – 2.3	Low (Remember – Understand)

The calculated score is 3.82 and the mean score for the students is 550.907 out of the 144 respondents that completed the questionnaire. Consequently, the score of 3.82 indicates that the students fall into the high category of critical thinkers (see table 7). It showed that the students have high level of critical thinking throughout the learning process.

Result 3: The Relationship between Students' Critical Thinking and Their Perception of the Advantages of Providing Digital Peer Feedback

The last research question in this research aimed to know the correlation between students' critical thinking and their perception of the benefits of providing digital peer feedback. Therefore, the researchers used Pearson correlation (r-value) calculation using SPSS software. From its analyzes, the result for the research question number three is presented in Table 7.

Table 7
Relationship between Students' Critical Thinking and Their Perception of the Advantages of Providing Digital Peer Feedback

Correlations		Digital peer feedback	Students' Critical Thinking
Giving Digital peer feedback	Pearson Correlation	1	.358**
	Sig. (2-tailed)		.000
	N	144	144
Students' Critical Thinking	Pearson Correlation	.358**	1
	Sig. (2-tailed)	.000	
	N	144	144

The following table's conclusion indicated that there was a 0.000 relationship between students' critical thinking and their perception of the advantages of providing digital peer feedback. A correlation score with a sig (2-tailed) <0.05 criterion was required. When the researchers saw that the sig (2-tailed) was 0.000 < 0.05, it can be drawn the conclusion that students' critical thinking and the perceived advantages of providing digital peer feedback were correlated. According to Cohen's (2011) correlation coefficient interpretation table, the correlation was classified as moderate as the Pearson correlation (r-value) was 0.358 that can be classified as weak correlation. Thus, it was decided to accept the alternative hypothesis (H1), which states that there is a relationship between students' critical thinking and their perception of the benefits of providing digital peer feedback.

Discussion

The findings revealed the answers from the three research questions. On the overview of the research's aims, this research aimed to three things. First, to know the students' view on perceived advantages of giving digital peer feedback. Second, to know the students' rank of critical thinking. Then, the last is to investigate the relationship between students' view on perceived advantages of giving digital peer feedback and students' rank of critical thinking. Those three aims in this research also would be discussed by several similar previous studies in the same field about peer feedback, digital learning, and correlation from these two variables.

The first research issue concerns on how the English Language Education Department of an Islamic private university in Yogyakarta's students perceive giving digital peer feedback as one of their classroom activities. According to the results, students' opinion on providing digital peer feedback is 3.55 out of 4, placing them in the high category level. Wirantaka (2019) stated that feedback plays a crucial role in fostering students' self-directed learning, particularly in the context of language instruction. The benefit of giving comments or peer feedback itself lends credence to such argument. Online peer feedback through a tool is helpful in fostering students' critical thinking, autonomous learning, and social engagement. This statement is supported by Alsaleh (2020) who stated that students were effectively motivated to explore their own selves and to strengthen their reasoning skills through the use of computer simulation software. The aforementioned assertion was supplemented by Dippold's (2009) statement, one further advantage of digital feedback is that it brings with it the potential to accelerate up the feedback process considerably in a contrast with non-computer-mediated circumstances, where more time is invested in managing of the process with the distribution of student work and the actual offering of feedback was also discovered by the researchers because this context involves digital peer feedback. In addition to these benefits, digital peer feedback maintains the advantages of conventional written feedback in promoting the growth of a meta-language and understanding about written communication by requiring students to concentrate on providing cogent remarks in a text-only setting (Guardado & Shi, 2007). Therefore, students perceive providing digital peer feedback as an absolute and hold a positive opinion on the statement.

What is the critical thinking level of students in the English Language Education Department of an Islamic private university in Yogyakarta is the subject matter of the second research question. The outcome indicated that this study topic had a 3.82 out of 5 scale, which falls into the high range for the interval. Critical thinking has a significant impact in an individual's capacity, and it may be an important concern for education, according to Yang et al. (2013). In addition, Lai (2011) stated that the component skills of critical thinking include analysing arguments, drawing conclusions through inductive or deductive analysis, judging or assessing, and making decisions or addressing problems. In the use of internet or ICT tools in teaching and learning, it also relate to the growth of students' critical thinking ability. E-learning materials are a reliable, useful, and efficient way to help students develop their critical thinking abilities (Supriyatno, Susilawati, & Hassan, 2020). The researchers measures students' critical thinking using Bloom Taxonomy based on Lai's assertion. Bloom (2010) asserted that each of the six levels—remember, understand, apply, analyze, evaluate, and create—has the capacity or level to develop cognition on its own. Therefore, in high category level of students' critical thinking, the score 3.82 indicated that students are in "evaluate" and "create" category of critical thinking based on revised Bloom's Taxonomy. In the evaluate level, students are indicated be able to make a judgement on their own or others' works or something that need improvement. Thus, the students are able to give new ideas for the other student's work. Then, for create level of critical thinking, the students are indicated to produce something as a result from their prior knowledge, understanding, practices, and

evaluation. Coulson-Thomas (2022) stated that a varied, inquiring, and dynamic team, as opposed to a more uniform, obedient, and unimaginative one, may be able to explore choices and alternatives with the help of discussion and critique. That statement is related to the activity of peer feedback which became the first variable besides critical thinking rank as the second variable. Therefore, it can be concluded that having high critical thinking can help in giving feedback or review or critique to others.

The third research question examined the relationship between students' critical thinking rank in an ELED at an Islamic private university in Yogyakarta and their perception of the advantages of providing online peer criticism. The correlation score was less than 0.050 (0.00 < 0.050), as the correlation table result showed. The conclusion thus revealed that there is a relationship between students' critical thinking rank and their perception of the advantages of providing digital peer feedback. Latifi, Noroozi, Hatami, and Biemans (2021) found that having oline peer feedback activity in writing argumentative essay shows positive attitude and significant effect for students. Additionally, the same study reports that its findings indicate that students who used online social media to provide peer criticism received higher marks or more comments while doing so (Miller & Olthous, 2013). Additionally, they said that social media and online media are useful tools for encouraging kids to think critically. Therefore, providing digital peer feedback is relevant to students' critical thinking. The research's hypothesis is accepted.

CONCLUSION

Since there are three goals for this research, the conclusion for each goal was given in this section. The initial stage was determining the extent to which students thought providing digital peer feedback was advantageous. Finding the students' critical thinking rank was the second goal. The final goal was to determine if students' critical thinking rank and their perception of the advantages of providing digital peer feedback were correlated or not. As a result, this section's findings were threefold.

According to the findings, students rated the benefits of providing digital peer feedback at a level of 3.48 out of 4. This indicates that students rated their opinion of the positive effects of providing digital peer feedback as high. The high perception in this case indicates that students thought participating in digital peer feedback activities could enhance their learning. The second conclusion, the level of students' critical thinking. Students' critical thinking score was 3.82 out of 5 based on the results. It indicates that students are highly critical thinkers when they are studying especially when they provide suggestions and comments in peer feedback activity. The last finding indicated that there was a relationship between students' critical thinking and their perception of the benefits of providing digital peer feedback.

The results showed that there was a 0.000 sig. (2-tailed) association between students' critical thinking rank and providing digital peer feedback. A correlation score with a sig (2-tailed) <0.050 is required. Therefore, when the result was 0.000 < 0.050, the researchers were able to draw the conclusion that there was a relationship between students' critical thinking rank and their perception of the advantages of providing digital peer feedback. According to the correlation coefficient interpretation table, the r-value also revealed that the Pearson correlation result (r-value) was 0.358, indicating that the correlation was in the weak correlation category. As a result, hypothesis (H1) was approved. The results were then interpreted to show that students applied critical thinking to the task of providing digital peer feedback, and that they also believed that doing so had various benefits for them.

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