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VIETTESOL ASSOCIATION OF ENGLISH LANGUAGE TEACHING AND RESEARCH — UEH UNIVERSITY OF ECONOMICS HO CHI MINH CITY — MINISTRY OF EDUCATION AND TRAINING NATIONAL FOREIGN LANGUAGES PROJECT

A Study on Utilizing AI Tools to Enhance High School Students' Writing Self-Assessment

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ABSTRACT

The application of technology, particularly Artificial Intelligence (AI) tools, is becoming more popular and significant in education. This study aims to investigate the effectiveness of integrating AI tools to enhance the writing self-assessment process among high school students. Writing self-assessment is a crucial component of developing students' writing skills and fostering metacognitive awareness. However, because of prejudices, lack of expertise, or inadequate feedback, students frequently find it difficult to assess various dimensions of writing, including grammar, coherence, and organization accurately. By providing objective and personalized feedback, utilizing AI technologies offers an innovative way to address these obstacles. A mixed-methods approach is employed to analyze writing samples and explore students' attitudes toward using AI experiences. Forty high-school students aged from fourteen to eighteen, studying A2 English level will be chosen randomly to take part in this study. Moreover, students also participate in self-check and peer-check tasks that help them gain a deeper understanding of their writing strengths and weaknesses by comparing their self-assessments with AI-generated feedback. Students demonstrate increased confidence in their ability to evaluate their writing accurately and effectively. Ultimately, this research contributes to the field of educational technology innovative to enhance students' writing skills and self-assessment.

LITERATURE REVIEW

Self-assessment
As learner-centered approaches to education become more prevalent, self-assessment has become recognized as a crucial practice for promoting students' engagement and metacognitive growth (Boud, 1995; Xu, 2019; Wang, 2017). Students' motivation can grow and their capacity to direct their learning can be enhanced through self-assessment. (McMillan and Hearn, 2008).

Peer assessment
Peer assessment has been studied and discussed progressively because it increases students' confidence in their capacity to learn and helps them become more self-sufficient learners.
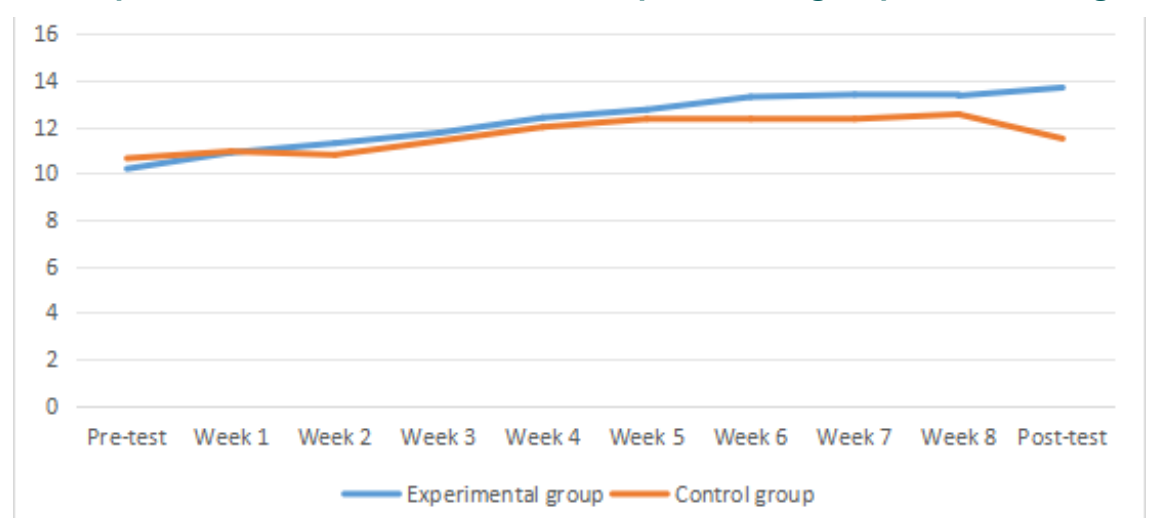
Formative assessment
Formative feedback is required immediately. Students can become more involved, knowledgeable, proactive, and independent thanks to feedback. Real-time formative feedback opens up new possibilities for learners' more customized experiences when it is followed by instructive and practical examples.

Using AI tools as educational technology in writing assessment
Students with insufficient domain knowledge are particularly prone to providing erroneous self-assessments (SAs). This is likely due to their inability to discern between right and wrong answers, even when provided with solutions. It has been discovered that using AI writing tools like Jenni, Wordtune, QuillBot, Grammarly, and others greatly enhances students' writing abilities. These tools make use of sophisticated algorithms to recognize typical mistakes in syntax, grammar, and punctuation and offer recommendations for enhancing style and clarity.

METHODOLOGY

Participants
40 high school students taking part in A2 Cambridge test course

Grade 10th	Grade 11th	Grade 12th
28	10	2
70%	25%	5%

Research design

The research design of this study uses a combination of quantitative and qualitative methods to collect comprehensive data. These methods include questionnaires, self-assessment checklists, students' reflective journals, and writing tests. With the use of this mixed-method approach, the study hopes to learn more about the importance of self-assessment checklists and how EFL students use them to evaluate their writing abilities. Using the self-assessment writing rubric and AI tools, quantitative data were obtained from the pre-and post-writing tests; qualitative data were obtained from students' comments on their writing strengths and weaknesses as well as their attitudes toward the utilization of AI tools.

Procedure

AI tools check → AI rewrite → AI scoring

grammarly — QuillBot — ChatGPT — wordtune

Self-check

Peer check → Self-rewrite → Peer Scoring

self and peer-assessment checklist and rubric

AIMS AND RESEARCH QUESTIONS

In language learning, beyond classroom instruction, most students invest significant time acquiring information and enhancing their English skills using personal learning strategies. High school students are focused on results. However, they often struggle to verify the accuracy of the knowledge they gain. In terms of writing skills, students find it challenging to recognize and evaluate aspects such as grammar, vocabulary, content, and coherence without teacher support. In today's technological era, particularly with the surge of Artificial Intelligence tools, educational technology is extensively used in classrooms and for self-study. This research aims to assess the effectiveness of AI tools in writing self-assessments, measure the improvements in students' writing quality over time due to AI tools, and explore students' attitudes and perceptions towards AI tools in the context of writing self-assessments. To achieve these aims, the study addresses two main questions:
1. How effective are AI tools in improving high school students' ability to self-assess their writing?
2. What are the students' attitudes and perceptions toward using AI tools for writing self-assessments?

FINDINGS AND DISCUSSION

The comparison of mean score between experimental group and control group
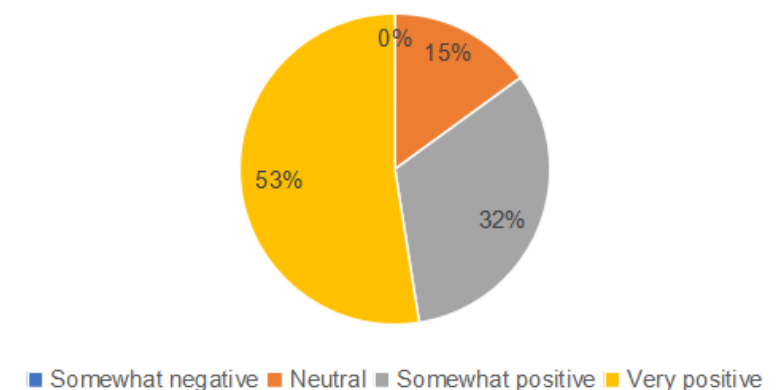

Descriptive statistics of writing test scores between the experimental group and the control group at the post-test

	Condition	N	Min	Max	Mean	Std.Deviation
Content (C)	Experimental	20	3.00	5.00	4.6000	.59824
	Control	20	3.00	5.00	3.7500	.55012
Organization (O)	Experimental	20	3.00	5.00	4.3500	.58714
	Control	20	3.00	5.00	3.6000	.59824
Language (L)	Experimental	20	4.00	5.00	4.7500	.44426
	Control	20	2.00	5.00	4.1500	.87509

Writing performance and the function of self-evaluation are thought to be closely related. The outcome demonstrated that students who employed AI outperformed their peers. The accuracy of AI tools compared to traditional methods is a crucial component of its application in assessment. AI writing tools have demonstrated a beneficial effect on students' metacognition. These tools frequently offer additional words or sentences that build on a basic concept, giving students a variety of ways to better communicate their ideas. The majority of students evaluated their writing organization, and the results showed that every writing had a unified structure. Most of the students actively used the AI tools to assess how they were using language and made the necessary corrections. Students' vocabulary range was significantly improved by AI writing tools. These resources frequently offer students more complex or synonyms that they might not have considered using on their own. Regarding organization, AI tools help students connect ideas more successfully by providing transitional words. In the self-assessment process, false self-assessment may cause students to have erroneous perceptions of their skills, learning objectives, and curriculum expectations. Nearly all students acknowledged the benefits of using AI tools to improve student writing accuracy and encourage self-evaluation.

Survey respondents' rating of the overall impact of AI tools on their writing

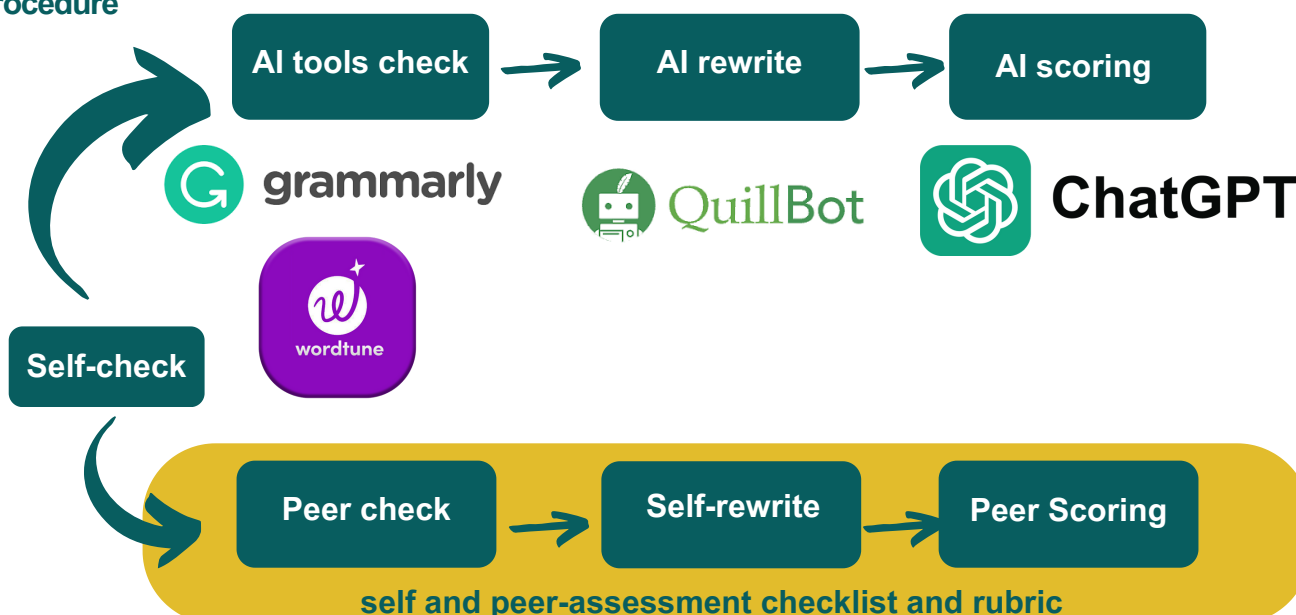Legend: Somewhat negative — Neutral — Somewhat positive — Very positive
(0%, 15%, 32%, 53%)

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