

Dual-Track Digital Affordance Framework for Enhancement of Willingness to Communicate in Chinese EFL Contexts

Pingping Shi^{1,2}, Noraini binti Zulkepli¹

¹ Faculty of Languages and Communication, Sultan Idris Education University, Tanjong Malim, Perak, Malaysia

² College of Humanities and Teacher Education, Wuyi University, Wuyishan, Fujian Province, China

Correspondence: Noraini binti Zulkepli, Faculty of Languages and Communication, Sultan Idris Education University, Tanjong Malim, Perak, Malaysia.

Received: January 12, 2026

Accepted: July 13, 2026

Online Published: September 9, 2026

doi:10.5430/wjel.v17n1p29

URL: <https://doi.org/10.5430/wjel.v17n1p29>

Abstract

This study examines how WeChat and MOOCs differentially enhance Chinese EFL learners' in-class willingness to communicate (WTC), addressing persistent gaps in comparing language learning between social-media-supported environments and learning management systems. Grounded in Affordance Theory, it proposes a dual-track framework that distinguishes between affective-social (WeChat) and cognitive-structural (MOOCs) pathways. A 10-week quasi-experimental mixed-methods design with 135 undergraduates compared three groups: a WeChat-supported group, a MOOCs-supported group, and a conventional instruction group. ANCOVA results (adjusting for pre-test WTC and English proficiency) showed that the WeChat group significantly boosted post-test WTC ($M = 153.98$) compared with the control group ($M = 143.76$, $p = .023$), whereas the MOOCs group yielded moderate, non-significant gains ($M = 151.93$). Qualitative analysis showed that WeChat's low-social-presence features (voice messaging and asynchronous group interaction) reduced anxiety and built peer cohesion, benefiting learners across WTC levels. Conversely, MOOCs' cognitive-structural affordances supported content mastery but imposed excessive load on lower-proficiency learners and lacked real-time social interaction, thereby limiting WTC translation into classroom practice. The findings advocate a sequenced integration: MOOCs for pre-class cognitive scaffolding and WeChat for post-class affective-social activation. This dual-track model advances Affordance Theory in EFL contexts and offers concrete pedagogical guidance for optimising mobile-assisted WTC development.

Keywords: willingness to communicate; digital affordance; mobile technology; WeChat; MOOCs

1. Introduction

The paradox of English communicative incompetence in Chinese higher education has become increasingly pressing. Although two decades of curriculum reforms have promoted an “English application-oriented education” agenda (CFLTSC, 2020; MOE, 2022), a clear gap persists between students' receptive skills (such as reading and translation) and their productive skills (such as speaking and negotiation). In the English as a Foreign Language (EFL) context, Chinese learners are frequently characterised by reticence or a diminished willingness to communicate (WTC) in their second language (L2) (Ma et al., 2025). This widespread WTC deficit signals a deeper motivational issue: many students continue to view English as exam content to be memorised rather than a communicative tool for real interaction (Cai, 2025).

Two emerging mobile technologies present contrasting pathways to address this challenge: WeChat and Massive Open Online Courses (MOOCs). As China's dominant social media platform, WeChat can promote authentic communication by offering features such as voice messaging, group chats and daily interaction on Moments (Li et al., 2025). Meanwhile, MOOCs offer structured learning content, task management and discussion boards, which are effective for large-scale and standardised instruction (Rahimi, 2025). However, existing research has not clarified how these different affordances influence in-class WTC. More specifically, prior research has predominantly followed two separate trajectories without synthesising their differential impacts. First, research on social media (e.g., WeChat) has emphasised its social affordances, highlighting how features like instant messaging and group chats reduce anxiety and foster community (Jiao et al., 2023; Li et al., 2021). These studies often focus on informal, affect-driven communication. Second, other studies on MOOCs have focused on cognitive affordances, demonstrating their effectiveness in delivering structured content and managing large-scale instruction (Kaur et al., 2022; Zhao, 2021), which typically prioritise knowledge acquisition over the affective dimension of communication. This dichotomy leaves a critical gap: while the literature has extensively examined the affordances of mobile tools in isolation, there is a lack of comparative studies that differentiate between the types of affordances offered by distinct platforms. Current studies often treat “mobile technology” as a monolithic concept, overlooking the nuanced difference between specific technological features and WTC antecedents. To address this gap, this study proposes a novel conceptual contribution – the “Dual-Track Digital Affordance Framework”. Unlike previous single-lens approaches, this framework explicitly differentiates between the affective-social affordances (exemplified by WeChat) and cognitive-structural affordances (exemplified by MOOCs). Hence, this study addresses a

central problem: can the distinct affordances of WeChat and MOOCs be used in different ways to enhance WTC in Chinese EFL classrooms?

2. Literature Review

2.1 Willingness to Communicate

WTC is defined as the intention to initiate verbal interaction in the target language (MacIntyre, 2020). It is grounded in MacIntyre et al.'s (1998) hierarchical model, which organises the factors influencing WTC into a pyramid structure. The foundation layer consists of variables situated within the social and individual context. In China's collectivist culture, group dynamics such as teacher dominance and peer comparison strongly constrain student participation (Wen & Clément, 2003; Yousaf et al., 2022). Students' limited WTC is also attributed to the cultural significance of "face" in Confucian societies (Wen & Clément, 2003). This foundation layer underscores the need for interventions that support individual agency while maintaining social accountability. The middle layers, comprising affective-cognitive factors and motivational propensities, are shaped by motivation and self-confidence, including anxiety. In Chinese EFL contexts, students' decisions to speak or remain silent are influenced by four academic emotions: enjoyment, pride, anxiety, and boredom (Wang et al., 2021). This aligns with MacIntyre and his associates' (1998) claim that negative emotions function as a "brake" on WTC. The three top layers include language use, WTC and situated antecedents. These dynamic variables influence WTC through reciprocal interactions between individuals and their environment, depending on contextual factors such as the learning setting. Chinese students' reticence in classrooms contrasts with their increased participation in online environments (Huang & Zhang, 2025). These patterns support MacIntyre et al.'s (1998) emphasis on situational factors as catalysts for communicative behaviour. Ebadi and Ebadijalal (2020) further indicate that context-sensitive interventions are necessary. Mobile technologies ~~the~~ offer potential to reduce affective barriers and influence situational factors while leveraging digital affordances like online communication and adaptive scaffolding, which align with Chinese students' sociocultural realities. MacIntyre et al.'s (1998) hierarchical pyramid framework thus guides the exploration of how mobile technologies may reconfigure these layers to enhance WTC in China's EFL context.

2.2 The Dual-Track Digital Affordance Framework

Affordance Theory (Gaver, 1991; Gibson, 1979) serves as the conceptual lens through which to examine how digital tools shape WTC. It posits that technologies offer action possibilities based on the interaction between their design features and user perception (Huang et al., 2021). To understand the differential impacts of mobile technologies on WTC, this study categorises digital affordances into two distinct tracks, rather than viewing them as a monolithic entity. This dichotomy is crucial for distinguishing between the affordances of social messaging apps (e.g. WeChat) and massive open online courses (e.g. MOOCs). Synthesising existing affordance typologies (physical affordances, cognitive affordances, social affordances and contextual affordances), this study proposes a dual-track framework: the affective-social track and the cognitive-structural track.

Previous literature often distinguishes physical features (e.g., voice/video) from social features (e.g., peer interaction) (Chartouny et al., 2024; Kono, 2009). However, for L2 communication via social messaging apps, these are intertwined. Physical features emphasise accessibility while social features build community (Ronzhyn et al., 2023). Features such as instant messaging and video conferencing reduce the friction of interaction (Andria, 2025), while social comparison and peer support lower the affective filter (Ali et al., 2022). This affective-social track is therefore crucial for initiating communication. In contrast, the cognitive-structural track focuses on competence and structure. It encompasses teacher and peer feedback, as well as data-driven guidance (He & Wang, 2025). Unlike the social track, which removes affective barriers, the cognitive-structural track builds the linguistic resources necessary for sustained communication, supporting skill development through systematic scaffolding.

The application of this dual-track framework is particularly salient when considering the Chinese sociocultural context. Li and Zhang highlight the role of contextual affordances (Li & Zhang, 2025), while other scholars emphasise specifically the Confucian heritage of face-saving (Li et al., 2021). In this environment, the affective-social track becomes essential for mitigating the fear of losing face, while the cognitive-structural track aligns with the established pedagogical emphasis on mastery and accuracy (Huang et al., 2021). This study, therefore, investigates these two distinct technological tracks as separate pathways to influence WTC.

2.3 The Affective-Social Track: WeChat as a Catalyst for L2 WTC

The affective-social track postulates that digital environments can lower psychological barriers and foster a sense of community, thereby increasing the L2 WTC. Within this track, WeChat serves as a typical example of a platform that merges physical immediacy with social connectivity to create a low-anxiety, high-engagement ecosystem for Chinese EFL learners. WeChat operates within the students' lived space, transforming the learning environment from a formal institution into an authentic extension of daily social life (P. Tong et al., 2024).

2.3.1 Physical Immediacy and Multimodality

The physical dimension reduces the friction of interaction. WeChat facilitates this through its multimodal affordances, particularly voice messages and short videos (P. R. Tong et al., 2024). Traditional text-based communication often inhibits L2 WTC due to the fear of grammatical errors or spelling mistakes. In contrast, the transient nature of voice messages lowers the threshold for production. Students are more willing to speak when they are not burdened by the permanence of written text (Duan et al., 2022). Furthermore, the integration of emojis, GIFs and Red Envelopes (digital monetary gifts) adds a layer of playfulness and emotional expression that is difficult to

achieve in a traditional classroom (P. R. Tong et al., 2024). This physical accessibility transforms the mobile device from a mere instructional tool into a companionable medium that encourages spontaneous language use (Wang & Jiang, 2025).

2.3.2 Alleviating Anxiety and Fostering Enjoyment

Crucially, WeChat does not merely provide social features; it embeds the cognitive task within a social wrapper. Tong and associates argued that WeChat-supported tasks can bridge the gap between teacher-intended and learner-actualised affordances (P. R. Tong et al., 2024), particularly in terms of affective-social affordances. When a teacher assigns a speaking task via WeChat, students do not perceive it as a high-stakes exam but rather as a social update or a message to friends. This blurring of boundaries between socialising and learning is the core strength of the affective-social track. This mechanism is particularly effective in alleviating the foreign language anxiety prevalent among Chinese learners. Mingyan et al. (2025) found that the control group using WeChat for after-class assignments, despite not having AI feedback, still operated within a social context that supported language practice. Furthermore, Zhang et al. (2024) highlighted the role of group-level enjoyment in WeChat-based collaborative writing. They observed that students utilised WeChat not just for task completion but also for socially shared regulation of emotions, using emojis and informal chats to sustain motivation. This evidence suggests that WeChat acts as a socio-emotional catalyst, transforming the learning experience from a solitary struggle into a shared, enjoyable social activity.

2.4 The Cognitive-Structural Track: MOOCs as a Scaffold for L2 Competence

While the affective-social track removes the affective barriers to communication, the cognitive-structural track addresses the other critical prerequisite of WTC – linguistic competence – as stipulated by MacIntyre et al. (1998). In the Chinese EFL context, where students often suffer from speech anxiety due to a lack of vocabulary and grammatical accuracy (Jiang & Zhao, 2025), MOOCs serve as the primary LMS tool for building this competence in formal English courses (Huang, 2022). Unlike social media, MOOCs are characterised by their ability to deliver systematic, standardised, high-quality input and data-driven feedback (Cheng et al., 2023).

2.4.1 The Nature of Cognitive-Structural Affordances

According to MacIntyre et al.'s (1998) heuristic WTC model, learners must possess the necessary verbal production and listening skills to feel confident in initiating communication. In the context of Chinese EFL education, where large class sizes are prevalent, the cognitive-structural track is operationalised through MOOCs. MOOCs function as a competence scaffold by providing standardised, high-quality input and systematic feedback mechanisms that are often difficult to deliver in traditional face-to-face lectures (Rahimi, 2025). Luo and Li (2024) demonstrate that in the EFL MOOCs context, Academic Support – which includes the structured delivery of course content – significantly influences learners' perception of the platform's usefulness. In addition, MOOCs excel in delivering structured academic content in a modular format. This structural affordance ensures that learners receive consistent and organised linguistic input, which is essential for building the foundational knowledge required for communication (Yamaoka, 2024). This aligns with the cognitive-structural track's emphasis on mastery and accuracy (Huang et al., 2021), providing learners with the confidence that comes from systematic knowledge acquisition.

2.4.2 The Personalized and Data-driven Feedback

MOOCs mitigate the limitations of traditional classrooms regarding personalised feedback through data-driven guidance. A critical limitation of traditional classrooms is the inability to provide immediate, personalised feedback to every student. MOOCs mitigate this through automated assessments and data-driven analytics, offering learners a clear path for improvement. Rahimi highlights the role of L2 Motivational Self-Systems in LMOOCs (Rahimi, 2025). The study found that learners value the “comfortable system” provided by MOOCs, which allows them to fulfil their obligations at their own pace. This “comfort” stems from the structural affordance of self-regulated learning, where learners can revisit complex modules (e.g., video-watching) until they achieve mastery. Furthermore, Liu et al. (2025) observed that despite high dropout rates, the quality of student contributions (such as the syntactic complexity of discussion board posts) remained stable. This suggests that the structural design of MOOCs supports deep cognitive processing, allowing learners to focus on the accuracy and complexity of their language use without the immediate pressure of real-time social judgement. In the Chinese educational context, where there is often a heavy emphasis on accuracy but a scarcity of individualised teacher attention, MOOCs serve as a vital structural supplement, ensuring that learners possess the necessary linguistic resources when they choose to communicate (Dinh & Phuong, 2024).

However, existing research on mobile technology and WTC indicates a methodological gap. This gap reflects the absence of systematic, comparative or longitudinal approaches needed to address the research problem. A dominant limitation within the literature is the tool-specific comparison gap: current studies often examine WeChat or MOOCs in isolation (Duan et al., 2022; Huang, 2022; Jiao et al., 2023; Li et al., 2021; Liu et al., 2025; Luo & Li, 2024; Rahimi, 2025; P. R. Tong et al., 2024; Yamaoka, 2024) and overlook how different technologies offer distinct affordances. This represents a methodological shortcoming as researchers tend to treat mobile tools as uniform rather than considering their unique design features. WeChat's social interactivity may reduce anxiety and increase WTC (Jiao et al., 2023), while MOOCs' structured design may support knowledge retention through systematic content (Yamaoka, 2024). However, no study has undertaken a comparative design that evaluates how these differential affordances shape WTC. By addressing this methodological gap, the present study contributes new evidence on how different types of mobile technology influence WTC in Chinese EFL contexts. Accordingly, the research questions guiding this study are:

- i) Is there a significant difference in in-class WTC among the WeChat group, the MOOCs group, and the conventional group?
- ii) What are EFL learners' perceptions of using WeChat and MOOCs to support in-class WTC?

3. Method

3.1 Research Approach and Design

This study adopted a mixed-methods approach to investigate the effect of WeChat and MOOCs on the in-class WTC of Chinese tertiary EFL students. An explanatory sequential design was used to integrate quantitative and qualitative evidence. This design enabled triangulation and supported deeper exploration of the mechanisms that shaped WTC. It also addressed the practical constraints of random assignment in educational settings and used purposive sampling to promote baseline equivalence across groups. The quantitative phase employed a nonequivalent comparison-group design comprising three groups: (1) an experimental group using WeChat to assist the College English Course, (2) an experimental group using MOOCs to assist the College English Course, and (3) a control group receiving conventional teaching of the College English Course without the assistance of digital devices. The dependent variable, in-class WTC, was measured twice via questionnaire before and after the 8-week intervention. During the intervention, all the speaking tasks (answering questions about the textbook content, group discussion about textbook topics, role-plays, and presentations) of the three groups (WeChat, MOOCs and control) were conducted face-to-face in class, without the use of digital devices. The differences among the three groups lay in the ways they approached pre-class preparation and post-class informal learning:

(1) The MOOCs platform was not used for oral practice in this study; instead, it served as a tool for pre-task preparation and cognitive scaffolding. Outside class, the MOOCs group used the platform to access structured input (e.g., vocabulary, grammar, cultural background) and engage in asynchronous discussions. The MOOCs focused on building linguistic competence. By using MOOCs for preparation, students acquired the necessary linguistic resources and reduced the cognitive load during the actual speaking task. In addition, when preparing for the role-play task, they rehearsed face-to-face before class.

(2) The WeChat group utilized WeChat for affective-social preparation. Specifically, they used WeChat to coordinate group tasks and negotiate roles (e.g., who would speak which part in a role-play). WeChat provided peer support before class. In addition, when preparing the role-play task, they rehearsed face-to-face before class.

(3) The control group prepared for class by individuals without the use of digital devices. In addition, when preparing the role-play task, they rehearsed face-to-face before class.

Thus, both intervention groups (WeChat and MOOCs) engaged in "pre-task preparation", but through different tracks: one focusing on cognitive competence (MOOCs) and the other on affective coordination (WeChat). This distinction is central to the Dual-Track Framework.

The quantitative phase began with the pre-test administration of the In-class WTC Questionnaire, which measured WTC, anxiety, self-perceived competence, motivation and classroom environment. After the intervention, the same questionnaire was administered again as the post-test. ANCOVA was used to examine group differences and determine intervention effects.

The qualitative phase consisted of semi-structured interviews designed to capture students' perceptions. Eighteen participants – nine from each intervention group – were selected based on pre-test WTC scores to ensure variation in WTC. The semi-structured interviews, which were conducted after the post-test, explored how students perceived the influence of WeChat and MOOCs on their WTC. Thematic analysis, guided by Braun and Clarke's (2006) six-phase procedure and conducted using NVivo 14, was used to analyse the qualitative data and identify key themes.

3.2 Sampling

The purposive sampling criteria for this study were designed to ensure representativeness, homogeneity and feasibility within the constraints of educational research. A two-stage purposive sampling process was used to balance practical considerations with methodological rigour. In the first stage, universities were selected using two criteria: (1) comparable college admission thresholds in Fujian Province, reflected in similar National College Entrance Examination (NCEE) score ranges and (2) sufficient institutional technological support for mobile learning, including students' smartphone ownership, stable internet access and teachers' experience with WeChat and MOOCs for English learning. Based on these criteria, nine intact classes of first-year undergraduates from non-English majors across three public universities were preliminarily identified. The focus on non-English majors from Fujian Province was a deliberate choice to represent the typical context of Chinese College English teaching, where large classes and high anxiety are prevalent. While the results may not be directly transferable to English majors (who have different motivation profiles), they offer a transferable theoretical model for researchers working in similar EFL contexts with large class sizes.

In the second stage, baseline equivalence checks were conducted to reduce pre-existing group differences. The average English proficiency of the nine classes was examined using their NCEE English scores and ANCOVA was used to confirm equivalence across groups. To avoid cross-group interaction and other sources of contamination, only three intact classes (one from each university) were retained after confirming no significant differences in baseline proficiency according to NCEE English scores. This step ensured that any post-intervention differences in WTC could be attributed to the interventions rather than to pre-existing disparities or external interference. The three intact classes were then assigned to experimental group 1 (WeChat; $n = 45$), experimental group 2 (MOOCs; $n = 45$) and the

control group (conventional instruction; $n = 45$), yielding a total sample of 135 participants for the quasi-experiment.

Sampling for the qualitative phase took place after the WTC pre-test. Eighteen participants were selected – nine from the WeChat group and nine from the MOOCs group. Within each group, students representing high, intermediate and low WTC levels were identified using Kelley's upper and lower groups method (Kelley, 1939), which recommends selecting the upper 27% and lower 27% of a score distribution to form extreme groups. These participants were then invited to participate in semi-structured interviews following the intervention.

3.3 Research Instruments

This study employed two primary research instruments to collect both quantitative and qualitative data, namely the In-class WTC Questionnaire, which measured changes in students' WTC, and a semi-structured interview protocol, which captured their perceptions after the intervention. Both instruments were rigorously developed, validated and tested to ensure psychometric soundness and contextual relevance.

3.3.1 The In-class WTC Questionnaire and Its Validity and Reliability

The In-class WTC Questionnaire (Appendix A) was partially adopted from Peng and Woodrow (2010) and adapted from Lee and Hsieh (2019) and Tai and Chen (2023) to ensure suitability for the Chinese EFL context. The instrument contains 45 items, including 10 demographic items. It is organised into five subscales: WTC in the Classroom (10 items, adopted from Peng and Woodrow (2010)), Anxiety (6 items, adapted from Lee and Hsieh (2019) and Tai and Chen (2023)), Self-Perceived Competence (5 items, adapted from Lee and Hsieh (2019) and Tai and Chen (2023)), Motivation (5 items, adapted from Lee and Hsieh (2019) and Peng and Woodrow (2010)), and Classroom Environment (9 items, adapted from Peng and Woodrow (2010)). All items were rated on a six-point Likert scale.

Validity was established through four dimensions. Face validity was confirmed by three EFL experts who evaluated the clarity and relevance of all items. Content validity achieved a Content Validity Index (CVI) of 1.0, demonstrating complete agreement among experts on item representativeness. Construct validity was supported by Principal Component Analysis, which produced a first eigenvalue of 9.21 (explaining 62.3% of the variance) and factor loadings above 0.50, indicating unidimensionality for WTC measurement. Because the Chinese version of the questionnaire was administered during both the pre-test and post-test to avoid misunderstandings among students with limited English proficiency, language validity was ensured through a back-translation process conducted by three bilingual experts, with discrepancies resolved through consensus.

Reliability was assessed using Cronbach's alpha. Table 1 shows the reliability of the In-class WTC Questionnaire in the second pilot study, which was applied in the main study. The questionnaire demonstrated strong internal consistency, with an overall alpha coefficient of 0.914 and subscale coefficients ranging from 0.848 to 0.866.

Table 1. Reliability of In-class WTC Questionnaire in second pilot study

Variable	In-class WTC	Anxiety	Self-perceived Communicative Competence	Motivation	Classroom Environment
Cronbach's Alpha	0.914	0.851	0.866	0.848	0.866

3.3.2 The Semi-Structured Interview Protocol and Its Validity and Reliability

The semi-structured interview protocol (Appendix B) was developed to explore students' perceptions of how mobile technologies influenced their in-class WTC after the 8-week intervention. The protocol consisted of eight open-ended questions that focused on the perceived affordances of WeChat and MOOCs, affective changes (such as anxiety reduction) and contextual factors that shaped communication. Face validity and content validity were established by the three experts mentioned in the validation of WTC Questionnaire, who reviewed and confirmed that the questions aligned with the study's objectives. Construct validity was supported through pilot testing with six participants, which showed that responses clustered around expected themes such as tool-specific anxiety reduction. Language validity was strengthened by using clear and simple phrasing and avoiding technical terminology. Reliability was enhanced through inter-rater procedures: two coders independently analysed 20% of the interview transcripts and achieved 92% agreement in thematic coding. Any discrepancies were resolved through discussion.

Trustworthiness was prioritised during qualitative data analysis. Member checking was carried out by sharing summarised interview findings with three participants for confirmation. Triangulation was achieved by comparing interview data with quantitative WTC results. Thematic analysis followed Braun and Clarke's (2006) six-phase framework, and NVivo 14 was used for data management and coding. An audit trail was maintained to ensure dependability across the analytic process. These measures strengthened the overall rigour of the qualitative component and supported a robust examination of how mobile technologies influenced in-class WTC.

3.4 Teaching Models Supported by WeChat or MOOCs

There is limited research comparing mobile technologies with concrete integrated models for English instruction before and after class, particularly involving MOOCs and the WeChat app. To address this gap, this study designed two teaching models – one supported by WeChat and one supported by MOOCs – that outline the full instructional process across three stages: before class, in class and after class. Figures 1 and 5 illustrate the two models. Although they share several structural similarities, they also demonstrate clear differences in

how each platform supports College English teaching.

Both models (Figures 1 and 5) begin with pre-class preparation, involve speaking tasks in class without mobile tools, and assign homework after class, while also encouraging informal learning beyond the College English Course. In both models, lecturers assigned preview tasks through either WeChat or MOOCs to help students prepare for upcoming lessons and to gain initial insight into students' proficiency levels and learning habits. Students in both models presented the same speaking tasks in class without the assistance of WeChat or MOOCs. After class, students submitted their assignments via WeChat or MOOCs, and lecturers encouraged them to engage in informal learning beyond the College English Course through these platforms.

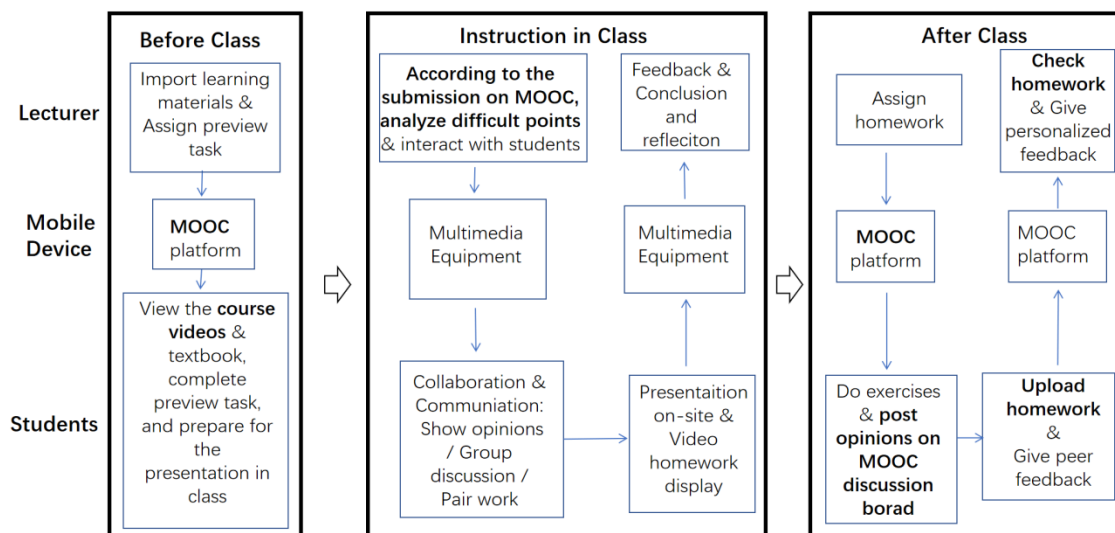


Figure 1. Model of Mobile Learning Supported by MOOCs



Figure 2. Participants Viewed Course Videos and Complete Preview Tasks on MOOCs

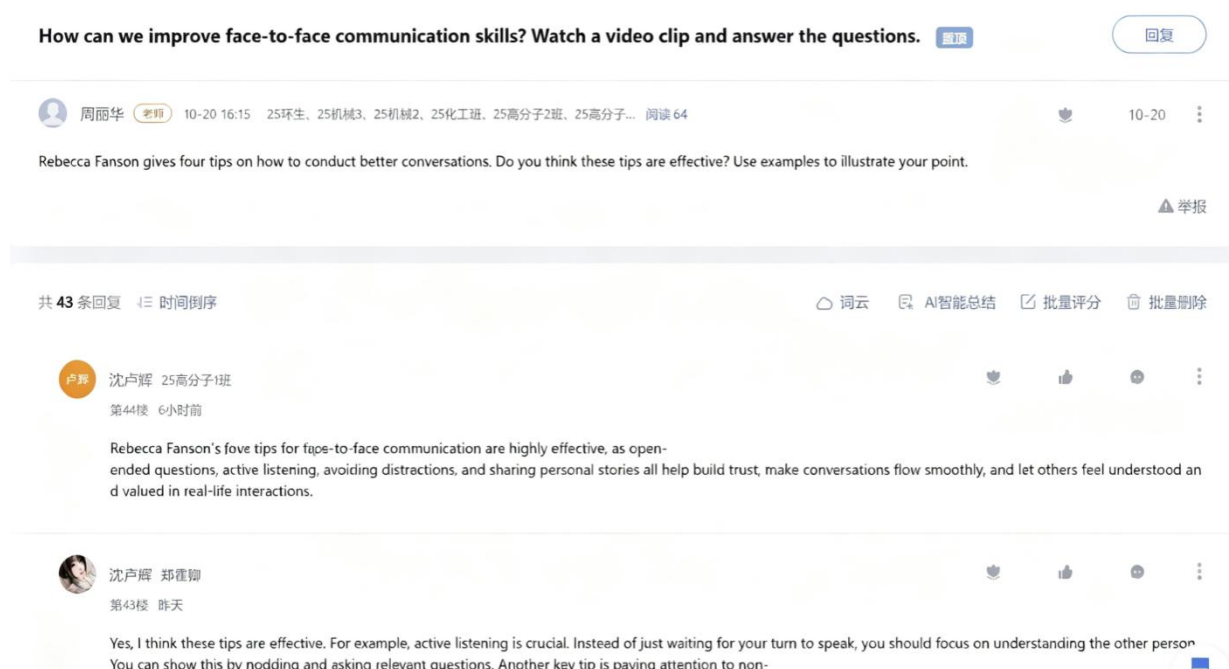


Figure 3. Participants Posted Opinions on the Discussion Board of MOOCs

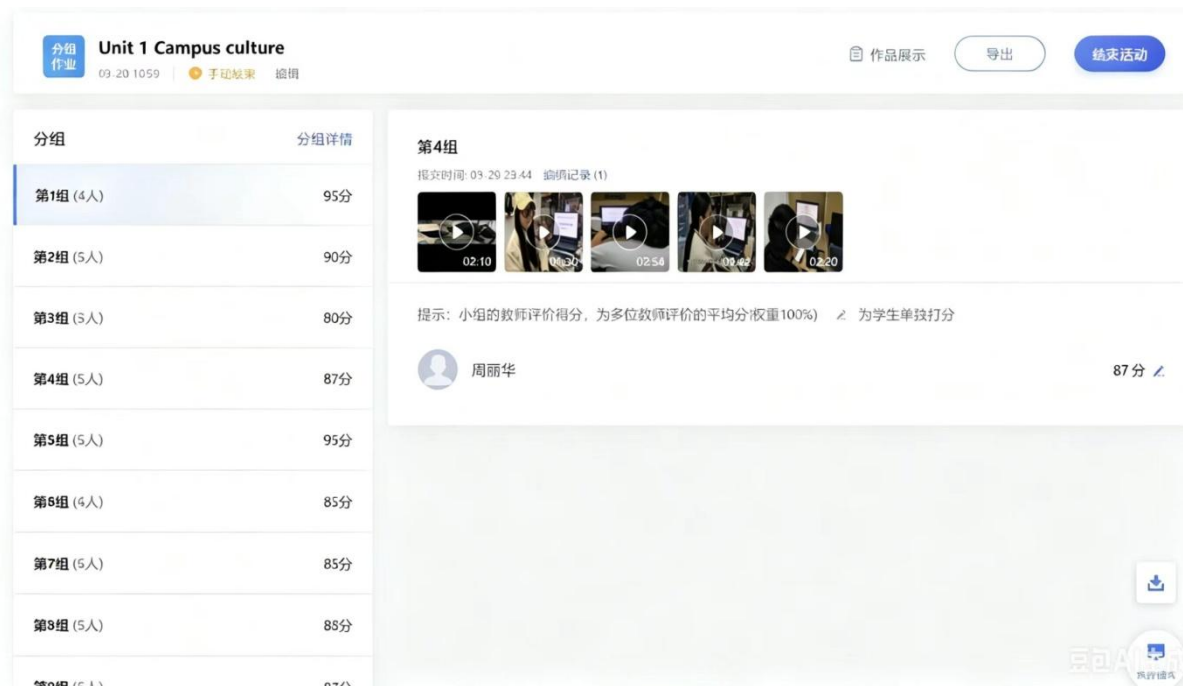


Figure 4. Participants Upload Homework on MOOCs

However, the patterns of pre-class preparation differed between the two models. The MOOCs system allowed lecturers to monitor the completion of preview tasks and automatically reminded students who had not finished them. The structured course videos and materials helped students prepare answers to textbook-related questions and understand language points for the upcoming lesson (Figure 2), and participants were required to watch course videos and complete preview tasks before the physical class. After the teacher's instruction and students' in-class presentations, participants could post their opinions on the MOOCs discussion board (Figure 3). Participants also uploaded their homework to MOOCs, and the teacher marked their work and provided feedback (Figure 4).

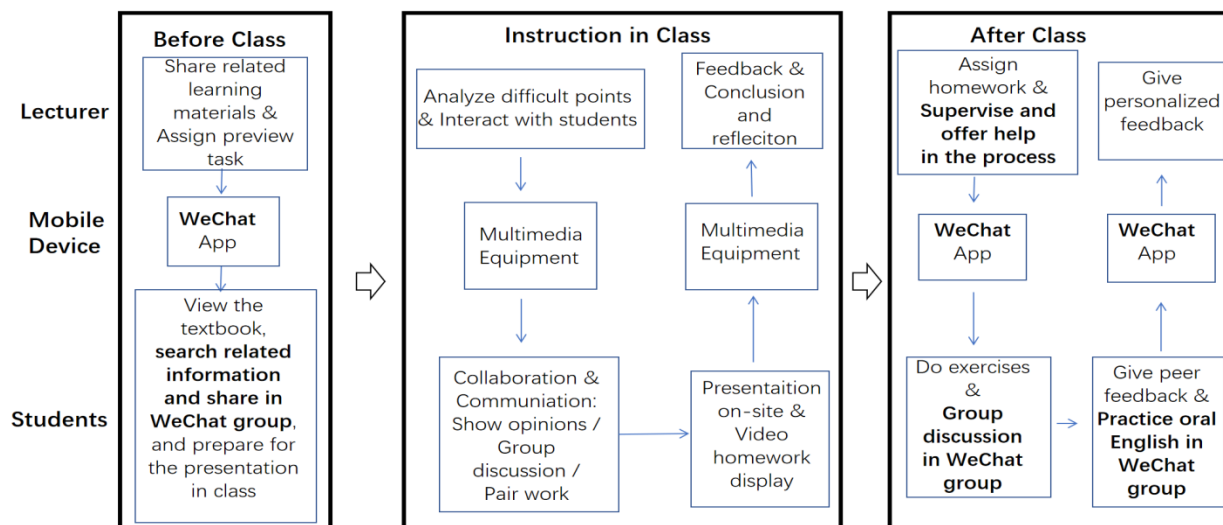


Figure 5. Model of Mobile Learning Supported by WeChat

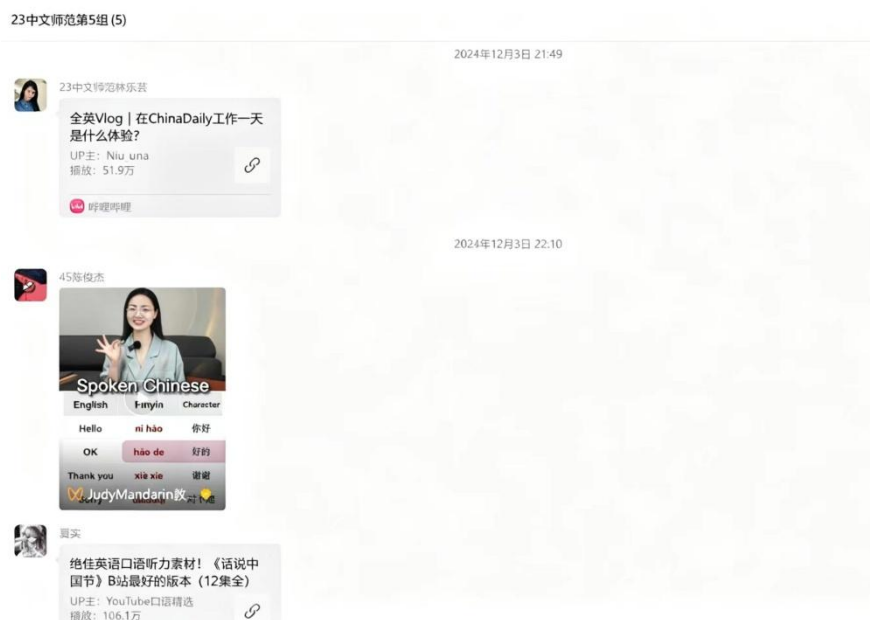


Figure 6. Participants Searched Related Information and Shared in WeChat Group



Figure 7. Participants Discussed Group Tasks in WeChat Group

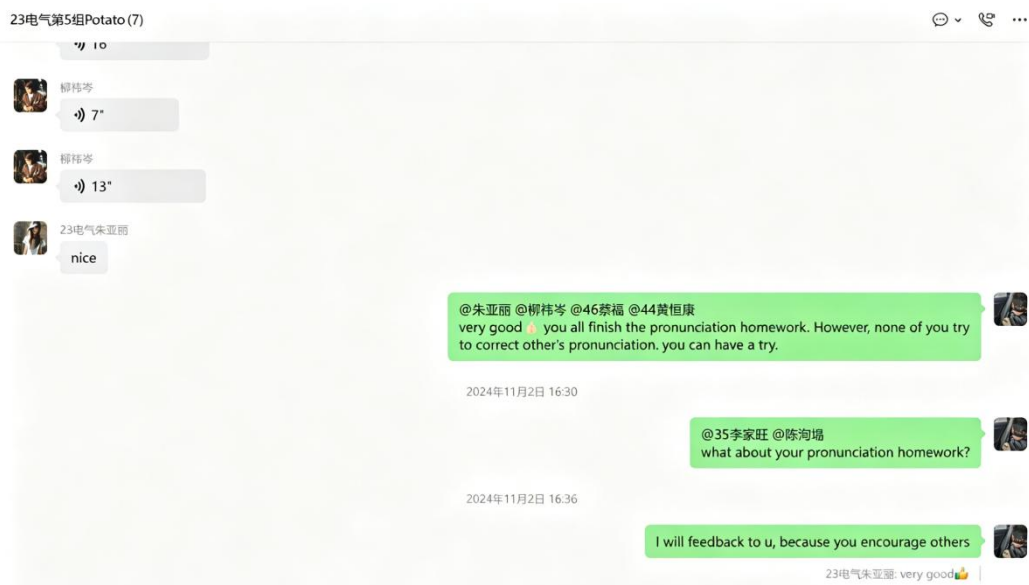


Figure 8. Participants Practiced Pronunciation and Got Feedback from Teacher in WeChat Group



Figure 9. Participants Posted Daily Life and Commented on Others on WeChat Moments

Meanwhile, participants in the WeChat model needed to search for information and find answers through discussion before class. They prepared for lessons by searching for information and sharing it in the WeChat group (Figure 6). WeChat offered more immediate communicative affordances among group members and between students and lecturers, so participants often discussed how to complete tasks in the WeChat group (Figure 7). On the other hand, after-class assignments differed between the WeChat and MOOCs models. In the WeChat-supported model, students could correct peers' pronunciation using voice messages and interact more efficiently through synchronous communication (Figure 8), while in the MOOCs-supported model, the platform scored students' pronunciation after their submission of pronunciation tasks.

In addition, informal learning conducted in each model also differed. Students were encouraged to post about their daily lives in English through WeChat Moments and WeChat vlog accounts (Figure 9). In contrast, students in the MOOCs group could engage with other course videos and various free resources at their own pace. These differences illustrate how each mobile technology supports distinct pedagogical functions, which in turn influence students' in-class WTC.

3.5 Pilot Study

A pilot test was conducted with 111 participants to refine the research instruments and procedural protocols before full-scale implementation. The pilot consisted of two phases targeting the quantitative and qualitative components. Its purpose was to identify ambiguities in survey items, logistical challenges in data collection and inefficiencies in teaching activities, thereby strengthening the rigour and feasibility of the main study.

The first phase was the questionnaire pilot, which involved 105 sophomore students from the three universities in Fujian Province noted earlier. These participants matched the demographic profile of the target sample but were not included in the final study to avoid bias. The 45-item In-class WTC Questionnaire was administered online through the Wenjuanxing platform. Z-score statistics were used to detect outliers; no extreme values were found. The pilot yielded an important finding regarding reliability: the initial Cronbach's alpha for the motivation subscale was 0.458, below the accepted threshold of 0.70 (Creswell & Creswell, 2018). This low value appeared to result from one reversed item ("I don't really have a great desire to learn English"), which caused confusion among respondents. After revising the item into an affirmative statement, the second pilot alpha increased to 0.914, and all subscales exceeded 0.70. This improvement ensured that the questionnaire could reliably detect changes across WTC constructs.

The second phase consisted of the interview and teaching model pilot. Six volunteers from one of the universities participated in a simulated two-week mobile learning intervention conducted by the first author – 3 using the WeChat-supported model and the other 3 using the MOOCs-supported model. This was followed by a post-intervention interview. Feedback from this phase resulted in two major revisions. First, interview questions were rephrased to reduce jargon and improve clarity – for example, replacing "class environment" with "teacher's attitude" or "classmates' reaction" and specifying "in-class WTC" as "willingness to speak during specific class activities". Second, several teaching activities were streamlined. For instance, WeChat after-class pronunciation practice was shortened from 20 to 10 minutes to match the number of pronunciation tasks, and the MOOCs discussion prompts were simplified to promote more focused and frequent responses.

Overall, the pilot study validated the research instruments, refined data collection procedures and improved the feasibility of the teaching models. The revised questionnaire, interview protocol and adjusted instructional activities formed a robust foundation for the main study,

reducing potential errors and strengthening the validity of the findings.

3.6 Data Collection

Data collection for this quasi-experimental study took place over a 10-week period (1 week for pre-test and sampling for qualitative interviews, 8 weeks for interventions, and 1 week for post-test and semi-structured interviews) from October to December 2024. It was aligned with the 2024-2025 autumn semester to minimise disruption to participants' regular coursework. The process was organised to gather both quantitative and qualitative data in a systematic manner, consistent with the mixed-methods design and its emphasis on triangulation.

Quantitative data were collected through pre-test and post-test administrations of the In-class WTC Questionnaire. The pre-test was administered in the first week to establish baseline WTC levels. The post-test was conducted one week after the 8-week intervention to measure changes related to the mobile technology-supported teaching models. Both questionnaires were administered through Wenjuanxing, a widely used Chinese online survey platform, which ensured efficient distribution and high completion rates at both data collection points.

Qualitative data were collected through semi-structured interviews designed to capture students' perceptions of the impact of mobile technology (WeChat or MOOCs) on in-class WTC. The interviews were conducted one week after the interventions. Eighteen participants (nine from the WeChat group and nine from the MOOCs group) were selected through stratified sampling based on pre-test WTC scores. All interviews were audio-recorded and transcribed verbatim for subsequent analysis.

3.7 Data Analysis

By integrating the statistical precision of ANCOVA with the interpretive depth of thematic analysis, the analysis phase offered a comprehensive understanding of how different mobile technologies influenced in-class WTC.

For the quantitative component, ANCOVA was used to examine differences in pre-test and post-test WTC scores across the three groups (WeChat, MOOCs and control). This method enabled simultaneous comparison of group-level changes and assessed whether the mobile technology interventions produced effects distinct from conventional instruction. SPSS 26 was used to analyse variations in mean scores on the In-class WTC Questionnaire. When overall ANCOVA results indicated significant differences, post-hoc tests (e.g., Bonferroni) were planned to identify which group comparisons accounted for the effects. This analytical approach ensured objective measurement of intervention outcomes while controlling for baseline variability.

The qualitative component focused on the post-intervention semi-structured interviews with 18 participants (nine from each experimental group), who were selected through stratification based on pre-test WTC levels. Thematic analysis was conducted in NVivo 14 using Braun and Clarke's (2006) six-phase framework (familiarisation with the data, generation of initial codes, theme development, theme review, theme definition and naming, and final reporting). This process allowed for systematic identification of recurring patterns and deeper insight into how students perceived the affordances and impacts of WeChat and MOOCs on their in-class WTC.

3.8 Ethical Considerations

This study followed rigorous ethical standards to protect participants' rights and ensure research integrity. Informed consent was obtained at the beginning of the study through online forms that provided clear explanations of the study's purpose, procedures, minimal risks and the voluntary nature of participation. All participants provided written electronic consent and were informed of their right to decline or withdraw at any time without penalty.

Anonymity was ensured by assigning unique participant codes in place of personal identifiers, so that individual responses could not be linked to specific participants. Confidentiality was maintained through secure data management: electronic files, including questionnaires and interview transcripts, were stored on password-protected servers accessible only to the research team, while any physical documents were kept in locked storage. These procedures complied with institutional review board (IRB) requirements and international ethical standards for educational research, ensuring the protection of participant autonomy and privacy throughout the study.

4. Results

4.1 Significant Difference Occurs in Post-test of In-class WTC

Data screening and cleaning, including checks for missing values and errors, were conducted using IBM SPSS 26. Following the guidelines of Tabachnick and Fidell (2013), cases with standardised scores exceeding ± 3.29 were treated as potential outliers. Examination of both pre-test and post-test data showed that all 135 cases fell within the acceptable range ($-3.29 \leq z\text{-score} \leq 3.29$). Therefore, no responses were removed, and all cases were retained for analysis.

4.1.1 Univariate Analysis of Covariance Assumption Testing

Prior to conducting the primary analysis, the assumption of homogeneity of regression slopes was tested to ensure the appropriateness of the ANCOVA model. The analysis included group as the fixed factor, with pre-test WTC scores and College Entrance Examination English scores (ES) entered as covariates. The dependent variable was the post-test WTC score.

Table 2. Result of the Test for Homogeneity of Regression Slope

Tests of Homogeneity of Regression Slope						
Dependent Variable:	Post-test WTC					
Source	Type III Squares	df	Mean Square	F	Sig.	
Corrected Model	14375.154 ^a	8	1796.894	6.837	.000	
Intercept	11499.308	1	11499.308	43.752	.000	
group	1079.725	2	539.863	2.054	.132	
pretest	8795.894	1	8795.894	33.467	.000	
group * pretest	291.957	2	145.978	.555	.575	
group * ES	1582.596	2	791.298	3.011	.053	
ES	19.362	1	19.362	.074	.787	
Error	33116.180	126	262.827			
Total	3080493.000	135				
Corrected Total	47491.333	134				

a. R Squared = .303 (Adjusted R Squared = .258)

As presented in Table 2, the interaction effect between group and pre-test WTC scores (group ✕ pretest) was not statistically significant, $F(2, 126) = 0.555$, $p = .575$, $\eta^2 = .009$. This indicates that the relationship between pre-test and post-test scores did not differ significantly across the three experimental groups, thereby satisfying the assumption of homogeneity of regression slopes.

Additionally, the interaction between group and English scores (group ✕ ES) was also found to be non-significant, $F(2, 126) = 2.111$, $p = .053$, $\eta^2 = .033$. Although this p-value approached the conventional alpha level of .05, it did not reach statistical significance, suggesting that the influence of prior English proficiency (as measured by the entrance exam) on post-test outcomes was consistent across groups.

The main effects of the covariates revealed that pre-test scores were a significant predictor of post-test performance, $F(1, 126) = 33.467$, $p < .001$, $\eta^2 = .210$, confirming the necessity of controlling for baseline WTC levels. In contrast, English scores did not significantly predict post-test outcomes, $F(1, 126) = 0.074$, $p = .787$, $\eta^2 < .001$.

Based on these results, the assumptions for ANCOVA were met, and the interaction terms were subsequently removed from the final model to test the main effect of the intervention.

4.1.2 Results of Analysis of Covariance in Post-test of In-class WTC

An ANCOVA was conducted to evaluate the effect of the teaching intervention (WeChat, MOOCs and conventional teaching) on post-test WTC scores, while controlling for pre-existing differences in students' baseline WTC (pre-test) and prior English proficiency (ES). The results (Table 3) indicated a statistically significant difference in the adjusted post-test means across the three groups, $F(2, 130) = 3.592$, $p = .030$, partial $\eta^2 = .052$. This finding suggests that, after adjusting for covariates, the type of mobile technology used to assist teaching had a significant impact on students' post-test WTC levels. The overall model explained approximately 26.9% of the variance in post-test scores ($R^2 = .269$).

In addition, there was a highly significant effect of pre-test scores on post-test scores, $F(1, 130) = 31.551$, $p < .001$, partial $\eta^2 = .195$. This confirms that students' initial WTC levels were a strong predictor of their post-intervention performance, justifying the use of ANCOVA to control for baseline differences. The College Entrance Examination English score did not show a significant effect on the post-test WTC, $F(1, 130) = 0.182$, $p = .670$. This indicates that once pre-test WTC was accounted for, general English proficiency (as measured by the entrance exam) did not significantly contribute to the variance in post-test WTC.

Table 3. Results of Analysis of Covariance

Tests of Between-Subjects Effects						
Dependent Variable:	Post-test WTC					
Source	Type III Squares	df	Mean Square	F	Sig.	
Corrected Model	12789.205 ^a	4	3197.301	11.978	.000	
Intercept	11695.627	1	11695.627	43.814	.000	
group	1917.829	2	958.915	3.592	.030	
pretest	8422.247	1	8422.247	31.551	.000	
ES	48.666	1	48.666	.182	.670	
Error	34702.129	130	266.939			
Total	3080493.000	135				
Corrected Total	47491.333	134				

a. R Squared = .269 (Adjusted R Squared = .247)

To further examine the specific differences among the three groups, post-hoc comparisons were conducted using the Bonferroni correction. The results (Table 4) revealed a statistically significant difference in post-test scores between the WeChat group and the control group, with a mean difference of 10.2222 ($SE = 3.88635$, $p = .029$). Specifically, the WeChat group demonstrated significantly higher post-test WTC scores than the control group.

In contrast, no significant differences were observed between the WeChat group and the MOOCs group (mean difference = 2.0444, SE = 3.88635, $p = 1.000$) or between the control group and the MOOCs group (mean difference = -8.1778, SE = 3.88635, $p = .112$). These findings suggest that while WeChat was more effective than the conventional approach, neither WeChat nor MOOCs showed a statistically significant advantage over the other in terms of post-test WTC. The MOOCs group showed moderate improvement in WTC, outperforming the control group but falling short of the WeChat group.

Table 4. The Result of Post-hoc Comparisons

Multiple Comparisons						
Dependent Variable: Post-test WTC						
Bonferroni						
(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
WeChat	Control	10.2222*	3.88635	.029	.7983	19.6461
	MOOCs	2.0444	3.88635	1.000	-7.3795	11.4684
Control	WeChat	-10.2222*	3.88635	.029	-19.6461	-.7983
	MOOCs	-8.1778	3.88635	.112	-17.6017	1.2461
MOOCs	WeChat	-2.0444	3.88635	1.000	-11.4684	7.3795
	Control	8.1778	3.88635	.112	-1.2461	17.6017

Based on observed means.
The error term is Mean Square (Error) = 339.834.
*. The mean difference is significant at the 0.05 level.

4.2 Mechanisms Underlying the Quantitative Outcomes: A Thematic Analysis

4.2.1 The WeChat Effect: Dissolving Anxiety through Low-Threshold Interaction

To explain the significant improvement in in-class WTC in the WeChat group, participants highlighted that WeChat's low-threshold interaction features were crucial in alleviating L2 speaking anxiety. Unlike face-to-face classroom settings, which often intensify the fear of negative evaluation, WeChat provided a "safe space" characterised by reduced visual presence. A key finding was that the ability to communicate without showing one's face significantly lowered performance anxiety. As Participant 4 noted, *"I am more willing to speak English than before, especially when doing dubbing and pronunciation correction tasks. Because dubbing and pronunciation correction in the WeChat group do not require showing my face. I think showing my face would still make me more nervous."* This low-pressure environment was further softened by humour; Participant 6 reported that *"mixing English jokes and playful comments into group chats"* normalised English use, creating a relaxed atmosphere that encouraged risk-taking in communication.

Furthermore, this low-threshold interaction served as a catalyst for frequent peer engagement, which subsequently reduced social anxiety and fostered group cohesion. Participant 5 explained, *"If a WeChat group hadn't been set up before, I would generally not go out to chat with classmates who I wasn't familiar with after class."* Meanwhile, Participant 4 noted that *"with the use of WeChat, classmates chat more and become closer."* The qualitative data revealed a clear progression: the ease of initiating contact on WeChat led to increased communication frequency, which in turn strengthened interpersonal familiarity. For introverted learners, the platform lowered the psychological threshold for interaction, allowing them to connect with classmates they would otherwise avoid. Through frequent messaging and casual small talk – ranging from academic discussions to sharing memes – students transitioned from distant peers to familiar friends. This growing familiarity was identified as a primary driver of reduced social anxiety; as Participant 1 mentioned that small-group discussions on WeChat increased *"tacit understanding with each other"*, the fear of judgement in class diminished. Consequently, the supportive environment and enhanced group cohesion built through WeChat directly translated into higher WTC during face-to-face lessons in the physical classroom.

4.2.2 WeChat Accommodates Students of Different WTC Levels: Explaining the Universal Advantage

The qualitative findings provide a compelling explanation for why the WeChat intervention yielded superior results compared with the MOOCs group: unlike the standardised, one-size-fits-all nature of MOOCs, WeChat offered a flexible, multi-layered support system that accommodated students across the entire spectrum of WTC levels. While MOOCs provided static input, WeChat's diverse affordances allowed it to simultaneously address the distinct needs of both high- and low-WTC learners, thereby maximising overall group in-class WTC.

For high-WTC students, who already possessed high WTC, WeChat served as a tool for performance refinement. These students leveraged WeChat primarily to enhance the accuracy and quality of their output. Participants 2 and 6, both classified as high WTC in the pre-test, emphasised the importance of pronunciation-focused tasks. Participant 2 noted that *"correcting the pronunciation after class will make it a little better in class."* This suggested that pronunciation practice strengthened their readiness to speak. Similarly, Participant 6 stated, *"With this method of correcting pronunciation mutually on WeChat, I feel that my pronunciation will be more standard in class, and I will be more willing to speak."* By using WeChat to standardise their pronunciation and refine their delivery before class, these students were able to elevate their performance from "willing to speak" to "speaking well", ensuring that their confidence was backed by linguistic competence.

Conversely, for low-WTC students, WeChat functioned as a vital scaffold for both affective and collaborative cognitive aspects. These

learners faced significant barriers related to anxiety and vocabulary deficits. Participant 7, who scored low on WTC in the pre-test, highlighted that posting in English on WeChat Moments helped her “*expand some vocabulary or phrases*,” which in turn made her “*brave to say it in class*”. Moreover, she found that group discussions on WeChat helped her and her teammates prepare in advance, which further reduced her reluctance to speak. She concluded that “*WeChat is helpful for speaking in class*”. The data show that low-WTC participants benefited from a cumulative effect of multiple WeChat activities: posting on WeChat Moments helped expand their lexical repertoire, while group discussions allowed for advance preparation. This pre-class rehearsal significantly lowered the psychological threshold for participation, transforming their anxiety into readiness.

Ultimately, this adaptability explains the quantitative gap between the two experimental groups. While the MOOCs group likely saw benefits limited to those with sufficient self-regulation or baseline proficiency (as will be presented in the following section), WeChat successfully bridged the gap for struggling learners while polishing the skills of advanced ones. By simultaneously refining performance for confident students and building confidence for reluctant ones, WeChat created a universal uplift in in-class WTC that the rigid structure of MOOCs could not achieve.

4.2.3 Mechanism Analysis of MOOCs as a Cognitive Scaffold Enhancing In-Class WTC

The findings of this study indicate that the core mechanism by which MOOCs effectively enhances students’ in-class WTC lies in their function as a cognitive scaffold, which successfully transforms the “uncertainty” of the classroom into “controllability”. This transformation is not accidental but is realised through three progressive logical stages.

First, structured input reduces cognitive load and establishes psychological safety. The standardised learning path provided by the MOOCs platform – watching videos, taking notes and completing assignments – is more than just a task arrangement; it essentially constructs a low-anxiety preview environment for students. This structured learning module helps students systematically manage their preview workload through a mandatory linear process. Participants 16 and 17 emphasised that they followed every step provided in the MOOCs modules. When students no longer need to expend extra cognitive resources planning “how to learn”, their mental energy can be focused on “what to learn”, thereby establishing a foundational sense of psychological safety before entering the classroom.

Second, the front-loading of knowledge decoding enhances confidence. Traditional classroom teaching often requires students to digest language points and text structures instantly within a limited time, placing high demands on their responsiveness. In contrast, MOOCs load this decoding process in advance through video explanations. Participant 16 noted, “*the MOOCs has summaries on language points, article structure, vocabulary prefixes and suffixes, etc.*” Participant 12 similarly highlighted that “*the grammar and knowledge points in the MOOCs videos*” were “*helpful for class*”. This deeper understanding of course content reinforced their readiness to participate in classroom interaction tasks. This mode of “understanding first, interacting later” ensures that when facing teacher questions in class, students are no longer passive receivers, but confident participants armed with knowledge. For instance, Participant 12 explicitly stated, “*If I hadn’t watched the MOOCs, I might not be able to answer some of the questions asked by the teacher.*” Participant 15 echoed this sentiment, stating that she felt “*relatively confident when reading or translating texts*” because she had completed the preview task on MOOCs. These accounts directly demonstrate that previewing on MOOCs builds confidence and significantly reduces the sense of confusion students face when encountering new knowledge.

Third, there is a positive transformation from a state of preparedness to WTC. Ultimately, the confidence derived from structured learning and knowledge internalisation does not merely remain at a psychological level but is directly converted into a driving force for specific classroom behaviours. The data indicate that when students feel “*well-prepared*”, their perceived risk is significantly reduced. Participant 11 stressed, “*if I have prepared in advance and have a general idea, I would be more likely to speak English in class.*” Participant 10 expressed similar views, noting that previewing texts on MOOCs “*help us speak boldly*” and “*enhance the ability to explain the text*”. In particular, the case of Participant 16 powerfully demonstrates that MOOCs significantly enhances students’ in-class WTC by improving their level of preparedness. Participant 16 stated, “*I am more willing to speak English this week. I spoke about 5 times in class... because I had previewed on MOOCs and I was well-prepared.*”

4.2.4 MOOC’s Challenges for Low Proficiency Learners and Limitations in Social Interaction

The quantitative results indicated that the MOOCs group showed moderate improvement in in-class WTC, outperforming the control group but falling short of the WeChat group. Qualitative data elucidate that this result stems from two primary barriers: excessive cognitive load for lower-proficiency learners and the inherent structural limitations of MOOCs in fostering oral production.

Cognitive scaffold did not match lower-proficiency and low-WTC learners. While intermediate learners alleviated difficulties using subtitles and playback controls, participants with lower English proficiency (e.g., P10, P13, P18) reported near-zero engagement. Participants 10 and 18, both identified as low WTC and low proficiency, felt that the MOOCs platform was burdensome and unnecessary. Participant 18’s comment clearly illustrated this difficulty: “*I can’t understand MOOCs. It’s all in English. I usually just turn on the video there and rarely look at it seriously.*” Such qualitative accounts explain why the MOOCs group failed to achieve the same WTC elevation as the WeChat group, which accommodated learners across all WTC levers. The standardised linguistic demands of MOOCs did not arouse the interest of low-proficiency students, restraining the motivation necessary for classroom participation.

MOOCs has a structural deficiency in social interaction. Qualitative data also highlight a systemic limitation in the asynchronous feedback on the MOOCs discussion board. Participants (P13, P17) explicitly contrasted MOOCs’ strength in content delivery with their

weakness in interaction, stating that they offered “no help for speaking”. As Participant 18 reflected, “Asking questions on the discussion forum is useless – no one replies...For speaking English in class, it may depend more on different activities.” Unlike WeChat, which provided low-stakes interactive tasks, the asynchronous nature of MOOCs left a void for instant communication. This suggests that the MOOCs platform functioned merely as a supplementary content repository rather than a driver of communicative readiness.

Synthesising both datasets, MOOCs’ effect on WTC is conditional. The qualitative evidence clarifies that the moderate quantitative gains in the MOOCs group were likely driven by intermediate- and high-proficiency learners who could cope with the input, while the platform acted as a barrier for lower-proficiency students due to high cognitive load and a lack of interactive scaffolding.

5. Discussion

5.1 WeChat Dissolves Barriers via Physical-Social Affordance

The quantitative data revealed a significant post-test WTC increase ($p = .029$) in the WeChat group compared with the control group. It is crucial to interpret this finding within the constraints of the quasi-experimental design, acknowledging that the results indicate a strong association rather than definitive causation.

The qualitative evidence elucidates that this effect is primarily driven by affective-social affordances that lower the affective filter. Unlike the face-to-face classroom, WeChat’s physical affordances (voice messaging and the absence of visual presence) reduced the “face-threatening” nature of L2 production, a critical factor in the Confucian heritage context (Wen & Clément, 2003). This interface design aligns with the study of Duan and associates (Duan et al., 2022), in which reduced social cues decreased evaluation apprehension. Furthermore, the social affordances of WeChat fostered group cohesion, which quantitatively correlated with higher WTC. The progression from “strangers” to “friends” via WeChat interactions transformed the classroom environment from a site of judgement to a community of practice. This supports MacIntyre et al.’s (1998) pyramid model, suggesting that restructuring of social context layer could effectively facilitate WTC. However, an alternative explanation is that the synchronous nature of WeChat may have artificially inflated teacher-student contact time compared with the control group, meaning that the WTC gains might partially stem from increased teacher support rather than from the tool itself. This echoes the study of Tong and associates, which found that learners could understand lecturers’ intention when applying WeChat as a learning scaffold (P. R. Tong et al., 2024).

In addition, the qualitative evidence suggests that this effect of WeChat is driven by its differential scaffolding mechanisms, which cater to learners across different WTC levels – a flexibility absent in the rigid structure of MOOCs. For students with low initial WTC, WeChat functioned as a safe rehearsal space as well as an authentic English environment. They posted about daily life on Moments, expanding their vocabulary, and group discussions allowed for advance preparation, transforming reluctance into readiness. This aligns with the research of Ali et al. (2022), which showed that the affordances of social media could be used in a dynamic learning environment where the platform lowers the threshold for entry and allows struggling learners to build confidence incrementally. On the other hand, for high-WTC students, WeChat acted as a performance refiner. These learners leveraged WeChat to enhance linguistic accuracy of (e.g. pronunciation) and complexity (vocabulary usage in Moments). This reflects the synergy between cognitive and social affordances, whereby the immediate feedback loop provided by peers polished their output, elevating their confidence from merely “willing to speak” to “speaking well”. This finding contrasts with that of Li and associates (2021), who reported that students’ vocabulary scores declined after a WeChat intervention compared with their initial test scores (Li et al., 2021). This discrepancy may be attributable to differences in intervention design. Moreover, while the present study focused on investigating in-class WTC, the qualitative finding that learners’ self-perceived language competence improved has not been examined using a validated quantitative measure.

5.2 Affordance Imbalances and Paradoxes in MOOCs

While the quantitative data indicated that the MOOCs group’s post-test WTC was marginally higher than that of the control group, the effect failed to reach statistical significance. The qualitative evidence elaborates that this modest effect stems from an affordance mismatch, wherein the MOOCs platform’s structural design only partially meets the prerequisites for L2 WTC development.

MOOCs’ formal, content-dense structure offered knowledge preparation for in-class communication, but it imposed excessive cognitive load, particularly on lower-proficiency learners. While the platform was designed to deliver structured input, lower-proficiency learners perceived it as a failed learning experience. This is consistent with Luo and associates’ (2024) study, which found that relatively high dropout rates during MOOCs learning remain a problem. One interpretation for the MOOCs group’s moderate WTC improvement is that it may have been driven exclusively by highly self-regulated learners who possess the metacognitive skills to navigate asynchronous platforms. Conversely, lower-proficiency students may have been disengaged entirely, creating a ceiling effect that neutralised the group’s overall WTC improvement. Thus, the moderate improvement is not a stable effect of the tool but a conditional outcome dependent on learner autonomy. This suggests that MOOCs’ cognitive-structural track provides unidirectional cognitive affordances. As Huang (2022) critiques, such unidirectional affordances treat learners as passive recipients of information.

On the other hand, without face-to-face or synchronous settings, the discussion board on MOOCs failed to trigger the cognitive engagement necessary to convert knowledge into communicative readiness and lacked the reciprocity required for dialogic learning. Participant 18’s frustration highlights a breakdown in social accountability. This implies that MOOCs lack physical-social affordances, and the asynchronous interaction patterns reveal a structural flaw in the social-cognitive feedback loop for subsequent classroom interaction. This aligns with the research of Rahimi (2025), which found that the anonymity and asynchronicity did not lower the

affective filter; rather, they dissolved the sense of learning community. Without peer cohesion – which was observable in the WeChat group – MOOCs learners lacked the social motivation to transfer preparatory knowledge into in-class WTC.

The divergent limitations of WeChat (lack of structure) and MOOCs (lack of social interaction) imply that optimal WTC enhancement requires a functional integration rather than a mere juxtaposition of tools. Theoretically, this study advocates for a sequential synergy: leveraging MOOCs for pre-class cognitive scaffolding to equalise linguistic competence, thereby preventing the cognitive overload observed in Section 4.2.4, followed by after-class WeChat-mediated social interaction to convert that competence into communicative action. This operational logic aligns with the Dual-Track Framework, suggesting that the affordances of structure and affect are not interchangeable but sequentially dependent.

6. Conclusion

This study provides robust evidence that WeChat and MOOCs platforms exert differential impacts on EFL learners' in-class willingness to communicate (WTC) through distinct digital affordances. The quantitative results reveal that the WeChat group achieved significantly higher WTC scores ($M = 153.98$) compared with the control group ($M = 143.76$, $p = .023$), while the MOOCs group showed moderate improvement ($M = 151.93$) that did not reach statistical significance. These findings are further elucidated by qualitative data, which illuminate the underlying mechanisms through which each platform operates.

Building on these empirical results, the study makes significant theoretical contributions to Affordance Theory by demonstrating how physical, cognitive, and social affordances mediate WTC in distinct ways. WeChat's superiority stems from its synergistic combination of low-social-presence features that reduce anxiety, interactive capabilities that foster collaborative learning, and informal communication channels that bridge in-class and out-of-class learning. Conversely, MOOCs' structured cognitive affordances primarily function as preparation tools, enhancing content knowledge but imposing excessive load on lower-proficiency learners and lacking real-time social interaction, thereby limiting the translation of WTC into classroom practice. This theoretical extension provides a more nuanced understanding of how technological tools create different affordances that either facilitate or constrain communicative behaviours.

The theoretical insights naturally translate into practical implications for EFL pedagogy. Rather than adopting a one-size-fits-all approach, educators should implement a dual-track framework that strategically leverages each platform's strengths. WeChat proves particularly effective for creating low-anxiety environments through voice messaging and peer interaction, making it ideal for building communicative confidence. Meanwhile, MOOCs serve better as a knowledge-preparation tool, with their structured content delivery supporting systematic language input. This complementary approach suggests that optimal WTC development requires orchestrating tool synergies rather than choosing between platforms. Pedagogically, the data suggest a division of labour: MOOCs should be operationalised as asynchronous cognitive scaffolds to build foundational competence before class, while WeChat should function as a synchronous affective catalyst to lower the threshold for interaction after class. Future implementations should prioritise this sequencing to maximise affordance complementarity.

However, several limitations warrant consideration when interpreting these findings. The 8-week intervention period, while sufficient to detect initial effects, prevents assessment of long-term impact sustainability. In future research, longitudinal studies tracking WTC development over extended periods would yield valuable insights into the sustainability of the observed effects. The sample, drawn from three universities in Fujian Province, may limit generalisability to other regional contexts. These limitations simultaneously point towards productive future research directions. A further limitation of the qualitative phase is the sample size of 18 participants. While this number was sufficient to reach data saturation and capture the full range of WTC levels (high, intermediate and low) through purposive sampling, future research could include a larger pool of interviewees to explore additional nuances, such as disciplinary differences or gender-specific interaction patterns.

Cross-cultural comparative research could elucidate how cultural factors interact with technological affordances across different educational contexts. Additionally, investigation into AI-mediated communication tools could help educators harness emerging technologies while avoiding the pitfalls identified in current platforms. Such research directions would not only address the limitations of the present study but also contribute to developing more nuanced theoretical models of technology-enhanced language learning.

Acknowledgments

The authors would like to express their gratitude to Assoc. Prof. Zhanfeng Wang for his insightful comments on the theoretical framework of this paper. We also thank Lecturers Lihua Zhou, Lijuan Bi and Leqin Wei for granting access to the survey data and supporting the quasi-experiment. Appreciation is extended to the anonymous reviewers for their helpful suggestions.

Author contributions

Dr. Pingping Shi was responsible for study design, data collection, and manuscript drafting. Assoc. Prof. Noraini binti Zulkepli revised it. All authors read and approved the final manuscript.

Funding

Not applicable.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

Declaration of the Use of AI

The authors have used AI tool DeepSeek-V3 and Grammarly to translate, check grammar and polish language of this article. For neither the authors are English native speakers, they applied DeepSeek to translate the introduction and conclusion part written originally in Chinese into British English. In addition, to ensure the writing quality, the spelling and grammar of the article were checked by Grammarly. Last, the authors utilized Grammarly to polish the language of the discussion and conclusion parts to make the article more readable and compliant with academic writing standards.

References

- Ali, N. G. H., Alsaffar, R. D., Alenzi, Y. H., & Almutairi, F. M. (2022). Sustaining Education by Actualizing Affordances of Social Media Platforms during the Pandemic. *International Education Studies*, 15(6), 94-108. <https://doi.org/10.5539/ies.v15n6p94>
- Andria, M. (2025). Timing of corrective feedback in mobile instant messaging: An exploratory study of L2 Modern Greek learners' perceptions. *System*, 131, Article 103591. <https://doi.org/10.1016/j.system.2025.103591>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cai, Z. Q. (2025). Enhancing EFL vocabulary and psychological well-being in Chinese undergraduates through adaptive digital games with mind mapping and Runge-Kutta modeling. *Frontiers in psychology*, 16, Article 1644162. <https://doi.org/10.3389/fpsyg.2025.1644162>
- CFLTSC. (2020). *Daxue yingyu jiaoxue zhinan [College English Teaching Guide]*. Beijing: Higher Education Press
- Chartouny, A., Amini, K., Khamassi, M., & Girard, B. (2024). A new paradigm to study social and physical affordances as model-based reinforcement learning. *Cognitive Robotics*, 4, 142-155. <https://doi.org/https://doi.org/10.1016/j.cogr.2024.08.001>
- Cheng, J., Yuen, A. H., & Chiu, D. K. (2023). Systematic review of MOOC research in mainland China. *Library Hi Tech*, 41(5), 1476-1497. <https://doi.org/10.1108/LHT-02-2022-0099>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Dinh, C. T., & Phuong, H. Y. (2024). Examining Student Characteristics, Self-Regulated Learning Strategies, and Their Perceived Effects on Satisfaction and Academic Performance in MOOCs. *Electronic Journal of e-Learning*, 22(8), 41-59. <https://doi.org/10.34190/ejel.22.8.3446>
- Duan, H., Wei, X., & Li, Y. (2022). *Effects of WeChat on English as L2 Mobile Learning and Teaching* International Conference on Computer Science and Education. https://doi.org/10.1007/978-981-99-2449-3_37
- Ebadi, S., & Ebadijalal, M. (2020). The effect of Google Expeditions virtual reality on EFL learners' willingness to communicate and oral proficiency. *Computer Assisted Language Learning*, 35(8), 1975-2000. <https://doi.org/10.1080/09588221.2020.1854311>
- Gaver, W. W. (1991). Technology affordances. in *CHI'91 conference proceedings*, 79-84. <https://doi.org/10.1145/108844.108856>
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.

- He, M. Y., & Wang, L. (2025). Implementing Assessment as Learning in Online EFL Writing Classes. *RELC Journal*, 56(2), 468-482. <https://doi.org/10.1177/00336882231224966>
- Huang, E., Jiang, L., & Yang, M. (2021). The affordances of a technology-aided formative assessment platform for the assessment and teaching of English as a foreign language: an ecological perspective. *Educational Technology Research & Development*, 69(6), 3391-3412. <https://doi.org/https://doi.org/10.1007/s11423-021-10047-y>
- Huang, F., & Zhang, H. (2025). Enhancing willingness to communicate in the second language through technology: the effects of community of practice, enjoyment, and boredom in online classes [Article]. *Computer Assisted Language Learning*. <https://doi.org/10.1080/09588221.2025.2497496>
- Huang, O. H. (2022). Integrating MOOCs in Formal Education: To Unveil EFL University Students' Self-Learning in Terms of English Proficiency and Intercultural Communicative Competence. *International Education Studies*, 15(3), 130-139. <https://doi.org/10.5539/ies.v15n3p130>
- Jiang, S. H., & Zhao, H. Y. (2025). Learning english vocabulary via Instagram or YouTube: Surveying the impacts on motivation, growth mindfulness, willingness to communicate, and enjoyment from the lens of self-determination theory. *Learning and Motivation*, 89, Article 102089. <https://doi.org/10.1016/j.lmot.2024.102089>
- Jiao, Y., Kasuma, S. A. A., & Lah, S. C. (2023). The Relationship Between WeChat and English Language Learning among Chinese University Students [Article]. *Eurasian Journal of Educational Research*, 2023(108), 70-83. <https://doi.org/10.14689/ejer.2023.108.005>
- Kaur, A., Sharma, R., Gulati, S., & Chakravarty, R. (2022). Mobile app analytics for assessing MOOC platforms: a study of online learners' sentiments [Article]. *Library Hi Tech News*, 39(1), 5-6. <https://doi.org/10.1108/LHTN-11-2021-0086>
- Kelley, T. L. (1939). The selection of upper and lower groups for the validation of test items. *Journal of educational psychology*, 30(1), 17. <https://doi.org/10.1037/h0057123>
- Kono, T. (2009). Social Affordances and the Possibility of Ecological Linguistics. *Integrative Psychological & Behavioral Science*, 43(4), 356-373. <https://doi.org/https://doi.org/10.1007/s12124-009-9097-8>
- Lee, J. S., & Hsieh, J. C. (2019). Affective variables and willingness to communicate of EFL learners in in-class, out-of-class, and digital contexts. *System*, 82, 63-73. <https://doi.org/10.1016/j.system.2019.03.002>
- Li, D. Y., & Zhang, L. (2025). Exploring EFL Learners' Academic Literacy Development: An Ecological Perspective. *TESOL Quarterly*, 59(1), 486-517. <https://doi.org/10.1002/tesq.3325>
- Li, F., Fan, S., Wang, Y., & Lu, J. (2021). Chinese university students' experience of WeChat-based English-language vocabulary learning. *Education Sciences*, 11(9), 554. <https://doi.org/10.3390/educsci11090554>
- Li, L., Zhang, X. Y., Zou, B., & Yang, Q. (2025). AI partner or peer partner? Exploring AI-mediated interaction in EFL pronunciation from a socio-cultural perspective. *Learning Culture and Social Interaction*, 55, Article 100958. <https://doi.org/10.1016/j.lcsi.2025.100958>
- Liu, Q., Chen, Q., Zhao, Y. Q., & Li, Y. (2025). Building Their Own Connections: University EFL Learners' Culture Learning Through a Language MOOC on Source Culture. *SAGE Open*, 15(3), Article 21582440251362372. <https://doi.org/10.1177/21582440251362372>
- Luo, Z. N., & Li, H. Z. (2024). The Involvement of Academic and Emotional Support for Sustainable Use of MOOCs. *Behavioral Sciences*, 14(6), Article 461. <https://doi.org/10.3390/bs14060461>
- Ma, H. L., Ismail, L., Noordin, N., & Razali, A. (2025). From EFL to ESL: unveiling willingness to communicate (WTC) in English among Chinese international students in a multilingual context [Article]. *International Journal of Multilingualism*, 22(4), 2508-2532. <https://doi.org/10.1080/14790718.2024.2425980>
- MacIntyre, P. (2020). Expanding the theoretical base for the dynamics of willingness to communicate. *Studies in Second Language Learning and Teaching*, 10(1), 111-131. <https://doi.org/10.14746/ssllt.2020.10.1.6>
- MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal*, 82(4), 545-562. <https://doi.org/10.1111/j.1540-4781.1998.tb05543.x>
- Mingyan, M., Noordin, N., & Razali, A. (2025). Improving EFL speaking performance among undergraduate students with an AI-powered mobile app in after-class assignments: an empirical investigation. *Humanities & Social Sciences Communications*, 12(1), Article 370. <https://doi.org/10.1057/s41599-025-04688-0>
- MOE. (2022). *Yiwu jiaoyu yingyu kecheng biao zhun [Standards of English Curriculum for Compulsory Education]*. Beijing: Beijing Normal University Publishing Group
- Peng, J. E., & Woodrow, L. (2010). Willingness to Communicate in English: A Model in the Chinese EFL Classroom Context. *Language Learning*, 60(4), 834-876. <https://doi.org/10.1111/j.1467-9922.2010.00576.x>
- Rahimi, A. R. (2025). The role of EFL learners' L2 self-identities, and authenticity gap on their intention to continue LMOOCs: insights from an exploratory partial least approach. *Computer Assisted Language Learning*, 38(3), 512-543.

<https://doi.org/10.1080/09588221.2023.2202215>

- Ronzhyn, A., Cardenal, A. S., & Battle Rubio, A. (2023). Defining affordances in social media research: A literature review [Review]. *New Media and Society*, 25(11), 3165-3188. <https://doi.org/10.1177/14614448221135187>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6 ed.). Boston, MA: Pearson.
- Tai, T. Y., & Chen, H. H. J. (2023). The impact of Google Assistant on adolescent EFL learners' willingness to communicate. *Interactive Learning Environments*, 31(3), 1485-1502. <https://doi.org/10.1080/10494820.2020.1841801>
- Tong, P., Yin, Z., & Tsung, L. (2024). Student engagement and authentic language use on WeChat for learning Chinese as a foreign language. *Computer Assisted Language Learning*, 37(4), 687-719. <https://doi.org/10.1080/09588221.2022.2052906>
- Tong, P. R., An, I. S., & Zhou, Y. J. (2024). From teacher-intended to learner-actualised affordances in a WeChat-Supported mobile Chinese language learning environment. *System*, 126, Article 103459. <https://doi.org/10.1016/j.system.2024.103459>
- Wang, H., Peng, A., & Patterson, M. M. (2021). The roles of class social climate, language mindset, and emotions in predicting willingness to communicate in a foreign language [Article]. *System*, 99, Article 102529. <https://doi.org/10.1016/j.system.2021.102529>
- Wang, X. J., & Jiang, W. Y. (2025). Learners' enjoyment in mobile task-based language learning: a longitudinal study on novice CFL learners in an Australian university. *Language Teaching Research*. <https://doi.org/10.1177/13621688251349900>
- Wen, W. P., & Clément, R. (2003). A Chinese conceptualisation of willingness to communicate in ESL. *Language culture and curriculum*, 16(1), 18-38. <https://doi.org/10.1080/07908310308666654>
- Yamaoka, K. (2024). Influence of CLIL with MOOCs on Japanese EFL students' L2 willingness to communicate and international posture. *Tesol Journal*, e840. <https://doi.org/10.1002/tesj.840>
- Yousaf, M., Ahmad, M., Ji, D., Huang, D., & Raza, S. H. (2022). A cross-cultural comparison of ethnocentrism and the intercultural willingness to communicate between two collectivistic cultures [Article]. *Scientific Reports*, 12(1), Article 17087. <https://doi.org/10.1038/s41598-022-21179-3>
- Zhang, Z., Liu, T., Gao, X., & Lee, C. B. (2024). A longitudinal examination of language learners' group-level enjoyment and emotion regulation in online collaborative learning. *Language Teaching Research*, 13621688241227584. <https://doi.org/10.1177/13621688241227584>
- Zhao, T. (2021). Zhihui jishu zhichixia hunheshi xuexi moshi jiangou yu shijian yanjiu [Research on the Construction and Practice of Blended Learning Model Supported by Intelligent Technology]. *China Educational Technology*, 9, 137-142.

Appendix A

Questionnaire of Willingness to Communicate in Classroom (For Pre-test & Post-test)

Part I Personal Information

1. Your matric number: _____
您的学号是 _____
2. Your gender: a. male b. female
您的性别是: a. 男 b. 女
3. Your age: _____
您的年龄: _____
4. When did you start learning English?
a. kindergarten b. grade 1 or 2 in primary school c. grade 3 in primary school
d. junior middle school e. high school f. college / university
您何时开始学英语?
a. 幼儿园 b. 小学一年级或二年级 c. 小学三年级
d. 初中 e. 高中 f. 大学
5. Have you ever spoke English with other people?
a. always b. often c. sometimes d. seldom e. never
您同他人用英语口语交流的经验?
a. 很多 b. 较多 c. 有时 d. 较少 e. 几乎没有
6. What do you think oral English means to learning English?
a. essential b. necessary c. neutral d. not necessary e. definitely not necessary
您认为开口说英语对于英语学习
a. 很有必要 b. 有必要 c. 一般 d. 没必要 e. 完全没必要

Part II Willingness to Communicate

Directions: The following statements describe some communicative situations/tasks in an English class. Please indicate how willing or unwilling you are to engage in these communication activities using English.

1 = Definitely not willing 2 = Probably not willing 3 = Perhaps not willing

4 = Perhaps willing 5 = Probably willing 6 = Definitely willing

作答说明: 以下项目是关于英语课堂上一些交际情景或交际任务的说明, 请描述你在多大程度上愿意或不愿意使用英语参与这些交际活动。

1 = 肯定不愿意 2 = 很可能不愿意 3 = 大概不愿意

4 = 大概愿意 5 = 很可能愿意 6 = 肯定愿意

1. I am willing to do a role-play in English at my desk, with my peer (e.g., ordering food in a restaurant).
我愿意使用英语和身边同伴在座位上作角色扮演 (如: 在饭馆点菜)。
2. I am willing to ask my peer sitting next to me in English how to say an English phrase to express the thoughts in my mind.
我愿意使用英语向身边同伴请教一个能够表达我脑海中想表达的意思的英语词组。
3. I am willing to ask my peer sitting next to me in English the meaning of an English word.
我愿意使用英语请教身边同伴某个英语单词的意思。
4. I am willing to ask the teacher in English to repeat what he/she just said in English because I didn't understand.
我愿意使用英语请老师重复他/她刚才说的英文, 因为我不懂。
5. I am willing to give a short speech in English to the class about my hometown with notes.
我愿意借助笔记提示, 在全班面前使用英语对我的家乡做简单介绍。
6. I am willing to do a role-play standing in front of the class in English (e.g., ordering food in a restaurant).
我愿意使用英语在全班面前作角色扮演 (如: 在饭馆点菜)。
7. I am willing to give a short self-introduction without notes in English to the class.

我愿意在没有笔记提示的情况下，使用英语在全班面前做简短的自我介绍。

8. I am willing to ask my group mates in English how to pronounce a word in English.

我愿意使用英语请教小组成员某个英语单词如何发音。

9. I am willing to ask my group mates in English the meaning of a word I do not know.

我愿意使用英语请教小组成员某个英语单词的意思。

10. I am willing to translate a spoken utterance from Chinese into English in my group.

我愿意在小组活动中将一段中文的口头表达话语翻译成英语。

Part III Confidence

Directions: The following statements describe confidence in communication under different situations/tasks in an English class. Please indicate how much you agree or disagree the feelings in these communication activities using English.

1=Strongly disagree 2=Probably disagree 3=Perhaps disagree

4= Perhaps agree 5=Probably agree 6=Strongly agree

作答说明： 以下问题描述了英语课堂中不同情境/任务下用英语交流的信心。请表明您在多大程度上同意或不同意在使用英语的交流活动中的感受。

1=非常不同意 2=比较不同意 3=可能不同意

4=可能同意 5=比较同意 6=非常同意

11. I worry about making mistakes when I speak English.

我担心说英语的时候会犯错。

12. I feel anxious if I am asked a question by my teacher.

如果被老师提问，我感到很焦虑。

13. When speaking in English, I can get so nervous that I forget things that I know.

说英语时，我会紧张到甚至忘记自己已经知道的东西。

14. I feel nervous when I am called upon to perform a task in English.

当我被要求用英文展示一项任务时，我感到紧张。

15. Even if I am well prepared for English class, I feel anxious about it.

即使英语课前我已经准备充分，我还是感到焦虑。

16. I am afraid that the other students will laugh at me when I speak English.

当我说英语时，我害怕其他同学会笑我。

17. I think I can understand what my classmates and teacher say in English.

我认为我能听懂老师和同学用英语说的内容。

18. I can use English vocabulary and expressions that I learned to interact with my teacher or friends.

我能用学过的英文词汇短语同老师或朋友交流。

19. I am confident I can do well in oral presentation in English.

我相信我能用英语做好口头陈述。

20. I feel comfortable sharing my ideas / feelings / opinions with my classmates.

用英文和同学分享我的想法、感受和意见时，我感到舒适。

21. I think participating in class activities develop my fluency.

我认为多参与课堂活动可以提高我的口语流利程度。

Part IV Motivation

Directions: The following statements describe motivation in learning English. Please indicate how much you agree or disagree the statement.

1=Strongly disagree 2=Probably disagree 3=Perhaps disagree

4= Perhaps agree 5=Probably agree 6=Strongly agree

作答说明： 以下问题描述了学习英语的动机。请表明您在多大程度上同意或不同意这些描述。

1=非常不同意 2=比较不同意 3=可能不同意

4=可能同意 5=比较同意 6=非常同意

22. I actively think about what I have learned in my English class.

我积极思考我在英语课堂学到什么。

23. I really have a great desire to learn English.

我对于英语学习很渴望。

24. I find learning English very enjoyable.

我发现英语学习很有趣。

25. English is an important subject to me in my college program.

在我的大学课程中，英语是一门重要的科目。

26. English is important in getting a more prestigious job in the future.

英语对于将来获得更有声望的工作很重要。

Part V Classroom Environment

Directions: The following statements describe classroom environment in your English class. Please indicate how much you agree or disagree each statement.

1=Strongly disagree 2=Probably disagree 3=Perhaps disagree

4= Perhaps agree 5=Probably agree 6=Strongly agree

作答说明： 以下问题描述了英语课堂中的课堂环境。请表明您在多大程度上同意或不同意这些描述。

1=非常不同意 2=比较不同意 3=可能不同意

4=可能同意 5=比较同意 6=非常同意

27. Tasks designed in this class are useful.

课堂上设计的任务很有用。

28. Tasks designed in this class are attracting.

课堂上的任务能引起我的兴趣。

29. Class assignments are clear so everyone knows what to do.

课堂布置的作业足够清晰，每个人都知道自己要做什么。

30. I work well with other class members.

我能和其他班级同学进行很好合作。

31. I am friendly to members of this class.

我对班级同学友好。

32. I make friends among students in this class.

我在班上能交到朋友。

33. The teacher provides a timely response to students' concerns.

教师能及时对学生关心的问题反馈。

34. The teacher is patient in teaching.

教师教学有耐心。

35. The teacher asks questions that solicit viewpoints or opinions.

教师提出的问题能引导学生表达自己的观点或想法。

Appendix B

Semi-structured Interview Protocol (For participants in WeChat/MOOC experimental group)

1. Opening 寒暄

How are you doing? Have you eaten? How do you like WeChat / MOOCs?...

你好，吃过饭了吗？你觉得微信/慕课怎么样？.....

2. Motivation 动机

What made you motivated/hesitated to participate in the activities? Why or why not?

是什么动力促使/阻止你参与这些活动？为什么参加/为什么不参加？

3. Self-confidence 自信

Do you feel confident to speak English now? Why? (Specific example)

你现在觉得有信心说英语了吗？为什么？（具体事例）

4. Classroom Environment 课堂环境

Were you happy in class? What do you think of the class atmosphere in your English class last two weeks? What made your class so active/boring?

你在课堂上开心吗？你觉得你们班的课堂氛围好吗？是什么让课堂氛围如此活跃/沉闷？

5. WTC (willingness to communicate) 交际意愿

When did you feel most comfortable (most willing) to speak English in class last 8 weeks? Why? When did you feel least willing to speak English in class last two weeks? Why? (Specific examples)

前 8 周，你觉得课堂上什么时刻你说英语最自在（最想说英语）？为什么？什么时刻最不想说英语？为什么？（请列举详细的事例）

6. Perception on the use of WeChat/MOOCs 对使用微信/慕课的看法

Do you think WeChat / MOOCs is useful for English learning? In which aspects (Specific examples)? Why or why not?

你觉得使用微信/慕课对英语学习有帮助吗？具体表现在哪些方面(请列举详细的事例)？为什么有帮助/为什么没有帮助？

7. Willingness to use the mobile tool in the future 未来继续使用移动工具的意愿

Do you hope to continue to use WeChat / MOOCs in College English Course in the future? Why?

你希望未来的大学英语课程继续使用微信/慕课吗？为什么？

8. Closing 结语

Do you have anything else to say about your learning experience using WeChat/MOOCs?

关于使用微信/慕课学习英语，你还有什么要说的吗？