

Journal of Digital Education and Learning Engineering

ดำเนินการวารสารโดย สมาคมการศึกษาดิจิทัลและวิศวกรรมการเรียนรู้

Reconceptualizing Vocational Chinese Speaking Instruction: A Digitally Mediated Learning Mechanism via TikTok-integrated Activity-based Learning

Pimchanok Naluang¹, Krittawaya Thongkoo^{2*} & Kannika Daungcharone²

Multidisciplinary and Interdisciplinary School, Chiang Mai University, Chiang Mai, Thailand¹, College of Arts, Media and Technology, Chiang Mai University, Chiang Mai, Thailand²

Received: May 23, 2026 Revised: June 5, 2026 Accepted: June 14, 2026

Abstract

In the era of digital transformation, short-video social media platforms have emerged as transformative environments for language acquisition. While existing literature extensively documents instructional effectiveness, there remains a critical gap in explaining how digitally mediated processes fundamentally restructure learning. This study reconceptualizes TikTok-integrated activity-based Learning not merely as a pedagogical framework, but as a process-oriented learning mechanism. It emphasizes how iterative production, mediated feedback, and audience awareness collectively facilitate vocational Chinese speaking development. Adopting a process-analytic perspective, this research investigates how learners navigate cycles of content creation and social interaction within a ‘digital rehearsal space.’ Empirical data from a quasi-experimental implementation with vocational students are utilized to examine learning outcomes and to explore potential explanations for speaking development within the proposed workflow. The findings suggest that speaking improvement may be associated with three potential processes: (1) iterative rehearsal through repeated video production, (2) self-regulated refinement through asynchronous self-review, and (3) audience-oriented communication, which may enhance learners’ attention to communicative performance. These processes are interpreted as theoretically informed explanations that may help explain the observed improvement in speaking performance. The findings further suggest that the integration of digital affordances and activity-based pedagogy may provide a supportive environment for communicative development in vocational Chinese language learning.

Keywords: Digitally mediated learning mechanism, TikTok-integrated activity-based learning, digital rehearsal space, iterative language production, audience-oriented communication

*Corresponding author

Email address: krittawaya.t@cmu.ac.th

■ Introduction

The rapid evolution of participatory digital culture has redefined the landscape of vocational language education, creating a critical need to rethink how communicative competence is developed in contemporary learning environments. Recent studies have shown that short-video social media platforms increasingly function as interactive spaces that support multimodal communication, learner participation, and authentic language engagement (Lee, 2022; Vargas-Saritama & Espinoza-Celi, 2026). In Chinese language instruction for vocational students, speaking proficiency is fundamentally tied to the ability to navigate professional interactions in real-world contexts. However, conventional pedagogical approaches frequently rely on rote memorization and repetitive drills, which offer restricted opportunities for authentic language production and iterative skill refinement. Traditional classroom settings often struggle to provide the repetitive, high-stakes, yet psychologically safe environments required for mastering communicative performance in professional contexts.

This study proposes that the integration of TikTok into an activity-based learning (ABL) workflow creates a digitally mediated ecosystem that transcends conventional instructional boundaries. Emerging research suggests that TikTok-based learning environments may enhance learner engagement, communicative interaction, and speaking development through multimodal participation and socially situated communication (Ismael, 2025; Syarif, 2024). Central to this reconceptualization is the notion of digital affordances—the specific technological properties of TikTok that invite and enable particular communicative actions and forms of learner participation (Lee, 2022). Unlike traditional oral tasks, the TikTok-integrated workflow provides a digital rehearsal space where the “cost of error” is minimized through asynchronous editing, while the “value of precision” is amplified through authentic audience interaction and recursive feedback processes.

By shifting the analytical focus from instructional design to the underlying learning mechanisms, this research investigates how learning is operationalized within digitally mediated communicative environments. Specifically, the study reconceptualizes short-video activity-based learning as a cyclic process in which learners repeatedly construct, evaluate, and refine spoken language through interaction with digital affordances and social audiences. Recent scholarship has further emphasized that short-video platforms support iterative communication, audience-aware interaction, and reflective language production in ways that extend beyond conventional classroom participation (Lee, 2025; López-Carril et al., 2025). By analyzing the intersection of digital production and pedagogical structure, this research seeks to explore potential learning processes associated with communicative development and linguistic evolution among modern vocational learners.

■ Research Questions

1) How can a TikTok-integrated digital learning workflow be designed for vocational Chinese speaking instruction?

- 2) How does Chinese speaking performance change following the implementation of the proposed workflow?
- 3) How do students perceive their engagement and learning experience?

■ Research Objectives

- 1) To propose a TikTok-integrated digital learning workflow for vocational Chinese speaking instruction.
- 2) To examine changes in students' Chinese speaking performance following the implementation.
- 3) To investigate students' perceptions of learning engagement and experience.

■ Literature Review

Activity-based Learning as a Mechanism for Communicative Development

Activity-Based Learning (ABL) has been widely recognized as a learner-centered pedagogical approach that promotes active participation, experiential engagement, and meaningful knowledge construction through authentic tasks and social interaction. Unlike traditional teacher-centered instruction, ABL emphasizes learning through action, collaboration, and contextualized practice, allowing learners to develop communicative competence through direct participation in meaningful activities. Recent studies have further emphasized that activity-oriented learning environments support learner engagement, collaborative communication, and practical language use more effectively than passive instructional approaches, particularly in contemporary digital learning contexts (Aji & Khan, 2024; González-Lloret, 2023). Within language education, this approach is particularly valuable because language acquisition is not solely dependent on memorization or passive knowledge reception but also on opportunities for authentic communication and practical language use.

The theoretical foundations of Activity-Based Learning are closely associated with constructivist perspectives, which view learning as an active process in which learners construct knowledge through interaction with their environment and social experiences (Piaget, 1972; Vygotsky, 1978). From this perspective, learning occurs more effectively when learners engage in problem-solving, collaboration, and contextualized communication rather than isolated grammatical practice. Contemporary research in communicative language learning has similarly highlighted the importance of participatory learning environments that encourage learners to negotiate meaning, co-construct knowledge, and engage in socially mediated interaction (Tai & Chen, 2023). In language classrooms, activity-based approaches therefore encourage learners to express ideas, negotiate meaning, and apply linguistic knowledge within communicative situations that resemble real-life interaction.

In vocational language education, communicative competence is particularly important because learners are expected to apply language skills within professional and workplace contexts. Vocational Chinese language instruction requires students not only to understand vocabulary and grammatical structures but also to communicate effectively in practical situations such as customer interaction, tourism communication, and product presentation. Consequently, pedagogical approaches that emphasize experiential communication and authentic language use are considered more appropriate for vocational

learners than approaches based primarily on rote memorization and repetitive drills. Recent studies in vocational and technology-enhanced language learning environments have also suggested that communicative and task-oriented approaches may better support professional communication skills and learner participation in applied educational contexts (Widodo, 2022; Yusuf et al., 2024).

Previous studies have suggested that Activity-Based Learning can enhance learner engagement, speaking confidence, and communicative fluency by increasing opportunities for participation and collaborative interaction. Through activity-oriented learning environments, learners become active participants in the learning process rather than passive recipients of instructional content. Furthermore, communicative activities involving presentation, role-play, discussion, and collaborative production may reduce language anxiety and encourage greater willingness to communicate. Such learning environments also support self-reflective learning processes, as learners continuously evaluate and refine their language performance during interaction. Recent findings additionally indicate that collaborative and digitally supported activity-based environments may strengthen learners' communicative confidence, self-regulation, and interactional competence through repeated participation and reflective communication (Kohnke & Moorhouse, 2023).

Despite these pedagogical strengths, many implementations of Activity-Based Learning in language classrooms continue to rely on face-to-face classroom interaction within relatively linear instructional structures. Although these approaches successfully promote active participation, they may not fully address the changing communicative behaviors of learners in digitally mediated environments. As digital participation increasingly shapes how students communicate, interact, and construct identity in everyday life, there is a growing need to reconsider how Activity-Based Learning may be extended beyond conventional classroom practices into participatory digital spaces. In this regard, integrating short-video social media platforms into Activity-Based Learning may provide opportunities for more iterative, reflective, and socially mediated forms of communicative language development.

Digital Affordances and Iterative Language Production

The increasing integration of digital technologies into language education has expanded opportunities for learners to engage in more interactive, multimodal, and self-directed forms of communication. In digitally mediated learning environments, technological platforms are not merely delivery tools for instructional content; rather, they function as environments that shape participation, interaction, and language production processes. Recent studies have emphasized that social media and short-video platforms increasingly support participatory communication, collaborative engagement, and learner-generated content production in language learning contexts (Lee, 2022; Syarif, 2024). Within this perspective, the concept of digital affordances has become increasingly important in explaining how specific technological features influence learner behavior, communication patterns, and knowledge construction in language learning contexts (Gibson, 1979; Norman, 1999).

Digital affordances refer to the action possibilities that technological environments provide for users through their functional and interactive features. In social media environments, affordances such as video recording, editing, replaying, sharing, commenting, and audience interaction create opportunities for learners to actively construct and reproduce communicative content. Unlike conventional classroom speaking activities that are often limited by classroom time and immediate performance pressure, digital platforms enable learners to rehearse and refine spoken language production repeatedly before publication. This iterative production process may support greater linguistic accuracy, pronunciation development, communicative fluency, and self-monitoring during

language use, which aligns with theories emphasizing the importance of language output and reflective practice in second language learning (Schön, 1983; Swain, 2005).

Recent studies on short-video learning environments have similarly suggested that repeated digital production and self-review processes may strengthen speaking confidence, pronunciation awareness, and communicative engagement among language learners (Ismael, 2025; López-Carril et al., 2025). Within short-video platforms such as TikTok, the process of recording and editing spoken content encourages learners to revisit their own language performance multiple times. Learners may repeatedly listen to their pronunciation, modify sentence structures, reorganize content delivery, and evaluate communicative clarity before sharing their videos with others. Such repeated engagement with spoken output aligns with reflective learning processes, in which learners continuously assess and improve their own performance through self-observation and revision. Consequently, language production in digitally mediated environments becomes not only a communicative act but also a recursive learning process involving reflection, refinement, and repeated reconstruction of meaning. Contemporary research has further noted that TikTok-based communication environments encourage reflective participation and recursive interaction through continuous content revision and audience-oriented communication practices (Lee, 2025).

Furthermore, the multimodal characteristics of short-video platforms may strengthen learners' communicative engagement by integrating visual elements, audio input, subtitles, gestures, and contextual presentation into the language learning process. These multimodal affordances potentially support comprehension and expression simultaneously, allowing learners to connect spoken language with contextualized meaning-making practices. Kress (2010) argues that multimodal communication environments enable learners to construct meaning through multiple semiotic resources rather than through linguistic representation alone. In vocational language education, such multimodal communication is particularly relevant because workplace communication often requires the integration of verbal language, presentation skills, visual explanation, and audience awareness. Recent studies have additionally suggested that multimodal digital communication environments may support learner participation and authentic communicative expression more effectively than traditional text-based instructional formats (Vargas-Saritama & Espinoza-Celi, 2026).

The iterative nature of digital content production also changes the role of learners within the language learning process. Rather than functioning solely as classroom participants, learners increasingly become digital content creators who actively construct communicative artifacts for social interaction and public presentation. This transformation shifts language learning from isolated classroom practice toward participatory digital communication, where learners negotiate meaning, construct identity, and develop communicative competence through repeated interaction with digital audiences and mediated feedback.

Despite these possibilities, many existing studies continue to examine digital platforms primarily in terms of learner motivation or technology acceptance, while giving less attention to how iterative production processes themselves contribute to language development. As a result, the relationship between digital affordances, recursive language production, and communicative learning remains insufficiently conceptualized within vocational language education. Therefore, understanding how iterative digital production functions as a mechanism for communicative development is essential for reconceptualizing language learning in contemporary digital environments.

Social Interaction and Audience-aware Communication in Digital Environments

Social interaction has long been recognized as a fundamental component of language learning and communicative development. From sociocultural perspectives, language acquisition is not viewed as an

isolated cognitive process but rather as a socially mediated activity that emerges through interaction, collaboration, and participation within communicative communities (Vygotsky, 1978). Through social engagement, learners negotiate meaning, exchange perspectives, and gradually develop communicative competence within authentic contexts. Consequently, interaction is considered central to the development of speaking ability because learners construct linguistic knowledge through participation in meaningful communication rather than through passive reception of language forms alone. Recent studies in technology-enhanced language learning environments have similarly emphasized that collaborative interaction and participatory communication play important roles in supporting communicative competence and learner engagement (Tai & Chen, 2023; Kohnke & Moorhouse, 2023).

In digitally mediated environments, social interaction extends beyond conventional classroom communication into networked and participatory forms of engagement. Social media platforms enable learners not only to communicate with peers and instructors but also to present ideas, share content, and receive responses from broader audiences. Such environments potentially increase opportunities for collaborative learning, reflective interaction, and communicative participation. Unlike traditional classroom speaking tasks, digitally mediated communication often involves asynchronous interaction, allowing learners additional time to observe, revise, and respond to communicative exchanges. Recent research has further suggested that social media-based learning environments encourage sustained communicative participation and socially situated interaction beyond classroom boundaries (Lee, 2022; López-Carril et al., 2025).

Within short-video platforms such as TikTok, communication is closely connected to audience awareness. Learners produce spoken content with the understanding that their videos may be viewed, evaluated, and responded to by peers or wider online communities. This awareness of audience presence may influence how learners organize content, adjust language use, improve pronunciation, and enhance communicative clarity. In this regard, communication becomes more purposeful and authentic because learners are not merely completing classroom assignments for teachers but are engaging in socially situated communication directed toward real or perceived audiences. Contemporary studies have also highlighted that audience-oriented communication in TikTok-based learning environments may strengthen learner motivation, communicative confidence, and presentation awareness through authentic digital participation (Ismael, 2025; Syarif, 2024).

The role of audience awareness in language learning may also contribute to increased learner motivation and communicative responsibility. When learners recognize that their spoken production will be publicly visible, they may pay greater attention to linguistic accuracy, delivery, and presentation quality. Simultaneously, social feedback mechanisms such as comments, reactions, and peer responses create opportunities for reflective learning and collaborative meaning-making. These socially mediated interactions may encourage learners to revise their communicative performance continuously and develop greater confidence in language use.

From a social learning perspective, interaction with peers and digital audiences may further support observational learning processes (Bandura, 1986). Learners are able to observe speaking models, imitate communicative strategies, and adapt language behaviors through repeated exposure to peer-generated content. In participatory digital environments, learning therefore occurs not only through direct instruction but also through observation, interaction, feedback, and social participation. This process aligns with contemporary perspectives on learner-centered education, where knowledge construction is shaped through active engagement within social and communicative networks.

Despite the growing role of social media in language learning, many existing studies continue to examine online interaction primarily in terms of engagement or participation frequency rather than

investigating how audience-aware communication shapes communicative development itself. As a result, the relationship between social interaction, audience awareness, and speaking development remains insufficiently theorized within digitally mediated vocational language education. Therefore, understanding how learners develop communicative competence through socially mediated participation and audience-oriented communication is essential for explaining the pedagogical potential of short-video learning environments.

Research Gap: From Instructional Design to Learning Mechanism

The growing integration of digital technologies and social media platforms into language education has generated increasing scholarly interest in technology-enhanced learning environments. In recent years, studies involving TikTok and short-video platforms have commonly emphasized learner motivation, engagement, satisfaction, and instructional effectiveness within language classrooms (Ismael, 2025; Syarif, 2024). Many studies have reported positive outcomes associated with the integration of social media into language learning, particularly in relation to communicative participation, learner creativity, and increased classroom interaction (Lee, 2022; López-Carril et al., 2025). These findings suggest that digital platforms may provide meaningful opportunities for supporting language learning beyond conventional classroom practices.

Similarly, research on Activity-Based Learning (ABL) has consistently highlighted the importance of experiential learning, collaborative participation, and authentic communication in promoting speaking development. Previous studies have demonstrated that activity-oriented learning environments may enhance communicative confidence, learner participation, and practical language use, especially within learner-centered educational contexts (Kohnke & Moorhouse, 2023; Tai & Chen, 2023). In vocational education, such approaches are considered particularly valuable because they align language learning with workplace-oriented communication and real-world interaction.

Despite these pedagogical contributions, existing studies in both technology-enhanced language learning and Activity-Based Learning continue to exhibit several conceptual limitations. First, many implementations still position digital platforms primarily as supplementary instructional tools rather than examining how digital environments themselves shape communicative learning processes. As a result, technology is often treated merely as a medium for delivering activities instead of being conceptualized as an active mechanism that mediates participation, reflection, interaction, and language production.

Second, many existing instructional models continue to follow relatively linear learning sequences, where learners progress through predetermined classroom activities within limited temporal and spatial boundaries. Such approaches may insufficiently capture the recursive and participatory nature of communication in contemporary digital environments, where learners continuously create, revise, share, and reconstruct communicative content through ongoing interaction and feedback. Recent studies on short-video learning environments have similarly suggested that digital participation increasingly involves recursive communication, multimodal interaction, and audience-oriented engagement that extend beyond conventional classroom structures (Lee, 2025; Vargas-Saritama & Espinoza-Celi, 2026). Consequently, the dynamic relationship between iterative production, socially mediated interaction, audience awareness, and communicative development remains underexplored within vocational language education contexts.

Furthermore, although previous research frequently reports increased learner engagement and positive attitudes toward digital learning environments, fewer studies have attempted to explain the underlying learning mechanisms through which these environments facilitate speaking development. Existing discussions often emphasize instructional outcomes without sufficiently theorizing how learners construct communicative competence through digital participation, reflective production, and socially

situated interaction. Therefore, the pedagogical role of short-video platforms remains conceptually fragmented, particularly in relation to vocational language learning, where authentic communication and practical language use are central educational goals.

To address these gaps, the present study moves beyond viewing TikTok-integrated instruction solely as an instructional design strategy and instead reconceptualizes it as a digitally mediated learning mechanism. This perspective emphasizes the cyclic and recursive nature of digital learning processes, where learners engage in media analysis, structured language input, iterative content production, social interaction, and reflective feedback within participatory digital environments. Rather than focusing exclusively on technological adoption or classroom effectiveness, the study seeks to explain how communicative development emerges through digitally mediated participation and audience-oriented communication. In doing so, this study contributes a theoretical perspective that connects Activity-Based Learning, social interaction, digital affordances, and iterative language production into a unified framework for vocational Chinese speaking instruction in contemporary digital contexts.

■ The Proposed Model: A Digital Short-Video Learning Workflow

Unlike the linear instructional sequences commonly presented in previous implementations of Activity-Based Learning, the present study reconceptualizes TikTok-integrated instruction as a cyclic digital learning workflow emphasizing recursive participation, iterative production, and continuous feedback loops. Rather than viewing learning as a fixed progression through sequential classroom activities, the proposed framework conceptualizes communicative development as a dynamic process in which learners repeatedly construct, revise, and reproduce spoken language through interaction with digital media, reflective practices, and socially mediated communication.

As illustrated in Figure 1, the proposed model consists of five interconnected stages: (1) conceptual engagement through media analysis, (2) guided language input and structured practice, (3) planning and scripting for content production, (4) iterative video creation and editing, and (5) reflective feedback and social interaction. These stages do not function as isolated instructional procedures; instead, they operate as an integrated digital workflow in which learners continuously move between production, reflection, revision, and communication. Through repeated engagement with spoken output and mediated interaction, learners gradually refine communicative performance and develop greater confidence in language use.

Unlike traditional Activity-Based Learning models that primarily emphasize classroom participation and task completion, the proposed framework highlights the role of digital affordances throughout the entire learning process. Technological features such as video recording, replaying, editing, sharing, commenting, and audience interaction support recursive engagement with language production at each stage of the workflow. In particular, the iterative nature of video production enables learners to rehearse and refine spoken output multiple times before publication, thereby supporting pronunciation accuracy, communicative fluency, and self-monitoring processes. The editing and reviewing stages further promote metacognitive awareness, as learners repeatedly evaluate their own communicative performance, identify linguistic limitations, and modify language use prior to content publication. Feedback within the workflow emerges through multiple dimensions, including self-reflection, peer responses, audience interaction, and instructor facilitation. Consequently, communicative development is shaped not only through direct instruction but also through recursive social participation and digitally mediated interaction.

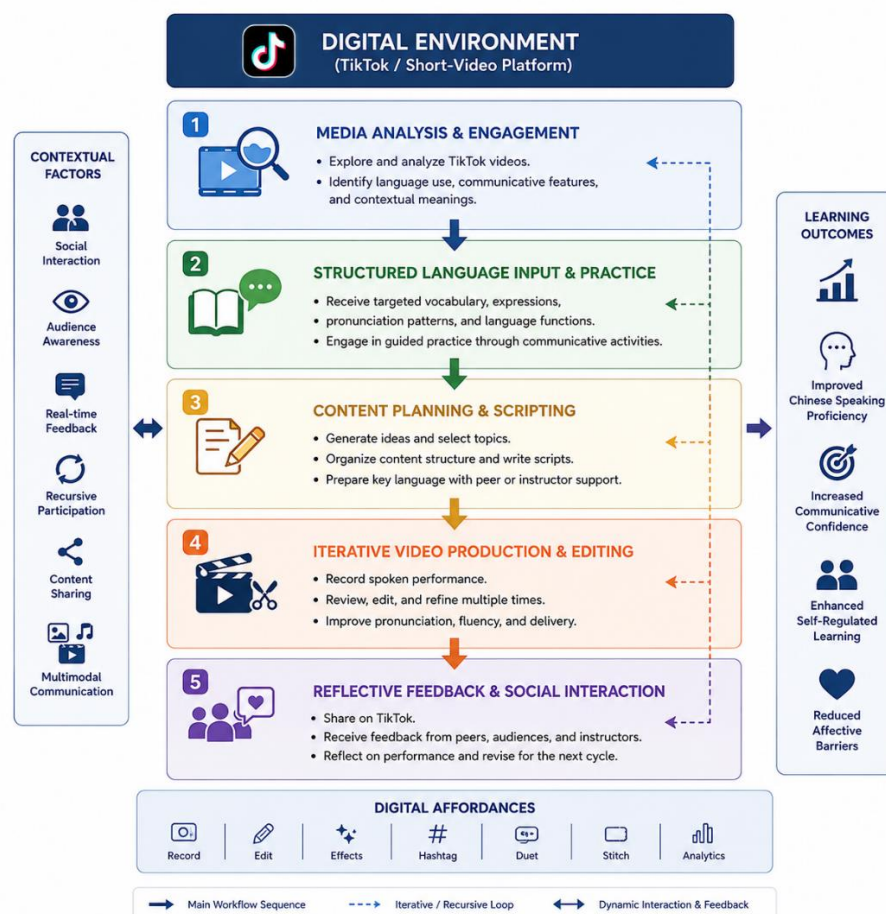


Figure 1. TikTok-integrated Digital Learning Workflow Model Illustrating Cyclic and Recursive Communicative Development

Furthermore, the presence of real or perceived audiences introduces an additional layer of communicative authenticity into the learning process. Because learners recognize that their spoken production may be viewed and evaluated by peers or broader online communities, they become more attentive to linguistic clarity, delivery, presentation quality, and communicative effectiveness. Audience-aware communication therefore transforms learners from passive recipients of instructional content into active digital creators who participate in meaningful communicative practices situated within authentic social contexts. From a theoretical perspective, the proposed model integrates cognitive, social, and technological dimensions into a unified learning mechanism. Cognitive dimensions emerge through reflective production and self-monitoring, social dimensions develop through interaction and audience participation, and technological dimensions are facilitated through digital affordances that support recursive communication and multimodal expression. As such, the model provides a conceptual framework for explaining how digitally mediated participation contributes to Chinese speaking development within vocational education contexts in the era of digital transformation.

Figure 2 presents representative learning activities associated with each stage of the TikTok-integrated digital learning workflow. The examples illustrate how learners engaged in media analysis, structured language practice, content planning, iterative video production, and reflective feedback throughout the intervention. These activities are included to provide greater transparency regarding the operationalization of the proposed workflow and to demonstrate how TikTok affordances were incorporated into classroom practice to support Chinese speaking development.

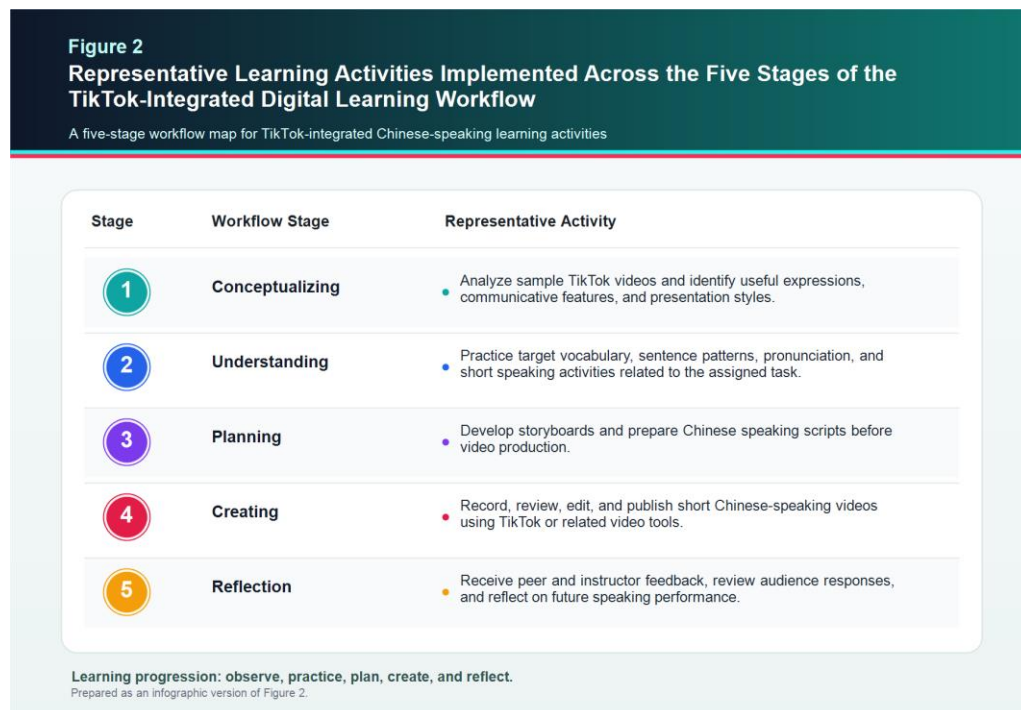


Figure 2. Representative Learning Activities Implemented Across the Five Stages of the TikTok-Integrated Digital Learning Workflow

Research Methodology

This study utilized a quasi-experimental research design, specifically a pretest–posttest control group approach, to investigate changes in Chinese speaking performance and learner perceptions following participation in the TikTok-integrated digital learning workflow. The research sought to examine differences in Chinese speaking performance and learner perceptions between students who participated in the TikTok-integrated digital learning workflow and those who received conventional instruction. The sample comprised 60 vocational certificate students enrolled in the "Chinese Conversation for Work" course at Chiang Mai Vocational College, Thailand, who were selected via cluster sampling. These participants were subsequently divided into an experimental group ($n = 30$), which engaged with the proposed digital workflow, and a control group ($n = 30$), which received conventional classroom instruction. The intervention spanned 12 instructional hours, focusing on three core professional units: (1) Self-Introduction (自我介绍), (2) Hobbies (爱好), and (3) Product Presentation (介绍产品). Unlike conventional linear instructional procedures, the experimental workflow prioritized iterative production, audience-aware communication, and continuous feedback loops throughout the learning process.

Unlike linear instructional models, the experimental workflow prioritized iterative production and continuous feedback loops. Learners actively navigated five interconnected stages designed to foster digitally mediated communicative development: (1) Conceptualizing, involving media analysis for conceptual engagement; (2) Understanding, focusing on guided language input and structured practice; (3) Planning, consisting of strategic scripting for content production; (4) Creating, which emphasized iterative video production and editing; and (5) Reflection, incorporating reflective feedback and social interaction.

Prior to statistical analysis, the data were screened for completeness and checked for potential data-entry errors. Given the sample size and the robustness of t-tests to moderate departures from normality, the selected statistical procedures were considered appropriate for the present study.

Ethical approval for this study was granted by the Chiang Mai University Research Ethics Committee (CMUREC No. 68/375; COA No. 310/68). Prior to data collection, all participants were informed about the objectives, procedures, potential benefits, and their rights as research participants. Written informed consent was obtained from all participants. In accordance with the approved ethics protocol, parental consent was obtained when applicable. Participation in the study was voluntary, and participants were informed that they could withdraw from the study at any time without academic penalty.

To protect privacy and confidentiality, students were allowed to determine the visibility settings of their TikTok videos. Participants who preferred not to share their videos publicly were permitted to use private settings or submit their work solely for instructional purposes. All collected data were anonymized and used exclusively for research purposes. Individual identities were not disclosed in any publication or research report.

Research Instruments and Validation

To ensure a rigorous evaluation of the proposed digital learning workflow, three primary instruments were employed: (1) TikTok-integrated learning activities and lesson plans, (2) a Chinese speaking ability assessment, and (3) a student satisfaction questionnaire. The learning activities were meticulously aligned with the five-stage digital workflow, integrating activity-based learning principles with the specific affordances of short-video platforms to shift learners from passive participants to active digital creators. To ensure content validity and instructional appropriateness, three experts in Chinese pedagogy and instructional design evaluated these instruments. The validation results indicated the highest level of appropriateness for both the learning activities ($\bar{x} = 4.68$, S.D. = 0.02) and the lesson plans ($\bar{x} = 4.76$, S.D. = 0.02).

The Chinese speaking ability assessment was administered as both a pretest and posttest to evaluate communicative performance through authentic tasks relevant to vocational Chinese contexts. This assessment focused on the learners' ability to communicate meaningfully within professional and everyday situations as defined by the instructional units. The Chinese speaking assessment was evaluated by a single trained instructor using a standardized speaking rubric. Therefore, inter-rater reliability was not applicable in the present study. Because the assessment was conducted by a single trained evaluator using a standardized rubric throughout the study, scoring consistency was maintained across all assessments.

Furthermore, a five-point Likert-scale satisfaction questionnaire was utilized to capture the experimental group's perceptions regarding the digital learning infrastructure, instructional management, and communicative engagement. The student satisfaction questionnaire demonstrated acceptable internal consistency, with a Cronbach's alpha coefficient of .80. Consistent with the high instructional quality, students reported overall satisfaction at the highest level ($\bar{x} = 4.97$, S.D. = 0.13), reinforcing the pedagogical feasibility of the digitally mediated learning ecosystem.

■ Statistical Results

Performance Evolution: From Traditional Practice to Digitally Mediated Production

To examine changes in Chinese speaking performance, learners' scores were compared before and after instruction. As presented in Table 1, the experimental group demonstrated substantial improvement, with mean scores increasing from 17.63 (S.D. = 3.28) to 24.47 (S.D. = 3.52). The control group also showed improvement, increasing from 13.40 (S.D. = 1.08) to 16.47 (S.D. = 1.45). However, the magnitude of improvement was greater in the experimental group (+6.84) than in the control group (+3.07).

Table 1

Within-Group Comparison of Chinese Speaking Performance Before and After Instruction

Group	N	Pre-test Mean	Post-test Mean	Mean Diff. (Gain)	t-value	p-value
Experimental	30	17.63	24.47	+6.84	18.94	< .001
Control	30	13.40	16.47	+3.07	14.72	< .001

Table 2

Comparison of Post-Test Chinese Speaking Performance Between the Experimental and Control Groups

Group	N	Mean	S.D.
Experimental	30	24.47	3.52
Control	30	16.47	1.45

Note. Independent-samples t-test: $t(58) = 11.36$, $p < .001$.

To examine whether participation in the TikTok-integrated digital learning workflow was associated with higher learning outcomes, an independent-samples t-test was conducted on the post-test scores of the experimental and control groups. As shown in Table 2, the results revealed a statistically significant difference between the two groups, $t(58) = 11.36$, $p < .001$. The experimental group ($M = 24.47$, $SD = 3.52$) achieved significantly higher speaking performance than the control group ($M = 16.47$, $SD = 1.45$), indicating that students who participated in the proposed workflow demonstrated higher Chinese speaking achievement than those who received conventional instruction. In addition to statistical significance, the practical significance of the intervention was examined using Cohen's d . The effect size was 2.98, which is considered a very large effect according to Cohen's (1988) criteria, suggesting that the proposed digital learning workflow had a substantial impact on learners' Chinese speaking performance.

From a theoretical perspective, the observed changes may be interpreted in relation to iterative language production and mediated interaction, as further visualized in Figure 3. The opportunity to revisit recorded performances, adjust linguistic expression, and prepare content for audience-facing communication appears to reshape how learners engage with speaking tasks. In this sense, the results reflect not only improvement in performance but also a transformation in the nature of practice itself, where communicative development emerges through continuous cycles of production, reflection, and refinement within a digitally supported learning environment.

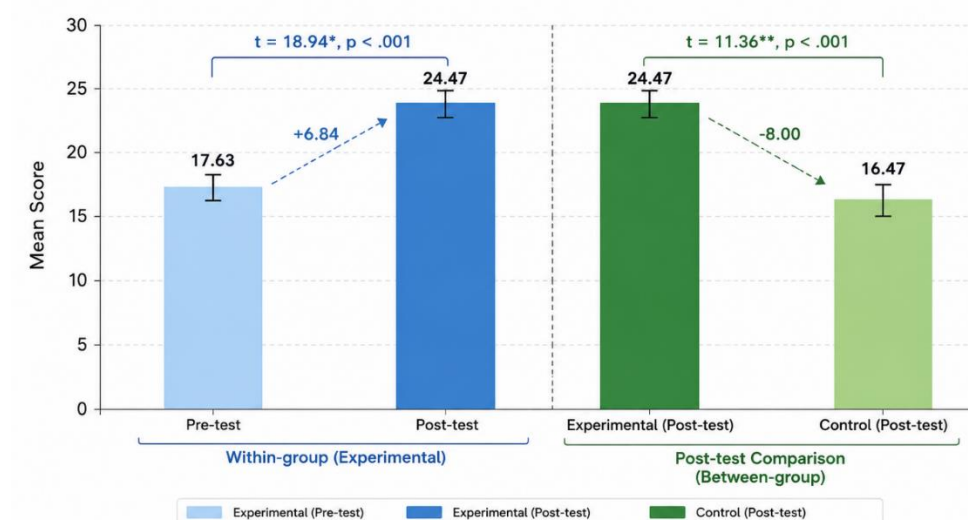


Figure 3. Speaking Performance Outcomes

These results suggest that participation in the proposed digital learning workflow was associated with higher speaking performance outcomes among vocational learners. Unlike conventional settings that emphasize immediate, one-off classroom performance, the TikTok-integrated learning environment provided opportunities for repeated rehearsal, self-evaluation, and revision of spoken communication. From a theoretical perspective, these findings are consistent with perspectives that emphasize the potential role of iterative production, reflection, and audience awareness in supporting language development within digitally mediated learning environments.

Analysis of Digital Engagement and Pedagogical Feasibility

In addition to improvements in speaking performance, the study examined students' perceptions toward the TikTok-integrated digital learning workflow to evaluate its pedagogical feasibility and the level of learner engagement within vocational education. The analysis aimed to determine how the specific affordances of the digital environment—such as iterative production and social interaction—shaped the overall learning experience. The findings revealed that students demonstrated a highly positive perception toward the proposed learning approach. As presented in Table 3, the overall cumulative satisfaction reached the highest level ($\bar{x} = 4.97$, S.D. = 0.13), indicating strong acceptance of the digitally mediated learning ecosystem and the integration of short-video production into vocational language activities.

Table 3

Multi-dimensional Analysis of Learner Satisfaction toward the Digitally Mediated Learning Infrastructure

Satisfaction Dimension	Mean	S.D.	Key Digital Pedagogical Focus & Mechanism
1. Vocational Content	4.96	0.18	Integration of professional language standards within digital contexts
2. Digital ABL Process	4.98	0.12	Efficiency of the 5-stage recursive and iterative workflow model

Satisfaction Dimension	Mean	S.D.	Key Digital Pedagogical Focus & Mechanism
3. Media & Technology	4.99	0.08	Utilization of TikTok as a "Digital Rehearsal Space" for output refinement
4. Instructional Management	4.97	0.15	Evolution of the teacher's role into a "Digital Learning Facilitator"
5. Authentic Assessment	4.95	0.21	Clarity and equity of rubric-based feedback via digital platforms
Overall Cumulative	4.97	0.13	Total Efficacy of the Digitally Mediated Learning Ecosystem

The high level of learner satisfaction suggests that the proposed workflow was not only pedagogically feasible but also highly appropriate for the vocational education context. In particular, the highest satisfaction score in the Media & Technology dimension ($\bar{x} = 4.99$) highlights the role of TikTok as a "Digital Rehearsal Space". This environment allowed learners to repeatedly record, review, and refine their spoken output, thereby supporting self-monitoring and reducing the affective barriers typically associated with immediate classroom performance. From a pedagogical perspective, the findings imply that the integration of iterative video production and audience-aware communication contributed to increased communicative responsibility. The opportunity to share content within a participatory digital culture encouraged learners to move beyond passive reception toward active knowledge construction through multimodal engagement. Furthermore, the evolution of the instructor's role into a "Digital Learning Facilitator" ensured that structured feedback was seamlessly integrated into the cyclic workflow, promoting a supportive and interactive learning ecosystem. From a theoretical standpoint, these results reinforce the argument that digital platforms function as socially mediated communicative environments rather than mere technological supplements. The synergy between digital affordances and activity-based learning processes supports a sustainable model for communicative development, ensuring that vocational learners are prepared for the dynamic interactional demands of contemporary professional contexts.

■ Discussion

These findings are interpreted as evidence of learning outcomes and as a basis for theorizing potential learning processes within digitally mediated environments. The observed improvement in learners' speaking performance may be associated with learning activities that encouraged repeated participation, reflection, and language production within the proposed workflow. This aligns with prior research on activity-based learning, which emphasizes experiential participation and communicative practice as central to language development (Kohnke & Moorhouse, 2023; Tai & Chen, 2023). However, unlike conventional ABL implementations that typically operate within linear classroom sequences, the present study highlights how digitally mediated environments extend learning into recursive cycles of production and reflection. In this context, the substantial improvement in speaking performance observed in the experimental group may be interpreted through Swain's (2005) Output Hypothesis. The repeated process of recording, reviewing, and revising TikTok videos required learners to produce spoken language, identify linguistic gaps, and refine their output prior to publication. This pattern is consistent with Swain's proposition that language production and self-monitoring contribute to second-language development by encouraging learners to notice and modify their language use. Recent studies on TikTok-based language learning have similarly

suggested that iterative digital production may enhance communicative fluency, pronunciation awareness, and reflective language use through repeated rehearsal and mediated self-observation (Lee, 2025; Syarif, 2024).

At the same time, the findings extend existing studies on social media-assisted language learning, which have largely focused on learner motivation and engagement, by offering a theoretical perspective on how learning may occur within digitally mediated environments. Previous research has shown that platforms such as TikTok can increase participation and confidence in language learning contexts; however, these studies often conceptualize social media primarily as a delivery tool rather than as an environment that supports communicative learning processes (Ismael, 2025; López-Carril et al., 2025). In contrast, the present study suggests that digitally mediated affordances—such as replay, editing, and audience interaction—actively reshape communicative behavior. The positive learning outcomes observed in this study may also be interpreted through sociocultural theory (Vygotsky, 1978) and social cognitive theory (Bandura, 1986). Through video sharing, audience interaction, and feedback exchanges, learners participated in socially situated communicative activities rather than practicing language in isolation. These opportunities for observation, interaction, and feedback are consistent with theoretical perspectives that emphasize the role of social participation and mediated interaction in learning and performance development. Furthermore, the high level of learner satisfaction and the observed improvement in speaking performance may be interpreted in light of Schön's (1983) concept of reflective practice. The ability to replay, evaluate, and revise recorded performances provided opportunities for learners to reflect on their own language use and make adjustments before sharing their work, which is consistent with Schön's view that reflection supports professional and skill development. Together, these findings suggest that communicative development may be supported by iterative production, mediated reflection, and socially situated participation within digitally mediated learning environments. The proposed workflow offers a theoretical framework for understanding how these factors may contribute to speaking development beyond traditional classroom settings. Taken together, the findings provide preliminary empirical support for theoretical perspectives that emphasize language production, reflective practice, and socially mediated interaction as important components of communicative development.

Since no direct process-level evidence (e.g., learner reflections, revision records, or video interaction logs) was collected in the present study, these interpretations should be regarded as theoretically informed explanations rather than empirically verified mechanisms. Future research incorporating process-oriented data collection methods would be necessary to examine how these learning processes operate and contribute to speaking development within digitally mediated environments.

■ Conclusion

This study reconceptualizes TikTok-integrated Activity-based Learning as a digitally mediated learning framework and offers a theoretical perspective for understanding how communicative competence may develop within digitally mediated environments. The findings suggest that improvements in Chinese speaking performance may be associated with recursive participation, iterative production, and audience-oriented communication within digitally mediated learning environments.

Rather than viewing performance improvement as an isolated outcome, this study highlights the importance of underlying learning processes enabled by digital affordances, including reflective self-regulation and socially situated interaction. In doing so, the study contributes a process-oriented perspective to technology-enhanced language learning and offers a pedagogically grounded approach for integrating

short-video platforms into vocational education that may support communicative development within vocational Chinese language learning contexts.

■ Future Work

Future research may investigate the long-term effects of TikTok-integrated learning activities on Chinese speaking performance and learner autonomy through longitudinal research designs that include follow-up assessments. Additional studies involving larger samples, different educational levels, and diverse learning contexts would help examine the transferability of the findings. Future research may also incorporate process-level data, such as learner reflections, video revision records, interviews, and classroom observations, to better understand how digitally mediated participation contributes to communicative development in language learning environments.

■ References

- Aji, M. P. P., & Khan, R. I. (2024). The implementation of activity-based learning in improving students' speaking skills. *Journal of Language Teaching and Research*, 15(1), 112–121.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.
- González-Lloret, M. (2023). Task-based language teaching and technology-mediated communication: Expanding communicative participation in digital environments. *Language Learning & Technology*, 27(2), 45–62.
- Ismael, S. M. (2025). The impact of TikTok on English language learning and cultural sharing among university students. *Journal of Humanities and Social Sciences*. <https://jhss.koyauniversity.org/index.php/jhss/article/view/1448>
- Kohnke, L., & Moorhouse, B. L. (2023). Facilitating learner engagement through collaborative digital language learning environments. *RELC Journal*, 54(3), 645–660.
- Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Routledge.
- Lee, Y.-J. (2022). Language learning affordances of Instagram and TikTok. *Innovation in Language Learning and Teaching*, 17(2), 1–16. <https://doi.org/10.1080/17501229.2022.2051517>
- Lee, Y.-J. (2025). Language learning with TikTok's "Duet": A spatial perspective on mobile-assisted language learning. *Innovation in Language Learning and Teaching*. <https://doi.org/10.1080/17501229.2025.2509758>
- López-Carril, S., et al. (2025). TikTok in higher education: A learning tool to connect with Generation Z. *Innovative Higher Education*. <https://doi.org/10.1007/s10755-025-09853-6>
- Norman, D. A. (1999). Affordance, conventions, and design. *Interactions*, 6(3), 38–43. <https://doi.org/10.1145/301153.301168>
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.
- Swain, M. (2005). The output hypothesis: Theory and research. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 471–483). Lawrence Erlbaum Associates.

- Syarif, A. R. (2024). TikTok for learning English: Its affordance and challenges toward students' speaking skill improvement. *Klasikal: Journal of Education, Language Teaching and Science*. <https://www.journalfkipuniversitasbosowa.org/index.php/klasikal/article/view/1251>
- Tai, T.-Y., & Chen, H. H.-J. (2023). Socially mediated interaction in technology-enhanced language learning environments. *Computer Assisted Language Learning*, 36(5–6), 987–1005.
- Vargas-Saritama, A., & Espinoza-Celi, V. (2026). Pedagogical benefits and challenges of integrating TikTok into EFL learning. *International Journal of Computer-Assisted Language Learning and Teaching*. <https://doi.org/10.4018/IJCALLT.397403>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Widodo, H. P. (2022). Vocational English language teaching and technology-enhanced communicative learning. *Asian ESP Journal*, 18(4), 88–105.
- Yusuf, Q., et al. (2024). Communicative language learning in vocational education through technology-supported task-based activities. *Journal of Educational Technology Systems*, 53(1), 72–91.