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Perceptions and Practices of ESP Teachers in Using AI Writing Assistant Tools for Writing Self-Assessment

تصورات أساتذة لغة التخصص وممارساتهم في استخدام أدوات الكتابة المدعومة بالذكاء الاصطناعي لأغراض التقويم الذاتي

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Abstract:

Technological advancements have rapidly reshaped many aspects of education, including its approach to assessment. One such tool is AI Writing Assistant Tools (AIWAT), which provide instant feedback to support drafting, revision, and writing self-assessment. Thus, this study investigates the attitudes of English for Specific Purposes (ESP) teachers towards the use of AIWAT tools for self-assessment of their writing. Since ESP pedagogy is a valuable opportunity for designing specialised language curricula and for engaging in constructive academic and professional writing, the study examines the perceived usefulness, advantages, and limitations of AI writing assistants for supporting revision and reflection on their own writing from the perspective of ESP teachers, as well as their willingness to employ the technology for self-assessment. Using a mixed-methods approach combining questionnaires and interviews, the study finds that while teachers value the ability to be both time-saving and consistent, AIWAT are criticised for being unable to assess discipline-specific language and context. Such systems may offer some benefits to ESP teachers, but the findings suggest that systems will need to be more fully developed, along with additional training, to address the writing needs of disciplines or professions for which the writing is being taught.

Keywords: AI Writing Assistant Tools (AIWAT), AI-assisted feedback, English for Specific Purposes (ESP), Pedagogy, Self-assessment, Specialized language curricula

الملخص:

أدت التطورات التكنولوجية المتسارعة إلى إحداث تحولات عميقة في العديد من جوانب التعليم، بما في ذلك طرائق التقويم المعتمدة فيه. ومن بين هذه الابتكارات أدوات المساعدة على الكتابة القائمة على الذكاء الاصطناعي، التي توفر تغذية راجعة فورية لدعم مراحل التخطيط والكتابة والمراجعة، فضلاً عن التقويم الذاتي للكتابة. وعليه، تهدف هذه الدراسة إلى استقصاء اتجاهات أساتذة اللغة الإنجليزية لأغراض خاصة نحو استخدام أدوات الذكاء الاصطناعي في التقويم الذاتي لكتاباتهم .وبالنظر إلى أن بيداغوجيا اللغة الإنجليزية لأغراض خاصة تمثل مجالاً مهماً لتصميم مناهج لغوية متخصصة والانخراط في الكتابة الأكاديمية والمهنية البنّاءة، تسعى هذه الدراسة إلى فحص درجة المنفعة المتصورة، والمزايا، والقيود المرتبطة باستخدام أدوات المساعدة الكتابية المعتمدة على الذكاء الاصطناعي في دعم المراجعة والتأمل في الكتابة الذاتية من منظور أساتذة لغة التخصص، إضافة إلى مدى استعدادهم لتوظيف هذه التكنولوجيا في التقويم الذاتي. واعتماداً على منهجية بحثية تجمع بين الأسلوبين الكمي والنوعي من خلال الاستبيانات والمقابلات، توصلت الدراسة إلى أن الأساتذة يثمّنون هذه الأدوات لما توفره من توفير للوقت واتساق في التغذية الراجعة، إلا أنهم في المقابل ينتقدون محدوديتها في تقويم اللغة المتخصصة والسياق الخطابي المرتبط بالتخصصات المختلفة. وتخلص النتائج إلى أن هذه الأنظمة، رغم ما توفره من فوائد محتملة لأساتذة لغة التخصص، تحتاج إلى مزيد من التطوير، إلى جانب توفير تكوين وتدريب إضافيين، من أجل الاستجابة بفعالية لاحتياجات الكتابة الخاصة بالتخصصات والمهن التي تُدرَّس ضمن إطار اللغة الإنجليزية لأغراض خاصة.

الكلمات المفتاحية: أدوات المساعدة على الكتابة القائمة على الذكاء الاصطناعي، التغذية الراجعة المدعومة بالذكاء الاصطناعي، اللغة الإنجليزية لأغراض خاصة، البيداغوجيا، التقويم الذاتي، المناهج اللغوية المتخصصة.

1. INTRODUCTION

As technology continues to advance, educational practices, including assessments and the tools used to aid and enhance feedback and revision process, have evolved. One such innovation is AI-based writing assistant tools, which provide automated feedback on grammar, clarity, style, and language use to support writing revision. This has an impact on teachers too, particularly those who teach niche subjects like English for Specific Purposes. ESP pedagogy often incorporates both writing and academic/professional contexts, requiring accuracy and the aforementioned specificity in the language of the particular discipline. Although AI writing assistant tools are commonly used for writing support and revision, they may help ESP teachers rethink how they approach writing self-assessment and writing improvement.

Although AIWAT are becoming more popular, their use by ESP teachers for writing self-assessment remains underexplored." There are both pros and cons to using AIWAT systems for self-reflection and self-evaluation. AIWAT systems are designed to help users save time and provide standardised feedback; however, teachers remain concerned about the reliability of the feedback and their ability to judge when to accept or reject AI suggestions. The appreciation is directed towards the system's ability to evaluate the context, specific vocabulary, and nuances in ESP writing. Additionally, the integration of such tools into ESP pedagogy will likely require a greater degree of modification, thus, the adaptation of ESP educators' self-assessment technologies will continue to be of interest. The purpose of this study is to examine the attitude of ESP teachers towards the use of AIWAT for assessing their own writing. More specifically, it attempts to explore the effectiveness, prospects, and challenges of AIWA systems, and teachers' willingness to use such tools for their professional development and writing. Consequently, the current research work seeks to answer the following research questions:

1) What is the perception of ESP teachers regarding the effectiveness of AI Writing Assistant Tools for self-assessment of their writing?

2) What advantages and disadvantages do ESP teachers associate with using AIWAT tools for evaluating their writing?

3) To what extent are ESP teachers willing to adopt AIWAT for self-assessment, and what factors influence their readiness to use these tools?

2. LITERATURE REVIEW

2.1. Approaches to Teaching Writing

Over the decades, the changes in teaching writing have reflected changes in educational philosophy, linguistics, and technology. The different methods of teaching writing can be aligned to models based on their emphasis from traditional to more modern approaches, resulting in helping students and teachers articulate their thoughts more clearly and logically in writing. These methods can be divided into three broad categories: product-based, process-based, and genre-based approaches. Additionally, recent developments have incorporated technology and multimodal methods.

2.1.1. Product-Based Approach

The product-based approach regarding writing instruction is one of the earliest approaches aligned with what is called the behaviorist theory of language

learning. In this case, the focus is more on the end result of the writing 'the product', rather than on the writing process. Writing is often viewed as a technical skill where a set of grammatical, syntactic, and structural rules are applied to form a coherent and meaningful piece of text. This method was prominent in the 1960s and 1970s when the teaching of writing focused primarily on the mechanics, grammar and punctuation of writing. Tribble (1996) was one of the first scholars to note that writing ability was the result of repetitive practice and error correction, a technique that is a carryover from the audiolingual approach. The focus is on the end product, as students are expected to write texts that are grammatically and structurally correct. According to Robinson (1980), writing pedagogy should place special emphasis on accuracy, particularly through the use of drills and exercises. In this case, the teacher is primarily viewed as a corrector or evaluator, and is concerned with the error identification and correction in student writing.

In a product-based model, writing tasks may require students to create particular types of written documents like essays or reports, which follow prescribed structures or templates. The emphasis tends to be on teaching students the “right” way to organise a text, and less on the creativity or the thinking that should be part of the writing process. Hedgcock and Ferris (2009) criticise this method for its attention to the defects of writing and for reducing writing to a mechanical process, the complexities of which are ignored. They remark that the product-based approach seems to presume the existence of some ideal model of writing that all students should adhere to. This becomes problematic when issues of individuality and expression arise.

2.1.2. Process-Based Approach

The Process-Based Approach to teaching writing represents a shift from a more traditional, product-based methodology, and focuses more on the writing processes rather than the written product itself. The process-based approach is more constructive as it considers writing as an activity that is adaptable and dynamic, unlike product-based writing instruction, which is more concerned with writing as a mechanical process. This can be achieved through different stage activities such as prewriting, drafting, revising, editing, and publishing. These theories are appropriate for describing the writing process as cognitive theories view the act of composing as complex, occurring in multiple dimensions, and differing greatly from one person to another. This perspective is most clearly articulated by Emig (1971) and Flower and Hayes (1981). Writing requires a variety of cognitive activities, including, but not limited to, problem-solving and planning. Therefore, it should not be viewed as mere production of a finalised and concrete document (Emig, 1971). In 1981, Flower and Hayes developed a cognitive process theory model of writing, wherein the act of writing entails a set of decisions framed within the activities of planning, revising, and evaluating. Their Cognitive Process Model of Writing described writing as a non-linear and recursive process in which a writer has to constantly rework and adjust a piece of writing through external and internal feedback.

The process-based approach believes that writing should be taught as a process of exploration and constructive modification,

rather than following a set of mechanical rules. In contrast to this view, the product-based approach considers writing to be the end result of a simple, linear process. Emig (1971) was among the first scholars to emphasise the importance of the teaching of writing as an aid to the understanding and development of ideas and the fostering of student engagement in critical thinking and reflection during drafting and revision. In the same way, Flower and Hayes (1981) stress the value of recursive writing processes in which writers go back to previous stages of the writing and rework their drafts to enhance the organisation, substance, and clarity of their writing.

An important aspect of the process-oriented approach is the focus on feedback and revision. Students are taught to understand writing as an iterative process that demands continual revision instead of viewing it as a singular task that can be completed. The constructive feedback teachers offer students at each stage helps students revise and improve. Collaboration and feedback from peers can also be central to the process-oriented approach, since students can discuss their writing, offer and receive varying viewpoints, and hone their critical thinking and writing skills, as described by Hyland (2006). The process-based approach also advocates for student ownership regarding the writing process. It encourages students to make decisions about their writing as well as about content, structure, and style throughout the drafting and revising processes. Raimes (1983) suggested that this approach benefits students by encouraging them to think critically about their own writing, and to appreciate the role of revision as a means to enhance their own writing. The student-centred approach in writing instruction is likely to foster the development of autonomy in writing, and as a consequence, a greater understanding of writing as a means of communication.

The process-based approach, while beneficial, has shortcomings as well. One such critique is the excessive amount of time the approach takes, especially when class sizes are large, or when instructors need to give personalised feedback on multiple drafts (Hedgcock and Ferris, 2009). Also, Kroll (1990) expresses the concern of unstructured teaching at the early stages of writing with the argument that some students might not scaffold their drafts if there is no help with the organising of their ideas. Additionally, although the process-based approach encourages the development of creativity and critical thinking, it has been criticised for being overly centred on self-expression and neglecting formal writing, including grammar and syntax (Bitchener & Knipe, 2008).

The process-based model in teaching writing has shifted writing pedagogy considerably from emphasising writing as a product to viewing writing as a process. Researchers such as Emig (1971) and Flower and Hayes (1981) transform the perception of writing in the classroom, highlighting writing as a process that is reflective, constructive, and developmental, and that requires continuous review, response, and modification. This method has been successfully utilised in a number of educational settings, especially in second language writing and ESL classrooms, in which the focus of revision and feedback is critical in assisting students in improving their writing. Nevertheless, in spite of its positive aspects, it poses difficulties concerning time management, teacher

workload, and the need for more streamlined and focused instruction in the initial stages of the writing process.

2.1.3. Genre-Based Approach

The Genre-Based Approach to teaching writing has developed as an important change in pedagogy, especially for teaching ESP. As opposed to the product or process approaches, which focus on some form of writing construction (such as grammar) or the writing steps (or stages), the genre approaches focus on the social and communicative functions of writing. It centres on equipping learners with skills that will enable them to analyse the features, structure, and style of specific genres that they will likely encounter in their studies or careers. In this context, a genre is understood as a category of writing that is associated with particular goals and objectives of communication, writing conventions, and audience expectations. As noted by Swales (1990), genres are defined by the discourse community and knowing the conventions of the community is key to effective communication. There are different genres of writing, and each has its own structural and conventional expectations. For example, the structure of research articles, scientific journals, business reports and legal documents are all different.

The genre-based approach can be traced to Systemic Functional Linguistics (SFL), a theory established by Halliday (1978), which interprets language as a means of communication as determined by a particular social context. From this perspective, writing can be seen as an individual and creative activity, as well as a social activity that fulfils a communicative purpose within a given context. According to Hyland (2007), this method is concerned with teaching students to create texts that conform to the linguistic and organisational patterns of specific genres, be it an academic paper, a business email, or a scientific report. Hyland emphasises the importance of teaching writing in relation to the purpose and the context of the writing along with the language form. In this approach, teachers help students understand the common structure of texts and how different types encompass specific organisational, linguistic, and content-related patterns corresponding to their communicative purpose.

One of the major advantages of the genre-based approach is contextual relevance. Students learn writing structures and conventions of a particular genre that relate to a real-world writing task. This is especially relevant in ESP contexts, where students must acquire writing skills for particular domains, such as law, medicine, or business. Bhatia (1993) states that writing in professional and academic settings needs to be contextualised through genre analysis. By performing genre analysis, students understand the expectations and the rhetorical tools of particular genres and improve their writing tasks that necessitate knowledge of a particular discipline. Consequently, this approach teaches students how to write, and further, how writing, in specific contexts and communities, functions in goal-directed ways, such as communicating research results, constructing persuasive arguments, or engaging in professional writing.

In addition, the genre-based approach highlights the social aspect of writing. The act of writing in itself is a social practice, and is shaped by the audience, purpose and context. This differs from more traditional approaches, which tend to treat writing as

an individual, solitary skill. The genre-based approach, conversely, instructs students to adapt their writing to best suit the audience they are trying to engage with. Hyland (2007) states that knowing the standards of a specific discourse community is important for effective written communication. For instance, a business proposal should be organised in a certain way, use persuasive and succinct language, while a medical research article should be technically accurate, detailed, and clear.

Despite the positive aspects of the genre-based approach, there are also some negative points. One illustrative case is the tendency to be overly prescriptive, which could result in the stifling of students' constructive creativity through the excessive emphasis on the limits of genres. Some detractors argue that the boundaries placed on writing conventions have been excessive. Concentrating on writing conventions may cause writers to lose the ability to express themselves, resulting in writing becoming a process lacking creativity, and one that is strictly formulaic. This analysis is particularly interesting within the context of creative writing, where, arguably, departing from genre expectations is more commendable than conforming to them. Additionally, the genre-based approach has been criticised for focusing on written texts, especially in the digital age. Communicational modes today are more diversified than ever. Considering the growing importance of digital and online genres such as blogs and social media posts, along with multimedia online presentations, it may be necessary to modify the genre-based approach to include multimodal texts. In line with the changing modes of communication in the 21st century, some scholars suggest that genre-based approaches should include digital and multimodal forms of writing.

The genre-based approach, despite some critiques, remains very successful in ESP teaching, particularly in developing students' writing skills at the professional and academic levels. Focusing on the specific requirements of different genres helps students build their writing skills and provides them with important writing and communication skills for their future careers. The genres-based approach has impacted many areas of practice, especially in higher education, where students need to learn to express different professional and academic genres. Although genre-based approaches may involve challenges, these obstacles are minor considering the approach’s acknowledgment of the role of context, audience, and purpose, especially in professional writing.

2.1.4. The Eclectic Approach

The Eclectic approach refers to the conceptualisation of integrating various methodologies and techniques as opposed to merely adhering to one approach. This rapid instruction is reactionary to the learners' needs, the learning context, and the specific writing task at hand. In language teaching, eclecticism developed partly as a response to what is termed the "method era" where teachers had to conform to one over-riding method. Celce-Murcia (1991) suggests that no method is capable of satisfying the diverse needs of actual classrooms and that teachers often get better results by utilising more than one method, even if only in a restricted manner. Brown (2001) also describes principled eclecticism as a professional position whereby teachers select certain methods depending on learning objectives and

evidence of success, rather than because a particular method is in vogue. This perspective is particularly pertinent in teaching writing since writing is, at the same time, linguistic (concerning correctness and vocabulary), cognitive (planning, drafting, and revising), and social/disciplinary (genres, audiences, and discourse communities). From this perspective, eclectic writing pedagogy integrates the product approach (focus on accuracy and modelling), the process approach (drafting and revising cycles), and the genre approach (teaching specific rhetorical and disciplinary conventions). This occurs based on what the immediate goal is, be it correctness, development, or context appropriateness.

Researchers in writing and applied linguistics articulate that effective teaching often requires such a balance in pedagogy; for instance, Hedge (2000) encourages flexible teaching combining form-focused instruction (how language works) and meaningful writing development, whereas Hyland (2003) stresses that writers need both process support (feedback and revision) and genre (how texts function in a particular community), which, of course, supports a blended pedagogy. In recent years, diverse approaches have been strengthened by critiques of more standardised methods. From the postmethod perspective, Kumaravadivelu (2006) states that teachers need to develop pedagogies that are sensitive to particular contexts by integrating and adapting different methods to fit local circumstances, including the students, the particular institutional restrictions, the claims of the discipline, and the resources at hand. An eclectic writing lesson may empirically start with some genre noticing (sample analysis), move to guided process planning and drafting, then finish with editing for accuracy via checklist or digital tool—thereby showcasing the teaching of writing as a process, supported by models, and refined through stages and language form. Overall, the eclectic approach treats the writing teacher not merely as a practitioner of one doctrine, but as an instructor system designer, who makes reasonable, pedagogically sound decisions to assist writers in constructing texts that are correct, significant, and suitable for the given situation.

2.2. Assessing Writing

Evaluating writing has been acknowledged as a multi-dimensional endeavour in the field of language education. It involves even more sophisticated levels of evaluation regarding a writer's ability to express and communicate ideas clearly, logically, and appropriately in a given context. Previously, writing assessments have been approached using holistic and analytic methods, where, while holistic scoring provides one general assessment of the text's quality, analytic scoring divides writing into different categories such as content, organisation, language use, vocabulary, and mechanics, which contributes to describing the writer's performance in a more detailed way. Previous studies framed these techniques as important for fairness and validity in assessing student written work. They stress the importance of transparent standards and inter-rater reliability in reducing evaluative bias. Newer studies have pushed the boundaries of the field by adding more complex additional considerations of fairness, the evolution of writing as a

process, and the impact of assessment as a learning strategy.

Current studies focus on what is called learning-oriented assessment, a model that aims to measure students' writing progress and provide actionable feedback to foster writing development. Imsa-ard (2025) demonstrates that, under the writing assessment learning framework, learning-oriented writing assessment tasks not only improve writing performance but also most positively impact learners' academic resilience, and, more specifically, in the case of argumentative writing, through the integration of assessment and instructional support to promote reflection and revision. Moreover, a 2025 meta-synthetic review in the International Journal of Language Testing synthesises the current literature on writing assessments in EFL contexts and documents a variety of research on teacher feedback, peer and self-assessment, automation, and feedback frameworks, calling for more contextually appropriate and standardised frameworks that address specific instructional goals and feedback to learners.

Leading current studies in the theory and practice of writing assessment, the specialised journal Assessing Writing published articles in 2024 discussing the validity of automated essay scoring for different populations, the structuring of peer feedback with the help of AI tools, and assessment literacy intervention, which enhances teachers' and students' abilities to construct meaning in assessment criteria. Moreover, the most recent works in Assessing Writing discuss the impact of particular task attributes (e.g., task complexity and learner variables) on a variety of metrics of performance and quality of writing, further underscoring the need for specific and nuanced design of assessments based on the proficiency, genre, and sociocultural context. In higher education, more integrated models of writing assessment have been suggested whereby researchers advocate for ecologically oriented perspectives on writing assessment that trace writing development across disparate contexts, genres, and purposes, as opposed to singular test scores. This in fact treats writing as a developmental competence, one that improves with iterative practice and feedback. The existing literature proposes that evaluation of writing should go beyond scoring systems and include facets of constructive literature, fairness, literacy of scorers, consistency with goals of the curriculum, and more recently, the use of technology and reflective methods that help develop writers.

2.2.1. Technological Advancements in AI-Assisted Writing Support and Self-Assessment

In the past decade, changes in technology have greatly transformed the field of writing assessment, evolving from traditional marking to the use of Artificial Intelligence (AI) and Natural Language Processing (NLP) providing metrics and feedback in an almost instantaneous, automated, and extensive manner. The earlier models of AI writing assistant tools systems were created to identify and provide feedback on superficial elements (e.g. grammar, mechanics, and style) using rule-based and statistical natural language processing (NLP). However, due to recent advancements and the increasing use of large language models (LLMs), the scope has shifted to more sophisticated forms of AI-assisted feedback for revision. Recent syntheses indicate that the field of

automated written feedback/AWE research is expanding from error detection to include issues of validity, impact on learning, user engagement, and is balancing measurable advantages (e.g., rapid feedback cycles) with persistent drawbacks (e.g., the potential for feedback to be overly general, lack of contextual awareness, substantial task and user proficiency level performance variability). For example, in ReCALL, systematic review surveys research on artificial intelligence (AI)-based automated written feedback, outlining the various feedback studies across different outcomes and designs. This review highlights the increasing interest concerning the more profound learning consequences, in addition to the alteration of grammatical errors (Liu, 2024).

Meanwhile, work synthesising studies of L2 classrooms demonstrates that the use of AWE is now being examined through wider attributes, such as the levels of engagement and integration within the classroom, which mirrors the transition from "tool accuracy" to "tool use in practice." (Karatay & Karatay, 2024). Most recently, the trend in the field has been LLM-powered automated assessment, where assessment generative models craft feedback aligned with writing goals/criteria, generate holistic scores, and recommend revisions. A 2025 PRISMA-style literature review on LLM-powered automated assessment could note its prevalent use in the automated assessment of language education and essays/short-answer questions, confirming that the field of automated assessment is increasingly reliant on the capabilities of generative AI (Emirtekin, 2025). According to Lo et al (2026), empirical evaluations warn that LLM-generated feedback could be accurate but overly vague. They often lack specifics and concrete examples, and, while some may drift into vague generalities, this was illustrated in a study from 2025 that analysed the feedback aligned with writing goals from an AI-driven feedback system. Simultaneously, researchers in computational linguistics are creating more refined methods to evaluate if models are able to accurately identify particular problems in a piece of writing and provide useful suggestions, stressing that "good feedback" is a more complex construct than the generation of fluent texts (e.g., datasets with prescribed writing problems) (Rashkin et al, 2025). Finally, improvements in research on scoring using GPT (such as scoring, fine-tuning, and prompt engineering) indicate a better alignment with human scorers in certain contexts, but still show reliability issues—particularly in the scoring of weaker texts—suggesting that although their scoring may be sensitive to data balance, task design, and the distribution of levels of proficiency, it may still be improving (Liu, Qi, & Lu, 2025).

2.2.2. AI Writing Assistant Tools Used for Writing Support and Self-Assessment

The last few years have seen the rise of Artificial Intelligence (AI) tools and their ability to transform the way assessments are created and include additional human grading functionalities such as feedback, scoring, and revision support. Grammarly is one of the most widely used applications that examines users' grammar and provides suggestions through the use of artificial intelligence and natural language processing techniques. In addition to providing answers to grammatical errors, this tool offers guidance on style, punctuation, word choice, readability, and it

gives explanations and offers suggestions for rewriting. The feedback provided by Grammarly is especially helpful to both native and non-native writers because it is based on large corpora and models of text and grammar. In fact, Grammarly improves writing quality, especially in the areas of accuracy and clarity, when used multiple times during the drafting process.

Another system used extensively in educational institutions is Turnitin Revision Assistant. It provides organisation, development, and evidence-based rubric score feedback to students and educators to assist in the refinement of text to meet the standards of academic writing (Smith et al., 2025). In addition to basic mistakes, Turnitin's feedback also captures elements of higher-order writing, demonstrating that it exemplifies tools that combine fundamental editing with more substantial revision support. Also, Turnitin is a widely used tool for plagiarism and originality detection. It scans submitted documents and compares them with extensive databases containing web materials, published works, and student assignments. It assists students and researchers in identifying possible plagiarism and/or inadequate citations. Moreover, Turnitin has added AI-writing detection tools (for example, an "AI writing" indicator/report) to help faculty and organisations identify automatable text. Although these types of tools are almost always stated to be suggestions for human evaluation rather than conclusive evidence, they are intended to be supportive.

Another tool that prioritises clarity and readability is Hemingway Editor. It reviews sentence complexities, passive voice, and makes simplification suggestions that promote better style choices. Students employing such readability-centred AIs show better audience awareness and overall coherence of text. ProWritingAid, too, merges grammar checking with style suggestions tailored to specific genres, along with contextual support, enabling writers to adjust tone, structure, and word choice to fit particular writing objectives. An expanding range of LLM-enabled resources, including AI-based writing support tools utilising OpenAI's GPT-4/5, provide integrated feedback that replicates the comments of human instructors on the argumentative structure, logical consistency, and evaluation rubric, as well as other aspects, when prompted sufficiently. It has recently shown that, when prompts are designed effectively, the feedback tools associated with large language models (LLMs) can be on par with human modelers on the evaluation criteria of most general and relevant content. However, they still demonstrate a deficiency in highly specialised or discipline-specific genres.

Alongside independent systems, several Learning Management Systems (e.g., Canvas and Blackboard) embed features powered by artificial intelligence, including automated grading and revision analysis, which assist teachers in monitoring the writing development of students at large. ETS’s Criterion® provides automated feedback on content, organisation, and language use that can support revision and writing self-assessment. Research suggests that with teacher intervention, Criterion can improve both surface and deep writing skills, and sustained use can improve even more (Attali & Burstein, 2025). Meta-analyses of AI writing tools highlight Quill and Write & Improve (by Cambridge English), which are tailored for language learners. These

tools support various feedback cycles that promote revision and metacognitive thinking, thereby fostering self-regulation in writing.

Research identifies challenges that persist despite the benefits mentioned, including immediacy of feedback, consistency, scalability, and engagement. Many tools perform well regarding basic revisions, but when it comes to more sophisticated elements, such as the quality of arguments, the appropriate use of language and rhetoric relevant to the discipline, and so on, these tend to differ, particularly within specialised or more academic contexts. Concerns remain around the transparency of feedback, the user's comprehension of the automated suggestions, and the possible functions of teachers to set and elaborate the context of the AI-made comments (Gonzalez & Baker, 2024). Additionally, concerns continue regarding the ethics of data privacy and the alignment of AI applications with instructional objectives. With the continuous development of AI, hybrid models combining machine feedback with intended teacher direction are acknowledged as best practice in writing evaluation. Such models enable writers to benefit from automation while retaining critical human evaluation.

3. METHODOLOGY

3.1. Research Design

The present study employs a mixed-method approach to examine the application of AI writing assistant tools (AIWAT) by ESP teachers for writing self-assessment. This design is appropriate, as the goal of the research is to identify measurable patterns as well as gain insights into the teachers' experiences with AIWAT. Although the quantitative data reveals overall trends concerning AIWAT tools among educators, the qualitative data demonstrates the reasons these tools are used for self-assessment in greater depth. The research utilises an explanatory sequential design, starting with the acquisition of quantitative data via the distribution of structured questionnaires, and subsequently, the acquisition of qualitative data through semi-structured interviews. The initial analytical part presents an understanding of the range and frequency of AIWATusage and identifies some salient issues that require further exploration. The qualitative element helps in elucidating and interpreting the findings by representing the experiences of individual teachers. The integration of two distinct data strands in this research deepens the understanding of writing self-assessment by AIWAT and ESP teachers and strengthens the findings' validity and rigour.

3.2. Participants

The sample comprises 20 ESP teachers, who, according to purposive sampling, align with the objectives of the study. All participants are currently teaching ESP courses at the higher education level and engage in academic or professional writing as part of their teaching, research, or administrative activities. The criteria for selection included previous engagement with digital writing tools and experience writing in English for specific academic or professional purposes. The varying levels of teaching experience, different disciplinary backgrounds (i.e., business, law, medicine, engineering), and years of practice influence the perspectives on the use of AIWAT tools for self-assessment. The sample size is adequate for

a mixed-methods study as it enables both meaningful quantitative analysis and rich qualitative analysis from participant interviews. Participants were informed of the study's aim, and all ethical considerations, including confidentiality and anonymity, were maintained.

3.3. Research Instruments

In order to achieve the goal of this study, two sets of instruments were used, which were different but complementary: one was a closed-ended questionnaire and the other consisted of a number of open-ended interviews. In this case, the questionnaire was designed to collect the quantitative responses of teachers regarding the use of AI writing assistant tools (AIWAT) for writing self-assessment. It investigates the writing feedback, usefulness, usage frequency, and experiences with AI writing tools. A majority of the survey questions employed the Likert scale format, allowing for the collection of quantifiable data that could be used for response comparison and pattern recognition. In order to elaborate and contextualise the findings, a considerable number of participants took part in semi-structured interviews. ESP teachers were encouraged to share their experiences with AI writing assistants in interviews, using the tools, the obstacles they aid in their writing processes, and the challenges they encountered with field-specific automated writing feedback in response to the interviews. Employing these tools facilitated methodological triangulation, strengthening the value and capturing the metrics and qualitative details pertaining to the self-assessment of writing of ESP teachers.

4. RESULTS AND DISCUSSION

4.1. Questionnaire Results

A questionnaire was distributed to ESP teachers to gather quantitative data regarding their self-assessment writing processes through AIWAT. It sought to identify overall trends concerning usage patterns, preferred tools and features, perceived usefulness, and recurring issues when applying automated feedback to academic and professional writing. The next section outlines the key findings from the questionnaire responses in a descriptive manner.

4.1.1. Frequency of AI Writing Assistant Use for Self-assessment

Most ESP instructors mentioned utilising AIWAT on a consistent basis to evaluate their own writing. Of the respondents, fourteen (70%) used AIWAT on a frequent basis (weekly or more), four (20%) used it on an intermittent basis (monthly or at times of intensive writing), and two (10%) claimed to use it infrequently. AIWAT tools have, to a great extent, been incorporated into the revision processes of drafts written by these teachers, and are especially employed when they are writing formal academic or professional documents like articles.

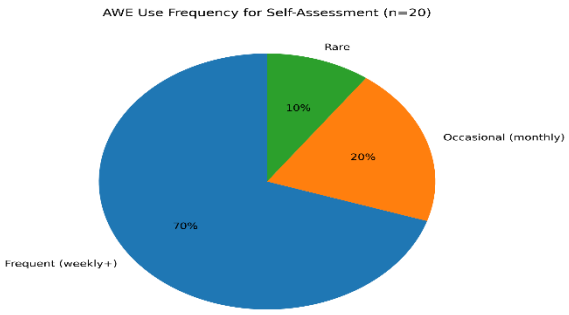


Figure 1: Frequency of AI Writing Assistant Use for Self-Assessment

4.1.2. Contexts in which teachers use AIWAT

Teachers stated that AIWAT functions in addressing both academic and professional writing needs. To account for overlaps, the results indicated that 8 teachers (40%) utilised AIWATin both situations, 7 (35%) primarily used it for academic writing (for example, articles, abstracts, conference submissions), and 5 (25%) primarily used it for professional writing (for example, formal emails, reports, institutional documents). This means AIWAT is not confined to "research writing only" and offers a much wider writing support.

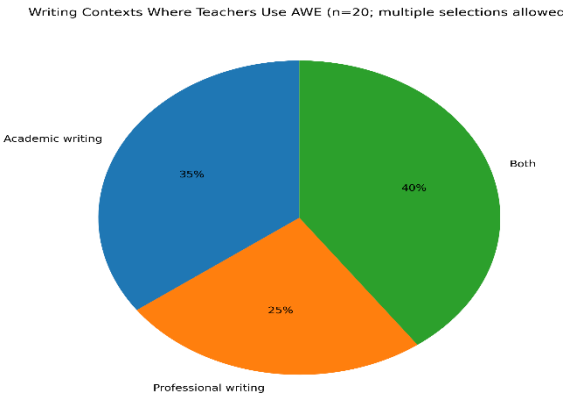


Figure 2: Contexts in which Teachers Use AI Writing Assistants

4.1.3. Most Used AI Writing Assistant Tools

Patterns of tool use show a significant concentration on a small number of tools. The most common tool was Grammarly (16 teachers, 80%), followed by Microsoft Editor (9 teachers, 45%), LLM-based tools (feedback/rephrasing ChatGPT-style tools) (8 teachers, 40%), and LanguageTool (6 teachers, 30%). The combination of tools suggests teachers use one tool for language correction and a different one for rewording or clarifying assistance.

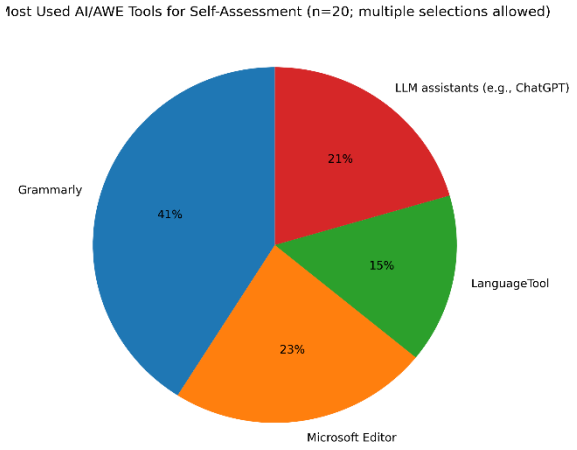


Figure 3: Most Used AI Writing Assistant Tools

4.1.4. Most Consulted AI Writing Assistant Feedback Features

Teachers primarily used AWE to improve surface-level accuracy and surface-level clarity. The most frequently noted features were grammar and punctuation (18 teachers, 90%), clarity/readability (15, 75%), vocabulary/word choice (12, 60%), and style/tone adjustments (10, 50%). This indicates AWE is predominantly utilised to enhance revisions and polish works, focusing on accuracy and clarity prior to submission.

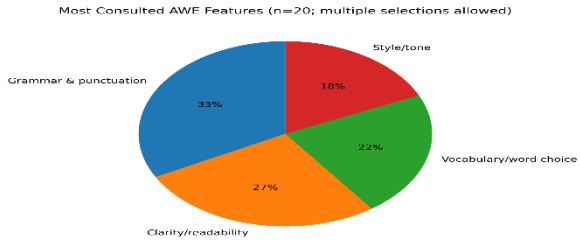


Figure 4: Most Consulted AI Writing Assistant Feedback Features

4.1.5. Key limitations when using AIWAT for ESP-related writing

While teachers acknowledged the importance of speed and consistency, multiple recurring challenges were reported. The most frequent issue was AIWAT tools misflagging discipline-specific terms (14 teachers, 70%), and after that were comments suggesting overgeneral, less precise formulations (12, 60%). Educators also noted genre/register mismatch (10, 50%), including suggestions that are not academically appropriate, and data privacy issues (8, 40%), particularly related to the uploading of institutional, unpublished academic materials of a confidential nature. These findings indicate that AIWAT is most effective for general language quality, but needs improved domain/context adaptation for more specialised ESP writing.

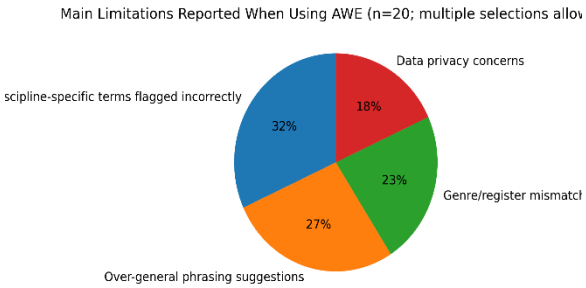


Figure 5: Main Limitations

4.2. Interview Results

In-depth experiences of ESP teachers using AWE tools for self-assessment of writing were obtained through semi-structured interviews. Actually, thematic analysis of qualitative data has led to the identification of five key themes. These themes capture the instances of AIWAT's operationalisation by teachers, the worth they ascribe to it, and the challenges they face concerning the use of AIWAT for specialised academic and professional writing.

4.2.1. AI Writing Assistants as as a Supportive Proofreading and Revision Tool

During interviews, teachers asserted that AIWAT tools are extremely valuable for proofreading and language correction, especially during the final stages of the writing process. Participants noted that AIWAT assisted them in identifying certain grammatical issues, punctuation errors, and awkward phrasing that might be overlooked, especially given the time constraints. Automated feedback is providing teachers with the opportunity to become more aware of their own specific mistakes, such as the misuse of articles or overcomplexity of sentences, because they have noted the personal errors they tend to make. One participant noted that AIWAT serves as "*an additional pair of eyes*" that enables them to submit writing more confidently. Nonetheless, each instructor characterised AIWAT as a useful aid, rather than as a decision maker, emphasising that all ultimate decisions would always be made by a person. In this regard, one participant explained, "*I use it mostly after I finish my draft. I use it as a last check for grammar, punctuation, and any other minor mistakes I don't see after reading it a few times.*" Someone else noted, "*It helps me*

with the language refinement. I don't see it as a real 'evaluator' of my writing, but it improves the accuracy of what I put in."

4.2.2. Increased Efficiency and Reduced Cognitive Load

A common observation across all the interviews was the feedback indicating AIWAT tools significantly mitigate cognitive and time-related workload. A few educators indicated that automated feedback allowed them to focus on content and disciplinary argumentation, instead of having to make click corrections. One teacher summarised the benefit of automated feedback in the following way: "*it saves me a lot of time. Instead of spending one hour correcting basic errors, I can focus on the content and the structure.*" This was particularly appreciated by those participants who frequently engage in academic text writing, including research articles, abstracts, and institutional reports. AIWAT helped some educators in revising and amending assignments while still keeping the same degree of linguistic precision. Some participants commented that the improvements in efficiency were associated with the user's capacity to understand the feedback given, rather than merely to apply it. In this connection, one interviewee said, "*When deadlines are approaching, it helps a lot. The stress of proofreading is less, and the revision is quicker."*

4.2.3. Limitations in Discipline-Specific Language and Context

While the participants have noted the value of the language accuracy feature, they have all pointed out the lack of disciplinary linguistic specificity as a critical shortcoming of AIWAT. Participants mentioned that descriptors of the various fields, technical words, particular rhetorical structures, and discourse practices were frequently misunderstood and/or misflagged. In this regard, one participant said that "*In my field, technical terms are sometimes flagged as wrong. If I accept the suggestion, the meaning becomes less precise."* In some situations, AIWAT proposed that teachers replace specific disciplinary language with more elaborative and broader terms. Teachers felt that such a change might lose some academic strength. Instructors from fields such as medicine, law, and engineering stated that such recommendations needed to be dismissed, and this strengthens the assertion that existing AIWAT systems are tailored more towards common English than the specific ESP discourse as it is expressed by a participant *"It doesn't understand the context of specialized writing. It may correct something that is correct in academic language."*

4.2.4. Critical Engagement and Selective Acceptance of Feedback

Interviews indicated teachers' strong pattern of engagement with automation in AIWAT. Teachers highlighted AIWAT feedback as one from which they would not automate suggestions. They explained they would assess every AIWAT recommendation with respect to meaning, genre, and other disciplinary considerations. One participant stated that "*I don't accept the suggestions automatically. I check each one, because sometimes it changes the meaning or the tone."* Some participants noted using personal techniques, such as balancing suggested field knowledge, and rereading paragraphs after edits to ensure coherence. This selective strategy

highlights some teachers' assessment literacy and awareness of AIWAT limitations. A number of interviewees pointed out that AIWAT, if used, may produce "over-editing" or a distortion of meaning. Some interviewees stated that "*some suggestions are good, but others make the sentence too general. I decide based on my purpose and my audience."*

4.2.5. Need for Training and Pedagogical Awareness

The final theme relates to the use and training of AIWAT tools. Most teachers perceived a training gap in AIWAT use and had informally trained on how to use AIWAT. Nonetheless, several educators conveyed the need for training in more advanced features such as audience configuration, genre targeting, and feedback analysis. Participants suggest that workshops for professional development may increase teachers' use of AIWAT for self-assessment. Some teachers also wanted to learn more about AIWAT algorithms, believing that this knowledge would help them more effectively make assessment feedback. Generally, teachers agree that AIWAT would be more effective if integrated into a more holistic structure of reflective writing practice rather than being implemented in isolation. Aligned with this, one participant stated that "*I consider that teachers need training. Most people use the basic functionalities, but do not analyse how to do feedback.*" She continued with "*If we know how the tool gives feedback, we can use it effectively and not rely on it*."

Generally, the results revealed that ESP teachers appreciate AIWAT tools as supportive for enhancing language accuracy, writing efficiency, and greater self-confidence in writing. Also, the results indicated that ESP instructors regard AIWAT tools as more beneficial self-assessment aids as they provide instant feedback for revision and proofreading. The frequent use and dependent use of some tools with the attributes of grammar, punctuation, and clarity features suggest that these tools are regarded as most useful in enhancing accuracy at the surface level and in time management, which is crucial for teachers with substantial academic and professional writing workloads. There are, however, notable limitations of the results, especially regarding the use of discipline-specific terms, the conventions of the genre, and the contextual meaning, which are all central to ESP writing. Most teachers recognised the necessity for cautious consideration of suggestions and the need for more human intervention. The results reinforce the idea that AIWAT works best as an assistive tool in expert evaluation, highlighting the need for more tool development and training to meet the specific writing and ESP needs of particular contexts. Additionally, the results suggest that AIWAT are most effective when embedded in a hybrid self-assessment framework, which includes automated feedback along with disciplinary knowledge, reflective practice, and targeted training.

5. RECOMMENDATIONS

Taking into account the study results, the following suggestions are directed at enhancing the ESP teachers' writing self-assessment using AIWAT tools feedback:

- Institutions and ESP programmes should promote AIWAT tools as part of teachers' professional development in academic and professional writing.

- Organising training workshops for ESP teachers on AIWAT tools, providing teachers with comprehensive feedback, and developing their skills in distinguishing useful suggestions from unhelpful ones should be prioritised.
- Educational institutions and developers should collaborate to improve AIWAT systems, so they can better address vocabulary, genres, and rhetorical conventions specific to different disciplines.
- Using AIWAT tools as replacements for human expertise should be avoided. ESP educators should be motivated to implement a hybrid self-assessment model that combines automatic feedback with discipline-specific, peer review, and reflection revision to achieve precision, contextual appropriateness, and academic depth.
- Subsequent studies should build on this research by using broader samples, incorporating additional ESP fields, and assessing the AIWAT longitudinally for teacher writing development. While most studies examine teacher assessment of student writing, there is a notable gap in studies on teacher writing and the potential impacts of AI self-assessment on their writing assessment pedagogy.

6. CONCLUSION

This study aimed to investigate the extent to which ESP teachers use AIWAT to self-assess their writing, a topic that has been largely overlooked in the current body of research. Thus, it highlights the tension that exists between the potential of AI writing assistant tools and the realities of ESP writing. ESP instructors generally embrace AIWAT as a constructive tool for self-evaluation since it provides fast, consistent, and instant feedback, which can facilitate multiple drafts and revisions. Nevertheless, their concerns are equally decisive: existing systems fail to understand the disciplinary purpose, audience, context, and meaning—elements central to ESP pedagogy and professional communication. The findings suggest that AIWAT should not be used as a substitute for expert judgement, but rather as a supportive mechanism, the value of which is contingent upon the extent to which it is tailored to particular domains and the effectiveness of training educators to understand and utilise its responses. For AIWAT to become truly transformative in ESP, developers and educators must collaborate on more discipline-conscious, transparent, and pedagogy-aligned tools, while institutions provide teachers with the kind of ongoing support that fosters assessment literacy and autonomy. In this context, AI writing assistants have the potential to evolve from generic editing tools into discipline-aware self-assessment supports that develops feedback reflective practices, and deepens quality specialised writing instruction. Actually, what makes this study distinctive is its focus on teachers' writing practices rather than on student writing. Previous research has mostly looked at teachers' attitudes towards using AIWAT to assess students' writing. This study shifts focus to teachers as writers and self-assessors and offers new insights. Doing so highlights the dual functions of

ESP teachers as teachers and as scholar/practitioner writers. The outcome indicates that AIWAT tools are meaningful in the professional development of teachers in the context of hybrid self-assessment approaches that integrate automated feedback with some reflective disciplinary reasoning. Future research may extend this work by considering larger samples, the longitudinal use of AIWAT, or the pedagogical implications of teachers' self-assessment practices for their classroom assessment strategies.

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