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Enhancing Academic English Writing Proficiency Through Structured Peer Assessment in a Digital Environment: A Quasi-Experimental Study

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Abstract

In higher education settings with large class sizes, particularly in developing countries, the development of academic writing skills in English for Academic Purposes (EAP) remains a persistent challenge. Minimal feedback and insufficient writing practice result from the practical limitations of traditional teacher-based assessment. Although peer assessment is considered a scalable formative approach, further empirical research is needed to confirm its pedagogical effectiveness and reliability. The aim of this study is to investigate whether structured peer assessment in a digital environment within an EAP course can develop students' evaluative competence, metacognitive awareness, and collaborative learning skills, while also producing reliable assessments that align with teacher evaluations. Methods: A quasi-experimental mixed-methods design with a single group was used. Participants were 150 first-year undergraduate students at a public university in Egypt enrolled in a compulsory EAP course. The intervention included three phases of structured peer assessment, conducted anonymously through a digital platform and preceded by rubric training. Quantitative data (teacher and peer scores on a final writing assignment on a 0–5 scale) were analyzed using descriptive statistics and Pearson correlation. Qualitative data consisted of thematic analysis of observation logs and written student feedback. Results showed that mean scores assigned by students ($M=2.86$; $SD=0.97$) and the teacher ($M=2.88$; $SD=0.90$) were very close. A moderate positive correlation ($r=0.570$; $p<0.01$) was identified. Qualitative analysis revealed a three-stage developmental trend: from initial hesitation to confident, rubric-aligned assessment. Students reported a shift toward a collaborative learning culture, increased self-efficacy (74% were more willing to share drafts), and deeper metacognitive understanding of writing criteria. Structured peer assessment, supported by rubric training and anonymity, represents a reliable and pedagogically valuable formative assessment method for EAP writing in large classes. It develops transferable evaluative competence while addressing scalability challenges. The study offers practical recommendations for implementing peer assessment in online environments.

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Keywords

Peer assessment, EAP writing, formative evaluation, quasi-experimental research, digital environment, higher education, writing abilities, reliability of assessments.

Introduction

The concept presented in this study is that, especially in large-class settings where individualized teacher feedback is logistically difficult, structured peer evaluation in a digital setting is capable of being utilized to support the development of EAP (English for Academic Purposes) writing proficiency at the tertiary education level. Of the four language skills, writing is generally acknowledged as the most difficult to teach and evaluate in a second or foreign language context [Hyland, 2019]. English is taught as a subject rather than a talent in many higher education systems, particularly in poor nations like Egypt, with little opportunity for real-world writing practice and evaluation that frequently favors memorization over original creation [Ahmed, 2010]. Teachers are unable to give regular, corrective feedback in overcrowded classrooms, which frequently have more than 150 pupils per section. This leads to demotivated students and underdeveloped writing skills. The selection of suitable writing assessment techniques becomes crucial in this situation. Although authoritative, teacher assessment is labor-intensive and causes feedback to be delayed. There is a need for complementary or alternative approaches that are both pedagogically effective and dependable. Peer evaluation has drawn interest as a scalable formative method. It is described as the mutual appraisal of learning outcomes among status equals [Topping, 1998]. Its dependability is still questioned, nevertheless, and there is still little empirical data from large-class, non-Western EAP situations. Peer evaluation can now be used methodically thanks to recent developments in digital learning environments (LMS platforms, anonymous submission systems, online rubrics). Muravev (2023) showed that learners' performance on the Cambridge Assessment reading tests was much enhanced by a structured reading intervention in a digital setting [Muravev, 2023]. In order to determine whether organized peer evaluation can be just as successful, the current study applies this methodological technique to writing assessment. This study's primary objective is to assess the efficacy of a structured peer review intervention for EAP writing in a large-class Egyptian university setting. The study specifically tackles three research questions: (1) How closely do mean scores and correlation between teacher-assigned and peer-assigned scores match? (2) Over the course of three peer evaluation sessions, what developmental trajectory does students display? (3) How do students view the educational effects of peer review on the dynamics of the classroom and their own writing progress?

Presentation of the main material of the article

A quasi-experimental mixed-methods design with a single group was used. The three-month intervention took place during a typical EAP writing course. Participants were 150 first-year undergraduate students (60% female, 40% male, aged 18–20) enrolled in a compulsory EAP course at a public university in Egypt. Based on a standardized placement test, all had intermediate (B1–B2) CEFR English ability. Informed consent, the confidentiality of all submitted writing, and the freedom to resign without facing academic impacts were among the ethical considerations. The three-phase educational approach used in the intervention was modified from Topping (1998) and Shuijsmans et al. (2002) [Topping, 1998; Shuijsmans et al., 2002].

Phase 1: Training (First Week). Students attended a two-hour workshop that covered the following topics: (a) the goal and fundamentals of formative peer evaluation; (b) the use of a standardized analytical rubric (0–5 scale) covering five criteria (task achievement, organization and coherence, grammar and vocabulary range, cohesion and referencing, overall clarity); (c) digital submission procedures using the university's LMS (Moodle) with anonymous essay uploads; and (d) how to provide constructive criticism.

Phase 2: Three rounds of peer evaluation (Weeks 2–8). Students finished three writing assignments, each consisting of a 250-word academic essay or paragraph on a particular subject. Each student used the rubric to anonymously evaluate the essays of three peers following each submission. The lecturer kept an eye on inter-rater consistency and gave the class feedback on frequent scoring disparities. Rubric criteria were clarified during debriefing sessions in between rounds.

Phase 3: Last Independent Writing Assignment (Week 10). Under exam conditions, students composed a final essay without consulting their peers. Two raters evaluated this essay: (a) the course teacher, who was blind to peer scores and used the identical rubric, and (b) the previous round's peer assessors. Next, scores from teachers and peers were compared.

In addition, the quantitative data showed that each student received a mean peer-assigned score (averaged from three peers) and a teacher-assigned score for the final essay. The range of scores was 0.5 increments from 0 to 5. Means, standard deviations, and ranges—descriptive statistics—were computed. The linear relationship was evaluated using a Pearson correlation coefficient. Significant mean differences were examined using a paired samples t-test ($\alpha=0.05$). The qualitative data documented that two sources were used: (a) researcher observation logs, which are comprehensive notes made during each round that highlight student behavior, questions, hesitancy or confidence indicators, and peer interactions; and (b) post-intervention student feedback, which is an anonymous survey with open-ended questions examining perceived advantages, difficulties, and attitude shifts. Braun and Clarke (2006) were followed by thematic analysis [Braun, Clarke, 2006].

Key Findings Synthesis:

Quantitative results. The descriptive data are summarized in Fig. 1.

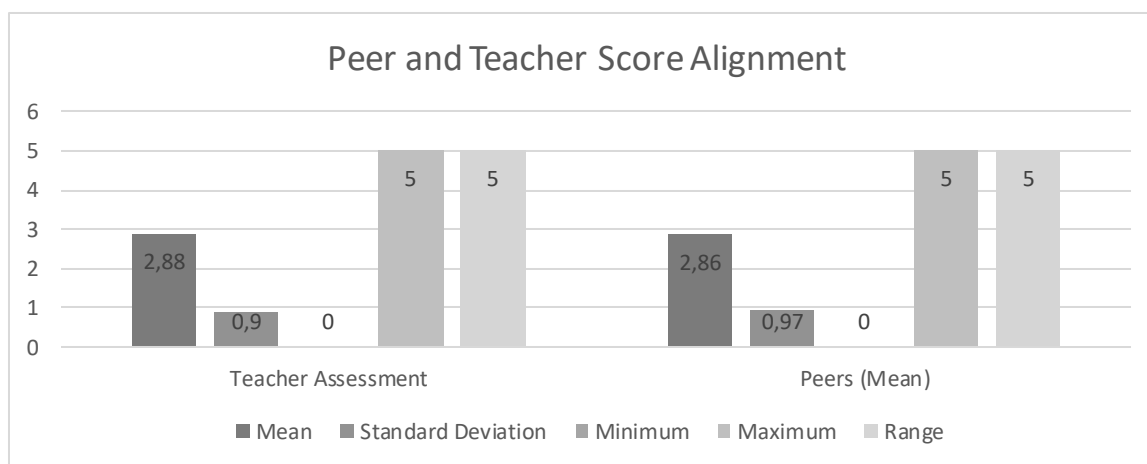


Figure 1 – Descriptive data for the alignment of teacher and peer scores (N=150)

The difference was 0.02 on average. No statistically significant difference was found using a paired samples t-test ($t(149)=0.34$, $p=0.73$). Peer and instructor scores had a moderately strong, statistically significant positive association, as indicated by the Pearson correlation of $r = 0.570$ ($p < 0.01$).

Qualitative results: Stage 1: Hesitancy: nervous, shallow remarks (such as "good job"), mid-range scores. Anonymity is mistrusted.

Stage 2: Increasing proficiency: Referenced rubric criteria ("organization could be improved...") There was more peer-to-peer clarification. Although score dispersion increased, it was still in line with the teacher.

Stage 3: Self-assured application: Provide thorough, helpful criticism without being asked. peer discussion to support grades. Variability in scores declined.

impact as perceived. 74% of respondents to the post-intervention survey (N=142) were more at ease sharing drafts, 68% had greater writing confidence, 81% had a better understanding of the writing requirements, and 76% reported a more collaborative classroom. "Grading three essays made me see my own mistakes more clearly" is an example of a comment (Student 47). There have been no documented adverse long-term effects.

Peer and teacher assessments had a moderate association ($r=0.570$), which is consistent with meta-analyses [Falchikov, 1995; Double et al., 2020]. There is no systematic score inflation if there is no substantial mean difference. Social bias was lessened by LMS anonymity [Li et al., 2020]. Sociocultural scaffolding is shown in the three-stage trajectory (hesitancy → competence → confidence) [Vygotsky, 1978]. Students developed evaluative judgment by internalizing the criteria of the rubric [Boud, Falchikov, 2006]. The digital environment was crucial since it lowered instructor effort through automatic aggregation and allowed for honest feedback. Peer assessment shifts the role of the teacher from solo assessor to facilitator in big classrooms (150 students) by distributing input in a sustainable manner. The single-group design restricts causality; the setting may limit generalizability; there is no long-term writing measure; and the teacher's role as the investigator may bring bias (which is lessened by anonymous peer scores and a standardized rubric).

Conclusion

For EAP writing in big classes, structured peer review in a digital setting is dependable and pedagogically successful.

Reliability: There is a moderate correlation ($r=0.570$) and no discernible difference between peer and instructor scores. Students' approximate teacher judgments with training and anonymity.

Pedagogical value: Promotes collaborative learning, metacognitive awareness, and evaluative competence. Students absorb the standards and use them in their own writing.

Scalability: Reduces teacher burden while increasing engagement by providing frequent feedback in classrooms with more than 150 students.

Digital environment: Systematic implementation is made possible via anonymous LMS submission, which lessens social prejudice.

Suggestions: Teach students how to utilize rubrics and how to give constructive criticism. Make use of anonymous submission. Start with low-risk assignments. Keep an eye on comments and offer adjustments. Instead of using peer evaluation for summative grading, use it formatively.

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Повышение уровня владения академическим письмом на английском языке с помощью структурированного взаимооценивания в цифровой среде: квазиэкспериментальное исследование

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Аннотация

В условиях высшего образования с большим количеством студентов в группах, особенно в развивающихся странах, развитие навыков академического письма в рамках дисциплины «Английский для академических целей» (EAP) остаётся постоянной проблемой. Минимальная обратная связь и недостаточная практика письма являются следствием практических ограничений традиционного оценивания, основанного на работе преподавателя. Хотя взаимопроверка (peer assessment) рассматривается как масштабируемый формирующий подход, необходимы дальнейшие эмпирические исследования для подтверждения её педагогической эффективности и надёжности. Цель настоящего исследования – изучить, может ли структурированное взаимооценивание в цифровой среде в рамках курса EAP развивать у студентов оценочную компетенцию, метакогнитивную осведомлённость и навыки совместного обучения, а также обеспечивать получение надёжных оценок, согласующихся с преподавательскими. Методы: был использован квазиэкспериментальный смешанный дизайн с одной группой. Участниками стали 150 студентов первого курса бакалавриата государственного университета Египта, обучающихся на обязательном курсе EAP. Интервенция включала три этапа структурированного взаимооценивания, проводимого анонимно с помощью цифровой платформы и предваряемого обучением работе с рубрикой. Количественные данные (оценки преподавателя и реер-оценки за итоговое письменное задание по шкале 0–5) анализировались с помощью описательной статистики и корреляции Пирсона. Качественные данные составили результаты тематического анализа журналов наблюдений и письменных отзывов студентов. Результаты показали, что средние оценки, выставленные студентами ($M=2,86$; $SD=0,97$) и преподавателем ($M=2,88$; $SD=0,90$), оказались очень близкими. Выявлена умеренная положительная корреляция ($r=0,570$; $p<0,01$). Качественный анализ показал трёхэтапный тренд развития: от первоначальной нерешительности до уверенного оценивания в соответствии с рубрикой. Студенты сообщили о переходе к культуре совместного обучения, повышении самооэффективности (74% стали более охотно делиться черновиками) и более глубоком метакогнитивном понимании критериев письма. Структурированное взаимооценивание, обеспеченное обучением рубрике и анонимностью, представляет собой надёжный и педагогически ценный метод формирующего оценивания при обучении EAP в больших группах. Оно развивает переносимую оценочную компетенцию, решая проблему масштабируемости. Исследование предлагает полезные рекомендации по внедрению взаимопроверки в онлайн-среде.

Для цитирования в научных исследованиях

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Ключевые слова

Взаимопроверка (peer assessment), академическое письмо EAP, формирующее оценивание, квазиэкспериментальное исследование, цифровая среда, высшее образование, навыки письменной речи, надёжность оценивания.

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