





## ABSTRACT

Academic writing skills are vital to learners, especially for tertiary students. The skills however are not easy to master due to multiple other requirements needed to produce quality academic works. This is when a specific tool like the Written Article Analysis Template (WAAT); a Google Sheet-based writing scaffold, is warranted to cater to students' academic assessment required under the English for Critical Reading course. To gauge students' perceptions of the tool, this research was conducted employing the Technology Acceptance Model (TAM). A set of questionnaires was adapted following the TAM where four variables; Perceived Usefulness (PU), Perceived Ease of Use (PEU), Attitude (ATU), and Behavioural Intention (BI), were the key concepts. Statistically relevant data showed a positive and high acceptance of the WAAT among students, with PU being recorded as the salient factor in students' WAAT adoption. The study also found strong relationships between students' Behavioural Intention, Perceived Ease of Use, and Attitude toward the template. The study concludes that usefulness and user-friendliness are two important features of technology-based writing tools like the WAAT.

**Keywords:** academic writing, critical reading, ESL, technology acceptance model, writing template

## INTRODUCTION

The process of writing necessitates the organisation and articulation of ideas in a logical and coherent manner. It is expected that tertiary-level language learners possess an adequate level of competency in academic writing to ensure the success of their academic endeavours.

Academic writing is characterised by the incorporation of references, information, and evidence to substantiate arguments, while maintaining scholarly presentation and employing reasoning and logic (Chauhan, 2022). Hyland (2022) stresses that academic writing relies on style, content, and concrete information to meet the standards expected by scholars and educators. Therefore, mastering academic writing requires cognitive abilities to understand, apply, and integrate knowledge, as well as skills in crafting well-structured paragraphs, coherent ideas, complex structures, and using a wide range of vocabulary (Hyland, 2022).

Due to the requirements of academic writing, many English as a Second Language (ESL) learners face challenges in developing high-quality academic writing. The major concern is a lack of proficiency in English (Jeyaraj, 2020). ESL learners may also struggle to express their thoughts and ideas in writing due to differences in language and cultural backgrounds (Zhu, 2022). In addition, many students face difficulties with writing conventions and structural organisation of academic writing (Jeyaraj, 2020). They may struggle with formatting, citing sources correctly, and adhering to disciplinary standards, leading to confusion and frustration. Moreover, the writing process may also be hindered by the challenges in developing a thesis statement, organising ideas, and constructing coherent paragraphs (Aldabbus & Almansouri, 2022). Furthermore, students often struggle to maintain a logical structure in their writing, leading to disjointed arguments and unclear conclusions (Chauhan, 2022).



Reiterating Chauhan's (2022) emphasis on reasoning and logic being the salient features in academic writing, it is understood that an academic writer needs to possess a critical style of writing. This is another major challenge to ESL learners as critical writing demands students' abilities to read and think critically, which many Malaysian ESL tertiary learners are lacking (Shamida et al., 2021). Since academic writing necessitates strong critical thinking skills, namely evaluating sources, synthesising information, and constructing well-reasoned arguments as well as critical, thoughtful analysis and interpretation of texts (Jiang et al., 2022).

Improving the academic writing skills of ESL learners is crucial, as it can increase their confidence and academic performance as proficient academic writing skills significantly influence the academic achievement of university students (Azmar & Razali, 2024; Jeyaraj, 2020; Jiang et al., 2022). ESL learners who can write clearly and coherently are more likely to succeed in their academic and professional careers. It is, therefore, pertinent that instructors develop effective strategies and tools to support ESL learners in improving their academic writing skills.

One strategy is the implementation of technology-based tools, such as the WAAT, in ESL academic writing instruction. The WAAT can aid ESL learners in organising their ideas and analysing their writing, which would lead to improving their writing skills. Nevertheless, the effectiveness of a writing scaffolding tool like the WAAT may vary depending on the learners' perceptions and acceptance of the tool (Davis, 1989).

In order to explore how learners, accept and engage with tools like the WAAT, this study draws on the Technology Acceptance Model (TAM). TAM was developed by Davis in 1989 (Davis, 1989) and has since become one of the most widely used models for studying technology adoption. The strength of TAM lies in its ability to explain how users' perceptions of ease of use and usefulness shape their attitudes and, ultimately, their decision to adopt a technology.

The purpose of the research is to investigate the ESL learners' perceptions of the implementation of the WAAT on improving their critical academic writing skills. It focuses mainly on the factors that influence the learners' acceptance and use of the WAAT. To this end, the study aims to answer the following research questions:

1. What are the perceptions of ESL learners in the implementation of the WAAT?
2. What are the relationships between variables that might influence ESL learners' intention to use the WAAT in critical academic writing?

## LITERATURE REVIEW

### Written Article Analysis Template (WAAT)

The Written Article Analysis Template (WAAT) was developed by the researchers as a scaffold to support students in producing critical article analyses. Students were required to compose a 600-word analysis based on one argumentative article for English for Critical Academic Reading course that was offered at Universiti Teknologi MARA. The writing assignment constitutes 25 percent of the final marks. The WAAT serves as a tool to facilitate this process and streamline



grading. It operates on the Google Sheets platform and is accessible online and offline. The key features of the WAAT include:

1. **Guidelines Worksheet:** This page provides instructions for effective use of the template. It outlines the template's content and functionalities.
2. **Cover Page Worksheet:** This page enables students to input personal details such as name, student ID, article title, and submission date. It includes an automated grading system and space for lecturers to assess the content, language proficiency and organisation of the analysis. It also includes the WAAT Rubrics for the users' and instructors' reference.
3. **Template Worksheet:** This page contains essential and optional elements of the WAAT. Each item is colour-coded for easy identification and includes descriptions, instructions, examples, and assigned marks. It features an "Answer" column for students to type their critical analysis following the requirement of the assessment.
4. **Full Essay Worksheet:** This page automatically compiles a comprehensive analysis by consolidating all Template Worksheet items. It also calculates the word count of the analysis, enabling students to monitor the word count of their analysis.

The WAAT serves as a valuable tool for both students and instructors by enhancing the learning and assessment process through its structured, creative, and user-friendly design. For students, it clarifies the requirements of article analysis by providing clear instructions for each section, while its step-by-step framework guides them through the analytical writing process, improving their productivity and academic writing skills. For instructors, the template simplifies monitoring and grading, ensuring a more efficient assessment process. Its originality is reflected in creative features such as colour-coded sections that enhance visual appeal and navigation, while the use of Google Sheets provides an intuitive, accessible platform. In addition, automated functions, namely essay generation, word count calculation, and scoring, further increase the tool's practicality and convenience, making the WAAT an innovative scaffold that benefits both teaching and learning.

### **Technology Acceptance Model (TAM)**

The TAM was introduced by Davis in 1989 (Davis, 1989). It was built upon the Theory of Reasoned Action to specifically address the determinants of computer technology usage behaviour (Alamsyah et al., 2023). It has two main constructs which are perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a particular system would enhance his or her job performance, while perceived ease of use is defined as the degree to which an individual believes that using a particular system would be free of effort (Sadeck, 2022). They directly influence a user's attitude towards technology and, subsequently, their behavioural intention to use it. The behavioural intention subsequently predicts the actual system usage. This foundational framework has been widely applied and empirically supported across diverse contexts and technologies, demonstrating its robustness and parsimony in predicting technology acceptance and adoption (Hossain et al., 2024).



Applications of TAM in e-learning contexts consistently demonstrate that perceived ease of use and perceived usefulness are central to shaping technology acceptance. Empirical evidence further indicates that these constructs are influenced by learner and instructor characteristics, including personal innovativeness, self-efficacy, and social factors (Chahal & Rani, 2022). Across diverse educational settings, perceived ease of use has emerged as the most decisive factor, strongly predicting attitudes and behavioural intentions toward adopting digital learning platforms (Mastour et al., 2025). In a similar way, the acceptance of WAAT as a scaffolding tool can also be understood through TAM, as its structured design enhances perceived usefulness while its user-friendly interface supports perceived ease of use.

### **Scaffolding in Writing and the Theoretical Foundation**

Scaffolding is a pedagogical strategy where instructors provide temporary, structured support to help students accomplish tasks that would otherwise be beyond their independent capabilities. This support is gradually withdrawn as learners develop proficiency and autonomy, enabling them to complete tasks independently and become self-regulated writers (Tatum & Huber, 2020). In writing instruction, scaffolding is particularly useful for guiding students through the complex processes of ideation, drafting, revision, and evaluation. Support can take the form of modelling, explicit instruction, graphic organisers, or feedback, all of which break down writing into manageable steps that foster progressive skill development (Allagui, 2024).

The theoretical foundation of scaffolding lies in Vygotsky's (1978) sociocultural theory, specifically the concept of the zone of proximal development (ZPD), which highlights the difference between what learners can achieve independently and what they can achieve with guidance from a more knowledgeable other (Hasan & Karim, 2019). Within this zone, scaffolding provides the bridge for learners to move from their actual developmental level to their potential developmental level (Azi, 2020). Prior research supports this view, showing that scaffolding is particularly effective in supporting diverse learners, such as English language students, by enabling them to succeed in literacy activities that would otherwise exceed their unassisted abilities (Athanasas & Oliveira, 2014). Similarly, studies have demonstrated its value in high-need educational settings where students require tailored support to meet academic goals (Athanasas & Oliveira, 2014).

Scaffolding's effectiveness can also be explained through Cognitive Load Theory (CLT), which emphasises that instructional design should account for the limitations of working memory by managing intrinsic, extraneous, and germane cognitive load (Kastaun et al., 2021). Writing tasks such as source-based writing and critical article analysis are cognitively demanding, requiring students to extract ideas, synthesise multiple sources, and construct arguments. Scaffolding mitigates this challenge by reducing extraneous load, that is through structured support such as templates or step-by-step guidance. This breaks down intrinsic complexity into smaller, more manageable components. Evidence from studies shows that this approach enhances students' ability to integrate and synthesise information from sources (Allagui, 2024) and fosters metacognitive awareness, empowering learners to monitor and regulate their own writing processes (Lin et al., 2022).



Building on these insights, the current study positions scaffolding, underpinned by Vygotskian sociocultural theory and informed by CLT, as central to supporting students in the cognitively demanding task of producing a critical analysis of an academic article. In this regard, the WAAT functions as a practical scaffolding tool as it reduces extraneous cognitive load by providing structured guidance, operates within students' ZPD by offering step-by-step examples, and ultimately helps them develop independence in academic writing.

### Conceptual Framework

The conceptual framework of the study is based on two theories namely the Sociocultural Theory and the Cognitive Load Theory, and the TAM, which are explained in the previous sections. The design and development of the WAAT applied the Sociocultural Theory for designing the WAAT as a scaffolding tool. The Cognitive Load Theory was applied in designing the WAAT in terms of the arrangement of the contents that is from the easier to the more complex tasks. Based on the cognitive load theory, the tool only provides adequate and necessary contents to optimise learning and skill acquisition in academic writing. The WAAT's design, grounded by these two theories, influences students' Perceived Usefulness and Perceived Ease of Use, which are central TAM constructs for assessing technology acceptance. The conceptual framework of the study is shown in Figure 1 below:

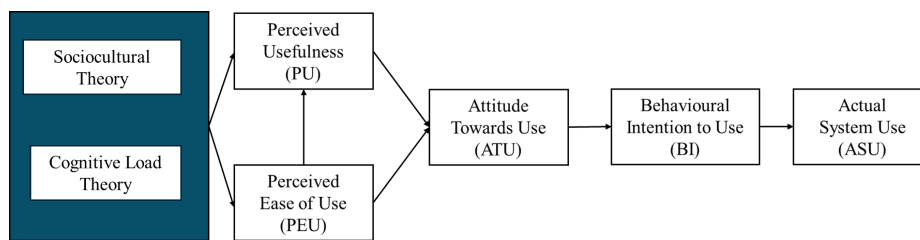


Figure 1. Conceptual Framework of the study

### Academic Writing in ESL Context

Academic writing is an essential skill for students in tertiary education, as their proficiency in writing often determines their academic success. However, both ESL/EFL lecturers and students frequently perceive academic writing as a challenging skill to teach and learn (Azmar & Razali, 2024). Teaching English academic writing requires not only strong content knowledge but also effective pedagogical strategies. Research indicates that many instructors rely on a teacher-centered approach with heavy dependence on textbooks, while students primarily learn through drills and repetitive writing practices (Azmar & Razali, 2024). This traditional method, although widely used, may not sufficiently support students in developing their academic writing skills.

Several studies have examined the specific difficulties faced by university students in academic writing. Aldabbus and Almansouri (2022) investigated the challenges encountered by Libyan undergraduate EFL learners and found that students struggled with selecting appropriate academic vocabulary, developing thesis statements, organising ideas, and writing coherent paragraphs. These difficulties were largely attributed to limited resources, low English language proficiency, and insufficient writing practice opportunities. Similarly, Lin and Pua (2024) identified academic



writing difficulties among Malaysian university undergraduates, particularly in areas related to vocabulary, coherence, and paraphrasing. These challenges were influenced by low English proficiency, mother tongue interference, lack of writing practice, instructional techniques, and the medium of instruction. The students in these studies also faced difficulties in the writing process itself, particularly in planning, drafting, revising, and editing. The academic English proficiency, as found by Jo in her 2021 study “emerged as a significant contributor to essay quality” (p. 408).

In addition to linguistic challenges, academic writing difficulties also involve cognitive and structural aspects. Effective academic writing requires students to critically engage with texts, synthesize information, and construct well-organized arguments. However, many students struggle with these higher-order thinking skills, which can hinder their ability to produce well-developed academic papers (Azmar & Razali, 2024). Jiang et al. (2022) explored the perceptions of Chinese international students studying in Malaysian universities and found that limited academic writing skills and language problems significantly hindered their writing abilities.

Research has consistently shown that ESL students often face considerable challenges in academic writing. The challenges include limited vocabulary, problems with organising ideas, and challenges in maintaining coherence, which are frequently linked to their overall English proficiency and limited writing practice. Many students also find it difficult to engage in higher-order thinking skills such as critical analysis and synthesis. This, in turn, makes it harder for them to develop well-structured arguments and produce writing that fulfills academic expectations. Overcoming these challenges requires strategic support, and this is where the WAAT plays a role. By helping learners organise their ideas, analyse their writing, and engage more critically with their texts, the WAAT can serve as a practical tool to overcome the challenges students may face in English academic writing, hence supporting the development of stronger academic writing skills.

## **METHODOLOGY**

### **Research Design**

This study adopted a quantitative research design in exploring students' perceptions of using the WAAT in ESL academic writing. Technology Acceptance Model (TAM) developed by Davis (1989), the research examined how students perceived the usefulness, ease of use, and overall effectiveness of WAAT in supporting their academic writing process. By analysing the perceptions, the study aims to understand the factors that influence students' acceptance and willingness to utilise the WAAT into their academic writing practices.

### **Participants**

The sample was acquired through purposive sampling, involving 138 respondents from the March-August 2022 session, taking English for Critical Academic Reading course at three Universiti Teknologi MARA (UiTM) branches namely UiTM Pahang, UiTM Negeri Sembilan, and UiTM Kelantan. They were from various disciplines, namely Bachelor of Office Management (Hons), Bachelor of Science (Hons) in Plantation Technology and Management, Bachelor of Science (Hons) in Mathematics, Bachelor of Science (Hons) Management Mathematics, and Bachelor of



Business Administration (Hons) Islamic Banking. The age range of the participants was between 19 and 22 years. All respondents enrolled at UiTM with a minimum Malaysian University English Test (MUET) score of Band 3. The sample consisted of 24 male students and 114 female students. Table 1 summarises the demographics of the participants in this study.

**Table 1.** Participant demographics summary

Categories		No	Percentage (%)
Gender	Male	24	18.8
	Female	114	81.2
Programme	Office Management	79	57.2
	Plantation Technology and Management	19	13.8
	Mathematics	14	10.1
	Business Administration Islamic Banking	18	13.0
Branch	Pahang	98	71.0
	Kelantan	26	18.8
	Negeri Sembilan	14	10.1

The study employed a questionnaire adapted from TAM (Davis, 1989) for data collection. The consistency of the items was measured by using Cronbach alpha. In Alfadda and Mahdi's (2021) study on students' perceptions of using Zoom, the reported Cronbach's alpha was 0.93. Besides, a study on E-learning acceptance in teaching the English language by Vali et al. (2012) recorded a Cronbach's alpha of 0.7. The Cronbach alpha value obtained for this study was 0.977. Therefore, it indicates that the internal consistency of the items on the scale was excellent.

**Table 2.** Reliability statistics

Cronbach's Alpha	N of item
.977	22

The questionnaire used in this study comprised four constructs: Perceived Usefulness (N = 7), Perceived Ease of Use (N = 6), Attitude (N = 5), and Behavioural Intention (N = 4). Participants responded to the questionnaire items using a 5-point Likert Scale, ranging from "strongly disagree" (1) to "strongly agree" (5). The questionnaire was developed using Google Forms and distributed through the WhatsApp and Teams platforms. It remained accessible for data gathering for approximately two weeks. The responses were automatically recorded in a Google Sheet and subsequently analysed using the Statistical Packages for Social Sciences (SPSS) software.

In establishing the content and construct validity, the questionnaire was reviewed by an expert in educational technology, who evaluated the extent to which the items aligned with the intended constructs. This process helped strengthen both the face and construct validity of the instrument. However, due to time constraints, the questionnaire was not piloted, which stands as a limitation of the study. Table 3 displays the items included in the questionnaire.



**Table 3.** WAAT questionnaire constructs and items

Construct	Items	
Perceived Usefulness (PU)	PU1	The WAAT improves the writing of my article analysis.
	PU2	The WAAT increases the productivity of my article analysis writing.
	PU3	The WAAT enhances the effectiveness of my article analysis writing.
	PU4	The guides provided in the WAAT are useful to understand how to write critical analysis.
	PU5	The examples provided in the WAAT are useful to understand how to write the critical analysis.
	PU6	The instructions provided in the WAAT are useful to understand how to write the critical analysis.
	PU7	I find the WAAT useful
Perceived Ease of Use (PEU)	PEU1	I find the WAAT easy to use.
	PEU2	Learning how to use the WAAT is easy for me.
	PEU3	The layout of the WAAT makes it easy for me to use the template.
	PEU4	The guides provided in the WAAT are easy to understand.
	PEU5	The examples provided in the WAAT are easy to understand.
	PEU6	It is easy for me to find information through the WAAT.
Attitude (ATU)	ATU1	Using the WAAT to prepare the article analysis is a good idea.
	ATU2	I feel positive towards using the WAAT.
	ATU3	I am more engaged in writing the article analysis when I use the WAAT.
	ATU4	I generally favour the use of the WAAT for writing the article analysis.
	ATU5	It is good to have something like the WAAT for my other writing tasks.
Behavioural Intention (BI)	BI1	I intend to frequently use the WAAT for writing the article analysis this semester
	BI2	I intend to use the WAAT heavily for writing the article analysis this semester
	BI3	I intend to use the WAAT if I have similar tasks in the future
	BI4	I intend to recommend the WAAT to my friends who have to complete similar tasks

### Data Analysis

Using SPSS, quantitative data analysis techniques were employed to analyse the collected data, incorporating both descriptive and inferential statistics. Descriptive statistics were used to compute the mean scores and standard deviations for each construct, providing an overview of central tendencies and variability in participants' responses.

For inferential statistics, the Pearson correlation analysis was conducted to examine the relationships between the variables, namely Perceived Usefulness (PU), Perceived Ease of Use (PEU), Attitude (ATU), and Behavioural Intention (BI). Pearson's correlation coefficient ( $r$ ) measures the strength and direction of the linear relationship between two continuous variables. To determine the statistical significance of the correlation,  $p$ -values were examined. A  $p$ -value less than 0.05 ( $p < 0.05$ ) signifies a statistically significant correlation, while a  $p$ -value less than 0.01 ( $p < 0.01$ ) indicates a highly significant correlation, providing stronger evidence of a relationship between the variables.

### RESULTS AND DISCUSSION

This section presents the findings based on the research questions outlined in the study. The first research question explored ESL learners' perceptions of the implementation of WAAT, in terms



of Perceived Usefulness (PU), Perceived Ease of Use (PEU), Attitude (ATU), and Behavioural Intention (BI), as measured by mean scores on a Likert scale. The second research question examined the relationships between key constructs that may influence ESL learners' intention to use the WAAT for academic English writing.

### Learner Perceptions of WAAT

The participants' perceptions of WAAT were assessed using a Likert scale, measuring key constructs related to its adoption and usability. Table 4 summarises the findings for Perceived Usefulness, Perceived Ease of Use, Attitude, and Behavioural Intention of the participants involved in the study.

**Table 4.** Average mean scores obtained on aspects of Perceived Usefulness, Perceived Ease of Use, Attitude and Behavioural Intention

Construct	Mean	Standard Deviation
Perceived Usefulness (PU)	4.67	0.54
Perceived Ease of Use (PEU)	4.58	0.65
Attitude (ATU)	4.60	0.63
Behavioural Intention (BI)	4.50	0.69

As shown in Table 4 PU had the highest mean score of 4.67 with a standard deviation of 0.54, indicating that most participants found the WAAT highly useful, with relatively low variability in their responses. PEU recorded a mean of 4.58 and a standard deviation of 0.65, suggesting that users generally found the tool easy to use, though responses varied slightly more than for PU.

Similarly, ATU had a mean score of 4.60 with a standard deviation of 0.63, indicating that participants had a generally positive attitude toward the WAAT, with some degree of response variation. Lastly, BI had the lowest mean score among the constructs at 4.50, with the highest standard deviation of 0.69, suggesting that while most participants intended to continue using the WAAT, their levels of commitment varied more compared to the other constructs.

Overall, the high mean scores across all constructs indicate a positive perception of the WAAT in terms of usefulness, ease of use, attitude, and intention to use. The standard deviations suggest some variability in individual responses, particularly for BI, which had the highest spread in participants' opinions.

According to the criteria outlined in Table 5 by Norasmah and Salmah (2011), which uses a five-point Likert scale, participants demonstrated a high level of acceptance across all the WAAT constructs, with mean scores ranging between 4.00 and 5.00.

**Table 5.** Mean score assessment based on Norasmah and Salmah (2011)

Mean Score	Assessment
1.00-2.00	Low
2.01-3.00	Moderately Low
3.01-4.00	Moderately High
4.00-5.00	High



The mean score assessment scale adapted from Norasmah and Salmah (2011) was used in this study because it provides a clear and practical way of interpreting responses from the 5-point Likert scale. It classifies the results into four levels of interpretation: low, moderately low, moderately high, and high. This makes the analysis of learners’ perceptions more meaningful and helps to present the findings in a way that is easy to understand and compare across different constructs.

### Correlations Between Constructs

Table 6 presents the findings from the correlation analysis conducted to examine the relationships between the key constructs: PU, PEU, ATU, and BI. The Pearson correlation coefficient ( $r$ ) was used to measure the strength and direction of the relationships between these variables. The significance level ( $p$ -value) was also assessed to determine whether the correlations were statistically meaningful.

**Table 6.** Results of correlational analysis between key constructs

		PU	PEU	ATU	BI
PU	Pearson Correlation	1	.858**	.872**	.804**
	Sig (2-tailed)		<.001	<.001	<.001
	N	138	138	138	138
PEU	Pearson Correlation	.858*	1	.870**	.813**
	Sig (2-tailed)	<.001		<.001	<.001
	N	138	138	138	138
ATU	Pearson Correlation	.872*	.870**	1	.783**
	Sig (2-tailed)	<.001	<.001		<.001
	N	138	138	138	138
BI	Pearson Correlation	.804*	.813**	.783**	1
	Sig (2-tailed)	<.001	<.001	<.001	
	N	138	138	138	138

\*\*correlation is significant at the 0.001 level (2-tailed)

Table 6 indicates the findings that show a strong connection between PU and other key factors, namely PEU, ATU, and BI, all with a significance level of  $p < 0.01$ . PU exhibits strong positive correlations with PEU ( $r = .858, p < .001$ ), ATU ( $r = .872, p < .001$ ), and BI ( $r = .804, p < .001$ ), indicating that when students perceive a system as useful, they tend to develop a more positive attitude toward it and are more likely to want to use it in the future. This finding aligns with prior research, such as Ying and Sazalli (2024), who found a strong positive relationship between PU and students’ attitudes and intentions when using Duolingo for English learning. Similarly, Almansour (2024) highlighted that PU significantly influenced EFL learners’ behavioural intentions to adopt ChatGPT. This consistency across studies suggests that PU remains a crucial determinant of technology adoption in language learning settings.

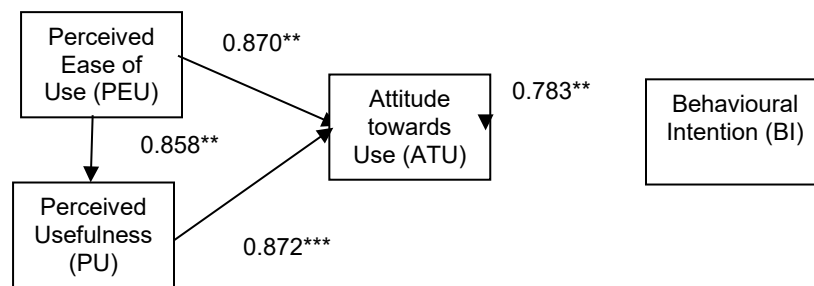
Similarly, PEU was found to play an important role in shaping students’ perceptions. PEU has strongly correlated with ATU ( $r = .870, p < .001$ ) and BI ( $r = .813, p < .001$ ). This indicates that



students feel the template is easy to navigate, hence, are more inclined to perceive it as useful, develop a favourable attitude, and express a stronger intention to use it in the future. This trend is also evident in Sulistiyo et al.'s (2022) study, which highlighted that ICT adoption in English classrooms is positively correlated with users' skills and motivation, highlighting how ease of use directly shapes perceived value.

ATU also has a significant impact, particularly in relation to PU and BI. The results show that ATU is highly correlated with PU ( $r = .872, p < .001$ ) and BI ( $r = .783, p < .001$ ), which suggest that when students have a positive attitude toward the WAAT, they are more likely to recognise its usefulness and feel motivated to use it. This finding aligns with Zou et al. (2024), who found that a positive attitude toward ChatGPT significantly predicted students' intention to use it for English-speaking practice.

Finally, BI is also closely correlated with both PU and ATU. With a significant level of  $p < 0.01$ , the results confirm that PU and ATU strongly influence students' decision to adopt technology. The correlation between BI and PU ( $r = .804, p < .001$ ) and BI and ATU ( $r = .783, p < .001$ ) suggests that when students believe that the WAAT is useful and have a positive attitude toward it, they are more willing to use it in the future.



\*\*Correlation is significant at  $p < 0.001$  (2-tailed)

**Figure 2.** Correlations between key constructs

Overall, these results support the TAM, emphasising that both ease of use and perceived usefulness play a crucial role in shaping attitudes. Consequently, the two constructs influence whether learners choose to adopt a new technology.

## CONCLUSION AND RECOMMENDATIONS

The findings indicate a high level of acceptance and positive perception of the WAAT among the participants. They found the tool useful, easy to use, and beneficial for their academic writing. These favourable attitudes indicate a strong intention to continue using the template in the future. The statistically significant correlation analysis revealed strong relationships between Perceived Usefulness, Perceived Ease of Use, Attitude, and Behavioral Intention. Students who found the WAAT easy to use were more likely to perceive it as valuable, leading to a positive attitude and a stronger intention to adopt it. The findings support the TAM, emphasising that both ease of use and perceived usefulness play an important role in shaping students' attitudes and influencing their adoption of new technology. The high levels of acceptance and the strong correlations between the



constructs suggest that the WAAT is well-received by students and has the potential to be an effective tool in enhancing ESL academic writing.

The findings have important pedagogical implications for ESL academic writing instruction, particularly in the integration of technology-assisted tools like the WAAT. The high level of perceived usefulness demonstrates that structured templates can effectively guide students through the writing process by providing a clear framework that supports idea organisation, article analysis, and the development of critical thinking skills. At the same time, the strong relationship between behavioural intention, perceived usefulness, and attitude suggests that when students view such tools as beneficial and user-friendly, they are more likely to adopt them beyond a single assignment. This highlights the potential for educators to extend the use of tools like the WAAT across a range of writing tasks, such as expository and persuasive writing, helping students to not only strengthen their analytical and writing skills but also to transfer strategies across different academic genres.

This study has a few limitations that should be acknowledged. The sample size was relatively small, which makes it difficult to generalise the findings to a wider population of ESL learners. The questionnaire was also not piloted due to time constraints, which may have limited the opportunity to further refine the items. In addition, as the data relied on self-reported responses, there is the possibility of bias, since students' perceptions of the WAAT may not always align with their actual writing practices.

Future research could build on this study by working with larger and more diverse groups of learners or by adopting longitudinal and experimental designs to explore how the use of WAAT influences academic writing development over time. It would also be valuable to complement self-reports with direct evidence from students' written work, which could offer deeper insights into how the tool supports improvements in organisation, coherence, and critical thinking in ESL writing.

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## **Declaration of Generative AI and AI-assisted Technologies in the Writing Process**

This manuscript was developed with the assistance of Grammarly, ChatGPT, Co-Pilot, and Jenni AI for grammar checking, language refinement, and idea generation, which help improve textual clarity and cohesion. The tools supported the author(s) in reviewing and refining the content, and the authors assume full responsibility for the final version submitted for publication.

## **Conflict of Interest**

The authors have no conflicts of interest to declare.

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## **Authors' Contributions**

All the authors contributed equally in conducting the research and writing the article.