

Willingness to Communicate in Physical and Online EFL Classrooms: How Activity Type, Group Size, Gender, and Preparation Time Matter

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Abstract: This study compared Willingness to Communicate (WTC) among Chinese EFL undergraduates across physical and online classrooms. Four situational dimensions were examined: activity type, group size, interlocutor gender, and preparation time. The study involved 507 Chinese EFL undergraduates and data were collected using a modified WTC questionnaire. Paired t-tests revealed three main findings. First, overall WTC was significantly higher online than in physical classrooms. Second, the pattern of WTC across activities is influenced by the context in which it takes place: WTC is highest in role-play face-to-face, while oral presentation is highest online. Third, small groups of three to five members produced the highest WTC in both face-to-face and online contexts. Fourth, preparation time consistently boosted WTC. Also, gender differences were minimal and not practically significant. These findings indicate that online and physical classrooms offer different affordances for L2 communication. The results provide practical guidance for blended learning design. Oral presentations may be better placed online, while role-play may remain more effective in physical classrooms.

Keywords: Willingness to communicate; Online learning; EFL; Situational factors; Blended learning

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1. Introduction

Willingness to Communicate (WTC) is defined as a person's readiness to enter into discourse at a particular time with a specific person ^[1]. It represents the final psychological step before actual L2 use and is thus a key goal of language teaching. For Chinese EFL learners, the classroom is often the only place where speaking English is possible ^[2]. Yet many students remain silent after years of study. This problem is sometimes called "Dumb English". This silence reflects a failure to translate linguistic knowledge into communicative action. Understanding what makes students willing to speak is therefore critical for language educators.

Early research treated WTC as a stable personality trait ^[3]. However, subsequent studies showed that WTC fluctuates depending on topic, interlocutor, and task ^[4,5]. A student who is silent during whole-class discussion may speak actively in a small group. A student who refuses to give an oral presentation

may eagerly participate in a role-play. These observations suggest that WTC emerges from the interaction between the learner and the immediate environment rather than being a fixed property of the learner.

MacIntyre et al. (1998) proposed a pyramid model emphasizing situational antecedents such as activity type, group size, interlocutor characteristics, and preparation time^[1]. Despite recognition that WTC is situation-dependent, most studies have examined these factors in isolation. Almost all have taken place in physical classrooms. It remains unclear whether the same factors operate similarly when the class moves online.

The COVID-19 pandemic shifted teaching online worldwide. Blended learning has since become the new normal. Online and physical classrooms are fundamentally different communicative ecologies. Physical classrooms have high social presence and immediate audience feedback^[6]. The speaker is highly visible, and the audience's reactions are immediate and tangible. Online platforms offer visual anonymity, reduced social cues, and physical separation. Cameras can be turned off, and turn-taking often feels awkward. These differences create distinct "affective architectures" that shape how learners feel and whether they choose to speak.

Previous research has found higher WTC online^[7,8]. However, most studies compared only average levels. Little is known about whether specific situational factors operate differently online versus offline. These factors include activity type, group size, interlocutor gender, and preparation time. This study addressed this gap by examining Chinese EFL undergraduates' WTC across two contexts and four situational dimensions:

- (1) RQ1: Does overall WTC differ between physical and online classrooms?
- (2) RQ2: How does WTC differ across activity types between the two contexts?
- (3) RQ3: How does WTC differ across group sizes between the two contexts?
- (4) RQ4: How does WTC differ across interlocutor gender between the two contexts?
- (5) RQ5: How does the availability of preparation time affect WTC differently online and offline?

2. Methodology

- (1) **Participants.** A total of 507 non-English major undergraduates from 43 universities in Shandong Province, China, participated. The sample included 208 males (41.0%) and 299 females (59.0%). The mean age was 19.5 years ($SD = 0.89$). Participants represented diverse academic disciplines, including Engineering (24.9%), Arts (34.7%), Management (12.4%), Sciences (7.3%), Medicine (6.5%), and others. This diversity suggests that the findings may apply beyond a single academic background. All participants had completed at least one semester of face-to-face and one semester of synchronous online English classes. Platforms used include Tencent Meeting and DingTalk. This design enabled valid within-subjects comparisons, as each participant served as their own control.
- (2) **Instrument.** A modified WTC questionnaire was developed with a context parallel design. Two identical versions were created: one referring to "in physical class" and the other to "in online class". The questionnaire contained 32 items measuring four dimensions: in-class activities (8 items), group size (8 items), interlocutor gender (12 items), and preparation time (4 items). All items used a four-point Likert scale (1 = Strongly Disagree to 4 = Strongly Agree). The forced-choice format without a neutral midpoint reduced central tendency bias and increased discriminative power^[9]. The reliability was excellent. The full scale showed a Cronbach's alpha of .98. Subdimensions also showed very good to excellent reliability: in-class activities (.98), group size (0.95), interlocutor gender (0.97), and preparation time (0.70). All values met DeVellis and Thorpe's (2021) criteria for internal consistency.
- (3) **Procedure and analysis.** Data were collected online via Wenjuanxing in November 2023. Participants completed both versions of the questionnaire in a single session. The order of the two contexts was randomized to control for potential order effects. Descriptive statistics and paired samples t-tests were conducted using SPSS 23.0. Mean scores were interpreted using established criteria for four-point scales: low (below 1.9), moderate (1.9 to 2.9), and high (above 2.9). The significance level was set at $\alpha = 0.05$.

3. Results

Overall WTC. Overall WTC was significantly higher online ($M = 2.769$, $SD = 0.543$) than in physical classrooms ($M = 2.659$, $SD = 0.571$). The paired samples t -test revealed a statistically significant difference, $t(506) = -5.224$, $p < 0.001$. Both means fell within the moderate range, but the online setting produced a consistently higher level of willingness to speak.

Activity type. Table 1 shows the results. In physical classrooms, role-play produced the highest WTC ($M = 2.748$). In online classrooms, a different pattern emerged. Oral presentation became the most preferred activity ($M = 2.813$). Paired t -tests showed that oral presentation, discussion, and translation had significantly higher WTC online (all $p < 0.05$). Role-play showed no significant difference between the two contexts ($p = 0.395$). This finding suggests that role-play is equally effective in both settings, while oral presentation benefits substantially from being moved online.

Table 1. WTC by activity type ($N = 507$)

Activity	Physical (M/SD)	Online (M/SD)	<i>p</i>
Role-play	2.748 (0.790)	2.769 (0.762)	0.395
Oral presentation	2.667 (0.776)	2.813 (0.766)	< 0.001
Discussion	2.659 (0.780)	2.732 (0.774)	0.021
Translation	2.696 (0.766)	2.769 (0.739)	0.038

Group size. Small groups of three to five members produced the highest WTC in both contexts. In physical classrooms, small groups had a mean of 2.604. In online classrooms, small groups had a mean of 2.868. All four group sizes (individual, pair, small group, and large group) showed significantly higher WTC online (all $p < 0.001$). The online advantage was largest for small groups (mean difference = 0.264). It was smallest for individuals (mean difference = 0.144). This pattern suggests that the digital environment improves the benefits of small group interaction.

Interlocutor's gender. Same-gender configurations produced slightly higher WTC than mixed-gender configurations. However, the differences were small, typically less than 0.05 on the four-point scale. Among the six gender configurations (same-gender pairs, mixed-gender pairs, same-gender small groups, mixed-gender small groups, same-gender large groups, and mixed-gender large groups), five showed significantly higher WTC online (all $p < 0.05$). The exceptions were same-gender pairs ($p = 0.857$) and mixed-gender large groups ($p = 0.124$). The relatively small differences suggest that gender is not a strong determinant of WTC in either context.

Preparation time. Preparation time had a strong positive effect in both contexts. In physical classrooms, WTC with preparation ($M = 2.744$) was significantly higher than without preparation ($M = 2.375$). The same pattern was observed online: with preparation ($M = 2.860$) versus without ($M = 2.548$). Both conditions showed significantly higher WTC online (both $p < 0.001$). The online advantage was larger when students had no preparation time (mean difference = 0.173) than when they had preparation time (mean difference = 0.116).

4. Discussion

4.1. Overall WTC and the framework of affective architectures

The finding that overall WTC was higher online aligns with previous research. This online advantage can be attributed to reduced social presence and attenuated evaluative cues. Features such as optional cameras and text chat reduce fear of negative evaluation. Suler (2004) termed this the “online disinhibition effect”. People tend to feel less inhibited when interacting through screens^[10].

These findings can be understood through the concept of affective architectures. This concept holds that physical and

digital learning environments are not neutral. They are systematically structured to afford or inhibit specific psychological states. The physical classroom, with its high social presence, constitutes an architecture that amplifies social evaluation. It makes activities that thrive on immediate feedback, such as role-play, feel more engaging. The online classroom architecture, characterized by visual anonymity and reduced cues, alleviates evaluative pressure. It transforms solitary, high-stakes tasks, such as oral presentations, into less threatening experiences. In short, the same activity can thus trigger different levels of WTC depending on whether students are meeting face-to-face or logging in from home.

However, WTC remained moderate in both contexts. This suggests that cognitive challenges persist even online. These challenges include real-time language processing and managing technology. The online environment is not a complete solution to classroom reticence.

4.2. Activity type: A context-dependent shift

The shift in which activity type produced the highest WTC is particularly striking. Role-play was preferred face-to-face but showed no online advantage. This finding challenges the assumption that the online environment uniformly benefits all communicative activities. While role-play is often thought to thrive on anonymity, which the online space offers, these results suggest its efficacy depends more on somatic engagement. For role-play to be effective, learners may need to inhabit a character through full-body gestures and spatial presence^[11]. Mainstream video conferencing platforms constrain users to a head-and-shoulders frame, which limits this embodied affordance. The physical space supports the immersive, theatrical nature of role-play. When these affordances disappear online, the protective frame that role-play provides may weaken.

Oral presentation became the most preferred activity online. Oral presentations are often reported as one of the most anxiety-provoking activities in physical classrooms^[12]. The shift online mitigates several anxieties. First, the option to turn off the camera allows students to present without being visually exposed. Second, the ability to share slides and use speaker notes discreetly provides scaffolding not available face-to-face. Third, the reduced sense of an immediate, physically present audience lowers the fear of negative evaluation. Put simply, giving a presentation online feels less like a high-stakes performance and more like a manageable task.

4.3. Group size, gender, and preparation time

Small groups of three to five members consistently produced the highest WTC in both contexts. This finding aligns with a large body of research. Smaller groups reduce the audience effect and create more speaking opportunities for each member. All group sizes showed higher WTC online, with the largest advantage for small groups. Online breakout rooms may feel more private and less exposed than small groups in a physical classroom, where other groups can overhear and the teacher can easily observe. The finding that individuals speaking alone showed the smallest online advantage may reflect the unique challenges of solo speaking online. These challenges include the absence of an interlocutor, the strange experience of talking to a screen, and the difficulty of gauging whether anyone is listening.

Same gender configurations produced only slightly higher WTC than mixed gender configurations. This finding is somewhat unexpected given the documented preference for same gender interaction in some face-to-face Chinese classrooms^[13]. One interpretation could be that the online environment's reduced social presence serves as an equalizer. When learners are less focused on the immediate physical presence and social judgments, such as those about gender roles, their willingness to communicate becomes less contingent on the interlocutor's gender. This suggests that the anxiety buffering effect of the online environment extends beyond task performance to interpersonal concerns.

Preparation time had a strong positive effect in both contexts. This finding is consistent with previous research^[14,15]. The mechanism is cognitive. Preparation time reduces the mental effort required for spontaneous speech. It frees working memory from on-the-spot formulation pressure. The online advantage was larger when students were unprepared. This suggests that online affordances may partially compensate for lack of preparation. These affordances include discreet notes, quick searches, and camera control during hesitation. However, preparation remains beneficial in both contexts.

4.4. Pedagogical implications

A task context matching principle emerges from the findings. Educators should not simply migrate all activities online. Instead, they should place tasks strategically based on their core communicative demands.

For activity design. Oral presentations may be better placed online. Students can use camera control and notes to build confidence. Teachers can scaffold this process gradually. For example, students might first practice online with cameras off, then move to online with cameras on, and eventually present face to face when they feel ready. Role-play may remain more effective in physical classrooms, where embodied interaction is possible. For skills requiring risk-taking and negotiation of meaning under social pressure, such as role-play and spontaneous discussion, the physical classroom remains the optimal setting. For skills that demand high cognitive load and are easily disrupted by evaluation anxiety, such as delivering a well-structured oral presentation, the online environment provides a safer platform. The online setting serves as an effective practice field where learners can build automaticity and confidence before performing in the higher-stakes physical classroom.

For group work. Small groups of three to five members should be the default for speaking activities in both contexts. Breakout rooms in online platforms can create the same small group benefits as physical small groups. Teachers should avoid whole-class speaking as the primary participation mode. Large audiences tend to suppress WTC.

For preparation time. Teachers should always provide students with time to prepare before speaking tasks. This is especially important online, where the absence of preparation time is more detrimental. Even two to three minutes of individual planning time can significantly increase WTC.

4.5. Limitations and future research

Four limitations are acknowledged. First, the cross-sectional design captures WTC at a single time point. It cannot show how individual students' WTC might adapt over a semester. Future research could employ longitudinal designs or experience sampling methods to track co-adaptation over time. Second, self-report measures cannot capture moment-to-moment fluctuations during actual speaking tasks. Future research could complement co-adaptation with observational data or idiographic methods. Third, the sample was drawn from one Chinese province. This limits generalizability to other cultural contexts. Future research could replicate this study in other regions of China or other EFL contexts, such as Japan, Korea, or Thailand. Fourth, the study compared physical and online classrooms as broad categories without examining specific platform features. Future research could examine how features such as camera use, platform type, breakout room configurations, virtual backgrounds, and reaction emojis differentially affect WTC.

5. Conclusion

This study examined how Chinese EFL undergraduates' WTC differs between physical and online classrooms across four situational dimensions. Three main findings emerged. First, overall WTC was significantly higher online, though it remained moderate in both contexts. Second, the pattern of WTC across activity types shifted. Role-play was highest face-to-face, while oral presentation was highest online. Third, small groups of three to five members produced the highest WTC in both contexts. Preparation time consistently boosted WTC. Gender differences were small and not practically significant.

The shift to blended learning requires educators to move beyond asking whether a classroom is physical or online. The more important question is which activities belong in which space. Online environments selectively enhance WTC for oral presentations while leaving role-play unchanged. Small groups and preparation time consistently support WTC across both contexts. Through intentional design, educators can better support students' journey from anxious silence to confident communication. Online spaces can be used for high-anxiety tasks, and physical spaces can be used for embodied interaction.

The ultimate goal of language teaching is not just to produce students who can speak. It is to produce students who

choose to speak. If educators pay attention to how different activities play out in physical versus digital spaces, and if they consistently offer supportive structures like small groups and preparation time, they stand a real chance of reaching that goal in today's blended learning classrooms.

Disclosure statement

The author declares no conflict of interest.

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