

WeCWI-Enabled Web-Based Instruction in EFL Classrooms: Measuring Perceptions from ICT Experts using TAM

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Received: 26 February 2024; **Revised:** 10 July 2025; **Accepted:** 10 September 2025; **Published:** 10 September 2025

To cite this article (APA): Wang, J., Boon, Y. M., & Chen, C. (n.d.). WeCWI-Enabled Web-Based Instruction in EFL Classrooms: Measuring Perceptions from ICT Experts Using TAM. *AJELP: Asian Journal of English Language and Pedagogy*, 13(2), 1-15. <https://doi.org/10.37134/ajelp.vol13.2.1.2025>

Abstract: The rapid development of information and communication technology (ICT) has reshaped higher education in China, prompting the need for more effective instructional approaches. However, conventional cramming methods remain prevalent in some subjects, emphasising memorisation rather than comprehension and critical thinking. This outdated approach often persists due to ICT limitations among educators, creating a gap in the effective integration of technology-enhanced learning. To address these challenges, web-based instruction (WBI) was designed based on Web-based Cognitive Writing Instruction (WeCWI) principles, WeCWI-enabled WBI, to support a more interactive, student-centred learning environment. A hybrid instructional platform combining Mosoteach and WeChat Public Account platform was developed to enhance students' writing skills by fostering extensive reading, collaborative composition, and real-time feedback. This study investigates the perspectives of ICT experts regarding the application and scalability of WeCWI-enabled WBI in academic settings. Using the Technology Acceptance Model (TAM), the researcher conducted in-depth interview to assess the perceived usefulness, ease of use, and overall acceptance of WeCWI-enabled WBI among ICT specialists. A holistic content analysis was employed to extract insights into the feasibility and potential of WeCWI-enabled WBI for large-scale implementation. The findings highlight that a well-structured WeCWI-enabled WBI, supported by a comprehensive user manual, significantly enhances students engagement and productivity. ICT specialists recognise the platform's multifunctionality and highlight its scalability for broader educational applications. Furthermore, the structured design and user-friendly interface of WeCWI-enabled WBI contribute to its practical feasibility. This research provides valuable insights into optimising web-based teaching strategies to help educators

effectively harness ICT, and to improve instructional quality and student performance in Chinese universities.

Keywords: WBI, WeCWI, WeCWI-enabled WBI, Perceptions, ICT Experts, TAM

INTRODUCTION

With the rapid expansion of globalisation and advancements in ICT, teaching and learning in China have increasingly integrated web-based instruction, aligning closely with the objectives outlined in the *National Plan for Medium and Long-term Education Reform and Development* (2010-2020) (Council, 2010). To support this shift toward digital learning, over 200 leading Chinese universities have actively developed and implemented a variety of online course resources, offering students more flexible and accessible opportunities for e-learning (Wang et al., 2018). With years of experience in creating engaging and supportive classroom environments and the creation of various comprehensive platforms and software like Zhihui Shu Online-class Application, Shanbei Vocabulary-learning Application and other digital platforms, ICT has evolved from its initial exploratory phase to a more mature stage characterized by its integration into web-based instruction, where the effectiveness of ICT has been considerably improved (Zhao & Xu, 2010).

The importance of web-based instruction became even more evident during the COVID-19 pandemic, as universities across China swiftly adapted to remote teaching to maintain uninterrupted teaching and learning activities. Instructors widely adopted online platforms such as Tencent Group Meeting, DingDing Teaching Platform, and Zoom, to conduct virtual lessons, facilitate real-time discussions, and maintain effective communication with students despite physical distancing measures (Chen et al., 2020). This rapid digital transformation underscores the increasingly pivotal role of technology in contemporary education, while simultaneously highlighting the imperative for sustained investment in online instructional resources to enrich the learning experience within Chinese higher education institutions.

BACKGROUND OF THE STUDY

The integration of ICT into China's education system has significantly reshaped teaching practices at all levels. In higher education, this shift aligns with national priorities to move from teacher-centred to student-centred models, promoting blended learning environments that cultivate students' comprehensive competencies (Han & Yin, 2016; Hu & Zhang, 2020). A variety of e-learning platforms, such as Unipus for English instruction, Chinese MOOCs for general education, and simulation systems for practical training, have supported the growth of autonomous and flexible learning.

Despite these advancements, challenges remain. Traditional exam-oriented instruction and cramming-based pedagogies continue to dominate many classrooms, hindering the development of critical thinking and problem-solving skills (Huang & Jin, 2018; Wang, 2012). Although many instructors recognise the benefits of integrating ICT into blended teaching, a lack of digital competence often prevents effective adoption, leading some to revert to conventional methods (Hu & McGrath, 2011; Sareen & Mandal, 2024).

To address these tensions, this study investigates how two ICT experts engaged with Web-Based Instruction (WBI) through Mosoteach and WeChat Public Account in a blended learning context. Grounded in the Technology Acceptance Model (TAM), the research examines their perceptions and usage of these platforms—an area underexplored in existing

literature despite growing institutional reliance on such tools (Alfadda & Mahdi, 2021).

Consequently, the main objective of this study is to explore perceptions of ICT experts using WeCWI-enabled WBI in teaching, concentrating on aspects such as Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and attitude (ATT). The research objectives are as follows:

1. To assess the PEOU of the WeCWI-enabled WBI as perceived by two ICT experts;
2. To assess the PU of the WeCWI-enabled WBI as perceived by two ICT experts; and
3. To assess the ATT towards the WeCWI-enabled WBI as perceived by two ICT experts.

Based on the findings of these research questions, their insights serve as a foundation and offer recommendations for refining WeCWI-enabled WBI before its practical implementation in the classroom. The research questions of this study are as follows:

- 1: What is the PEOU of the WeCWI-enabled WBI as perceived by two ICT experts?
- 2: What is the PU of the WeCWI-enabled WBI as perceived by two ICT experts?
- 3: What is the ATT towards the WeCWI-enabled WBI as perceived by two ICT experts?

LITERATURE REVIEW

Web-based Cognitive Writing Instruction (WeCWI)

Web-based Cognitive Writing Instruction (WeCWI) is a theoretical and pedagogical e-framework designed to offer a systematic and iterative method for creating an engaging learning experience, with an emphasis on the development of critical thinking and language proficiency. This framework provides structured guidance for designing WBI to address challenges in L2 writing effectively. Using a systematic methodology, WeCWI facilitates a scaffolded learning process integrating language skill development with critical thinking enhancement (Mah, 2021). A key instructional strategy within this framework is free reading, which is introduced before discussion and writing. Following this, instructors facilitate discussions through Web 2.0 technologies fostering a more interactive and dynamic learning environment. Writing activities are incorporated throughout the process to ensure continuous engagement in writing skill development.

As a theoretical and pedagogical instructional model, WeCWI uses WBI to enhance language knowledge and cognitive abilities by integrating reading, discussion, and writing within an e-learning environment (Mah, 2015). The theoretical foundation of WeCWI is rooted in language acquisition principles, cognitive theories, composition studies, and e-learning frameworks. Based on these foundations, WeCWI offers a coherent and pedagogically sound model for web-based writing instruction which aligns with learners' information processing preferences (Mah, 2021). This framework fosters a integrated approach to learning, ensuring that learners develop their language proficiency and critical thinking capabilities. WeCWI offers a structured, research-informed framework for enhancing second-language writing proficiency by integrating language acquisition, composition studies, and cognitive learning theories.

With the introduction of WeCWI-enabled instructional tools, the traditional role of educators is reshaped, positioning them as Education Innovators (*EdNovators*) who facilitate interactive and collaborative learning experiences. This transformation emphasises free reading before discussions and writing activities, reinforcing critical thinking development through Web 2.0 technologies. Instructors play an facilitative role, guiding discussions and integrating the process genre approach throughout the writing process. By systematically applying WeCWI principles, EFL learners engage in a comprehensive learning experience integrating language

acquisition theories, composition studies, cognitive frameworks, and digital learning environments (Mah, 2015).

WeCWI's implementation relies primarily on Web 2.0 applications, such as blogs with interactive features and openly accessible resources delivered through web widgets and hypertext (Mah, 2015). This integration allows learners to engage with digital content, supporting a flexible and adaptable writing process. The framework's emphasis on e-learning technologies fosters an immersive learning environment that promotes both language development and critical thinking (Mah et al., 2021). By adopting WeCWI-based strategies, educators can enhance learner engagement and collaboration, ultimately improving writing outcomes in EFL contexts.

WBI (Web-based Instruction)

This study employs a WBI model that integrates Mosoteach and the WeChat Public Account, both accessible on mobile and desktop devices. Mosoteach is a multifunctional blended learning platform that has been increasingly adopted in Chinese universities over the past five years, offering tools for interactive and collaborative education (Jiang et al., 2020). Meanwhile, WeChat, one of China's most popular social media platforms and often compared to WhatsApp or Telegram, enables both communication and content sharing, serving over one billion active users (Cao et al., 2020; Yan, 2015).

Mosoteach operates across devices and combines learning management, resource sharing, live streaming, and interactive activities (Jian, 2018). Its user-friendly interface and emphasis on real-time engagement distinguish it from other platforms like Yu Online Class and Zhihui Shu, making it a popular option among educators (Zhang, 2021). Research in blended learning has largely focused on Mosoteach, identifying three core functionalities: student management, resource management and sharing, and activity design. Additionally, integrating Mosoteach with MOOCs has proven to be an effective strategy in blended learning, enhancing the efficiency of in-class learning activities (Jiang et al., 2020).

Mosoteach has been adopted in English language education to facilitate group assignments and collaborative learning. Research indicates that it effectively reduces student anxiety during writing tasks by promoting peer collaboration (Zhao & Yao, 2018). Additionally, its alignment with the BOPPPS teaching model—a six-phase framework (bridge-in, objective, pre-test, participation, post-test, summary)—has been associated with improved student engagement in blended classrooms (Liao, 2022). Despite its success across disciplines, its application in EFL (English as a Foreign Language) writing instruction requires further empirical validation.

The WeChat Public Account, launched in 2012 by Tencent, offers two account types: subscription (free, open to the public) and service (intended for organisations). Subscription accounts are widely used by academic institutions due to their accessibility (Wang, 2022; Zhang & Chen, 2022). As a form of “We Media”, these accounts empower users to create decentralised content with minimal technical barriers, enabling rapid dissemination and personalisation (Dai et al., 2018). University students increasingly rely on them for casual reading and leisure during short breaks (He, 2022). In higher education, WeChat Public Accounts have emerged as supplementary tools for instruction. Their ability to publish multimedia-rich content, such as videos and audio clips, enhances student engagement (Zhang & Zuo, 2019). The platform also allows anonymous or text-based interactions, enabling students to communicate with instructors more comfortably. This reduces the pressure of face-to-face conversations and helps decrease language anxiety (Zhang & Zuo, 2019).

While Mosoteach has demonstrated versatility in subjects like science and humanities, its role in EFL writing pedagogy remains underexplored. Similarly, WeChat Public Accounts,

though popular for content delivery, require a deeper investigation into their long-term educational impacts. The WeCWI framework underpins the design of a Web-Based Instruction (WBI) model that delivers integrated blended learning solutions tailored to China's distinctive digital education context. WeCWI-enabled WBI has been carefully designed in accordance with the core principles of the WeCWI framework, with a focus on enhancing educational experiences. This initiative aims to cultivate a more engaging and interactive learning atmosphere that prioritises student involvement and personalised learning paths, ensuring that the educational approach resonates with the diverse needs of learners in the region. Through innovative digital tools and resources, WeCWI-enabled WBI strives to empower students and educators, fostering a dynamic community of learners. Future research should focus on optimising their combined language education potential and addressing practical implementation gaps.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a widely recognised and influential frameworks for examining the key factors that shape users' acceptance and adoption of technology. Davis (1987) proposed that an individual's attitude towards using a system plays a crucial role in determining whether they will accept or reject it. According to this model, a user's attitude is primarily shaped by two fundamental cognitive perceptions: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Notably, these two factors are interrelated, as PEOU directly influences PU—meaning that when users find a system easy to use, they are more likely to perceive it as useful. The Technology Acceptance Model (TAM) has been widely applied across various fields, including education, healthcare, and business. It is commonly used to analyze how users interact with new digital tools and systems by explaining the psychological determinants of technology acceptance.

TAM was designed as a predictive framework to assess the probability of an individual or organisation embracing a new technology. This model is based on the Theory of Reasoned Action (TRA). It posits that an individual's behavior is influenced by their intention to act, their personal attitude toward the behavior, and external factors such as social norms and perceived pressure (Yu, 2020). TAM extends these principles by proposing that a user's initial interaction with a technological system can indicate its long-term adoption and continued use (Marangunić & Granić, 2015). By analysing the cognitive and social factors affecting technology acceptance, TAM provides a valuable tool for predicting how users will respond to and integrate new digital tools within various settings.

Perceived Ease of Use (PEOU) refers to the degree to which individuals believe that adopting a specific technology will require minimal effort, making it intuitive and user-friendly. In contrast, Perceived Usefulness (PU) reflects the extent to which users believe that utilising the system will enhance their efficiency and job performance. Additionally, Attitude Toward Using (ATT) describes an individual's overall perception toward engaging in a particular behaviour, such as incorporating a new technological tool into their routine (Rauniar et al., 2014). Research indicates that when users perceive technology as both useful and easy to use, they are more inclined to develop a favourable attitude towards its adoption. Within the TAM framework, PU is directly influenced by PEOU, meaning that if users find a system straightforward and accessible, they are more likely to view it as beneficial and effective for their needs (Tsai, 2015).

Behavioral Intention (BI) refers to the extent to which an individual deliberately plans to engage in or refrain from a future practice. According to the TAM, PU and ATT directly shape BI. When individuals recognise the usefulness of a technology (PU) or develop a positive attitude (ATT) towards it, they are more likely to form a strong intention to adopt it.

Additionally, BI is crucial in predicting Actual Use (AU). When individuals demonstrate a strong intention to use a technology, they are more likely to integrate it into their future routines or practices. This aligns with the TAM framework, suggesting that a strong intention to use technology increases the likelihood of its adoption. The following figure illustrates the core theoretical structure of TAM and its interrelated components (Alfadda & Mahdi, 2021).

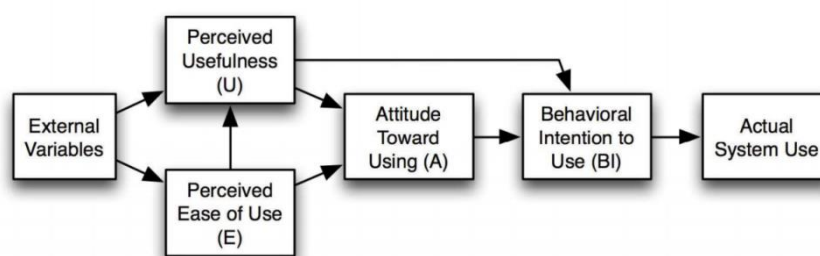


Figure 1: TAM model (Davis, Fred D. Bagozzi, Richard P. Warshaw, 1989).

ICT Experts' Perceptions of WeCWI-enabled WBI

Perception involves how individuals interact with and interpret their environment to develop awareness of specific subjects (Efron, 1969). Understanding educators' perspectives is essential for conducting targeted research on web-based instruction and implementing effective blended learning practices (Margot & Kettler, 2019). Importantly, evaluating e-learning approaches requires more than a single, linear method, as it encompasses multiple dimensions of learning and technology integration. In particular, individual perceptions of WeCWI-enabled WBI play a critical role in shaping how instructors interact with learners. User attitudes toward digital and internet-based technologies can be analysed through three dimensions: affective (emotional responses), cognitive (knowledge and beliefs), and behavioural (actions). These dimensions incorporate elements such as perceived enjoyment and self-efficacy, which positively influence users' intentions to adopt e-learning tools for teaching or learning purposes (Liaw & Huang, 2003).

Research on ICT instructors' perceptions of WeCWI-enabled WBI in China's higher education focuses on the connection between pedagogical adaptability and technological acceptance. Studies emphasise that instructors' attitudes toward WeCWI-enabled WBI are shaped by their confidence in digital tools and institutional support systems. For instance, Zhang and Liu (2021) found that Chinese instructors perceive WeCWI-enabled WBI as a valuable supplement to traditional teaching; however, they simultaneously voiced significant concerns regarding student engagement and the technical difficulties associated with implementation. Similarly, Li and Wang (2018) noted that instructors' self-efficacy in using digital platforms significantly influences their willingness to adopt blended learning models. These findings align with Margot and Kettler's (2019) broader argument that educators' perceptions are critical for successful WeCWI-enabled WBI implementation, as resistance often originates from insufficient training. In China, institutional policies promoting "Internet Plus Education" also illustrates the necessity of improving instructors' practical ability to use WeCWI-enabled WBI applications in instructional design (Ministry of Education of China, 2020).

Scholars have also explored the affective, cognitive, and behavioural dimensions of ICT instructors' perceptions. Chen et al. (2022) revealed that Chinese instructors' affective responses to WeCWI-enabled WBI, such as enthusiasm for innovation or frustration with technical barriers, directly impact their instructional strategies. Cognitively, instructors

prioritise the pedagogical relevance of WeCWI-enabled WBI tools, emphasising alignment with learning outcomes (Zhou & Li, 2020). Behaviorally, studies show that successful WeCWI-enabled WBI integration in China relies on iterative training programs and peer collaboration to foster confidence (Wu et al., 2021). However, challenges persist in WeCWI-enabled WBI, including uneven access to resources across institutions and generational gaps in digital literacy (Hu & Chen, 2019).

METHODOLOGY

This study employed semi-structured in-depth interviews as its qualitative methodology, selected for its capacity to capture rich, detailed insights into participants' perspectives and experiences within authentic contexts (Gubrium & Holstein, 2001). This approach facilitates dynamic, open-ended conversations, aligns with research objectives, and prioritises depth of insight and participants' lived experiences (Showkat & Parveen, 2017). Grounded in the TAM model, the interview design explores two ICT experts' perceptions of WeCWI-enabled WBI in daily teaching, with particular attention to its instructional functions, such as facilitating collaboration and feedback, and its integration across various teaching tasks and platforms.

Two senior lecturers were purposively selected based on their extensive teaching backgrounds (over 15 years) and active implementation of WeCWI-enabled WBI in blended learning settings. The first expert, holding a Master's degree in information technology with a focus on technology and innovation, was affiliated with the Department of Economics and Information Technology. The second expert, based in the Teaching Technology Center, held a doctorate in educational technology. The second expert also provided ICT tutorials and support for instructors at the university. Their practical expertise in utilising digital platforms for instruction informed the study's focus. Interviews were conducted two weeks after the implementation of WeCWI-enabled WBI to capture reflective, experience-based insights. The interview questions were formulated based on TAM principles, and the collected data were systematically categorised to identify recurring themes and patterns, including adoption, usability, and pedagogical impact.

A holistic content approach was employed to analyse the qualitative data. This method places significant emphasis on the contextual factors influencing the data, including historical, social, and cultural contexts, thereby facilitating a more profound interpretation of the findings (Harwood & Garry, 2003). Unlike traditional predefined coding frameworks, holistic analysis adopts a flexible and emergent approach, allowing researchers to identify underlying patterns and themes that arise organically during analysis (Mayring, 2014). Furthermore, this method enables a nuanced data exploration, capturing the complexity and depth of participants' narratives (Mayring, 2019). The analysis began with repeated readings of the interview transcripts to gain a comprehensive understanding of each expert's perspective on WeCWI-enabled WBI. Instead of applying predefined coding categories, an open coding approach was adopted to identify emergent themes related to WeCWI-enabled WBI's usability, effectiveness, and challenges.

The data analysis process was conducted in two distinct stages. In the first stage, the researcher performed multiple readings of the transcribed interview data and developed case summaries to capture each expert's perspective. In the second stage, individual cases were systematically compared to identify similarities and differences in their responses. The analysis examined relationships among emerging themes and identified influential factors shaping instructors' perceptions. Ultimately, the findings were interpreted to draw meaningful

conclusions, contributing to a broader understanding of WeCWI-enabled WBI implementation in blended teaching.

FINDINGS AND DISCUSSION

The two ICT experts provided positive feedback regarding the PEOU of the WeCWI-enabled WBI. Both experts agreed the platform is user-friendly, intuitive, and well-designed to support educators' teaching tasks. They emphasized the importance of a structured interface and embedded instructional support, both of which contributed to an efficient and user-friendly experience. However, they highlighted some challenges, such as third-party integrations and ensuring a consistent experience across different devices. Despite these minor issues, both experts emphasised that the WeCWI-enabled WBI system is efficient and adaptable to various teaching methodologies, making it a valuable tool for educators.

Perceptions of PEOU of WeCWI-enabled WBI

Both experts acknowledged the WeCWI-enabled WBI's well-designed interface and smooth learning curve, contributing to its ease of use. Expert one (E1) praised the interface as "highly intuitive" with "well-labelled navigation" and a "drag-and-drop functionality" that simplifies content management. Expert two (E2) echoed this sentiment, stating that the system is "very user-friendly and logically designed," and highlighted the role of clearly labeled, color-coded interface elements in enhancing usability. Additionally, both experts noted that the learning curve is manageable for new users. E1 stated, "Educators with prior experience using digital tools can get comfortable within a few hours," whereas E2 noted, "The detailed steps in the manual make it easy for beginners to learn." These comments indicate that the system is designed to accommodate users with varying levels of technical expertise.

Additionally, both experts agreed that the WeCWI-enabled WBI provides sufficient support, enhancing its ease of use. E1 described the user manual as "well-organised and detailed," with "step-by-step guidance, screenshots, and examples", which assist educators with common issues. Both experts emphasised the system's adaptability to different teaching methodologies. E1 noted that "WeCWI-enabled WBI is highly adaptable to different teaching approaches," including "lecture-based teaching, flipped classrooms, blended learning, and fully online courses." E2 reinforced this view, stating that "the flexibility of WeCWI-enabled WBI makes it suitable for various teaching styles". These observations highlighted the system's robust support mechanisms and its capacity to address diverse instructional needs.

While the WeCWI-enabled WBI is generally easy to use, both experts identified challenges that might affect user experience. E1 pointed out that handling large class sizes in real-time interactions can cause "minor lag issues." However, he attributed the issue to "network capacity" rather than a flaw in the system itself. Meanwhile, E2 pointed out the difficulties in integrating third-party multimedia resources, noting that "some third-party applications require additional API configurations, which might not be intuitive for educators unfamiliar with technical settings." These insights suggest that while the WeCWI-enabled WBI is largely effective, certain technical aspects may require improvements to enhance overall ease of use.

According to the experts' positive perspectives, the WeCWI-enabled WBI is highly intuitive and efficient. It includes comprehensive guidelines and a well-structured manual, making the teaching process more straightforward. Essential functions such as live streaming and instant feedback are vital in keeping students engaged and promoting active classroom discussions (Zhao & Yao, 2018). Students are more inclined to participate in group activities

and interact with peers, fostering a collaborative learning atmosphere (Jiang & Eslami, 2021). This type of engagement is crucial for cognitive development, as it encourages critical thinking, facilitates meaningful negotiation, and supports idea clarification during discussions (Mah, 2022). Moreover, WeCWI-Enhanced 21CLD requires students to use ICT to construct knowledge; Hence, the ease of operation of the WeCWI-enabled WBI facilitated learners' mastery and application of the targeted skills.

Perceptions of PU of WeCWI-enabled WBI

The two ICT experts expressed favourable perceptions on the PU of the WeCWI-enabled WBI, stressing its impact on teaching efficiency, student engagement, and blended learning effectiveness. Both experts concurred that the WeCWI-enabled WBI enhanced classroom management and facilitated real-time feedback on student writing performance and task engagement. They also emphasised its interactive functionalities, which improve student participation and collaboration. Despite these advantages, they acknowledged challenges, persisting challenges such as ensuring equal engagement for online and offline students and addressing internet accessibility issues. Overall, both experts concluded that WeCWI-enabled WBI is a valuable tool for educators, offering a multifunctional and intuitive platform that enhances teaching and learning experiences.

Both experts agreed that WeCWI-enabled WBI significantly facilitates lesson planning and content delivery. E1 noted that it "simplifies lesson planning by offering pre-built templates and cloud-based storage for teaching materials," thereby enabling educators to save time and design well-structured lessons more efficiently. which helps educators save time and create well-structured lessons. Similarly, E2 emphasised the structured content architecture, describing features such as drag-and-drop lesson modules, multimedia integration, and interactive worksheets. This indicates that WeCWI-enabled WBI reduces the administrative workload for instructors and enhances the quality of lesson delivery by incorporating interactive elements. Though they focused on different features, both experts found WeCWI-enabled WBI tools effective regarding classroom management and student engagement. E1 favoured "real-time polling, automated attendance tracking, and interactive quizzes" as they assisted the active participation of learners.

Meanwhile, E2 found "brainstorming, live discussion boards and AI-powered progress tracking" to be the most effective, as they created an interactive environment and allowed for real-time student engagement monitoring. These differences suggest that WeCWI-enabled WBI offers a flexible suite of tools to accommodate teaching styles and classroom settings. Both experts observed that WeCWI-enabled WBI was crucial in improving student participation and engagement. E1 stated that "WeCWI-enabled WBI significantly boosts learner interaction through real-time engagement tools," thereby enhancing participation and collaborative learning, encouraging students to express their thoughts actively. E2 also supported this, stating that the peer assessment and collaborative assignments created an inclusive environment," making students more comfortable engaging in discussions. This presented how WeCWI-enabled WBI's interactive features contribute to a more student-centred learning experience, essential for active learning and knowledge construction.

Additionally, both experts underscored pedagogical value, the effectiveness of real-time feedback and assessment tools. E1 pointed out that "WeCWI-enabled WBI provides instant grading for quizzes and assignments," thereby enabling students to receive immediate feedback and allowing instructors to monitor learning progress more effectively. E2 pointed to the role of "in-class surveys and automated feedback on assessments," suggesting that WeCWI-enabled WBI enabled a more personalised approach to learning trajectory, as instructors can create

tailor feedback based on student performance. Such functionalities assist educators in identifying learning gaps at an early stage and in delivering targeted, data-driven support.

Furthermore, both experts strongly endorsed WeCWI-enabled WBI as a comprehensive teaching tool, with E1 describing it as a “well-rounded platform that improves both teaching efficiency and student engagement” and E2 emphasising its “intuitive interface and multifunctional approach.” As highlighted by both experts, collaborative learning was also greatly supported by the WeCWI-enabled WBI. E1 emphasised that features like group assignments and quick responses facilitated teamwork by ensuring students learn collaboratively on assignments. This aligns with the Web-based Cognitive Writing Instruction–Enhanced 21st Century Learning Design (WeCWI-Enhanced 21CLD) framework, which emphasizes that learners should share responsibility for group work, actively collaborate on meaningful decisions related to content, process, or outcomes, and depend on one another to complete tasks successfully (Mah, 2023).

Additionally, supplementary materials on platforms like WeChat enhance student learning and foster stronger teacher-student relationships (Xia & Yang, 2021). E2 praised the anonymous comment feature for enabling learners to express their genuine needs and ideas, thereby strengthening the connection between instructors and learners. The learners could search various kinds of WeChat public accounts for post articles relevant to the learning materials. E1 pointed out that “both instructor and learners could search for the materials they need, which boosts personalised learning” In the WeCWI-Enhanced 21CLD, students should construct knowledge via multiple readings to apply knowledge in a new context (Mah, 2023). Both experts addressed that the convenience and abundance of readings helped learners better conceptual understanding. Furthermore, the quality and coherence of the collaborative writing output were enhanced through a combination of synchronous and asynchronous activities (Mah, 2023).

However, the experts also identified challenges in blended learning. E2 raised concerns about digital accessibility, stating that “ensuring all students have equal access to digital resources, especially in areas with limited internet connectivity,” remains a challenge. E1 proposed better integration with external applications, such as AI-powered grading tools and third-party assessment platforms. These observations suggest that while WeCWI-enabled WBI is highly effective in diverse teaching environments, additional improvements are needed to enhance inclusivity and accessibility.

Perceptions of ATT towards WeCWI-enabled WBI

The two ICT experts demonstrated a positive Attitude Toward Using the WeCWI-enabled WBI, acknowledging its Perceived Usefulness in improving teaching efficiency, learner engagement, and instructional accessibility. Both experts recognized the pedagogical value of WeCWI-enabled WBI's interactive tools, automation features, and integration with other platforms. They agreed that WeCWI-enabled WBI is preferable to traditional teaching methods due to its flexibility, student-centred approach, and multimedia capabilities. Additionally, both experts demonstrated a strong Behavioral Intention to Use WeCWI-enabled WBI by expressing willingness to integrate it into future teaching practices and to recommend it to peers. They further emphasized the need for improvement, especially through the expansion of AI-supported functionalities. However, they also suggested technical improvements, particularly in expanding AI-driven features.

Both experts expressed positive attitude towards WeCWI-enabled WBI and emphasised its advantages over traditional teaching. E2 described their experience with WeCWI-enabled WBI as “overwhelmingly positive,” emphasizing its capacity to “simplify lesson planning, enhance student engagement, and facilitate instant communication.” These reflections

underscore E2's strong Behavioral Intention to Use the system, which is further reinforced by their preference for it over traditional instructional methods. Similarly, E1 highlighted that "WeCWI-enabled WBI fosters engagement through multimedia content, interactive activities and peer discussions," suggesting that the platform's multimodal and collaborative features contribute to a more dynamic and learner-centered environment. Both experts' responses reflect a shared recognition of the platform's pedagogical affordances, particularly its alignment with contemporary instructional demands such as flexibility, interactivity, and efficiency. Similarly, E2 acknowledged that "traditional methods have their strengths," but WeCWI-enabled WBI provides a "far more efficient and engaging approach," allowing better student participation and personalised learning. Their responses indicate that WeCWI-enabled WBI is highly valued for its interactive and flexible learning environment.

Additionally, both experts behavioural intention to use WeCWI-enabled WBI in their future teaching frequently. E1 stated, "I will use WeCWI-enabled WBI in almost every class session," using its features for content delivery, discussions, assessments and group work. E2 also confirmed the same idea. These statements present their strong confidence in the WeCWI-enabled WBI application. Looking ahead, both experts foresee long-term adoption of WBI. E1 affirmed, "With continuous updates and improvements, WeCWI-enabled WBI will remain a critical tool in digital education." At the same time, E2 emphasised WeCWI-enabled WBI's effectiveness, predicting that it will "become a powerful platform in blended learning" Their responses suggest that WeCWI-enabled WBI is effective in current teaching environments and has broad applicability across various instructional contexts.

Their positive affective response for WeCWI-enabled WBI illustrates its significance in fostering interactive and effective education. A favourable attitude toward WeCWI-enabled WBI will support instructors in applying technology to strengthen teacher-student engagement in the classroom, which is crucial for educators seeking to enhance student participation and tailor learning experiences to individual needs (Mah, 2023). Despite their positive perceptions, the experts provided specific recommendations for improving WeCWI-enabled WBI, including enhancing AI-supported feedback systems, increasing platform interactivity, and offering more customizable instructional templates. The concern is data security. E1 stressed the importance of "multi-factor authentication" to protect users' data, while E2 pointed out that WeCWI-enabled WBI should contain "anti-cheating mechanisms in online assessments" to maintain academic integrity better. These insights highlight critical design implications for the future development of WeCWI-enabled WBI, particularly in enhancing its functionality and ensuring robust security measures.

Perceptions of BI to Use WeCWI-enabled WBI

The two ICT experts demonstrated a high level of Perceived Ease of Use (PEOU), expressing confidence in the system's intuitive design and practical functionality. This positive perception of usability serves as a key determinant in supporting their adoption of the WeCWI-enabled WBI model. They viewed WeCWI-enabled WBI as a beneficial tool for blended learning, emphasising its adaptable instructional design features—such as support for modular task sequencing, integration of multimedia resources, and facilitation of collaborative and interactive learning activities. The system's simplicity in operation presents their positive view of PU. They acknowledged that the WeCWI-enabled WBI satisfies key conditions for adoption, including perceived usefulness for instructional effectiveness and ease of integration into existing teaching workflows, making them more inclined to integrate it into future teaching practices.

Analysis of their perspectives on Perceived Usefulness (PU) indicates that they viewed WeCWI-enabled WBI as an effective teaching tool, particularly for facilitating collaborative

learning, promoting teacher – student interaction, and fostering an engaging classroom environment. Their recognition of WeCWI-enabled WBI's effectiveness further solidified their positive attitude towards the platform. They considered WeCWI-enabled WBI intuitive and equipped with comprehensive capabilities, making it a valuable resource for educators.

Analysis of the interviews revealed that both instructors agreed on the effectiveness of WeCWI-enabled WBI in enhancing instructional efficiency, promoting learner engagement, and supporting flexible task design. These perceived benefits illustrated their positive attitudes (ATT) toward WeCWI-enabled WBI, strengthening their behavioural intention (BI) to integrate it into further instruction. The system's user-centred design and multifunctional capabilities were seen as instrumental in advancing pedagogical goals, such as promoting engagement. Despite their enthusiasm, instructors also advocated refinements to improve WeCWI-enabled WBI's usability. Their recognition of WeCWI-enabled WBI's effectiveness and practical utility in teaching explained their willingness to adopt it.

CONCLUSION AND RECOMMENDATION

In this study, the researchers utilised the TAM to examine the implementation of WeCWI-enabled WBI in a blended learning environment. The study focused on understanding the factors influencing instructors' acceptance and adoption of WeCWI-enabled WBI as an instructional tool. The findings revealed a strong positive correlation between instructors' attitudes toward WeCWI-enabled WBI and their behavioural intention to integrate it into their teaching practices.

Furthermore, the study identified a significant relationship between key TAM components, namely Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Attitude (ATT). The results suggested that when instructors perceived WeCWI-enabled WBI as beneficial for enhancing student learning outcomes (PU) and found the platform easy to use (PEOU), their overall attitude toward its adoption (ATT) became more favourable.

The findings of this study indicated the accessibility and both the technical and pedagogical feasibility of WeCWI-enabled WBI in blended learning for instructors. Future modifications will focus on optimising its interactive features, integrating adaptive learning technologies, and expanding its capacity for personalised feedback and collaborative engagement with the application of AI. As a result, WeCWI-enabled WBI offers a promising digital solution for implementing blended instruction and improving teaching efficiency across disciplines.

However, the study's limitations include a small sample size and a focus on a specific group of instructors, which may not fully capture the diverse needs of the broader academic community. To enhance the effectiveness of WeCWI-enabled WBI, future research should involve a wider range of university instructors across various disciplines to ensure the system's adaptability to different teaching contexts. To guide future enhancements, priority should be given to refining interactive functionalities, improving accessibility, and expanding AI integration to support adaptive instructional strategies and enhance learning outcomes. Long-term studies are also recommended to assess the sustained impact of WeCWI-enabled WBI on teaching efficiency and student learning outcomes, ensuring continuous improvements in its design and functionality.

ACKNOWLEDGEMENT

The authors extend their sincere appreciation to Universiti Teknologi MARA (UiTM) and Shanghai University of Finance and Economics Zhejiang College for their indispensable institutional support, provision of essential research facilities, and maintenance of an intellectually conducive environment, all of which were integral to the successful completion of this study.

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