

## STUDENTS' PEER FEEDBACK ENGAGEMENTS IN ONLINE ENGLISH COURSES FACILITATED BY A SOCIAL NETWORK IN THAILAND

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### Abstract

In recent years, despite the extensive research on peer feedback, there remains limited understanding of how students engage in peer feedback activities within online English courses and what they expect from these activities. This study, utilizing a sequential explanatory mixed methods design with a phenomenological approach, introduced online peer feedback (OPF) activities into a 12-week online English writing course involving 30 second-year students (16.7% male, 83.3% female) facilitated through a Facebook group. Data collection encompassed survey questionnaires, written reflections, and task scores. Quantitative data were analyzed using descriptive statistics and bivariate correlations, while qualitative data underwent thematic analysis. Three key findings emerged: 1) EFL students displayed positive engagement in OPF activities, 2) Student engagement did not significantly correlate with their writing outcomes, and 3) Students provided valuable recommendations for enhancing the quality and quantity of feedback, incorporating teacher feedback and guidance, and improving the overall process and experience. These findings have significant implications for pedagogical practice, emphasizing the importance of integrating OPF activities into the academic curriculum, with a specific emphasis on guiding students to deliver descriptive and constructive feedback, providing scaffolding to enhance their comprehension and writing skills, and addressing concerns related to language proficiency and grammar. Furthermore, the novelty of this research lies in its exploration of factors influencing student involvement and achievements in OPF endeavors, the impact of feedback quality and quantity, and the benefits of online accessibility and temporal flexibility, contributing to a more comprehensive understanding of this pedagogical approach.

**Keywords** – Online learning, Peer feedback, Writing, Learning outcomes, Facebook.

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## 1. Introduction

The proliferation of information and communication technologies, coupled with the widespread adoption of online learning in higher education institutions worldwide (López-Belmonte, Segura-Robles, Moreno-Guerrero & Parra-González, 2021) amidst the COVID-19 pandemic, has led to the growing popularity of online peer feedback (OPF). Due to its capacity to promote improved learning outcomes and critical thinking skills, this form of feedback is gradually taking the place of traditional face-to-face encounters (Law & Baer, 2020). Research from the past and the present has emphasized the benefits connected to participating in OPF activities. These benefits encompass the development of various cognitive processes (Van Popta, Kral, Camp, Martens & Simons, 2017), superior domain-specific knowledge acquisition compared to traditional approaches (Latifi, Noroozi, Hatami & Biemans, 2021; Nelson & Schunn, 2009), and the facilitation of meaningful social interactions among students (Lin & Yang, 2011). However, while these advantages are well documented, previous studies have also raised concerns regarding students' lack of confidence in peer commenting. Some students may be reluctant to express and clarify their ideas, resulting in a one-way communication process and leaving a significant proportion of peer comments unaddressed (Guardado & Shi, 2007; Waluyo, 2020). Moreover, the utilization of online technologies poses functional and psychological challenges for students (Lin & Yang, 2011; López-Belmonte, Pozo-Sánchez, Carmona-Serrano & Moreno-Guerrero, 2022; Moreno-Guerrero, Soler-Costa, Marín-Marín & López-Belmonte, 2021). Therefore, it is crucial for educators to understand the factors that affect the effectiveness of online peer feedback and develop strategies to increase its use in the context of higher education.

Student engagement is a prominent factor in the domain of OPF activities because it has the potential to exert a substantial influence on both the learning outcomes and experiences of students in their writing activities (Saeed, Ghazali, Sahuri & Abdulrab, 2018; Tian & Zhou, 2020). A recent meta-analysis conducted by Jongsma, Scholten, van Muijlwijk-Koezen and Meeter (2023) emphasizes the natural adaptability of online peer feedback, which allows students to engage at their own pace, unrestricted by classroom time constraints. This autonomy also allows students to access additional resources prior to providing feedback, resulting in more critical and detailed comments that contribute to improved learning outcomes. A separate review study conducted by Hsu and Wang (2022) provided further confirmation that asynchronous computer-mediated communication effectively facilitates peer feedback, leading to enhanced quality of peer comments. Moreover, Zhang, He, Du, Liu and Huang (2022) pointed out that, from a social-affective perspective, students experience positive emotions when observing their peers' humble attitudes and mutual respect, which helps them avoid negative emotions such as embarrassment, wrath, or upset. However, if the peer feedback activities are mediated by social network platforms, the constant internet connectivity may increase emotional burden and decreases peer trust. In OPF activities, students may share project photos, access course announcements, enhance material projects, and interact with peers online (Demirbilek, 2015).

The urgency of this research stems from the notable gap in the existing body of knowledge, particularly within the specific domain of EFL university students enrolled in Thai higher education institutions. To address this conspicuous research problem, the present study adopts a rigorous research design, guided by a phenomenological approach, and builds upon preliminary studies by integrating online peer feedback (OPF) activities into a 12-week English writing course encompassing three distinct writing assignments. The central purpose of this study is to thoroughly investigate the extent of students' engagement with the reception and provision of peer feedback and, crucially, to discern the impact of this engagement on their learning outcomes in the domain of writing. Furthermore, the research endeavors to elicit comprehensive and insightful recommendations from students, derived from their direct learning experiences, for the enhancement of future online peer feedback activities.

## 2. Literature Review

### 2.1. Students' Engagements in Online Peer Feedback (OPF) Activities

Engaging in online peer feedback activities is advantageous for students. Among the benefits as a feedback provider, Van Popta et al.'s review study (2017) pointed out the development of higher-level learning skills such as critical insight, reflection, improved writing, heightened meaning-making, knowledge construction, and evaluative judgement. Saeed et al. (2018), who engaged EFL students from different Arab countries in a writing course mediated by a Facebook group, discovered that EFL students who actively engaged in feedback exchanges revised their work more effectively and fostered group cohesion. Nevertheless, these findings diverge from the observations of Guardado and Shi (2007) as well as Zhao, Sullivan and Mellenius (2014), who noted that EFL Japanese and Swedish students exhibited a lack of confidence and reluctance to express opinions. Consequently, communication became unidirectional, with numerous unaddressed peer comments and a low level of social presence, impeding collaborative work due to limited student participation in peer feedback activities. Conversely, Pham, Lin, Trinh and Bui (2020) discovered that students entrenched within a Confucian cultural context, typically characterized by shyness and reluctance to offer criticism to peers, could surmount cultural barriers and actively engage in peer feedback. Al-Abri, Al-Baimani and Bahlani (2021) discovered similar results: EFL learners in Oman view anonymous feedback positively, which fosters confidence and reduces social anxiety. Peer feedback tasks also help students comprehend evaluation criteria and develop critical evaluation skills. Individual differences may impact students' performance and their willingness to embrace peer feedback.

Nonetheless, Cao, Yu and Huang (2019) qualitative investigation among EFL students in China uncovered that some students recognize the advantages of receiving peer feedback but doubt their ability to learn from providing feedback out of fear of potential embarrassment among their peers. As demonstrated by Kerman, Noroozi, Banihashem, Karami and Biemans (2022), to improve writing quality, students must receive descriptive and constructive feedback as opposed to affective and descriptive feedback. Recent research advises against restricting students to the function of feedback receivers. In their examination of passive, active, and constructive engagement with peer feedback, Wu and Schunn (2023) consistently found that constructive activities, such as offering explanations and implementing suggested revisions, promoted learning, whereas passive engagement (e.g., receiving feedback without making revisions) and active engagement (e.g., simply implementing specific suggestions) did not yield the same benefits. Correspondingly, Su and Huang (2022), who investigated the affective experiences of EFL Chinese students during peer feedback sessions in academic writing, also observed a general preference for the role of feedback provider. These students reported substantially greater levels of both private and peer enjoyment in this role and a heightened sense of satisfaction when providing comments.

Engaging students as both providers and recipients of feedback is often considered ideal, yet it does not always link to better performances. In the context of Dutch university students, Huisman, Saab, Van Driel and Van Den Broek (2018) reported that both providing and receiving feedback led to comparable improvements in writing performance. The presence of explanatory comments was positively correlated with students' perceptions of the adequacy of peer feedback and their propensity to make improvements in their writing. Yet, there was no correlation between these perceptions and improved writing performance. In a study involving EFL students in Saudi Arabia, Daweli (2018) identified hierarchical power dynamics in the online classroom, indicating that students' prior beliefs and experiences can influence their responses to the given feedback, ultimately affecting the quality of their final writing. The way students perceive the advantages and disadvantages of online peer feedback significantly influences their development of writing skills in OPF activities (Zhang et al., 2022).

### 2.2. Students' Engagements in Online Peer Feedback (OPF) and Learning Outcomes

Jongsma et al. (2023) conducted a comparative analysis of online and offline peer feedback in ten empirical studies, and discovered that online peer feedback is more effective, especially in the aspect of writing skill developments. The positive effects of student participation in online peer feedback (OPF) activities on writing development have also been observed among EFL university students in Indonesia

(Wahyudin, 2018) and the Netherlands (Noroozi, Banihashem, Biemans, Smits, Vervoort & Verbaan, 2023). To ensure positive outcomes in OPF, Yang (2016) suggests providing students with a foundational comprehension of main ideas via scaffolding, facilitating knowledge exchange through both giving and receiving feedback, and resolving writing issues through revisions guided by peer feedback. Moreover, Jin, Jiang, Xiong, Feng and Zhao (2022) examined the impact of student participation in OPF at a Chinese university and discovered that cognitive engagement, affective engagement, and behavioural engagement substantially linked with students' writing performance. The analysis also showed that suggestions, integration, and positive affective involvement were the next biggest predictors of writing performance, with usefulness of offered comments emerging as the strongest among them.

Bailey and Cassidy's (2019) and Cassidy and Bailey's (2018) research among EFL students in Korea provides insights into how OPF activities may result in beneficial outcomes. Their research revealed that students who participated in OPF for a semester exhibited improved learning strategies, heightened awareness of language use, and a reduction in second language writing apprehension, which ultimately led to improved writing assignments. Particularly, students demonstrated proficiency in addressing various aspects of grammar, content, and organization in the writing of their classmates, and they took pride in assisting one another with their writing development. Furthermore, their participation in the feedback-providing phase of peer review resulted in a larger number of higher-level improvements than the feedback they received. In an Indonesian university study, Mulyati and Hadianto (2023) argued that written peer feedback aided students organize their ideas, permitted a comprehensive review of feedback quality, and fostered a deeper comprehension of topics, thereby enhancing students' domain knowledge. Interestingly, the negative effects of OPF on learning outcomes are insufficiently supported by research, and additional investigation is required, especially in the context of Thai higher education.

### **2.3. Students' Expectations of Peer Feedback Activities**

The attitudes of EFL students towards online peer feedback (OPF) activities tend to be positive following an extended period of engagement (Ting, 2023). However, there is a dearth of research investigating students' expectations and recommendations for optimizing the learning experience in terms of feedback instructions. OPF activities are perceived as convenient due to their time independence, allowing students to access resources and allocate ample time for thoughtful formulation of comments before providing feedback to peers (Jongsma et al., 2023). The availability of internet connectivity empowers students to offer constructive feedback from diverse sources, thereby fostering expanded thinking in relation to their peers' written works (Noroozi, 2022; Pratiwi & Waluyo, 2022). Nevertheless, the asynchronous nature of online peer feedback presents a potential challenge, as it hampers the establishment of dynamic interactions encompassing receptive and productive mastery experiences, computer-mediated exchanges, social comparisons, and achievement goal orientations that occur during OPF activities (Lee & Evans, 2019). Engaging in interactive dialogues among students, however, holds significant potential for enhancing the learning process (Wood, 2022). Especially, some students express a preference for feedback provided by teachers, indicative of limited trust in peer feedback and self-assessment (Ciftci & Kocoglu, 2012). These sentiments shed light on the intricate dynamics that influence the acceptance and perceived credibility of peer feedback in online contexts. Consequently, further investigation is warranted to gain a comprehensive understanding of the factors shaping students' attitudes towards peer feedback, and to devise strategies that can augment its effectiveness and acceptance.

### **2.4. The Study**

Research on students' engagements in online peer feedback (OPF) activities within Thai higher education contexts is limited. Among the studies are Ekahitanond (2013), who employed OPF through an online discussion forum, revealing improved post-test scores and positive attitudes towards learning, and Wichadee (2013), who used Facebook for OPF, showing benefits in content-oriented feedback and the quality of revised drafts. Further comprehensive investigations are needed to enhance OPF practices in English writing courses. This study aims to implement OPF activities and address these research questions:

1. How do students perceive their engagement in peer feedback in online English learning in higher education in terms of reading and giving feedback?
2. How does their perceived engagement influence their writing outcomes?
3. What are their recommendations for improving peer feedback activities in online English courses based on their learning experiences?

### **3. Methodology**

This study employed a sequential explanatory mixed methods design to collect and integrate quantitative and qualitative data (Creswell & Plano-Clark, 2007). Quantitative data included students' writing task scores and surveys, while qualitative data consisted of students' reflections and recommendations on online peer feedback (OPF) activities. A phenomenological approach was used to explore students' lived experiences and the significance of OPF activities (Saevi, 2014). The research process involved identifying the phenomenon, recruiting participants, collecting, and analyzing data, and presenting comprehensive findings. Valuable insights were gained into students' engagement in OPF activities in an online English writing course during one academic term.

#### **3.1. Context and Participant**

Conducted at a mid-sized university in southern Thailand, this investigation involved a sample of 30 second-year students (16.7% male, 83.3% female) pursuing a degree in medical technology. The participants, with an average age of 20.40 (SD = 77), were selected using a non-random convenient sampling technique based on accessibility (Sedgwick, 2013). Before starting their English course, all students took a standardized university English proficiency examination aligned with the Common European Framework of Reference (CEFR). Most students were classified as basic English users at the A2 level, having had over nine years of English language learning experience from primary to tertiary education.

The institution's English lecturers teaching general and academic English courses are certified by the UK Professional Standards Framework (UKPSF) and have published research articles in Scopus-indexed journals. During the study, participants engaged in fully synchronous online classes using the Zoom application for a duration of 12 weeks.

#### **3.2. Ethical Considerations**

Prior to conducting the research, the researchers underwent research ethics training via the CITI program in the United States and higher education institutions in Thailand. The research was conducted in accordance with the established standards of social science research and was duly acknowledged by the research committee of the authors. Voluntary participation was ensured in the research, and confidentiality of personal information was maintained.

#### **3.3. Course Design and Research Procedure**

The primary objective of this course was to elevate students' proficiency in professional English writing, with a specific emphasis on honing their skills in survey research. Over the course duration, students undertook a series of three key tasks. Firstly, they were tasked with composing surveys. Subsequently, they moved on to crafting survey reports, and finally, they culminated their efforts by producing comprehensive survey reports. To enrich the learning experience, peer feedback sessions were seamlessly integrated into each of these tasks, expertly guided by the instructor who introduced two distinct peer feedback instruments.

The initial feedback form, denoted as Figure 1, explored surveys on multiple dimensions. Firstly, it assessed the surveys in terms of their purpose. It then delved into the lucidity of questions and responses, grammatical accuracy, question formulation, and structural coherence. The second feedback instrument, presented as Figure 2, critically evaluated survey reports, focusing on aspects such as the survey's overarching purpose, the intended target population, the methodology adopted, the presentation of

results and discussions, the formulation of conclusions, and grammatical precision. Furthermore, students were actively encouraged to assign scores to these peer review forms in line with their evaluations, and they were also prompted to offer constructive comments.

To ensure that students were proficient in using these peer feedback forms, a comprehensive orientation session was meticulously conducted. During this session, students were equipped with the requisite skills and knowledge to effectively employ the peer feedback forms for conducting peer reviews. Detailed visual representations of these feedback forms (Figures 1 and 2) were presented during this orientation session, aiding students in navigating the intricacies of the review process. Then, to facilitate a seamless feedback exchange, a dedicated Facebook group was established by the instructor at the commencement of the course. Within this virtual platform, students were assigned specific peer assignments for evaluation. Subsequently, students conscientiously employed the provided peer review forms to assess their assigned peers' work. Once this evaluation process was completed, students shared their reviewed forms by posting them as responses to their respective peers' assignment submissions. It is worth noting that these peer review activities were conducted outside of the regular class hours, a practice that was replicated for three distinct assignments.

Importantly, this approach provided students with an invaluable opportunity to access the feedback provided by their peers. This aligns with established educational research (Demirbilek, 2015; Saeed et al., 2018; Wichadee, 2013), highlighting the pedagogical value of collaborative peer assessment in enhancing the learning process. Figure 3 below is an illustrative example of a Facebook post that showcases the peer review activities in action.

| <b>Assessment Rubric for Surveys (Peer Review)</b>                    |   |  |   |                       |
|---|---|--|---|-----------------------|
| <b>Criteria</b>   | <b>2</b>  | <b>1</b>   | <b>0</b>  | <b>Student scores</b> |
| <b>Purpose of survey</b>  | Purpose is stated clearly and addresses a particular outcome or goal of assessment plan.                      | Purpose is stated vaguely and seems irrelevant to address a particular outcome or goal.                        | Purpose is not stated.  |                       |
| <b>Clarity of questions and response choices</b>                      | All the questions are very clear, and a respondent would not have to ask for clarification.                   | Half of the questions are clear and for the other questions, a respondent might have to ask for clarification. | All the questions are not clear, and a respondent would not understand.                       |                       |
| <b>Grammar</b>  | Spelling, grammar, and punctuation are correct and accurate in all questions.                                 | Spelling, grammar, and punctuation are clear with a few errors.  | Mistakes in spelling, grammar and punctuation are noticeable in all questions.                |                       |
| <b>Question types</b>   | Survey contains at least four types of survey questions.  | Survey contains two or three types of survey questions.  | Survey contains one type of survey questions.   |                       |
| <b>Construction</b>   | Survey questions are methodologically sound, aligned with survey objective, and are structured appropriately. | Survey questions are methodologically sound but are not aligned with survey objective.                         | Survey questions are not aligned with survey objective and have issues with their structures. |                       |
| <b>Your comment suggestion correction about your friend's survey:</b> |   |  |   | <b>Total Score:</b>   |

Figure 1. The peer review form for surveys

| Assessment Rubric for Survey Reports (Peer Review)                          |   |   |  |                  |
|---|---|---|--|------------------|
| Criteria  | 2   | 1   | 0  | Student's scores |
| <b>Goal of survey</b>   | The goal and motivation for conducting the survey is clearly and accurately stated and, contains all pertinent information.   | The goal and/or motivation for the survey is unclear or inaccurate and is missing pertinent information.  | The goal and/or motivation is missing from the report.   |                  |
| <b>Target Population</b>  | The target population is clearly and accurately identified.   | The target population is identified, but not well-explained.  | The target population is not identified.   |                  |
| <b>Methodology</b>  | The data collected and method of collecting data are clearly stated and accurate. Visual representations of the data are noted and, analysis of the appropriateness of the method of presentation is clear and supported. | The data collected and method of collecting data are stated but unclear and/or inaccurate. Visual representations of the data are not noted, and analysis is missing. | The data collected and method of collecting data are missing from the report. Analysis is missing. |                  |
| <b>Result and discussion</b>  | Results are summarized and interpreted well with a few notes on most important and surprising findings.   | Gives statistics with minimal interpretations/ discussions.   | Lists statistics with no interpretations or discussions.   |                  |
| <b>Conclusion</b>   | The conclusion is clearly stated and summarizes the results.  | The conclusion is not clearly stated and does not summarize the whole picture of the results.   | The conclusion is missing from the report.   |                  |
| <b>Grammar</b>  | Spelling, grammar, and punctuation are correct and accurate in all sentences.   | Spelling, grammar, and punctuation are clear with a few errors.   | Mistakes in spelling, grammar and punctuation are noticeable almost in all sentences.              |                  |
| <b>Total Score</b>  |   |   |  | <b>12</b>        |
| <b>Your comment/ suggestion/ correction on your friend's survey report:</b> |   |   |  |                  |

Figure 2. The peer review form for short and long survey reports

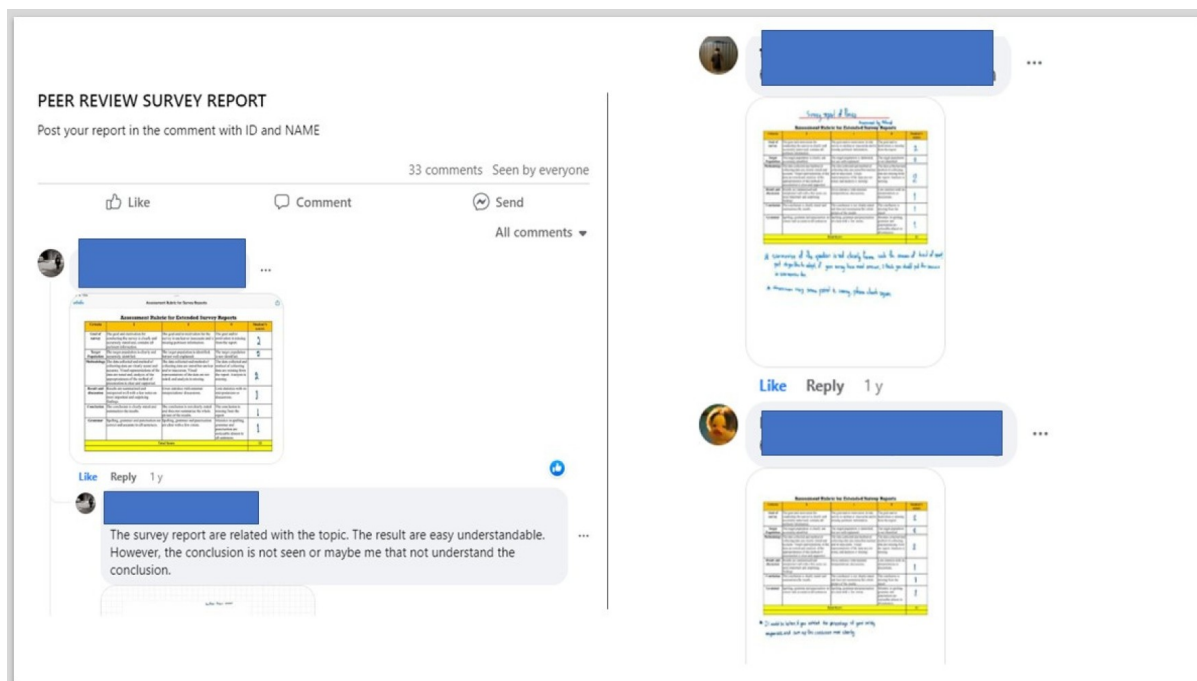


Figure 3. The FB post for the online peer review activities

### 3.4. Instrument and Measure

To comprehensively assess the dynamics of students' peer feedback engagements in the context of online English courses, a multi-faceted approach was undertaken. Three primary instruments and measures were employed: the survey questionnaire, written reflections, and task scores.

#### 3.4.1. Survey Questionnaire

The survey instrument examined students' perceptions regarding the efficacy of engaging in peer feedback activities, drawing upon existing research on the topic of peer review feedback (Latifi et al., 2021), as explained below.

### 3.5. Reading Peer Feedback

This scale was intended to measure students' perceptions of the usefulness of reading peer feedback (5 items), such as "I found my classmates' written comments useful." and "My classmates' written comments helped me enrich the content of my surveys and survey reports." The responses range from 1 to 5, where "1" means "strongly disagree" and "5" means "strongly agree". The Cronbach's alpha was .948, indicating very high internal consistency.

### 3.6. Giving Peer Feedback

This scale was created to collect data on students' experiences with and perceptions of giving peer feedback (7 items), for example "I like giving feedback to my friends' surveys and survey reports." and "When I give feedback to my friends' surveys and survey reports, I try my best to help them improve their writings." Similar to the first scale, the responses range from 1 to 5, where "1" = "strongly disagree" and "5" = "strongly agree". The Cronbach's alpha was .60, considered acceptable due to the small sample size.

In conjunction with the scales, the study also gathered data on students' self-perceived English proficiency, writing skills, and the perceived quality of feedback received from their peers.

#### 3.6.1. Written Reflections

Upon completion of the course, students were requested to provide a brief written reflection, consisting of 50-100 words in either Thai or English, regarding their learning experiences during the term, particularly focusing on the online peer feedback (OPF) activities. Furthermore, they were tasked with offering suggestions and recommendations for enhancing future OPF activities. During the data analysis phase, the researchers translated all Thai responses into English. These introspective responses constituted the qualitative data utilized in this study, with each student assigned a unique code (e.g., S1, S2, S3) for identification purposes.

#### 3.6.2. Task Scores

The study collected students' scores on the three pivotal assignments, namely, the creation of a survey questionnaire, the composition of a concise survey report, and the development of an extensive survey report. These scores, provided by teachers, served as indicators of learning outcomes. Each assignment was assessed using dedicated evaluation rubrics, which were also employed by students during the peer review activities (see Figures 1 and 2).

### 3.7. Data Analysis

In this research endeavor, a comprehensive analysis of the collected data was executed, utilizing a multifaceted approach that seamlessly merged quantitative and qualitative methodologies. The quantitative facet of the analysis commenced with the application of descriptive statistics, a fundamental tool for summarizing and presenting numerical data. This approach allowed for a succinct depiction of key data points, enabling the initial identification of trends, central tendencies, and variations within the dataset. Additionally, bivariate correlations were employed to discern intricate relationships and associations among various variables, affording a more nuanced exploration of the quantitative data. This statistical scrutiny served as a pivotal step in unraveling the interplay between students' engagement in peer feedback activities and their academic outcomes.

Simultaneously, a rigorous thematic analysis was undertaken to delve into the qualitative dimensions of the study. This qualitative analysis adhered to a deductive approach, drawing upon the wealth of prior research findings and insights meticulously detailed in the study's literature review section. The primary objective was to unearth the intricate layers of students' engagement in peer feedback activities within the dynamic context of online learning environments. The systematic development and application of themes and



codes to the qualitative data played a pivotal role in illuminating the depth and complexity of the participants' experiences and perspectives.

The thematic analysis process rigorously adhered to the well-established framework proposed by Braun and Clarke (2006), a recognized and robust methodology for qualitative analysis. This systematic process encompassed several interrelated phases, each executed with meticulous precision to ensure the reliability and validity of the findings. These phases included data familiarization, during which researchers immersed themselves in the dataset to gain a profound understanding of its content. Following this, initial codes were generated to identify and label key elements within the data. The subsequent phases involved searching for overarching themes, reviewing, and refining these themes iteratively, and finally, defining and naming the emergent themes to encapsulate their essence accurately. This process culminated in the comprehensive reporting of the thematic analysis outcomes, offering profound insights into the multifaceted nature of students' engagement in peer feedback activities.

For a detailed visual representation of the sequential phases employed in the thematic analysis, please refer to Figure 4 in this study, which serves as a valuable guide to the analytical process employed to extract the rich narrative within the data.

| Phase                         | Description of the process  |
|-------------------------------|---|
| 1. Getting to know the data   | Transcribing data, reading and re-reading the data, and writing down initial thoughts   |
| 2. Generating initial codes   | Coding important data characteristics in a systematic manner across the whole data collection, and compiling data pertinent to each code  |
| 3. Searching for themes       | Organizing codes into possible topics and collecting all essential data for each prospective theme  |
| 4. Reviewing themes           | Creating a thematic 'map' of the analysis by checking if the themes function in connection to the coded extracts (Level 1) and the whole data set (Level 2)   |
| 5. Defining and naming themes | Continuous analysis to fine-tune the specifics of each topic as well as the overall story the analysis conveys, resulting in unambiguous definitions and titles for each  |
| 6. Producing the report       | The last chance for analysis. Selection of vivid, engaging extract examples, final analysis of selected extracts, connecting the analysis back to the research topic and literature, and writing a scholarly report on the analysis |

Figure 4. The thematic analysis procedures

## 4. Results

### 4.1. Quantitative Findings

#### 4.1.1. Descriptive Statistics

Table 1 presents that, on average, the respondents found their friends' feedback on surveys and survey reports to be useful ( $M = 4.2$ ,  $SD = .68$ ), indicating a high level of perceived value. They rated their English proficiency as above average ( $M = 3.6$ ,  $SD = .89$ ) and their writing skills as slightly above average ( $M = 3.4$ ,  $SD = .77$ ). Additionally, the respondents reported a high level of engagement in reading their friends' comments on their writing ( $M = 4.1$ ,  $SD = .60$ ) and providing comments on their friends' writing ( $M = 4.1$ ,  $SD = .32$ ).

| Items   | M   | SD  |
|---|-----|-----|
| Generally, was your friends' feedback on your surveys and survey reports useful for your revisions? 1 = not; 5 = very useful. | 4.2 | .68 |
| As an English learner, how would you rate your English? 1 = very poor; 5 = excellent.   | 3.6 | .89 |
| As an English learner, how would you rate your writing skills? 1 = very poor; 5 = excellent.                                  | 3.4 | .77 |
| About reading their friends' comments on their writing. 1 = lowest; 5 = highest.  | 4.1 | .60 |
| About giving comments on their friends' writing. 1 = lowest; 5 = highest.   | 4.1 | .32 |

Table 1. Descriptive statistics

#### 4.1.2. Bivariate Correlations

Table 2 demonstrates that there was a positive and moderately significant correlation between engagement in giving peer feedback and engagement in reading peer feedback ( $r = .36, p = .04$ ). However, there were no significant correlations observed between engagement in giving or reading peer feedback and performance on the specific writing tasks.

|   |   | Giving peer feedback | Task 1 | Task 2 | Task 3 |
|---|---|----------------------|--------|--------|--------|
| Students' engagement in reading peer feedback | r | .36*                 | .09    | -.04   | .23    |
|   | p | .04                  | .62    | .85    | .22    |
| Students' engagement in giving peer feedback  | r |                      | .16    | -.31   | .35    |
|   | p |                      | .41    | .09    | .06    |
| Task 1: Survey                                | r |                      |        | .08    | .19    |
|   | p |                      |        | .69    | .33    |
| Task 2: Survey Report                         | r |                      |        |        | -.01   |
|   | p |                      |        |        | .96    |

\*Correlation is significant at the 0.05 level (2-tailed).

Table 2. Correlation results

## 4.2. Qualitative Findings

### 4.2.1. Students' Experiences of Being Engaged in Online Peer Feedback Activities

The thematic analysis revealed three main themes: the benefits of peer feedback and improvement, concerns about language skills and grammar, and the collaborative nature of learning and knowledge exchange.

#### Theme 1: Benefits of Peer Feedback and Improvement

This theme captures (22 references) the positive aspects of peer feedback activities and the perceived benefits they bring to students. Participants mentioned that peer feedback helps in improving their English skills, particularly in writing (S7). They appreciate the intention behind the activity (S9) and acknowledge that it assists them in enhancing their work (S10). Students mentioned how peer feedback helps them identify mistakes and improve their explanations, grammar, and writing skills (S11, S12, S14). Peer review activities were seen as opportunities to practice report writing, gain knowledge, and improve efficiency (S13). The activity was viewed as valuable for identifying areas of improvement and developing survey reports (S18, S19, S20, S21, S22, S24, S25, S26, S27, S29, S30). Sample excerpts:

*It helps me improve my work, although sometimes I'm unsure if I'm assisting my friend in the right way. (S10)*

*This activity allows me to practice report writing skills, gain knowledge, and test my understanding of data collection. Receiving feedback from others helps me identify my own mistakes and makes my work more efficient. (S13)*

#### Theme 2: Confidence in Language Skills and Grammar Concerns

This theme focuses (9 references) on students' concerns about their language skills, particularly grammar, and the impact it has on their confidence in providing feedback. Participants mentioned struggling with

grammar and uncertainty about correctness (S3). Some students expressed doubts about the usefulness of feedback from peers with lower English skills (S16). The peer review activity was seen as an opportunity to receive feedback on grammar, vocabulary, and content, leading to personal improvement (S25). Students highlighted the importance of adhering to grammar and vocabulary usage principles (S26).

*It's valuable to know how my friends perceive my surveys. However, if the friend providing feedback has lower English skills than me, I question the usefulness of those comments. (S16)*

*It's extremely beneficial because when I review my friends' work, I also receive feedback on my grammar, vocabulary, and content. It prompts me to revisit and improve my own work, making it easier to remember the content accurately. (S25)*

### **Theme 3: Collaborative Learning and Knowledge Exchange**

This theme (10 references) highlights the collaborative nature of peer review activities and the opportunity for knowledge exchange among students. Participants emphasized the exchange of opinions, suggestions, and the collaborative aspect of teaching and supporting each other (S14, S22). Peer feedback activities were seen as brainstorming environments that fostered collaboration and the sharing of ideas (S18, S21, S27, S28). Students mentioned that feedback from peers helped them understand what needs to be done with their work and what additions they should make (S23). The activity was also perceived as a way to learn from classmates and improve their own surveys (S24). Students recognized the value of peer review in assessing the quality of their work and making the classroom experience more engaging (S28). A sample excerpt:

*The peer review activity is an excellent opportunity to practice using English more effectively. We learn to express criticism politely in our evaluations and make the classroom experience more engaging. (S28)*

#### **4.2.2. Students' Suggestions for Improving Online Peer Feedback Activities**

The thematic analysis disclosed three main themes, including enhancement of feedback quality and quantity, inclusion of teacher feedback and guidance, and improving the process and experience.

##### **Theme 1: Enhancement of Feedback Quality and Quantity**

Students recommended incorporating grammar checks and providing specific reasons for their feedback (S3, S25). They expressed a desire for more comments from classmates, direct communication about issues, and active contribution to each other's improvement (S11, S12, S22). Students also suggested providing more time for review, encouraging friends to provide additional information or suggestions, and seeking feedback on the overall work (S7, S20, S29, S30). The importance of improving grammar, vocabulary, sentence composition, and word choice was highlighted (S19, S22, S26). Sample excerpts:

*I would like my classmates to provide more comments on my work. (S11)*

*It would be beneficial to include a greater variety of questions, including open-ended ones that allow us to provide our own answers. Additionally, providing more time to respond, using a limit of 50 words, would be helpful. (S29)*

##### **Theme 2: Inclusion of Teacher Feedback and Guidance**

Students suggested that teachers provide comments and feedback in addition to peer feedback (S10, S16, S24). Students believed that teacher input would be valuable in guiding their future work and addressing areas where peers may not provide detailed feedback. Sample excerpts:

*Although everything about this peer review is good, I would appreciate comments from the teacher as well. They would help me in my future work. (S10)*

*I would appreciate feedback from the teacher because some of my friends didn't provide detailed feedback on areas I need to improve. (S24)*

### Theme 3: Improving the Process and Experience

Students expressed a preference for anonymous reviews (S15) and suggested avoiding long or difficult-to-understand questions in surveys to ensure greater participation (S17). They emphasized the importance of honest peer reviews, face-to-face interaction, and personal chats to address concerns about providing low grades and to make the activity more engaging (S14, S18, S27). Students also mentioned the effectiveness of the current learning style and expressed satisfaction with the level of engagement it provides (S21). A sample excerpt:

*It would be great if we could engage in this activity in person as it involves conversation and information exchange. Face-to-face interaction would make me and my friends more active and enjoy the conversation. (S14)*

## 5. Discussion

This study investigated EFL students at a university in Thailand's engagement with peer feedback activities during fully synchronous online English learning for 12 weeks. The examination of the collected quantitative and qualitative data led to the following points of discussion:

### 1<sup>st</sup> Findings: EFL Students' Engagements in Online Peer Feedback Activities Are Positive

The results of descriptive statistics indicate that there is a favourable perception of the feedback process and a high level of engagement in peer interactions. The students perceived their peers' feedback as valuable, and they demonstrated a significant level of involvement in reviewing their peers' written work and providing constructive feedback. The present study's results align with those of Pham et al. (2020) in Vietnam and Al-Abri et al. (2021) in Oman, as they also reported that students were able to overcome cultural obstacles and participate in peer feedback, leading to increased self-assurance and decreased social anxiety. The provision of an assessment rubric as review guidelines to students during the OPF activities may have facilitated their understanding of evaluation criteria and fostered the development of critical evaluation skills. However, it is acknowledged in this study that individual differences could potentially influence students' performance and their inclination to accept peer feedback (Daweli, 2018; Waluyo & Tuan, 2021).

The results are corroborated by the themes that surfaced during the qualitative analysis of the data, wherein the students articulated the advantages of utilizing online peer feedback (OPF) and its positive impact on their writing proficiency. The engagement in OPF activities facilitated the identification of errors and enhancement of their abilities in providing explanations, utilizing proper grammar, and refining their writing proficiencies. The engagement in peer review activities was perceived to enhance proficiency, acquire knowledge, and hone report writing skills. The findings of various empirical studies on OPF indicate that students who participate in OPF activities tend to exhibit enhanced higher-order cognitive skills, including critical thinking, reflective thinking, improved writing abilities, increased capacity for meaning-making, knowledge construction, and evaluative judgement (Van Popta et al., 2017). Furthermore, the participants reported on the collaborative learning and knowledge exchange procedures that took place during the online review sessions. The exchange of opinions, suggestions, and collaborative teaching and support were highlighted by the participants. The utilization of peer feedback activities has been observed to create an environment conducive to brainstorming, collaboration, and idea-sharing. This finding is consistent with the results of a study conducted among EFL students from Arab countries by Saeed et al. (2018). The students acknowledged the significance of peer review as a means of evaluating the quality of their work and enhancing the level of engagement in the classroom.

### 2<sup>nd</sup> Findings: Students' Engagements Are Unrelated to Their Writing Outcomes

The correlation findings reveal a significant positive relationship between students' engagement in providing and receiving peer feedback. However, there were no significant correlations observed between engagement in peer feedback and performance on the specific writing tasks, indicating that other factors, such as individual writing skills and task complexity, may have a greater impact on task outcomes. While previous studies in Indonesia, the Netherlands, and Korea have shown positive effects of online peer

feedback on student outcomes, contradicting these findings, the present study does not support such claims. Additionally, Huisman et al. (2018) found that both providing and receiving feedback led to comparable improvements in writing across different groups. The unique experience of engaging in online peer feedback for the first time in a fully online English course may contribute to these results, as suggested by Daweli (2018) and Zhang et al. (2022). Recent research by Wu and Schunn (2023) highlights the significance of constructive activities, such as explaining and implementing suggested revisions, in fostering learning, whereas passive and active engagement may not always yield similar outcomes. These findings challenge earlier studies conducted in Thailand by Ekahitanond (2013) and Wichadee (2013).

Within the qualitative data, the students voiced their apprehensions regarding their language proficiency, specifically grammar, and how it affects their confidence in delivering feedback. They described struggling with grammar, feeling uncertain about correctness, and harboring doubts about the usefulness of feedback from peers with lower English proficiency. Despite these concerns, they recognized online peer feedback (OPF) activities as an opportunity to receive feedback on grammar, vocabulary, and content, leading to personal growth. Similar findings have emerged in OPF research, where students acknowledge the benefits of receiving peer feedback but express doubts about their own ability to learn from providing feedback due to potential embarrassment among their peers (Cao et al., 2019). To address this issue, it is crucial for students to receive descriptive and constructive feedback, focusing on the substantive aspects rather than emotional or descriptive elements (Jin et al., 2022; Kerman et al., 2022). This approach enables students to grasp the main ideas through scaffolding, facilitates knowledge exchange through both giving and receiving feedback, and resolves writing issues through revisions guided by peer feedback.

### **3<sup>rd</sup> Findings: Students Recommend Enhancement of Feedback Quality and Quantity, Inclusion of Teacher Feedback and Guidance, and Improving the Process and Experience.**

Students provided insightful recommendations to enhance the effectiveness of peer feedback activities. They proposed the inclusion of grammar checks to address language-related concerns and suggested providing specific rationales for feedback, enabling students to better understand the reasoning behind suggestions and corrections. Additionally, students expressed a strong desire for increased interaction with their peers, seeking more comments and engagement to foster a collaborative learning environment. They emphasized the importance of direct communication to address issues and actively contribute to each other's improvement. Moreover, students expressed their expectations for extended review time, allowing for thorough feedback exchanges and revisions. They encouraged their peers to provide additional information and suggestions, aiming to enrich the feedback process and promote comprehensive improvements. Furthermore, students highlighted the value of incorporating teacher feedback and guidance, recognizing its unique role in providing expertise and addressing aspects that peers might overlook or not provide detailed feedback on (Ciftci & Kocoglu, 2012; Waluyo & Rofiah, 2021).

Regarding the review process, students favored anonymous reviews but stressed the significance of honest peer evaluations. They acknowledged the importance of face-to-face interactions and personal chats, which could mitigate concerns about receiving low grades and foster a more engaging feedback exchange (Lee & Evans, 2019; López-Belmonte et al., 2022; Wood, 2022). By emphasizing the benefits of open and transparent communication, students aimed to create a supportive and constructive atmosphere conducive to effective feedback. However, it is worth noting that the students did not specifically discuss the role of internet connectivity in enhancing the quality of feedback (Noroozi, 2022), nor did they mention the potential advantages of time independence in online peer feedback activities (Jongsma et al., 2023; Moreno-Guerrero et al., 2021; Rofiah, Aba Sha'ar & Waluyo, 2022). Further exploration of these factors could provide valuable insights into optimizing the constructive feedback process and maximizing the benefits of online learning environments (Waluyo & Apridayani, 2021).

## **6. Implications of the Findings**

The implications of the findings from this research offer valuable insights for students, teachers, and stakeholders in the field of online peer feedback (OPF) activities. The novelty of this research becomes evident

through its comprehensive examination of factors influencing student involvement and achievements in online peer feedback (OPF) endeavors. It sheds light on the hitherto unexplored dimensions of feedback quality and quantity. Additionally, it underlines the unique advantages derived from online accessibility and temporal flexibility, collectively contributing to a more holistic understanding of this pedagogical approach.

### **6.1. Implications for Students**

Students can benefit greatly from the integration of OPF activities into the academic curriculum. The findings suggest that such activities foster favorable student engagement and enhance their perception of the feedback process. To maximize these benefits, it is crucial for students to have access to lucid assessment rubrics as review guidelines. These rubrics not only aid in clarifying evaluation criteria but also contribute to the development of critical evaluation skills. Engaging in OPF activities can improve students' writing proficiency, grammatical aptitude, and explanatory abilities, which are essential skills in academic and professional contexts (Latifi et al., 2021; Lin & Yang, 2011; Nelson & Schunn, 2009). Furthermore, students should recognize the collaborative nature of OPF activities and the potential for knowledge exchange they offer. Compared to traditional approaches, OPF encourages students to work together, share insights, and collectively enhance their learning experiences. Students should actively participate in providing descriptive and constructive feedback to their peers. Instructors' guidance and scaffolding play a vital role in helping students improve their comprehension and writing skills. Additionally, students with concerns about language skills and grammar should seek support and guidance to overcome these obstacles and fully benefit from OPF activities.

### **6.2. Implications for Teachers**

Instructors, particularly those teaching English, should consider the findings when designing their courses. They should emphasize the advantages of OPF activities to their students and highlight the potential for improving writing proficiency, grammatical skills, and explanatory abilities. Providing clear guidance on how to give descriptive and constructive feedback is crucial. Teachers can facilitate this process by offering scaffolding support to enhance students' comprehension and writing abilities. Additionally, instructors should be mindful of students' language proficiency concerns and provide resources or additional help as needed. Moreover, the integration of teacher feedback alongside peer feedback is shown to be beneficial. Teachers can leverage their expertise to complement peer evaluations, offering a more comprehensive assessment of students' work. This combination of peer and teacher feedback can lead to significant improvements in students' writing and critical thinking abilities. Instructors should actively engage in the OPF process, guiding students toward constructive feedback and helping them understand assessment rubrics (López-Belmonte et al., 2021; Tian & Zhou, 2020).

### **6.3. Implications for Stakeholders**

Stakeholders in education should recognize the potential of OPF activities as a valuable pedagogical approach. The findings highlight the positive impact of online accessibility and temporal flexibility in OPF endeavors. Institutions should invest in the necessary technological infrastructure to support online learning and collaboration. Moreover, stakeholders should encourage and support further research into the factors that influence student involvement and achievements in OPF, as well as the nuances of feedback quality and quantity.

## **7. Conclusion**

This research contributes significantly to the understanding of online peer feedback (OPF) engagement among English as a Foreign Language (EFL) students within the context of fully synchronous online English learning. The study illuminates key aspects of OPF activities, shedding light on their impact on student engagement and perceptions, ultimately enriching the existing literature in this field. The findings of this study emphasize the positive implications of OPF activities for EFL learners. The data reveal that students' participation in online peer feedback activities fosters favorable engagement levels and shapes positive perceptions regarding the learning process. It is noteworthy that, despite the absence of a

statistically significant correlation between engagement and immediate writing outcomes, participants explicitly acknowledged the substantial benefits of OPF in terms of enhancing their writing proficiency and nurturing a collaborative learning environment. This recognition points out the potential for harnessing peer feedback as an effective pedagogical tool for EFL instruction.

However, it is imperative to recognize certain areas for improvement and future exploration in this domain. The study points to several recommendations that may guide subsequent research and instructional practices. First and foremost, there is a need to prioritize the enhancement of the quality of feedback within OPF activities. This involves not only instructing students on providing constructive feedback but also cultivating a culture of meaningful and substantive peer assessment. Additionally, the integration of teacher guidance into OPF processes is an essential consideration, as educators can play a pivotal role in scaffolding student learning and facilitating the effectiveness of feedback exchanges. Furthermore, the study highlights the importance of addressing language skill issues within EFL and OPF contexts. Given that the participants in this research engaged in online peer feedback activities in English, attention to language proficiency levels, linguistic barriers, and potential communication challenges is crucial. Future research endeavors could delve deeper into strategies to overcome these language-related hurdles, thereby enhancing the overall efficacy of OPF practices for EFL students.

It is crucial to acknowledge the limitations of this study. The research was conducted within a specific and delimited context, which may limit the generalizability of the findings to other educational settings. Additionally, the reliance on self-reported data introduces potential biases and limitations inherent in self-assessment. Consequently, future research should aim to diversify the contexts and populations under investigation to provide a more comprehensive understanding of OPF engagement. Innovatively, future investigations in this area should consider exploring the role of internet connectivity in shaping OPF dynamics. The study hints at the potential of the internet to offer temporal independence within OPF activities, a facet that warrants further exploration. Understanding how varying levels of connectivity and access to resources influence the engagement and effectiveness of online peer feedback can lead to more nuanced insights and inform instructional practices that cater to diverse learning environments.

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### **References**

- Al-Abri, A., Al-Baimani, S., & Bahlani, S. (2021). The role of web-based peer feedback in advancing EFL essay writing. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ)*, 22(1), 374-390.
- Bailey, D., & Cassidy, R. (2019). Online peer feedback tasks: Training for improved L2 writing proficiency, anxiety reduction, and language learning strategies. *Call-Ej*, 20(2), 70-88.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cao, Z., Yu, S., & Huang, J. (2019). A qualitative inquiry into undergraduates' learning from giving and receiving peer feedback in L2 writing: Insights from a case study. *Studies in Educational Evaluation*, 63, 102-112. <https://doi.org/10.1016/j.stueduc.2019.08.001>
- Cassidy, R., & Bailey, D. (2018). L2 Students' perceptions and practices of both giving and receiving online peer-feedback. *Multimedia-Assisted Language Learning*, 21(1), 11-34.

- Ciftci, H., & Kocoglu, Z. (2012). Effects of peer e-feedback on Turkish EFL students' writing performance. *Journal of Educational Computing Research*, 46(1), 61-84. <https://doi.org/10.2190/EC.46.1.c>
- Creswell, J., & Plano-Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks CA: Sage.
- Daweli, T.W. (2018). Engaging Saudi EFL Students in Online Peer Review in a Saudi University Context. *Arab World English Journal*, 9(4), 270-280. <https://doi.org/10.24093/awej/vol9no4.20>
- Demirbilek, M. (2015). Social media and peer feedback: What do students really think about using Wiki and Facebook as platforms for peer feedback?. *Active Learning in Higher Education*, 16(3), 211-224. <https://doi.org/10.1177/1469787415589530>
- Ekahitanond, V. (2013). Promoting university students' critical thinking skills through peer feedback activity in an online discussion forum. *Alberta Journal of Educational Research*, 59(2), 247-265. <https://doi.org/10.55016/ojs/ajer.v59i2.55617>
- Guardado, M., & Shi, L. (2007). ESL students' experiences of online peer feedback. *Computers and Composition*, 24(4), 443-461. <https://doi.org/10.1016/j.compcom.2007.03.002>
- Hsu, K.C., & Wang, Y. (2022). A Review on the Training Effects and Learners' Perceptions Towards Asynchronous Computer-Mediated Peer Feedback for L2 Writing Revision. In *Learning Technology for Education Challenges: 10th International Workshop, LTEC* (139-152). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-031-08890-2\\_11](https://doi.org/10.1007/978-3-031-08890-2_11)
- Huisman, B., Saab, N., Van Driel, J., & Van Den Broek, P. (2018). Peer feedback on academic writing: undergraduate students' peer feedback role, peer feedback perceptions and essay performance. *Assessment & Evaluation in Higher Education*, 43(6), 955-968. <https://doi.org/10.1080/02602938.2018.1424318>
- Jin, X., Jiang, Q., Xiong, W., Feng, Y., & Zhao, W. (2022). Effects of student engagement in peer feedback on writing performance in higher education. *Interactive Learning Environments*, 1-16. <https://doi.org/10.1080/10494820.2022.2081209>
- Jongsma, M.V., Scholten, D.J., van Muijlwijk-Koezen, J.E., & Meeter, M. (2023). Online versus offline peer feedback in higher education: a meta-analysis. *Journal of Educational Computing Research*, 61(2), 329-354. <https://doi.org/10.1177/07356331221114181>
- Kerman, N.T., Noroozi, O., Banihashem, S.K., Karami, M., & Biemans, H.J. (2022). Online peer feedback patterns of success and failure in argumentative essay writing. *Interactive Learning Environments*, 1-13. <https://doi.org/10.1080/10494820.2022.2093914>
- Latifi, S., Noroozi, O., Hatami, J., & Biemans, H.J. (2021). How does online peer feedback improve argumentative essay writing and learning?. *Innovations in Education and Teaching International*, 58(2), 195-206. <https://doi.org/10.1080/14703297.2019.1687005>
- Law, S., & Baer, A. (2020). Using technology and structured peer reviews to enhance students' writing. *Active Learning in Higher Education*, 21(1), 23-38. <https://doi.org/10.1177/1469787417740994>
- Lee, M., & Evans, M. (2019). Investigating the operating mechanisms of the sources of L2 writing self-efficacy at the stages of giving and receiving peer feedback. *Modern Language Journal*, 103(4), 831-847. <https://doi.org/10.1111/modl.12598>
- Lin, W.C., & Yang, S.C. (2011). Exploring students' perceptions of integrating Wiki technology and peer feedback into English writing courses. *English Teaching: Practice and Critique*, 10(2), 88-103.
- López-Belmonte, J., Pozo-Sánchez, S., Carmona-Serrano, N., & Moreno-Guerrero, A.J. (2022). Flipped Learning and E-Learning as Training Models Focused on the Metaverse. *Emerging Science Journal*, 6, 188-198. <https://doi.org/10.28991/ESJ-2022-SIED-013>



- López-Belmonte, J., Segura-Robles, A., Moreno-Guerrero, A.J., & Parra-González, M.E. (2021). Projection of e-learning in higher education: A study of its scientific production in web of science. *European Journal of Investigation in Health, Psychology and Education*, 11(1), 20-32. <https://doi.org/10.3390/ejihpe11010003>
- Moreno-Guerrero, A.J., Soler-Costa, R., Marín-Marín, J.A., & López-Belmonte, J. (2021). Flipped learning and good teaching practices in secondary education. *Comunicar*, 29(68), 107-117. <https://doi.org/10.3916/C68-2021-09>
- Mulyati, Y., & Hadianto, D. (2023). Enhancing argumentative writing via online peer feedback-based essay: A quasi-experiment study. *International Journal of Instruction*, 16(2), 195-212. <https://doi.org/10.29333/iji.2023.16212a>
- Nelson, M.M., & Schunn, C.D. (2009). The nature of feedback: How different types of peer feedback affect writing performance. *Instructional Science*, 37, 375-401. <https://doi.org/10.1007/s11251-008-9053-x>
- Noroozi, O. (2022). The role of students' epistemic beliefs for their argumentation performance in higher education. *Innovations in Education and Teaching International*, 1-12. <https://doi.org/10.1080/14703297.2022.2092188>
- Noroozi, O., Banihashem, S.K., Biemans, H.J., Smits, M., Vervoort, M.T., & Verbaan, C.L. (2023). Design, implementation, and evaluation of an online supported peer feedback module to enhance students' argumentative essay quality. *Education and Information Technologies*, 1-28. <https://doi.org/10.1007/s10639-023-11683-y>
- Pham, T.N., Lin, M., Trinh, V.Q., & Bui, L.T.P. (2020). Electronic peer feedback, EFL academic writing and reflective thinking: Evidence from a Confucian context. *Sage Open*, 10(1), 2158244020914554. <https://doi.org/10.1177/2158244020914554>
- Pratiwi, D.I., & Waluyo, B. (2022). Integrating task and game-based learning into an online TOEFL preparatory course during the COVID-19 outbreak at two Indonesian higher education institutions. *Malaysian Journal of Learning and Instruction (MJLI)*, 19(2), 37-67. <https://doi.org/10.32890/mjli2022.19.2.2>
- Rofiah, N.L., Aba Sha'ar, M.Y.M., & Waluyo, B. (2022). Digital Divide and Factors Affecting English Synchronous Learning during COVID-19 in Thailand. *International Journal of Instruction*, 15(1), 633-652. <https://doi.org/10.29333/iji.2022.15136a>
- Saeed, M.A., Ghazali, K., Sahuri, S.S., & Abdulrab, M. (2018). Engaging EFL learners in online peer feedback on writing: What does it tell us?. *Journal of Information Technology Education: Research*.
- Saevi, T. (2014). Phenomenology in educational research. *Pedagogy, Culture & Society*, 19, 175-192. <https://doi.org/10.1093/obo/9780199756810-0042>
- Sedgwick, P. (2013). Convenience sampling. *BMJ*, 347. <https://doi.org/10.1136/bmj.f6304>
- Su, W., & Huang, A. (2022). More enjoyable to give or to receive? Exploring students' emotional status in their peer feedback of academic writing. *Assessment & Evaluation in Higher Education*, 47(7), 1005-1015. <https://doi.org/10.1080/02602938.2021.2004389>
- Tian, L., & Zhou, Y. (2020). Learner engagement with automated feedback, peer feedback and teacher feedback in an online EFL writing context. *System*, 91, 102247. <https://doi.org/10.1016/j.system.2020.102247>
- Ting, K.Y. (2023). Students' perspective toward anonymous peer feedback in online writing classes. *Interactive Learning Environments*, 1-11. <https://doi.org/10.1080/10494820.2023.2201322>
- Van Popta, E., Kral, M., Camp, G., Martens, R.L., & Simons, P.R.J. (2017). Exploring the value of peer feedback in online learning for the provider. *Educational Research Review*, 20, 24-34. <https://doi.org/10.1016/j.edurev.2016.10.003>
- Wahyudin, A.Y. (2018). The impact of online peer feedback on EFL students writing at tertiary level. *Bahtera: Jurnal Pendidikan Bahasa dan Sastra*, 17(1), 1-10. <https://doi.org/10.21009/BAHTERA.171.1>

- Waluyo, B. (2020). Thai EFL learners' WTC in English: Effects of ICT support, learning orientation, and cultural perception. *Humanities, Arts and Social Sciences Studies*, 20(2), 477-514.
- Waluyo, B., & Apridayani, A. (2021). Teachers' beliefs and classroom practices on the use of video in English language teaching. *Studies in English Language and Education*, 8(2), 726-744.  
<https://doi.org/10.24815/siele.v8i2.19214>
- Waluyo, B., & Tuan, D.T. (2021). Understanding help-seeking avoidance among EFL students and the social climate of EFL classrooms in Thailand. *Journal of Asia TEFL*, 18(3), 800-815.  
<https://doi.org/10.18823/asiatefl.2021.18.3.4.800>
- Waluyo, B., & Rofiah, N.L. (2021). Developing Students' English Oral Presentation Skills: Do Self-Confidence, Teacher Feedback, and English Proficiency Matter?. *Mextesol Journal*, 45(3), 1-17.
- Wichadee, S. (2013). Peer feedback on Facebook: The use of social networking websites to develop writing ability of undergraduate students. *Turkish Online Journal of Distance Education*, 14(4), 260-270.
- Wood, J. (2022). Making peer feedback work: the contribution of technology-mediated dialogic peer feedback to feedback uptake and literacy. *Assessment & Evaluation in Higher Education*, 47(3), 327-346.  
<https://doi.org/10.1080/02602938.2021.1914544>
- Wu, Y., & Schunn, C.D. (2023). Passive, active, and constructive engagement with peer feedback: A revised model of learning from peer feedback. *Contemporary Educational Psychology*, 73, 102160.  
<https://doi.org/10.1016/j.cedpsych.2023.102160>
- Yang, Y.F. (2016). Transforming and constructing academic knowledge through online peer feedback in summary writing. *Computer Assisted Language Learning*, 29(4), 683-702.  
<https://doi.org/10.1080/09588221.2015.1016440>
- Zhang, M., He, Q., Du, J., Liu, F., & Huang, B. (2022). Learners' perceived advantages and social-affective dispositions toward online peer feedback in academic writing. *Frontiers in Psychology*, 13, 5807.  
<https://doi.org/10.3389/fpsyg.2022.973478>
- Zhao, H., Sullivan, K.P., & Mellenius, I. (2014). Participation, interaction and social presence: An exploratory study of collaboration in online peer review groups. *British Journal of Educational Technology*, 45(5), 807-819. <https://doi.org/10.1111/bjet.12094>

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