

ARTIFICIAL INTELLIGENCE IN TEACHING MARITIME ENGLISH WRITING

Pindosova T.

Candidate of Philological Sciences, Associate Professor,
Associate Professor at English Language Department for Deck Officers,
Kherson State Maritime Academy

Fedorova O.

Candidate of Philological Sciences, Associate Professor,
Associate Professor at English Language Department for Deck Officers,
Kherson State Maritime Academy

Introduction. In recent years, artificial intelligence (AI) is transforming education, including Maritime English, by enhancing language learning through AI-powered writing tools. Platforms such as ChatGPT, Grammarly, and QuillBot provide real-time, context-sensitive feedback that helps future navigators produce accurate, standardized maritime documents, including logbook entries and incident reports. Supported by advances in natural language processing (NLP) and machine learning, these tools strengthen the safety-critical writing skills required for effective maritime communication.

Writing is one of the most challenging language skills, particularly in Maritime English, where learners must organize information logically, use appropriate maritime terminology, and produce coherent, audience-appropriate texts. Traditionally, writing instruction has relied on detailed teacher feedback, but limited instructional time and large class sizes often make individualized support difficult in maritime education.

Lately, there has been research interest in the integration of AI into writing contexts because it offers various positive contributions, such as enhancing writing competence [5], providing fresh ideas [7], and supporting diverse writing tasks like paraphrasing [10], grammar checking, vocabulary building, and script writing [4].

Despite the growing availability of AI tools, many teachers struggle to integrate them into writing instruction due to limited training, low confidence, and a lack of clear pedagogical frameworks. Without adequate professional development and curriculum support, educators often remain uncertain about using AI-generated feedback and balancing AI with traditional teaching methods [3].

Purpose of the article. This article examines the role of artificial intelligence in teaching Maritime English writing and proposes practical strategies for integrating AI tools into writing instruction.

Main text. The challenges associated with academic writing extend beyond the inherent complexity of the English language itself. To produce effective written texts, learners must possess an extensive vocabulary, a strong command of grammar and syntax, and the ability to communicate complex ideas clearly and coherently. These requirements often contribute to increased levels of writing anxiety among students.

For learners, linguistic barriers represent a significant obstacle to the development of academic writing proficiency and may limit their ability to perform successfully in subject-specific contexts. Furthermore, differences in educational backgrounds, prior learning experiences, and instructional approaches can further complicate the acquisition of academic English. As a result, many students encounter difficulties in mastering the language skills necessary for effective academic and professional communication [2].

Due to these problems, applications and tools, with AI involved, have been increasingly applied in writing processes. Web sites like Chat GPT, Write Sonic, Jetpack, Hyperwrite, and Grammarly, for instance, were established to enable students to develop in writing by suggesting ways to organise grammatical structures, identify and fix errors in style, and improve their writing of paragraphs as a whole, that is, improve sentence construction [9]. Grammar and style checkers, such as those used in Grammarly, Jetpack, Paperpal, and Linguix, are other models that use rule-based systems and statistical models to provide critiques and recommendations for improving writing quality [6].

The scientist W. Z. Rahman classified artificial intelligence tools implemented in writing classes into three main categories, reflecting the evolution of their functionality:

- Automated Writing Evaluation (AWE): Tools such as Grammarly, Criterion, and WriteToLearn remain the most widely used tools. The primary focus of this technology is to provide automatic corrective feedback on the mechanical aspects of writing, including grammar, spelling, and punctuation, to independently improve students' linguistic accuracy.

- Generative AI & Large Language Models (LLMs): Since 2023, research trends have shown a drastic shift in focus toward platforms such as ChatGPT, Claude, and Gemini. Unlike AWE, these large language models are utilized as heuristic partners in brainstorming, outlining, and more complex and contextual stylistic editing.

- Intelligent Tutoring Systems (ITS): This category includes AI-based platforms designed to provide personalized learning paths. This system can adapt in real-time to the individual competency level of students, providing measurable instruction and pedagogical interventions tailored to the specific needs of the learner [8, p. 985].

Students often experience difficulties generating ideas, particularly when working with unfamiliar topics or under time constraints. AI-powered writing tools (e.g. ChatGPT, Jasper) can support the brainstorming process by suggesting topics, providing prompts, and offering alternative perspectives. They also help learners organize ideas through outlines and structured content planning. As a result, these tools can enhance creativity, improve the flow of ideas, and support the production of more coherent and original written texts. In Maritime English education, AI can assist learners in developing and organizing content for professional maritime communication and technical documentation.

Beyond supporting idea generation, AI-powered writing tools contribute to the *improvement of grammatical accuracy and vocabulary development*. These applications (Grammarly, ProWritingAid) provide automated feedback on language

errors and offer explanations that help learners understand and correct their mistakes. In addition, they suggest alternative words and expressions, enabling writers to enhance clarity, precision, and lexical variety. Through regular use, such tools can promote language development, strengthen writing skills, and improve the overall quality of written communication [1, p. 29].

AI-powered thesauruses like Reverso Context offer word suggestions based on real usage examples, ensuring proper context. Hemingway Editor helps streamline writing by identifying overly complex words and recommending simpler alternatives. AI also aids in academic style adherence – Writefull compares user text with authentic research papers, suggesting appropriate terminology.

AI-powered writing tools enhance vocabulary development by improving word choice, contextual accuracy, and reducing repetition, thereby increasing the quality of academic writing. However, AI-generated synonyms and paraphrases may distort meaning, and overreliance on these tools can hinder independent vocabulary development. Therefore, AI should complement, not replace, learners' lexical competence and critical language awareness [1, p. 31].

The theoretical considerations discussed above provide the foundation for the practical implementation of AI-assisted writing instruction in Maritime English. One of the initial stages of this process is AI-assisted *brainstorming and outlining*. Organizing students into groups to brainstorm with AI tools such as ChatGPT enables them to explore a topic from multiple perspectives and develop a deeper understanding of the subject matter. By generating and evaluating lists of advantages and disadvantages, students strengthen their critical thinking skills while learning to consider alternative viewpoints. This collaborative pre-writing activity also facilitates idea generation, improves text organization, and prepares learners for the subsequent stages of academic and professional writing.

Students input their topic into AI and ask for pros and cons. For the topic "Paper Charts – Electronic Charts," AI might respond with advantages like "real-time position updates" and "automatic route planning," and challenges like "dependence on electrical power" and "risk of system failures." Students discuss these ideas and add their insights, developing a nuanced argument.

The next stage involves guided drafting with AI support for *language development and text organization*. Students are encouraged to compose their essays progressively, focusing on one section at a time. For example, they begin by formulating a clear thesis statement and subsequently develop supporting paragraphs with relevant arguments and evidence. AI tools can provide guidance on paragraph structure, coherence, and appropriate academic language while leaving the final decisions to the learners.

The ideas generated during the brainstorming stage can also be used to develop a counter-argument paragraph. Students learn to acknowledge alternative viewpoints and refute them with logical reasoning, thereby strengthening the overall persuasiveness of their writing. For instance, when writing on the topic "Why Traffic Separation Schemes Are Essential," students may recognize that such schemes can limit navigational flexibility under certain circumstances. However, they can then argue that these limitations are outweighed by the significant benefits of reducing the risk of collisions,

improving traffic flow, and enhancing navigational safety in congested waters. This approach promotes the development of critical thinking, argumentative writing skills, and the ability to construct balanced, evidence-based texts.

The final component is *goal-setting and progress tracking*. Teachers can help students establish specific Maritime English writing goals, while AI tools monitor their progress across successive assignments. This approach enables learners to identify their strengths and areas for improvement, promotes learner autonomy, and encourages continuous development of writing skills. For example, a student might aim to “use maritime terminology more accurately” or “reduce grammar and communication errors in navigational reports by 20 percent.” By tracking these improvements across successive assignments, students become more aware of their strengths and areas for development, taking greater responsibility for their learning.

Pairing students for *peer review* with AI support combines the advantages of automated feedback and collaborative learning. This approach broadens the range of feedback received and enables students to learn from one another’s perspectives. During the peer-review process, students can use AI tools to analyze each other’s drafts and provide targeted feedback. For example, one student may focus on the clarity and organization of ideas, while another may suggest improvements in language use and academic style. Such collaboration enhances both students’ understanding of effective writing practices and contributes to the development of their critical evaluation skills.

A potential concern regarding the use of AI in writing instruction is that students may *become overly dependent on the technology*, which could hinder the development of independent writing skills. To address this issue, teachers should emphasize that AI serves as a supportive tool rather than a substitute for students’ own efforts. Students should be encouraged to produce initial drafts independently and use AI primarily for revision and refinement [1]. Monitoring AI use and reviewing original drafts can help ensure that students engage with the technology in a balanced and purposeful manner. Additionally, reflective activities can promote critical engagement with AI-generated feedback. For example, teachers may ask students questions such as, “How did AI help you clarify your argument?” or “Which AI suggestions did you choose to accept or reject, and why?” Such practices encourage students to view AI as a learning aid that supports the development of writing skills rather than as a shortcut to completing assignments.

Collaborative writing is another effective strategy for developing Maritime English communication skills. Working with a partner requires students to discuss ideas, evaluate information, and make decisions together, reflecting the collaborative nature of maritime operations. Tasks such as incident reports, accident investigations, voyage-planning assignments, and case studies can be completed in pairs. For example, students may analyze a navigational incident and prepare a report identifying its causes and recommending preventive measures. Such activities promote teamwork, communication, and the accurate use of maritime terminology.

Editing AI-generated texts is another effective strategy for developing authentic writing skills. Students revise AI-generated drafts on maritime topics by improving the content, incorporating evidence from course materials or maritime regulations, and

justifying their changes. This approach develops critical evaluation skills while helping students produce accurate, professional-quality writing.

The combination of peer review, collaborative writing, and critical editing of AI-generated drafts encourages active participation in the writing process and reduces excessive reliance on AI tools. These strategies help students strengthen their Maritime English communication skills, develop critical thinking, and produce authentic, well-reasoned written work.

Grammar tools like Grammarly provide *real-time checks*, while vocabulary tools like Wordtune help *refine language*. Teacher may advise students to keep Grammarly active while drafting to receive immediate feedback on language issues or use AI tools for sentence refinement, helping improve clarity and flow. If a student writes, “Electronic charts are more safe and efficient than paper charts,” AI might suggest, “Electronic charts provide a safer and more efficient means of navigation than traditional paper charts.” This makes the student’s point sound more polished and professional.

The final stage involves AI-assisted *assessment and revision*. Tools such as Microsoft Editor help evaluate grammar, clarity, coherence, and vocabulary, enabling students to identify and correct weaknesses before submitting their work. By critically reviewing AI-generated feedback, learners develop self-editing skills and greater autonomy, while the teacher remains responsible for the final evaluation of content and writing quality.

AI tools provide personalized feedback by adapting to learners’ individual strengths and weaknesses. Adaptive algorithms monitor writing progress and generate targeted suggestions for improvement. This individualized support helps students develop writing skills independently and build confidence, particularly in learning English as a foreign language [1, p. 31].

AI improves writing by reducing grammatical errors, enriching vocabulary, and providing instant, context-sensitive feedback that encourages frequent revision. By automating routine tasks such as spelling and grammar correction, it allows learners to focus on higher-order writing skills, including coherence, argumentation, and originality. AI also promotes learner autonomy and confidence by enabling self-correction in a low-stakes environment, helping students become more independent and reflective writers [8, p. 986].

Despite its educational benefits, the integration of AI into writing instruction has raised important ethical and pedagogical concerns. Excessive dependence on AI tools may weaken students’ critical thinking and independent writing abilities, while AI-assisted plagiarism poses new challenges to academic integrity. Moreover, because evidence on the practical use of AI in writing instruction remains limited, its long-term impact on writing quality has yet to be fully established. By integrating AI into writing practice, learners can expand their vocabulary, improve lexical variety, and enhance clarity. However, they should critically evaluate AI-generated suggestions to preserve original meaning and develop independent writing skills.

Conclusion. Artificial intelligence has considerable potential to enhance the development of writing skills in Maritime English by improving linguistic accuracy,

vocabulary use, text organization, and learner autonomy. When integrated through well-designed pedagogical strategies and combined with teacher guidance, AI can support future navigators in producing accurate and professional maritime documentation while fostering critical thinking and responsible use of digital technologies.

References

1. Agzamxanova G., Golovko Y. How AI tools can support English writing development. *Educator Insights: A Journal of Teaching Theory and Practice*. 2025. Vol. 01. Iss. 03. P. 27-33.
2. Aini N., Basthomi Y. Integration of Artificial Intelligence (AI) in Learning English Writing in Higher Education. *Journal of Learning for Development*. 2025. Vol. 12. Iss. 2. P. 364-371.
3. Akanda F., Talukder T. AI writing tools in English writing: Reviewing teachers' and students' views on benefits and concerns. *Social Sciences & Humanities Open*. 2026. Vol. 13. DOI: <https://doi.org/10.1016/j.ssaho.2026.102437>
4. Ateriya N., Sonwani N.S., Thakur K.S., Kumar A., Verma S.K. Exploring the ethical landscape of AI in academic writing. *Egyptian Journal of Forensic Sciences*. 2025. Vol. 15. Iss. 1. P. 1-9. DOI: <http://dx.doi.org/10.1186/s41935-025-00453-1>
5. Chauke T.A., Mkhize T.R., Methi L., Dlamini N. Postgraduate students' perceptions on the benefits associated with artificial intelligence tools on academic success: In case of ChatGPT AI tool. *Journal of Curriculum Studies Research*. 2024. Vol. 6. Iss. 1. P. 44-59. DOI: <https://doi.org/10.46303/jcsr.2024.4>
6. Fahmi M.A., Cahyono B.Y. EFL students' perception on the use of Grammarly and teacher feedback. *JEES (Journal of English Educators Society)*. 2021. Vol. 6. Iss. 1. P. 18-25. <https://doi.org/10.21070/jees.v6i1.849>
7. Montenegro-Rueda M., Fernández-Cerero J., Fernández-Batanero J.M., López-Meneses E. Impact of the implementation of ChatGPT in education: A systematic review. *Computers*. 2023. Vol. 12. Iss. 8. P. 153-162. DOI: <https://doi.org/10.3390/computers12080153>
8. Rahman W. Z. Artificial Intelligence (AI) in English Writing Skills Learning: A Systematic Review. *Indonesian Journal of Research and Educational Review*. 2026. Vol. 5. Iss. 2. P. 981 – 994 DOI: <https://doi.org/10.51574/ijrer.v5i2.4727>
9. Wang C. Exploring students' generative AI-assisted writing processes: Perceptions and experiences from native and nonnative English speakers. *Technology, Knowledge and Learning*. 2024. Vol. 30. P. 1-22. DOI: <http://doi.org/10.1007/s10758-024-09744-3>
10. Zhao X. Leveraging Artificial Intelligence (AI) technology for English writing: Introducing Wordtune as a digital writing assistant for EFL writers. *RELC Journal*. 2023. Vol. 54. Iss. 3. P. 890-894. DOI: <https://doi.org/10.1177/00336882221094089>