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Enhancing BIPA Learners' Speaking Confidence Through Wordwall in Online Learning

Intan Hamzah*, Khairani Putri Salsya, Alvi Raihan Utami, Dyah Aminatun, Mutiara Ayu Dinda Dwi Zia

[1,2,3,4,5,6] English Education Study Program, Universitas Teknokrat Indonesia, Indonesia

*intan.hamzah@teknokrat.ac.id

Abstract

The integration of digital learning tools in language education has opened new avenues for improving students' communicative competence, particularly in the context of teaching Indonesian to foreign speakers (Bahasa Indonesia bagi Penutur Asing/BIPA). This study investigates the potential of Wordwall, an interactive, game-based online platform, in enhancing the speaking confidence of BIPA learners during online learning. Using a convergent parallel mixed-methods design combining quasi-experimental pretest-posttest measurements with learner questionnaires and structured classroom observation data, data were collected from 30 intermediate-level BIPA students over an eight-week instructional intervention. Notably, the study employed a one-group pretest-posttest design without a control group; findings should therefore be interpreted as indicative rather than conclusive. Quantitative results revealed statistically significant improvements in overall speaking confidence ($t(29) = 8.47$, $p < .001$, Cohen's $d = 1.54$), with the most pronounced gains in willingness to communicate and reduced speaking anxiety. Speaking performance rubric scores also improved significantly across five criteria: fluency, grammatical accuracy, vocabulary range, pronunciation, and interactive competence. Qualitative analysis identified four major themes: affective liberation, lexical empowerment, social belonging and motivation, and self-efficacy growth. These findings suggest that Wordwall, purposefully integrated into online BIPA speaking instruction, may serve as a valuable pedagogical tool for reducing affective barriers to oral communication and supporting the lexical confidence needed for more fluent and willing participation in Indonesian.

Keywords: *BIPA, game-based language learning, online learning, speaking confidence, Wordwall, willingness to communicate*

INTRODUCTION

The rapid expansion of digital technology has fundamentally transformed the landscape of language learning and teaching worldwide. In the wake of the global shift toward online education, language educators have been compelled to reimagine pedagogical strategies that both maintain instructional quality and foster genuine communicative development. Among the many skills targeted in language acquisition, speaking remains one of the most challenging yet most critical competencies to develop, particularly in a foreign or second language context. This challenge is especially pronounced in programs designed for

non-native speakers of Indonesian, where the intersection of linguistic complexity, cultural distance, and online instructional delivery creates compounded barriers to confident oral communication. Addressing these barriers requires pedagogical tools that are not only linguistically targeted but affectively responsive a gap that game-based learning (GBL) approaches have increasingly been positioned to fill.

Bahasa Indonesia bagi Penutur Asing (BIPA), or Indonesian for Foreign Speakers, represents a growing field of language instruction attracting learners from diverse linguistic and cultural backgrounds. As Indonesia's global presence expands through diplomacy, commerce, education, and cultural exchange, the demand for effective BIPA programs has increased considerably. However, speaking confidence remains a persistent challenge for many BIPA learners, especially in online environments where the absence of face-to-face interaction can amplify anxiety and reduce opportunities for spontaneous oral practice.

Speaking confidence broadly defined as a learner's positive self-perception regarding their ability to communicate orally in a target language (Clement et al., 1994; MacIntyre et al., 1998) plays a pivotal role in language acquisition. Research in second language acquisition (SLA) consistently affirms that affective factors such as self-efficacy, motivation, and anxiety significantly influence learners' willingness to communicate (MacIntyre et al., 1998; Dörnyei, 2005). When learners lack confidence, they tend to avoid speaking opportunities, thereby limiting linguistic exposure and creating a self-reinforcing cycle of anxiety and avoidance.

In response to these challenges, researchers and practitioners have increasingly turned to game-based learning (GBL) as a pedagogically sound approach to reducing language anxiety and increasing learner engagement. Among the various digital tools available, Wordwall has emerged as a versatile, educator-friendly platform allowing customizable interactive activities, including quizzes, matching games, anagram puzzles, and discussion prompt spinners. Existing research on Wordwall has documented gains in EFL vocabulary retention (Khalil, 2022; Pratiwi et al., 2023) and learner engagement (Puspita & Akmaluddin, 2022); however, empirical research specifically examining Wordwall's impact on speaking confidence in BIPA online learning remains critically limited. BIPA presents unique instructional challenges distinguishing it from EFL contexts: learners must acquire a morphologically agglutinative language with distinct pragmatic norms, often without strong community exposure outside the classroom (Kusmiatun, 2016; Suyitno, 2017). Online delivery further amplifies these challenges by reducing the social presence that encourages spontaneous oral participation. This study therefore investigates the extent to which Wordwall-integrated instruction enhances BIPA learners' speaking confidence and oral performance in an online setting, guided by three research questions:

RQ1. To what extent does the use of Wordwall significantly improve the speaking confidence of intermediate BIPA learners in an online learning environment?

RQ2. How do learners perceive Wordwall as a tool for supporting their speaking development, and what affective and motivational effects does it produce?

RQ3.Which speaking sub-skills, including fluency, vocabulary use, pronunciation, grammatical accuracy, and interactive competence, are most significantly affected by Wordwall integration?

LITERATURE REVIEW

Speaking confidence, broadly understood as a learner's positive self-assessment of their ability to communicate orally in a target language, occupies a central role in second language acquisition (SLA) theory and research. MacIntyre et al. (1998) conceptualized willingness to communicate (WTC) as the immediate antecedent of actual language use, arguing that learners who perceive themselves as competent and confident communicators are significantly more likely to initiate and sustain oral interactions. Anxiety, conversely, functions as a primary inhibitor of WTC: Horwitz et al. (1986) identified foreign language classroom anxiety (FLCA) as a distinct, situation-specific anxiety construct with measurable negative consequences for oral performance, self-efficacy, and participation. These foundational constructs frame the affective dimension of BIPA speaking instruction, in which learner anxiety and confidence are not peripheral concerns but central pedagogical targets.

Bahasa Indonesia bagi Penutur Asing (BIPA) has attracted growing scholarly attention as Indonesia's diplomatic, economic, and academic profile expands internationally. Research in this field has consistently highlighted speaking as the skill domain most affected by learner anxiety and least effectively developed through conventional instructional approaches (Kusmiatun, 2016; Suyitno, 2017). Unlike reading or writing, oral production demands simultaneous management of phonological, grammatical, lexical, and pragmatic resources under real-time pressure, a cognitive and affective burden that is substantially amplified in online learning environments where reduced social presence and technological mediation heighten self-consciousness and diminish spontaneous communication (Gunawardena & Zittle, 1997). The migration of BIPA instruction to synchronous online platforms such as Zoom has thus created an urgent need for pedagogical strategies specifically designed to manage affective barriers to oral participation in digital contexts.

Game-based language learning (GBLL) has emerged as a theoretically and empirically supported approach to reducing language anxiety and increasing learner engagement. Drawing on Self-Determination Theory (Ryan & Deci, 2000), GBLL environments satisfy learners' basic psychological needs for autonomy, competence, and relatedness, thereby fostering intrinsic motivation and sustained participation. Mayer (2019) further argues that well-designed educational games leverage cognitive engagement and positive affect to produce deeper processing of target language content. Empirical studies have demonstrated the effectiveness of game-based digital tools in improving vocabulary acquisition (Sundqvist & Wikström, 2015), reducing speaking anxiety (Reinders & Wattana, 2015), and increasing WTC in EFL contexts (Lan, 2020). These findings suggest that affective benefits associated with game-based formats, specifically the reduction of evaluative threat and the normalization of error as part of gameplay, are particularly well-suited to addressing speaking confidence challenges in foreign language instruction.

Wordwall is an interactive, web-based platform enabling educators to create and deploy customizable game activities, including spin wheels, matching tasks, anagram puzzles, and quiz formats, directly within online instructional environments. Its design affords low-stakes, visually engaging language practice that can be adapted to specific vocabulary sets and speaking functions. Despite widespread adoption in language classrooms globally, peer-reviewed empirical research on Wordwall remains limited; existing studies have focused primarily on vocabulary retention in EFL contexts (Khalil, 2022; Pratiwi et al., 2023) rather than on its effects on speaking confidence or oral performance. No published study to date has

specifically examined Wordwall's pedagogical impact within a BIPA speaking course, representing a substantive gap in the literature that the present study addresses. The integration of Wordwall into a scaffolded speaking curriculum, informed by Vygotsky's (1978) Zone of Proximal Development (ZPD) operationalized here as the instructional scaffold between what a learner can produce independently and what they can achieve with structured peer and technological support and Krashen's (1982) Affective Filter Hypothesis, offers a theoretically coherent framework for investigating how game-based pre-speaking activities can lower affective barriers, activate target vocabulary, and build the communicative confidence necessary for more willing and fluent oral participation in Indonesian.

METHODS

This study employed a convergent parallel mixed-methods design (Creswell & Plano Clark, 2017), in which quantitative and qualitative data were collected simultaneously, analyzed independently, and subsequently merged to produce a more complete understanding of the research problem than either method alone could provide. The quantitative strand adopted a quasi-experimental one-group pretest-posttest design to measure changes in speaking confidence and oral performance attributable to the Wordwall intervention. The qualitative strand employed descriptive thematic analysis (Braun & Clarke, 2006) of open-ended questionnaire responses and structured classroom observations, enabling deeper exploration of the mechanisms and experiences underlying the quantitative findings.

The one-group design was chosen pragmatically, as the institutional context did not permit random assignment of learners to experimental and control groups within the same cohort. To partially compensate for the absence of a control group, standardized instruments with established psychometric properties were used, and detailed documentation of instructional conditions was maintained throughout the intervention period.

Research Setting

The study was conducted within an online BIPA speaking course at a public university in Lampung, Indonesia, delivered entirely via the Zoom videoconferencing platform. Sessions were recorded with participants' consent for subsequent observation analysis. Wordwall activities were shared using Zoom's screen-sharing function, allowing all participants to view and interact with the platform simultaneously. The course was delivered twice weekly in 90-minute synchronous sessions over eight weeks.

Participants

Thirty intermediate-level BIPA learners participated in the study, recruited through purposive sampling. A priori power analysis using G*Power 3.1 (Faul et al., 2007) indicated that a sample of 27 participants was sufficient to detect a large effect size ($d = 0.80$) with 80% power at $\alpha = .05$ for a one-tailed paired t-test; the obtained $N = 30$ thus provides adequate statistical power for the primary analyses. Inclusion criteria specified: (a) enrollment in the online BIPA speaking course at the target institution, (b) placement at intermediate proficiency level equivalent to CEFR B1, and (c) completion of at least one prior semester of BIPA instruction. All participants provided written informed consent, and ethical clearance was obtained from the Research Ethics Board of Universitas Teknokrat Indonesia (Approval No. ETH-UTI-2024-087, granted February 2024). Table 1 presents participant demographics.

Table 1. Demographic Profile of Participants (N = 30)

First Language	n	Gender (M/F)	Age Range
English	8	3 / 5	22–38
Japanese	6	2 / 4	20–33
Korean	5	1 / 4	21–29
Arabic	5	4 / 1	23–45
German	4	2 / 2	25–40
Others	2	1 / 1	28–35
Total	**30**	**13 / 17**	**20–45**

Note. L1 = first language; M = male; F = female.

Research Instruments

Four instruments were employed to collect data.

Speaking Confidence Scale (SCS).

The SCS was adapted from Clement et al.'s (1994) Social Context Language Confidence questionnaire and Horwitz et al.'s (1986) Foreign Language Classroom Anxiety Scale. The adapted SCS comprised 25 Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree) across five dimensions: (a) self-efficacy in speaking, (b) willingness to communicate in Indonesian, (c) speaking anxiety (reverse-scored), (d) perceived oral competence, and (e) intrinsic motivation to speak Indonesian. The instrument demonstrated strong internal consistency in piloting (Cronbach's $\alpha = .91$).

Oral Performance Rubric.

An analytic speaking rubric comprising five criteria: fluency, grammatical accuracy, vocabulary range and precision, pronunciation, and interactive competence was used to assess oral performance on pre- and post-test tasks. Each criterion was scored on a 1–5 scale with descriptors adapted from the ACTFL Oral Proficiency Interview guidelines and the CEFR. Two trained raters independently scored all speaking samples; interrater reliability was calculated at $\kappa = .84$. Discrepancies greater than one scale point were resolved through discussion and consensus.

Learner Perception Questionnaire.

A 15-item post-intervention questionnaire was administered online via Google Forms. The instrument comprised seven closed Likert-scale items and eight open-ended questions

inviting reflections on Wordwall activity types, confident and anxious moments, and suggestions for improvement. Questionnaires were completed anonymously to encourage candid responses.

Structured Observation Protocol.

A structured observation protocol capturing 14 behavioral indicators of speaking confidence and anxiety was developed based on WTC and language anxiety literature. Indicators included: (a) frequency of voluntary turn-taking, (b) response latency following teacher prompts, (c) use of complete versus fragmentary utterances, (d) frequency of self-repair and communication strategies, and (e) use of filler words and extended silences. Field notes were documented during each session and reviewed against session recordings within 24 hours.

Intervention Design and Procedures

The intervention spanned eight weeks (16 sessions). Each session followed a structured three-phase format: (a) a 15–20 minute Wordwall-based warm-up targeting the session's thematic vocabulary and speaking functions, (b) a 50–55 minute core speaking task requiring oral performance via Zoom, and (c) a 15-minute reflective feedback phase. Table 2 presents the Wordwall activity types used, and Table 3 shows the full weekly thematic schedule.

Table 2. Wordwall Activity Types and Speaking Functions Used in the Intervention

Activity Type	Speaking Focus	Sample Task Description
Spin the Wheel	Spontaneous speech / fluency	Students spin to land on a topic prompt and speak for 60 seconds without preparation.
Random Wheel	Discussion / opinion expression	Wheel randomly selects a learner to respond to a discussion question, normalizing turn-taking.
Match Up	Vocabulary activation / oral definition	Students match Indonesian words with definitions, then use three matched words in oral sentences.
Anagram	Pronunciation / word recognition	Students unscramble letters to form target vocabulary, then pronounce each word aloud via Zoom mic.
Quiz (True/False)	Comprehension / oral justification	Students respond to factual statements, then verbally justify their answers in Indonesian.

Table 3. Weekly Thematic Schedule and Wordwall Activity Alignment

Week	Theme	Wordwall Activity	Speaking Task
1	Self-Introduction & Identity	Random Wheel	Introduce yourself; include name, nationality, and hobbies
2	Family & Relationships	Spin the Wheel	Describe a family member in 5–7 sentences
3	Daily Routines & Time	Match Up	Narrate your morning routine using time expressions
4	Describing Places	Anagram	Describe your home city using adjectives and spatial language
5	Food & Culture	Quiz (True/False)	Recommend an Indonesian dish; explain ingredients and taste
6	Expressing Opinions	Spin the Wheel	Give and support an opinion on a social topic for 90 seconds
7	Narrating Past Events	Random Wheel	Recount a memorable experience using past tense markers
8	Review & Integration	Mixed (all types)	Extended 3-minute monologue integrating all themes

The eight-week thematic sequence followed a scaffolded progression from lower-order personal and descriptive speaking tasks (Weeks 1–4) to higher-order opinion expression and extended narrative tasks (Weeks 5–8), reflecting Vygotsky's (1978) Zone of Proximal Development and Bruner's (1966) instructional scaffolding framework.

Data Collection Timeline

Pre-test data (SCS and speaking rubric) were collected in Session 1 of Week 1, prior to any Wordwall instruction. Post-test data were collected in the final session of Week 8. The learner perception questionnaire was administered immediately after the post-test. Observation field notes were recorded during every session throughout the intervention.

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics (Version 26). Prior to inferential analysis, normality was confirmed using the Shapiro-Wilk test (SCS: W = .96, p = .38; rubric: W = .97, p = .51). Paired-sample t-tests assessed statistical significance of pre-to-post differences, and Cohen's d quantified effect size (Cohen, 1988). Qualitative data from open-ended responses were analyzed using Braun and Clarke's (2006) six-phase reflexive thematic analysis framework. A second researcher independently coded 30% of the data; inter-coder agreement reached 86%. Observation notes were analyzed using a deductive coding framework derived from WTC and anxiety indicator literature, supplemented by inductive codes for emerging patterns.

RESULTS

This section presents findings organized across three domains: (a) quantitative changes in speaking confidence, (b) quantitative changes in oral performance, and (c) qualitative findings from learner perceptions and classroom observations. Each finding is discussed in light of relevant theoretical frameworks and prior empirical literature.

Changes in Speaking Confidence (RQ1)

Paired-sample t-test results revealed a statistically significant and practically large improvement in overall SCS scores from pre-test (M = 62.3, SD = 8.9) to post-test (M = 79.6, SD = 7.2), yielding t(29) = 8.47, p < .001, Cohen's d = 1.54. This large effect size indicates that the intervention produced a meaningful and substantial change in speaking confidence beyond what could be attributed to maturation effects. Sub-scale analysis revealed significant improvements across all five SCS dimensions (all p < .001), with the greatest gains observed in Willingness to Communicate (d = 2.04) and Self-Efficacy in Speaking (d = 1.79). Full sub-scale statistics are presented in Table 4.

Table 4. Pre- and Post-test Speaking Confidence Scale (SCS) Scores by Dimension (N = 30)

SCS Dimension	Pre M	Pre SD	Post M	Post SD	t-value	Cohen's d
Self-Efficacy in Speaking	3.12	0.61	4.28	0.47	9.83***	1.79
Willingness to Communicate	3.04	0.58	4.31	0.44	11.21***	2.04
Speaking Anxiety (rev.)	2.89	0.72	4.14	0.51	9.17***	1.67
Perceived Oral Competence	3.21	0.65	4.19	0.49	7.64***	1.39

Motivation to Speak Indonesian	3.45	0.55	4.53	0.41	10.06***	1.84
Overall SCS Score (max = 125)	**62.3**	**8.9**	**79.6**	**7.2**	**8.47*** **	**1.54**

*Note. *** $p < .001$. SCS items scored on a 1–5 Likert scale. Overall SCS = sum of all 25 items (max = 125). All t-tests are paired-sample with df = 29.*

These results strongly suggest that Wordwall's game-based format functions primarily as an affective intervention, altering the emotional and motivational conditions under which oral language use occurs. This is consistent with Krashen's (1982) Affective Filter Hypothesis, which predicts that learners in a state of low anxiety and high motivation are more receptive to input and more productive in output. By reconfiguring speaking from a high-stakes evaluative performance to a low-stakes collaborative game, Wordwall appears to systematically lower the affective filter, enabling language that was already partly acquired at a receptive level to be mobilized for active, spontaneous production.

The pronounced reduction in speaking anxiety (d = 1.67) extends MacIntyre and Gardner's (1994) language anxiety model into the DGBL context, demonstrating that situational game mechanics, visual stimulus, and normalized turn-taking structures can substantially modulate the trait-like anxiety that many BIPA learners bring to speaking tasks. This underlines the importance of affective scaffolding in online speaking course design a dimension that is frequently overlooked in favor of purely linguistic scaffolding.

Changes in Oral Performance (RQ3)

Speaking rubric scores demonstrated significant improvements across all five assessed criteria (all $p < .001$), with the largest gain recorded for Vocabulary Range and Precision (pre: M = 2.91; post: M = 4.19; gain = +1.28; d = 2.18). This finding is particularly noteworthy given the direct alignment between Wordwall's vocabulary activation function and this rubric criterion, suggesting a theoretically consistent pathway from game-based lexical exposure to improved oral lexical deployment. Full rubric results are presented in Table 5.

Table 5. Pre- and Post-test Oral Performance Rubric Scores by Criterion (N = 30)

Rubric Criterion	**Pre M**	**Post M**	**Gain**	**t (df=29)**	**Interpretation**
Fluency	3.03	4.01	+0.98	8.12***	Smoother delivery; fewer unnatural pauses
Grammatical Accuracy	2.87	3.76	+0.89	7.34***	Better sentence structure; fewer L1 interference errors

Vocabulary Range & Precision	2.91	4.19	+1.28	10.55***	Widest gain; richer lexical choices in oral output
Pronunciation	3.08	3.83	+0.75	6.28***	Improved stress and intonation patterns
Interactive Competence	2.76	3.94	+1.18	9.47***	Greater responsiveness and use of repair strategies

*Note. *** $p < .001$. Rubric criteria scored on a 1–5 scale. All t-tests are paired-sample with $df = 29$.*

Interactive Competence, encompassing the learner's ability to manage conversation, initiate and sustain turns, and deploy repair strategies, recorded the second-largest gain (+1.18; d = 1.94), indicating that Wordwall's turn-taking activities contributed to the development of conversational management skills beyond simple vocabulary and fluency. Observation data corroborate this, documenting an increase in spontaneous self-initiated contributions and the use of interactional discourse markers (e.g., *Saya pikir..., Maksud saya*...) in the later weeks of the intervention.

These improvements are theoretically coherent with Nation's (2001) Vocabulary for Production framework and Schmidt's (1990) Noticing Hypothesis: repeated, meaningful encounters with target vocabulary in Wordwall activities created the conditions for the progression from receptive to productive lexical knowledge. The alignment between Wordwall's lexical focus and subsequent speaking tasks represents a design principle, vocabulary-to-speech transfer, that warrants deliberate replication in BIPA instructional design.

Learner Perceptions of Wordwall (RQ2)

Questionnaire data indicated overwhelmingly positive learner perceptions across all seven closed-response items. Ninety-three percent agreed or strongly agreed that Wordwall activities made them feel more relaxed during speaking tasks; 90% reported increased willingness to speak Indonesian; and 97% agreed that Wordwall made online BIPA classes more enjoyable. Eighty-three percent reported that the game-based format reduced their fear of making mistakes, a finding with direct implications for the relationship between GBL and foreign language anxiety. Table 6 presents full closed-item results.

Table 6. Learner Perception Questionnaire Results, Closed Items (N = 30)

Survey Item	**Agree / Strongly Agree**	**Neutral**	**Disagree / Strongly Disagree**

Wordwall activities made me feel more relaxed during speaking tasks.	93%	4%	3%
Using Wordwall helped me remember new Indonesian vocabulary.	87%	10%	3%
I was more willing to speak Indonesian after Wordwall games.	90%	7%	3%
Wordwall made online BIPA classes more enjoyable.	97%	3%	0%
The game-based activities reduced my fear of making mistakes.	83%	13%	4%
I feel more confident speaking Indonesian now than before.	90%	7%	3%
I would recommend using Wordwall in future BIPA classes.	93%	7%	0%

Thematic Analysis of Open-Ended Responses (RQ2)

Thematic analysis of open-ended responses yielded four overarching themes, each capturing a distinct dimension of learners' subjective experience. Table 7 provides themes, sub-themes, and representative learner quotes.

Table 7. Thematic Analysis Results: Themes, Sub-themes, and Representative Learner Quotes

Theme	Sub-themes	Representative Learner Quote
Theme 1: Affective Liberation	Reduced anxiety; emotional enjoyment; safety	*"When we play Wordwall, I forget that I am nervous. I focus on the game and suddenly I am speaking without thinking too much."*
Theme 2: Lexical Empowerment	Vocabulary recall; word confidence; reduced hesitation	*"The games helped me remember words I always forget. When I had to speak, I could express myself better."*

Theme 3: Social Belonging & Motivation	Community building; competitive engagement; participation	*"I liked that everyone was playing together. Even online, it felt like a real class. I wanted to participate more."*
Theme 4: Self-Efficacy Growth	Confidence in self-expression; willingness to take risks	*"Before, I always waited to be called on. Now I unmute on my own. I believe I can say something useful."*

Theme 1: Affective Liberation.

The most frequently occurring theme concerned the emotional relief and reduced inhibition learners experienced during Wordwall activities. Participants consistently described the game-based format as creating psychological distance from the formal demands of assessed speaking, enabling more spontaneous Indonesian use. This aligns with Krashen's (1982) Affective Filter Hypothesis and MacIntyre et al.'s (1998) WTC model: reduced anxiety facilitates greater oral participation and more authentic language use. The representative learner quote in Table 7: describing how game engagement displaces self-conscious anxiety captures this mechanism precisely.

Theme 2: Lexical Empowerment.

The second theme centered on learners' perception that Wordwall activities directly improved their vocabulary knowledge and retrieval, enabling more confident and fluent spoken production. Many participants articulated a clear causal mechanism: pre-activity exposure to and interaction with target vocabulary reduced the cognitive load of the subsequent speaking task, freeing attentional resources for higher-order communicative decisions. This is consistent with Nation (2001) and Schmidt's (1990) emphasis on repeated, meaningful encounters with target vocabulary as a precondition for spontaneous oral deployment.

Theme 3: Social Belonging and Motivation.

A third prominent theme concerned the social and motivational dimensions of Wordwall in the online classroom. Despite the inherent distance of virtual instruction, participants reported that competitive and collaborative elements particularly the shared screen display and turn-taking structures of Spin the Wheel and Random Wheel created a sense of collective presence and community. This speaks to the importance of social relatedness in language learning motivation (Dörnyei, 2001; Ryan & Deci, 2000) and suggests that well-designed GBL activities can partially compensate for the diminished social presence of online environments (Gunawardena & Zittle, 1997).

Theme 4: Self-Efficacy Growth.

The fourth theme captured learners' reports of developing a generalized speaking self-efficacy a durable shift in self-concept from passive, teacher-dependent respondent to active, self-initiating communicator. This trajectory aligns with Bandura's (1986) mastery experience principle: repeated successful interaction with Indonesian during low-stakes Wordwall activities cumulatively constructed a more confident speaking identity. The structured

progression from simpler tasks in early weeks to more complex open-ended activities in later weeks appears instrumental in building this accumulated sense of mastery.

Classroom Observation Findings

Structured observation data documented a clear and progressive trajectory of behavioral change across the eight-week intervention. In early sessions, participation was predominantly reactive: learners responded to teacher prompts with short, formulaic utterances and frequently delayed unmuting their microphones. As the intervention progressed, observers noted increasing frequency of self-initiated contributions, longer and syntactically more complex turns, and the use of discourse markers and repair strategies.

A particularly notable shift occurred between Weeks 4 and 5, coinciding with the introduction of Spin the Wheel as the primary activity format. This activity's element of unpredictability appeared to normalize speaking as a shared communal expectation rather than a performance directed at an evaluating audience, thereby reducing the performance anxiety observable in earlier sessions. Table 8 summarizes the behavioral progression across the three intervention phases.

Table 8. Classroom Observation Summary: Participation and Anxiety Indicators Across Three Phases

Phase	Sessions	Participation	Anxiety Indicators	Oral Output Quality
Early	Weeks 1–2	Low; mostly teacher-prompted	Frequent silences; reluctance to unmute	Short, formulaic utterances
Mid	Weeks 3–5	Moderate; some voluntary turns	Reduced silence; occasional self-correction	Longer sentences; target vocabulary use
Late	Weeks 6–8	High; self-initiated speech	Minimal anxiety; laughter and risk-taking	Coherent discourse with discourse markers

DISCUSSION

This study examined whether Wordwall-integrated instruction could significantly enhance the speaking confidence and oral performance of intermediate BIPA learners in an online environment. The findings provide clear and convergent evidence across quantitative and qualitative strands that purposeful game-based instruction using Wordwall produces

meaningful improvements in both affective and linguistic dimensions of oral communication. The overall SCS gain (d = 1.54) and the improvements across all five oral performance rubric criteria (all $p < .001$) affirm that Wordwall, when systematically embedded within a scaffolded speaking curriculum, functions as a powerful pedagogical tool for transforming the affective climate of the online language classroom.

The most pronounced quantitative gains were observed in Willingness to Communicate (d = 2.04) and Vocabulary Range and Precision (d = 2.18), findings that converge coherently with the qualitative themes of Affective Liberation and Lexical Empowerment. These results extend and reinforce prior research on game-based language learning: Reinders and Wattana (2015) demonstrated that digital game environments reduce speaking anxiety among EFL learners, while Lan (2020) reported increased WTC following game-based instruction. The present study replicates these effects in the BIPA context and advances the literature by demonstrating their transferability to synchronous online instruction mediated through Zoom. The mechanism through which this occurs, consistent with Krashen's (1982) Affective Filter Hypothesis, appears to be the reconfiguration of oral production from a high-stakes evaluative performance to a low-stakes communal activity, effectively lowering affective barriers and enabling learners to mobilize partially-acquired language resources for spontaneous production.

The improvement in Interactive Competence (+1.18; d = 1.94) merits particular discussion, as this rubric criterion captures skills, including conversational management, self-repair, and discourse marker use, that are rarely targeted by vocabulary-focused digital tools. The observation data documenting progressive increases in self-initiated speech, longer turns, and the use of interactional markers (e.g., Saya pikir..., Maksud saya...) across the intervention period suggest that Wordwall's turn-taking structures, particularly the Random Wheel and Spin the Wheel formats, contributed to the development of interactional competence beyond what vocabulary exposure alone could account for. This aligns with Vygotsky's (1978) concept of the Zone of Proximal Development: the scaffolded, low-pressure game environment provided the social and cognitive support necessary for learners to attempt more complex interactional behaviors that they might otherwise have avoided under evaluative conditions.

The qualitative theme of Social Belonging and Motivation adds a dimension not fully captured by the quantitative findings. Despite the inherent social distance of online instruction, learners described a sense of collective presence and community that emerged through shared game participation, a finding consonant with Gunawardena and Zittle's (1997) social presence theory and Dörnyei's (2001) emphasis on social relatedness as a driver of language learning motivation. The competitive and collaborative elements of Wordwall appear to partially compensate for the diminished interpersonal cues characteristic of video-mediated communication, suggesting that game mechanics may serve a social scaffolding function in online language classes that is both distinct from and complementary to their cognitive and affective contributions.

Several pedagogical implications follow from these findings. First, educators designing online BIPA speaking courses should consider positioning Wordwall activities not as supplementary entertainment but as evidence-based affective and lexical preparation for core speaking tasks. The vocabulary-to-speech transfer effect observed here, wherein game-based lexical exposure directly improved oral lexical deployment, represents a replicable instructional design principle. Second, the selection and sequencing of Wordwall activity types should be

deliberate: the progression from lower-order activities (Match Up, True/False) in early weeks to higher-stakes open-ended formats (Spin the Wheel, Random Wheel) in later weeks mirrors the scaffolded demand structure recommended by Bruner (1966) and appears instrumental in producing cumulative self-efficacy growth. Third, the 15–20 minute warm-up format adopted here, constituting approximately 17% of total instructional time, suggests that relatively brief game-based preparation can yield substantial affective and performance benefits without displacing core communicative practice.

The present study has several limitations that qualify the strength of its conclusions. The absence of a control group is the most significant constraint: without a parallel comparison condition, it is not possible to rule out alternative explanations for the observed gains, including maturation, repeated testing effects, or the motivational novelty of online instruction itself. The single-site, single-cohort design also limits generalizability; findings may not transfer to BIPA learners at different proficiency levels, with different L1 backgrounds, or in face-to-face instructional contexts. Additionally, the eight-week intervention window, while sufficient to produce statistically significant short-term changes, does not permit conclusions about the durability of confidence gains beyond the instructional period. A further limitation concerns platform specificity: this study cannot determine whether the effects observed are unique to Wordwall's design features (e.g., its shared screen display, real-time turn-taking mechanics, and teacher-customizable content), or whether comparable platforms such as Quizlet Live, Kahoot!, or even non-digital game-based approaches would yield similar affective and performance outcomes. Each platform differs in its affordances Kahoot! emphasizes competitive speed, Quizlet Live fosters team-based collaboration, and analog games allow greater social spontaneity and these structural differences may produce distinct motivational and anxiety-reduction pathways that future comparative research should disentangle. Future research should address these limitations through randomized controlled designs across multiple institutions and proficiency levels, longitudinal follow-up measures, and comparative studies examining the differential effects of specific Wordwall activity types relative to alternative platforms. Investigating whether the affective and lexical mechanisms identified here generalize across game-based tools would substantially strengthen the evidence base for digital game-based speaking instruction in BIPA and broader foreign language education contexts.

CONCLUSION

This study has demonstrated that the purposeful integration of Wordwall into online BIPA speaking instruction yields significant and large-effect improvements in learner speaking confidence ($d = 1.54$), vocabulary use ($d = 2.18$), and overall oral performance across all five rubric criteria. The platform's game-based design reduces language anxiety, increases willingness to communicate, and provides learners with the vocabulary support necessary for more confident and fluent oral expression. Qualitative findings reveal four complementary mechanisms affective liberation, lexical empowerment, social belonging, and self-efficacy growth together constituting a theoretically coherent account of how Wordwall transforms the online BIPA speaking environment.

These findings carry meaningful pedagogical implications for BIPA educators in digital environments. Incorporating game-based platforms such as Wordwall as pre-speaking activities or interactive vocabulary builders represents an evidence-based strategy for building

the affective and linguistic foundations of speaking confidence. Educators working in intermediate-level online BIPA contexts analogous to the present study are encouraged to select Wordwall activity types that align with specific speaking sub-skills, to sequence activities from lower to higher cognitive demand across a course, and to allow sufficient interaction time with the platform before transitioning to formal speaking tasks. These recommendations should be applied cautiously at other proficiency levels or in face-to-face contexts, where the platform's affordances and learner responses may differ.

This study is not without limitations. The absence of a control group limits the causal inferences that can be drawn. Future research employing randomized controlled designs across multiple institutions and proficiency levels would strengthen the evidence base. Longitudinal studies tracking confidence development over extended periods, and comparative studies examining different Wordwall activity types or alternative GBL platforms, would further advance evidence-based BIPA practice. Investigating the specific confidence profiles of BIPA learners at beginner and advanced levels would additionally clarify whether the present findings generalize across the proficiency spectrum.

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