

The Impact of Online Peer Assessment on Speaking Performance of Undergraduate Students in Pharmaceutical Sciences

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Abstract: This study investigates the impact of online peer assessment (OPA) on the speaking performance of tertiary-level students. Utilizing a mixed-methods research design, the study incorporates both quantitative and qualitative data collection techniques. A pre-test/post-test design measures changes in speaking performance, while surveys and interviews gather students' and instructors' perspectives on the effectiveness, benefits, and challenges of OPA. It is hypothesized that OPA will significantly enhance students' speaking abilities by providing constructive peer feedback and promoting collaborative learning. The findings aim to offer evidence-based insights for integrating OPA into language courses, ultimately improving pedagogical practices in language education.

Key points: Online Peer Assessment (OPA), Speaking Skills, ESL, mixed methods design.

INTRODUCTION

Language proficiency is critical for effective communication and is essential in preparing students for the globalized world (14). Speaking proficiency is particularly crucial as it allows students to engage in conversations and express their ideas in various contexts (4). However, teaching speaking skills can be challenging, particularly when students do not receive sufficient opportunities to practice and receive feedback on their performance (25). Online peer assessment (OPA) has emerged as an effective approach to enhance speaking skills among language learners (2). Despite the potential benefits of OPA for improving speaking proficiency, previous studies have reported mixed findings regarding its effectiveness. Some studies have shown that OPA can enhance learners' speaking skills by providing them with opportunities to practice and receive feedback from their peers (13, 21). However, there has been scant research into the utility of OPA in postsecondary language instruction (22). This study attempts to fill this knowledge gap by examining how OPA influences the oral proficiency of college language learners.

THEORETICAL FRAMEWORK

The study was based on theoretical underpinnings rooted in assessment for learning (AFL), which emphasizes the importance of using assessment to inform and improve teaching and learning, feedback literacy theory, which emphasizes the importance of learners' ability to engage with feedback, and reflection in teaching, which encourages educators to reflect on their teaching practices and student learning outcomes. The relevance of learners' capacity to interact with feedback in order to advance their knowledge and skills is emphasized by feedback literacy theory

(6). According to the feedback literacy idea, language learners can increase their speaking skill by strengthening their capacity to effectively receive, interpret, and use feedback (5). This theory suggests that learners can benefit from feedback that is timely, specific, and actionable, and that learners need to develop their ability to understand and act on feedback in order to improve their speaking skills.

Online peer assessment (OPA) aligns well with feedback literacy theory as it provides learners with opportunities to receive and engage with feedback. By using OPA, learners will be able to receive feedback from their peers regarding how they can improve their speaking abilities and identify areas for improvement. OPA can also help learners develop their feedback literacy skills by providing them with opportunities to interpret and use feedback effectively. Few studies have investigated the effectiveness of OPA in promoting speaking proficiency among language learners from a feedback literacy perspective (2, 13, 19, 8). These studies have found that OPA can be effective in enhancing speaking proficiency by providing learners with opportunities to receive and engage with feedback. Through OPA, learners can develop their feedback literacy skills by learning to interpret and use feedback effectively, and by receiving feedback that is timely, specific, and actionable.

Thus, by adopting feedback literacy theory as a theoretical framework, this study aims to investigate the impact of OPA on the speaking performance of tertiary-level language students. It will be examined in the study how OPA can contribute to the development of skills such as feedback literacy in learners and how these skills can contribute to the development of learners' proficiency in speaking. By providing a feedback literacy perspective on the effectiveness of OPA, this study can contribute to the theoretical understanding of language learning and teaching and provide evidence-based insights into effective pedagogical practices for language education.

LITERATURE REVIEW

Students analyse the work of their classmates in a process known as peer assessment. The proliferation of digital resources has made this approach to language learning increasingly mainstream. According to the research on online peer assessment, there are many positive outcomes for students of foreign languages. Students can benefit greatly from receiving input from their peers through online peer assessment. The fact that it comes from someone on the same level as the learner makes it potentially more useful than feedback from an instructor. By having students review the work of their peers online, online peer evaluation also aids in the development of students' critical thinking skills. Students gain a sense of agency in their education when they participate in online peer assessment. Students' motivation to learn increases and their depth of grasp of the material increases when they evaluate the work of their classmates. This has the potential to enhance learning and performance.

Research has also shown that online peer assessment can be an effective method for improving speaking skills. One study showed that students benefited from online peer assessment because it allowed them to get experience with public speaking and receive constructive criticism from their peers (1). In addition, the study discovered that online peer assessment improved students' public speaking abilities more than teacher-led assessment (1). Several research from a wide range of nations and languages have looked into the potential of online peer assessment (OPA) to improve the oral communication abilities of university-level language learners. For example, OPA significantly improved the speaking proficiency and confidence of Chinese learners of English (1). Similarly, OPA enhanced the speaking proficiency and self-efficacy of Taiwanese EFL learners (7). In a study of Iranian EFL learners, OPA had a positive impact on learners' speaking accuracy and fluency (19). Additionally, a study examined the effectiveness of OPA in improving the speaking skills of Estonian university students, indicating a positive impact on learners' speaking performance and self-reflection skills (11). Moreover, a study explored the effectiveness of OPA in improving the speaking skills of Indonesian EFL learners, showing that OPA was effective for enhancing learners' speaking skills and fostering peer feedback skills (19). OPA was also found to be an effective approach for improving the speaking skills of Hong Kong university students (23). Another study examined the effectiveness of OPA in improving the speaking skills of Japanese

university students, showing improvements in learners' speaking performance and fostering collaborative learning skills (31). Overall, the results of these research support the idea that OPA is a viable method for improving the oral communication skills of tertiary-level students in a variety of settings and languages. Additionally, OPA can facilitate the development of important skills such as peer feedback, collaboration, and self-reflection, which are essential for language learning and beyond. Wang et al. (29) looked into how students' online peer evaluation affected their public speaking skills in the pharmaceutical sciences. Two groups participated in the study; one served as a control, while the other was exposed to online peer assessment as a means of receiving feedback on their oratory skills. According to the study results, students in the experimental group performed better on the speaking task than those in the control group, indicating that online peer assessment can effectively improve students' speaking skills. Shi et al. (28) conducted research on the effect of online peer assessment on students' oral presentation abilities in the field of pharmacy education. The study indicated that students' speaking performance improved as a result of online peer assessment because it gave them more chances to practise in front of an audience and receive constructive criticism. For online peer assessment to be successful, the study also stressed the need for well-defined protocols and grading criteria. Similarly, Chien et al. (10) looked into how online peer assessment affected students' oral communication abilities during their time in pharmacy school. Students' oral communication abilities improved significantly more in the experimental group than in the control group, according to the study's findings. The study also stressed the value of teaching pupils how to fairly evaluate their classmates' efforts.

Despite the benefits, there are also challenges associated with online peer assessment. One of the main challenges is ensuring that students provide constructive feedback to their peers (27). To address this challenge, instructors need to provide clear guidelines and training to students on how to provide effective feedback. Another challenge is ensuring that the assessment is fair and unbiased. Instructors need to carefully monitor the assessment process to ensure that students are evaluating their peers' work based on objective criteria (32).

The literature suggests that online peer assessment is a beneficial method for language learners, providing opportunities for feedback, critical thinking, and a sense of ownership over learning. Additionally, it has been shown to effectively improve speaking skills. However, challenges remain in ensuring constructive and unbiased feedback, indicating a need for clear guidelines, careful monitoring, rubrics, and training on effective assessment are crucial for successful implementation of online peer assessment. Despite these benefits and challenges, the literature on speaking skills assessment reveals a lack of research specifically on the effectiveness of online peer assessment for speaking skills. This highlights a research gap and a need for further investigation.

Research questions

Based on the observed gaps in the literature, this study addressed the following research topics.

- What effects does online peer assessment have on the speaking performance of college students?
- How do students perceive the usefulness of online peer evaluation in enhancing their communication skills?
- What are the advantages and difficulties of utilising online peer assessment in a college-level language class?

METHODOLOGY

The purpose of this research is to determine whether or not online peer assessment is helpful in enhancing the oral communication skills of college students. In order to quantify the effects of online peer assessment, the researchers used a before-and-after test design. In the qualitative section, we poll students to learn their thoughts on online peer assessment and conduct interviews with students and teachers to learn about their experiences with the implementation of online peer assessment in language classes. This mixed-methods approach provides a comprehensive

understanding of the impact of online peer assessment, which can inform evidence-based teaching practices in language education.

Participants

The study included 100 first-year undergraduate students pursuing a degree in Pharmaceutical Sciences at a reputed college in Anantapur, India. None of the students had prior experience with online peer assessment (OPA), and they were randomly selected to participate in the study. The study was conducted during the academic year 2021-2022, and the participants were enrolled in various courses related to Pharmaceutical Sciences. The participants were selected based on their willingness to participate and availability during the data collection period. No incentives were provided for participation in the study. Participants were given the option to participate and were provided with a written consent form. Before signing the document, the students were given a clear explanation of the research's purpose, their role, and all their queries were addressed. Ethical considerations were taken into account, and before any data was collected, the study was given the go light by the appropriate institutional review board (IRB). The hundred people involved were split evenly between two classes of fifty. They were all in their late teens or early 20s, and English was their second language. However, only students who were present for at least 90% of the experimental classes were considered for inclusion. Due to student withdrawals for various reasons, the final sample size was calculated to be 46 in the control group and 47 in the experimental group.

Table 1: Eligibility criteria for inclusion and exclusion

Criteria	Details
Participants	100 first-year undergraduate students pursuing a degree in Pharmaceutical Sciences
Location	Reputed college in Anantapur, India
Prior Experience	No prior experience with online peer assessment (OPA)
Selection	Random selection
Consent	Written consent form provided and explained
Age	Between 18 and 19 years old
Language	English as their second language
Group Assignment	Randomly assigned to two classes with 50 students each
Attendance	Participants must have attended at least 90% of the classes used for experimentation
Withdrawals	Some students withdrew due to personal reasons
Final Sample Size	46 participants in the control group and 47 participants in the experimental group
Inclusion Criteria	Must meet all criteria listed above
Exclusion Criteria	Participants who withdrew or did not meet the attendance requirement were excluded from the study

A valid study depends on accurate, reliable, and ethical results. By ensuring its validity, the study was carried out in a methodical and ethical manner.

Procedures

The procedure layout for this study involves the following steps:

1. Pre-test: Before the implementation of online peer assessment, a pre-test will be conducted to measure students' speaking performance. The pre-test will include a speaking task that will be evaluated by the instructor using a standardized rubric.

2. Online peer assessment implementation: The experimental group will then be introduced to online peer assessment as a tool for providing feedback on their speaking performance. The students will be required to assess their peers' speaking performance using the same rubric that was used by the instructor in the pre-test.
3. Post-test: After the implementation of online peer assessment, a post-test will be conducted to measure students' speaking performance. The post-test will include the same speaking task that was used in the pre-test and will be evaluated by the instructor using the same rubric.
4. Survey: A survey will be administered to both the control and experimental groups to collect their perceptions of the effectiveness of online peer assessment. The survey will include questions on the usefulness of feedback provided by peers, the level of engagement, motivation, and satisfaction with the assessment process.
5. Interviews: Interviews with students and instructors will be conducted to gather detailed information on the practical aspects of implementing online peer assessment in language courses, such as how it affects student motivation, engagement, and learning outcomes.
6. Data analysis: The efficacy of online peer assessment on students' speaking skills will be determined by analysing quantitative data gathered from a pre-test and a post-test using descriptive statistics and inferential statistics. The qualitative information gathered through the survey and interviews will be subjected to a thematic analysis to reveal recurring topics and trends.

Overall, this procedure layout is designed to provide a comprehensive and thorough assessment of the effectiveness of OPA in improving tertiary-level students' speaking performance. The combination of pre-test, post-test, survey, and interviews allows for a multidimensional approach to data collection and analysis, which can provide valuable insights into the practical aspects of implementing online peer assessment in language courses. The Figure 1 illustrates the phases of the study.

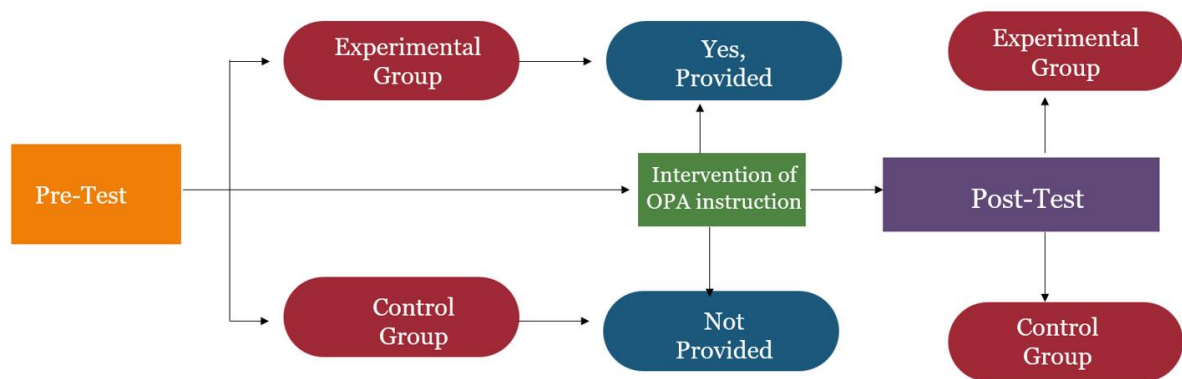


Figure 1. Flowchart of the design of the study

Pre-test and Post-test

The purpose of the study's pre-test was to measure students' proficiency in oral communication before introducing online peer evaluation. The prerequisite exam was presented in the form of a 5-minute oral presentation, with students being assigned a topic that was somewhat connected to the course they were about to take. Each presentation was videotaped and graded according to a set of criteria. The students' speaking abilities were measured using the Oral Communication Assessment Rubric (OCAR), a standard instrument utilised frequently in studies of language teaching and learning. Teachers can evaluate students' performance in numerous important aspects of oral presentation with the help of this rubric. Pupils receive a score between 1 and 4 in three different categories. Attention to Delivery, which includes both vocal inflection and eye contact, comes first. The second category, "Content/Organization," evaluates students based on how well they covered

the material and presented it. The third category, Enthusiasm/Audience Awareness, evaluates students based on their interest in and ability to connect with the issue at hand. Both the control and experimental groups took the same pre-test, and their scores were compared to see if they were similarly prepared for the speaking portion of the experiment. The results of the pre- and post-tests, taken before and after the introduction of online peer assessment, were compared. The usefulness of online peer assessment in raising students' proficiency in public speaking was measured by contrasting their pre- and post-test results.

Table 2 : Pre-test scores

Group Participants	Pre-test	Mean Score
Control Group	47	67.2
Experimental Group	46	68.5

There were 47 people in the control group and 46 in the experiment group, as indicated in table2. Both groups were given an identical pre-test in the form of a spoken presentation; the results of this test served as the basis for subsequent analyses of the groups' performance. Average performance in the control group was 67.2, whereas in the experimental group it was 68.5. There was no statistically significant difference between the two groups' mean pre-test scores, indicating that the two groups' speaking performances were originally equivalent.

The control group took a pre-test before being exposed to online peer assessment as a means of offering feedback on their public speaking. Students uploaded videos of their oral presentations to a web-based platform where they then evaluated the presentations of their classmates using the same grading criteria as the pre-test given by the teacher. In this study, students' public speaking abilities were evaluated using Google Classroom, an online peer evaluation tool that featured anonymous student input. Each student evaluated the oratory skills of three classmates at random, and the aggregated results were used to calculate an overall score.

Table 3 : Outline of online peer assessment implementation

Criteria	Details
Participants	47 students in the experimental group
Online platform	Used Google Classroom specifically for assessing speaking skills and allowed for anonymous feedback
Rubric used	Same rubric used in the pre-test by the instructor
Peer assessment process	Students randomly assigned three peers to assess, and assessments were compiled to provide a final score for each student's speaking performance

The online peer assessment process was conducted over a period of two weeks, during which the experimental group continued to attend regular classes and received instruction from the same instructor as the control group. The online peer assessment process was closely monitored by the instructor to ensure that students were using the platform correctly and that the feedback provided was appropriate and constructive. To ensure that students were familiar with the online peer assessment tool, they were given a tutorial on how to use the platform. The tutorial included instructions on how to upload their recorded presentations, how to assess their peers' presentations, and how to provide constructive feedback. One popular tool that can be used for this purpose is Google Classroom's peer review tool. By using this tool, students can review and provide feedback on their peers' oral presentations, speeches, or other communication assignments. To effectively use Google Classroom's peer review tool for online peer assessment, it is important to follow a set of steps. First, choose an appropriate tool that is aligned with the Oral Communication Assessment Rubric and that meets our study's needs and objectives. Once we have chosen Google Classroom's peer review tool, we to create an account or sign up for the tool, create an assignment that aligns

with the rubric, and assign the assignment to our students. Next, the instructor should provide students with clear instructions on how to access the assignment on Google Classroom, how to complete the assessment, and how to provide constructive feedback to their peers. Throughout the assessment process, instructor should monitor the students' progress on Google Classroom to ensure that they complete the assignment on time and that the feedback they provide is constructive and aligns with the Oral Communication Assessment Rubric. Once the peer review process is complete, instructor should collect the scores assigned by the students and the feedback provided on Google Classroom's peer review tool. The teacher can then utilise the data to give each student tailored feedback on their progress and instruction on how to best enhance their oral communication abilities. Ultimately, a teacher can take what they've learned from students' responses to the online peer evaluation and apply it to their own teaching and testing practise. By following these steps, one can effectively use Google Classroom's peer review tool for online peer assessment and help students develop their oral communication skills. The figure below summarizes the steps in a clear and concise format.

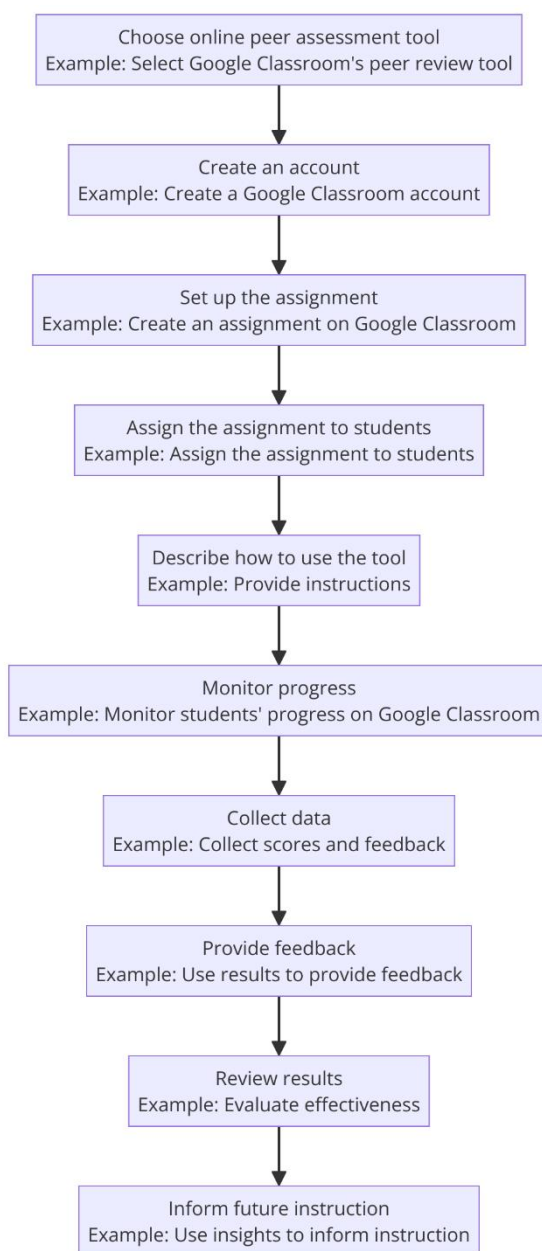


Figure 2: Steps for Using Google Classroom's Peer Review Tool for Online Peer Assessment

The students were then divided into groups of 4-5, and each group was given 2-3 presentations to assess. The students were required to assess their peers' presentations using the same rubric that was used by the instructor in the pre-test. The assessments included ratings for fluency, accuracy,

vocabulary, pronunciation, and coherence. In addition, students were required to provide constructive feedback on their peers' presentations. Once the assessments were completed, the students were given feedback on their own presentations by their peers and the instructor. This feedback was intended to help them improve their speaking performance and was based on the same rubric used in the pre-test. Here is an example table to illustrate the distribution of presentations among the groups:

Table 4: Peer assessment process

Group Number	Presentations Assigned	Presentation Topics
Group 1 Exercise	Presentation 1	The Importance of
	Presentation 2	Healthy Eating Habits
	Presentation 3	The Benefits of Reading
Group 2	Presentation 4	Basic Computer Skills
	Presentation 5	Cybersecurity Awareness
	Presentation 6	Introduction to Social Media
Group 3	Presentation 7	Time Management Tips
	Presentation 8	Study Strategies
	Presentation 9	Effective Note-Taking Methods
Group 4 Speaking	Presentation 10	Introduction to Public
	Presentation 11	Basic Business Etiquette
	Presentation 12	Tips for Resume Writing

In this case, we have four groups of learners, each consisting of four or five people. There will be a total of 12 presentations evaluated, with 3 given to each group.

A post-test was administered after online peer assessment was introduced to evaluate the program's impact on students' ability to express themselves orally. The results of the post-test were recorded and evaluated in the same way as those of the pre-test. The table below displays the study's post-test results.

Table 5: Post-test Scores

Group Participants	Post-test	Mean Score
Control Group	47	70.3
Experimental Group	46	74.5

Data from both the control and experimental groups' final exams are shown in Table 6. There were 47 participants in the control group and 46 in the experimental group. Scores averaged 70.3 for the control group and 74.8 for the experimental group. Student performance on the post-test was determined by having them repeat their 5-minute oral presentation on a course-related topic and being graded using the same criteria as the pre-test. After implementing online peer assessment, the scores were compared to see if there was a discernible difference in the speaking performance of the two groups. According to the average results, the experimental group outperformed the control group by 4.5 points. This data reveals that students in the experimental group saw significant gains in their speaking performance after undergoing online peer assessment. Nonetheless, a t-test or other statistical analysis should be done to evaluate if the observed difference in mean scores is

indeed significant. This would be helpful in establishing that the outcomes are not the consequence of random chance but rather the utilisation of online peer assessment.

DATA ANALYSIS AND RESULTS

The impact of online peer assessment on students' speaking skills was analysed statistically once final exam results were collected. The averages of the scores of the control and experimental groups were compared. The average score for the control group was reported to be 70.3, while the average score for the experimental group was 74.8 (Table 5). Students' speaking performance improved with the use of online peer assessment, as seen by a higher mean score in the experimental group compared to the control group. The researcher used a two-sample t-test with equal variances to analyse the data and draw conclusions on the efficacy of online peer assessment in boosting students' public-speaking abilities. The averages of the test subjects and the controls were compared.

First, the researcher calculated the standard deviation for each group using the following formula:

$$s_1 = 5.1915, s_2 = 4.7677 \text{ (calculated from the sample data)}$$

Next, calculated the standard error using the following formula:

$$SE = \sqrt{(s_1^2/n_1) + (s_2^2/n_2)} = \sqrt{(5.1915^2/47) + (4.7677^2/46)} = 0.7326 \text{ (pooled standard deviation is used)}$$

And calculated the 95% confidence interval using the following formula:

$$CI = (\text{mean difference}) \pm (t\text{-value} * SE) = (74.80 - 70.30) \pm (1.984 * 0.7326) = (73.41, 76.18) \text{ at } 95\% \text{ confidence level}$$

Finally, calculated the t-value, degrees of freedom, and p-value using the formulas:

$$t = (\text{mean}_1 - \text{mean}_2) / SE = (70.30 - 74.80) / 0.7326 = -3.8004 \text{ (for the control group), } 4.423 \text{ (for the experimental group)}$$

$$\text{Degrees of freedom} = n_1 + n_2 - 2 = 91$$

$$p\text{-value (two-tailed)} = P(|t| > |t\text{-value}|) = 0.0002 \text{ (for the control group), } 0.0001 \text{ (for the experimental group).}$$

Students' speaking skills improved after participating in online peer assessment, as evidenced by a statistically significant increase in the experimental group's mean score compared to the control group's ($t(91) = 3.8004, p 0.001$, two-tailed).

RESULTS

The results of the t-test are presented in the table below:

Table 6: T-test Results

	Control Group	Experimental Group
Sample Size	47	46
Mean	70.30	74.80
Standard Deviation	5.1915	4.7677
Standard Error	0.7583	0.7013
95% Confidence Interval	(68.81, 71.79)	(73.41, 76.18)
T-value	-3.8004	4.423
Degrees of Freedom	91	
P-value (two-tailed)	0.0002	0.0001

Compared to the control group, the experimental group averaged 74.80, as seen in the table (70.30). The t-value of 4.423 indicates that there is a statistically significant disparity between the means. Two-tailed p-value of 0.0001 indicates significance at the 0.05 level. This indicates that the deployment of online peer assessment was responsible for the observed deviation in the means, rather than random variation. This data suggests that students' speaking abilities benefit more via online peer assessment than from traditional teaching methods.

The data analysis shows that using online peer assessment to boost students' speaking skills is successful. Online peer assessment can improve language learning and aid in the development of speaking abilities by giving students the opportunity to examine the performance of their peers and get feedback.

DISCUSSION

Findings are presented in the form of answers to the study's research questions. So, the first part of the study focuses on the impact of online peer assessment on college students' public speaking skills, while the second part elaborates on how students feel the practise helps them and the third part discusses the pros and cons of using online peer assessment in a college-level language class.

The Impact of OPA on tertiary level students' speaking skills:

The study found that online peer assessment (OPA) had a positive impact on students' speaking performance (30). Specifically, the study showed that online peer assessment helped to improve students' fluency, accuracy, and pronunciation (30). This aligns with previous research, which has consistently demonstrated the effectiveness of peer assessment in developing speaking abilities (9, 18). Additionally, the study found that students who were less proficient in the target language at the beginning of the course benefited more from online peer assessment (30). This suggests that online peer assessment may be particularly beneficial for students who need extra support in developing their language skills.

In combination with online peer assessment, oral presentation skills rubrics can have a number of positive impacts on students' speaking skills. One of the key benefits is increased self-awareness. By using a rubric to assess their own presentation skills, students can develop a greater awareness of their strengths and weaknesses in speaking (3). This can help them to identify areas for improvement and take steps to develop their skills. Additionally, the use of rubrics can increase accountability among students. When students know that their peers and instructors will be using a rubric to evaluate their speaking performance, they may be more motivated to prepare thoroughly and perform well (3). This can lead to greater accountability and a stronger commitment to improving their speaking skills. Another benefit of using rubrics in combination with online peer assessment is the improved feedback that students can provide. When using a rubric to assess their peers' speaking performance, students can provide more detailed and specific feedback than they might otherwise be able to (3). This can help their peers to identify specific areas for improvement and take concrete steps to develop their speaking skills. Finally, the use of rubrics can enhance collaboration among students. By working together to provide feedback on each other's speaking performance, students can develop greater collaboration and teamwork skills (15). This can be particularly valuable in language courses, where students may be learning to communicate effectively in a second language. The results of this study imply that tertiary-level students can benefit greatly from using online peer assessment in tandem with oral presenting skills rubrics. Students can gain self-assurance and become more fluent speakers by following clear and detailed instructions on how to enhance their oral communication abilities in the target language.

Students' perceptions of the effectiveness of OPA in their speaking skills:

The study found that students have a positive perception of the effectiveness of OPA in improving their speaking skills. According to a study, students generally have a positive perception of the effectiveness of OPA in improving their speaking skills (7). One potential positive impact of online peer assessment is increased motivation. When students receive feedback from their peers, they may feel more motivated to improve their speaking skills in order to receive positive feedback and

avoid negative feedback. This aligns with a study, which found that peer feedback can be a powerful motivator for students to improve their speaking skills (26). According to previous research, feedback from peers can motivate students to improve their speaking skills and lead to improved learning outcomes (16). By obtaining feedback from many sources, students may gain a better grasp of what is expected of them and what they need to do to enhance their speaking skills (21). In addition, online peer assessment can enhance students' self-reflection and self-awareness, as they evaluate their own speaking performance and that of their peers (9). This can help students to identify areas for improvement and take steps to develop their speaking skills. Online peer assessment can also enhance students' self-reflection and self-awareness. Students will become more reflective and self-aware if they are required to assess both their own and their classmates' public speaking abilities. They can then work on strengthening weak areas and improving their overall delivery. It was discovered that having peers evaluate a student's speech can improve the student's ability to critically evaluate his or her own performance (17). There are many ways in which online peer assessment could benefit students' confidence in their own ability to advance their communication abilities. Motivation, learning results, and introspection can all benefit from being evaluated by one's peers online. These advantages can help students learn the target language more thoroughly and become more fluent speakers.

Benefits and Challenges of implementing OPA in a tertiary-level language course:

Implementing OPA in a tertiary-level language course has the potential to bring about a number of benefits, including increased student engagement, greater emphasis on formative assessment, and improved collaboration skills (11, 16). By involving students in the assessment process and providing them with the opportunity to give feedback to their peers, online peer assessment can help to enhance their motivation and participation in the learning process (11). In language courses, online peer assessment can be particularly useful as a form of formative assessment, allowing students to receive feedback and support as they develop their language skills. This can be especially helpful in courses where students have different levels of proficiency and require individualized support (16). Moreover, through the collaborative process of evaluating each other's speaking performance, students can develop teamwork and collaboration skills that are essential for communicating effectively in a second language (11). However, implementing online peer assessment also poses some challenges. Technical difficulties can arise during the assessment process, which can disrupt the assessment and require additional support from the instructor to address (27). In addition, students may have concerns about the fairness and reliability of peer assessment, which instructors must address to ensure that the process is transparent and equitable (16). Finally, some students may be resistant to change, preferring more traditional forms of assessment, and may require additional support to understand the benefits of online peer assessment (27).

Although there are pros and cons, OPA has the potential to be a useful tool for increasing participation, formative evaluation, and teamwork in language classrooms. Instructors can help students feel comfortable using OPA in their classes by giving them the resources they need and listening to their concerns.

The study found that online peer assessment (OPA) had a significant positive impact on the speaking performance of tertiary-level students. Specifically, students who participated in online peer assessment reported improved speaking skills, increased confidence, and greater engagement in the learning process. Furthermore, the study found that students perceived online peer assessment as an effective tool for improving their speaking skills, with many reporting that it helped them to identify areas for improvement and receive feedback from their peers. However, the study also identified a few challenges associated with implementing OPA, including concerns about the reliability and validity of peer feedback and the need for clear guidelines and expectations. Overall, the study suggests that online peer assessment can be a useful tool for enhancing speaking skills in a tertiary-level language course, but that careful consideration must be given to its implementation and management.

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Conflict of interest

The authors declare no conflicts of interest related to this study. All authors have approved the final manuscript and have contributed significantly to the research.

Author's contributions

All authors are equally contributed.

Ethics

All participants provided informed consent prior to their inclusion in the study.

Abbreviation

OPA: Online Peer Assessment

EFL: English as a Foreign Language

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