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Dimensional Differences in English Speaking Anxiety Across Physical and Online Contexts: A Study of Chinese EFL Undergraduates

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Abstract

While previous research has established that online learning reduces language anxiety, less is known about how different dimensions of speaking anxiety respond to the shift from physical to digital classrooms. Grounded in foreign language classroom anxiety theory and situated within a communication studies framework, ESA is deconstructed into three dimensions: Communication Apprehension, Fear of Negative Evaluation, and Test Anxiety. This study employed survey design with 507 undergraduates in Shandong Province using parallel questionnaires for both contexts and paired samples t-tests. The findings show a significant contextual difference in overall ESA levels. Online classrooms (M=2.291) exhibit markedly lower anxiety than physical classrooms (M=2.791), with a mean difference of 0.500; Dimensional analysis reveals varying contextual sensitivities. Fear of Negative Evaluation shows the greatest contextual disparity (mean difference=0.579), descending from moderate to low levels across contexts. Test Anxiety follows closely with similar reduction patterns. Communication Apprehension exhibits the smallest contextual difference (mean difference=0.360), maintaining consistent moderate levels across contexts. This indicates its stability as a cognition-based construct; The digitally mediated environment proves particularly effective in alleviating social-evaluative anxiety linked to audience presence and immediate judgment. Yet it does little to reduce ability-focused cognitive anxiety. This study reveals the complex relationship between communication medium, learner psychology, and language performance. It provides empirical evidence for implementing "context-aware, dimension-sensitive" pedagogical frameworks in technology-enhanced language education. The study contributes to both linguistic and communication scholarship by demonstrating how media characteristics reconfigure specific affective components of language learning.

Keywords: English speaking anxiety, communication context, Chinese EFL learners, affective factors, blended learning

1. Introduction: The Intersection of Language Anxiety and Communication Media

Many Chinese EFL learners remain reluctant to speak English despite years of formal instruction—a phenomenon colloquially termed "Dumb English" (哑巴英语, literally "mute English"). This is more than a pedagogical challenge; it is a complex issue where language skill, emotion, and learning context meet (He, 2018; Li & Liang, 2022). This silence, students' unwillingness to speak despite years of English classes, stems largely from English Speaking Anxiety (ESA) (Horwitz et al., 1986; Liu & Jackson, 2008; Zhao et al. 2025). Many studies have viewed ESA through psychological factors like motivation or personality. Yet the rapid shift to online learning, accelerated by the pandemic, calls for rethinking anxiety through a different lens: communication context and media environment.

Physical and online classrooms are fundamentally different learning environments. The traditional physical classroom is a high-context (Hall, 1976), co-present (Goffman, 1963) environment rich in nonverbal cues, immediate feedback loops, and heightened social presence (Basille et al., 2025; Short et al., 1976; Zhang & Mohamed, 2024). This context makes the speaker more visible and the audience more reactive. It creates what communication scholars term a "high-social-presence" environment (Short et al., 1976). Conversely, the synchronous video-conferencing classroom offers potential visual anonymity, changes how people take turns, separates participants physically, and reduces social cues. These divergent environments create distinct "affective architectures", contextual setups that shape how learners feel and act (Chen & Zhang, 2022).

Studies show that online learning environments often reduce language anxiety (Alqarni, 2021; Lee & Chen Hsieh, 2019). But recent research adds nuances. Bárkányi and Brash (2025) found that while online settings can lower certain anxieties, features like breakout rooms may heighten emotional responses. Similarly, Wei (2025) reported that Chinese EFL learners feel less anxious online than in person, though teacher-related factors mattered less than expected.

However, few studies have examined how different types of speaking anxiety vary between physical and online classrooms (Alqarni, 2021; Lee & Chen Hsieh, 2019). The theoretical implications of such contextual differences also remain largely unexplored. Identifying which anxiety dimensions are most context-sensitive can inform the design of blended learning environments (Chen & Zhang, 2022).

Based on the above framework, this research addresses the following questions:

RQ1. How do overall English Speaking Anxiety (ESA) levels differ between physical and online classroom contexts among Chinese EFL undergraduates?

RQ2. How do Communication Apprehension, Fear of Negative Evaluation, and Test Anxiety respond to the shift from physical to online classrooms?

RQ3. What do these patterns reveal about Communication Apprehension, Fear of Negative Evaluation, and Test Anxiety?

By addressing these questions, this study aims to bridge communication media theory with language learning psychology and to offer practical guidance for affectively aware teaching in digital and blended spaces.

2. Theoretical Framework and Literature Review

2.1 Conceptualizing Classrooms as Distinct Communication Contexts

Physical and online classrooms are fundamentally different communication contexts, not just alternative delivery modes (Chen & Zhang, 2022). Each has its own media logic and interactional affordances. This view draws on communication and media studies to understand how learning environments shape learner emotion (Short et al., 1976; Daft & Lengel, 1986; Walther, 1992).

The traditional physical classroom is a high-social-presence, high-context environment (Hall, 1976; Garrison et al., 1999). Communication here is embodied and happens in shared physical space (Goffman, 1963). It offers a rich range of cues: paralinguistic signals (tone, volume, pace), nonverbal behaviors (facial expressions, gestures, posture, eye gaze), and immediate audience feedback (nods, smiles, confused looks, whispers). The speaker is physically central and highly visible to everyone present. This setup maximizes what Short et al. (1976) called "social presence": the sense of another person being "there" in the interaction (Richardson et al., 2017). High social presence typically heightens awareness of and sensitivity

to others' evaluations.

In contrast, the synchronous video-conferencing classroom (e.g., Zoom, Tencent Meeting, or DingTalk) is a digitally-mediated, leaner-cue environment (Kiesler et al., 1984; Sproull & Kiesler, 1986). Often called "virtual face-to-face," its media features create different interactional conditions (Walther, 1996). The interface reshapes communication: participants appear as tiles in a grid, spatial co-presence fades, and eye contact becomes misaligned (looking at the camera, not at others' eyes). Nonverbal cues are often limited to the upper body and face, framed by a screen (Hrastinski, 2008). Key features like "speaker view" (which highlights the current speaker) and the option to turn off one's camera fundamentally change communication dynamics (Chen & Zhang, 2022; Suler, 2004). These features can greatly reduce the audience's salience as an immediate, judging presence, creating the 'online disinhibition effect' (Bargh & McKenna, 2004; Tu & McIsaac, 2002).

This reframing lets established communication principles: social presence, media richness, and social information processing, generate specific predictions about affect in language learning (Daft & Lengel, 1986; Short et al., 1976; Walther, 1992; Timilsina, 2025). The idea is that the digital context's reduced cues and lower social presence will not uniformly dampen all anxieties. Instead, it will selectively ease those anxieties most tied to social-evaluative concerns (Walther, 1996; Suler, 2004; Peschka et al., 2025).

2.2 The Multidimensional Nature of Speaking Anxiety and Its Hypothesized Contextual Sensitivity

This study adopts and extends Horwitz et al.'s (1986) multidimensional model of Foreign Language Classroom Anxiety. It focuses specifically on the manifestation of anxiety in speaking (ESA). The three dimensions are treated as theoretically distinct constructs with different primary antecedents. They should therefore demonstrate different sensitivities to changes in communication context.

2.2.1 Fear of Negative Evaluation: High Contextual Sensitivity

This dimension is conceptualized as apprehension about others' assessments (Watson & Friend, 1969). It is associated with avoidance of evaluative situations and anticipation of negative judgments. Its core antecedent is the perceived presence and salience of an evaluating audience (He, 2018; Liu, 2006). This dimension is hypothesized to be highly sensitive to communication context because the contextual variables differ dramatically in the richness of social-evaluative cues they provide (Horwitz et al., 1986; Mak, 2011).

The physical classroom, as a high-social-presence context, provides a continuous stream of such cues. The speaker sees peers' faces, catches their glances, hears their reactions, and feels their physical presence. This makes the evaluating audience highly salient and the possibility of negative judgment feel immediate and tangible (Liu & Jackson, 2008; Tsui, 1996). Conversely, the digitally mediated classroom significantly filters these cues. When cameras are off, the audience becomes invisible. Even with cameras on, participants appear in small tiles, often with limited video quality. The spotlight of speaker view can paradoxically make the audience less visually prominent (Chen & Zhang, 2022). This leaner cue environment likely creates a psychological buffer or protective cloak against immediate social judgment. It reduces the felt salience of evaluation (Alqarni, 2021; Yaniafari & Rihardini, 2022). Recent research by Cheng and Sun (2025) provides direct empirical support for this claim, demonstrating that EFL college students experience significantly less cognitive and somatic speaking anxiety in synchronous online learning compared to traditional classroom settings. Therefore, the largest reduction in this dimension is predicted when moving from physical to online contexts.

2.2.2 Communication Apprehension: Moderate Contextual Sensitivity

This dimension encompasses the fear or anxiety associated with real or anticipated communication with others (McCroskey, 1977, 1984). In an L2 context, it includes both social-performance anxiety (the fear of being "on stage," closely related to Fear of Negative Evaluation) and cognition-based anxiety. This cognition-based anxiety arises from the real-time linguistic and cognitive demands of L2 speech production (MacIntyre, 1995; Woodrow, 2006).

This dual nature leads to the hypothesis of moderate contextual sensitivity. The online context may alleviate the social-performance aspect by reducing the sense of being physically "on stage" (Horwitz et al., 1986). However, the core cognitive challenge persists regardless of the communication medium. This challenge includes the pressured retrieval of vocabulary, the online

construction of syntax, and the monitoring of pronunciation and fluency under real-time constraints (MacIntyre & Gardner, 1994). The anxiety stemming from perceived linguistic inadequacy or processing difficulty is largely internally generated. It is less dependent on external audience cues (Gregersen & Horwitz, 2002). Furthermore, digital mediation introduces new anxieties: concerns about audio clarity, "talk-over" confusion due to network latency, or the cognitive load of managing technology alongside the language task (Resnik et al., 2022; Wang et al., 2021). While cognitive and somatic aspects of speaking anxiety decrease online, the behavioral dimension, reflecting actual avoidance of speaking, shows no significant difference between physical and online contexts (Cheng & Sun, 2025). This finding underscores the persistence of the core behavioral component of Communication Apprehension across environments. Thus, while some components of Communication Apprehension may decrease online, others may persist or even be exacerbated. This results in a predicted moderate overall reduction (Li et al., 2020).

2.2.3 Test Anxiety: Relative Contextual Stability

This dimension is defined as a form of performance anxiety stemming from the fear of failure in evaluative situations (Spielberger, 1983; Horwitz et al., 1986). Its primary trigger is the perceived stakes and consequences of the evaluation. It is not the specific medium through which the evaluation is delivered (Aida, 1994; He, 2018).

Relative contextual stability is hypothesized for this dimension based on traditional, Western-centric models (Li et al., 2020; Zeng & Liu, 2012). From this perspective, Test Anxiety is tied to the perceived stakes of assessment—a poor grade, negative feedback, or academic consequence—rather than its communication mode (Çağatay, 2015; Huang & Hwang, 2013). However, this hypothesis requires critical examination in the digitally-mediated and culturally specific context of Chinese EFL learning. First, the online environment introduces novel "technological reliability anxiety" (e.g., platform failure, poor connection), which may offset any affective benefits from reduced social presence (Wang et al., 2021; Resnik et al., 2022). Second, in China's collectivist culture, even formal tests carry a significant "face" (social standing, 面子) concern, potentially making Test Anxiety more context-sensitive than Western frameworks predict. Therefore, the contextual sensitivity of Test Anxiety remains an open empirical question.

3. Methodology

3.1 Participants and Communication Context Experience

Participants were 507 non-English major undergraduates recruited from 43 universities across Shandong Province, China. A key methodological feature was the selection criterion: all participants must have had substantive, recent, and comparable experience with both target communication contexts within the same academic year. Specifically, participants were required to have completed at least one full semester course in traditional, face to face university English classes. They were also required to have completed one full semester course in synchronous online English classes conducted via mainstream platforms (e.g., Tencent Meeting, Zoom, or DingTalk). This ensured valid within subjects comparisons. Each participant served as their own control across contexts, eliminating inter-individual differences as an alternative explanation for contextual effects.

The final sample comprised 208 males (41.0%) and 299 females (59.0%), with a mean age of 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 ensured the findings were not limited to students from specific academic backgrounds.

3.2 Instrument: A Context-Parallel Assessment Tool

A modified English Speaking Anxiety Questionnaire was developed based on the Foreign Language Classroom Anxiety Scale (FLCAS) by Horwitz et al. (1986). The principal innovation was its parallel design for both contexts. Two versions of the questionnaire were created: one referencing the physical classroom context and an identical one referencing the online classroom context. Instructions and every item were identically worded except for the specifying phrase "in physical class" or "in online class."

The questionnaire contained 46 items total per context, measuring the three theoretical dimensions:

Communication Apprehension (16 items): e.g., "In physical/online class, I get nervous when I

speak English"; "In physical/online class, I start to panic when I have to speak without preparation."

Fear of Negative Evaluation (16 items): e.g., "In physical/online class, I am afraid that other students will laugh at me while I am speaking English"; "In physical/online class, I feel self conscious about speaking English in front of other students."

Test Anxiety (14 items): e.g., "In physical/online class, I worry about the consequences of failing my English speaking class"; "In physical/online class, I am not at ease during English speaking tests."

All items employed a four-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree). The forced-choice format without a neutral midpoint was chosen to reduce central tendency bias and promote more decisive responses. This increased the discriminative capacity of the data (Chyung et al., 2017). For interpretation, mean scores were categorized into three anxiety levels following the framework established in comparable Chinese EFL studies (Liu & Jackson, 2008): scores below 2.4 indicate Low Anxiety, scores between 2.4 and 3.2 indicate Moderate Anxiety, and scores above 3.2 indicate High Anxiety. Given the four-point scale with no neutral midpoint, the theoretical neutral value is 2.5. Thus, the threshold of 2.4 represents the lower boundary of the moderate range. This classification system was applied consistently across both physical and online contexts to enable direct comparison.

The instrument was developed and validated following the model proposed by Meerah et al. (2012). This process included expert review for content validity and a pilot study (N=43). Psychometric analysis from the main study data (N=507) demonstrated excellent reliability: Cronbach' s α was 0.96 for the full scale. The sub-dimension α coefficients were 0.94 for Communication Apprehension, 0.93 for Fear of Negative Evaluation, and 0.92 for Test Anxiety. These values indicate "very good" to "excellent" internal consistency according to DeVellis & Thorpe's (2021) criteria.

3.3 Data Collection and Analytical Procedures

Data collection was administered online over a two-week period using the Wenjuanxing platform, a survey tool validated for academic research in China. Participants completed both context versions of the questionnaire in a single session. The context order was randomized to control for potential order effects.

Data were analyzed using SPSS 23.0 with the following sequential procedure:

Descriptive Statistics: Means and standard deviations were calculated for the overall ESA score and for each of the three dimension scores in both the physical and online contexts.

Anxiety Level Categorization: Following the interpretive framework used in comparable Chinese EFL studies (Liu & Jackson, 2008), mean scores were categorized into three levels: < 2.4 = Low Anxiety; 2.4-3.2 = Moderate Anxiety; > 3.2 = High Anxiety.

Paired Samples t-tests: To test for significant mean differences between the physical and online contexts, paired samples t-tests were conducted for (a) the overall ESA score, and (b) each of the three dimension scores. The significance level was set at $\alpha = 0.05$.

Analysis of Differential Sensitivity: The primary indicator for testing the core hypothesis of differential contextual sensitivity was the magnitude of the mean difference (M_diff) for each dimension. By comparing these M_diff values across dimensions, the analysis directly assessed which dimensions showed greater or lesser change across communication contexts.

This analytical approach allowed the study to first confirm the basic contextual effect (Are anxiety levels different online vs. offline?). It then addressed the central research question regarding differential dimensional sensitivity (Are some types of anxiety more affected by the context change than others?).

4. Results

4.1 The Foundational Contextual Effect: Overall Anxiety Reduction Online

The initial analysis confirmed a substantial, statistically significant contextual effect on overall ESA. As presented in Table 1, students' mean ESA score in the physical classroom context was 2.791 (SD = 0.554). This falls into the "Moderate Anxiety" category. In stark contrast, the mean ESA score in the online classroom context was 2.291 (SD = 0.588), categorizing as "Low Anxiety." The mean difference between contexts was 0.500. This represents a substantial shift in affective experience.

Table 1. Overall English Speaking Anxiety by Communication Context (N=507)

Communication Context	Mean (M)	Standard Deviation (SD)	Anxiety Level	Contextual Mean Difference
Physical Classroom	2.791	0.554	Moderate	0.500
Online Classroom	2.291	0.588	Low	—

A paired samples t-test rendered this difference unequivocally significant: $t(506) = 17.287$, $p < .001$. This confirms that the communication context, the medium through which instructional interaction occurs, exerts a powerful influence on learners' aggregate affective state. The digitally mediated environment is associated with significantly lower overall speaking anxiety among this population of Chinese EFL undergraduates.

4.2 Revealing Differential Sensitivity: A Dimensional Analysis

While the overall reduction is noteworthy, the dimensional analysis reveals a more nuanced and theoretically informative pattern. Table 2 presents the means, levels, and statistical comparisons for each of the three ESA dimensions across the two contexts.

Table 2. Dimensional Analysis of ESA Across Physical and Online Communication Contexts

Anxiety Dimension	Physical Context (Mean Level)	Online Context (Mean Level)	Contextual Mean Difference	t-value	p-value	Contextual Sensitivity Rank
Fear of Negative Evaluation	2.793 (Mod.)	2.214 (Low)	0.579	14.92	<.001***	1 (Highest)
Test Anxiety	2.827 (Mod.)	2.254 (Low)	0.573	14.743	<.001***	2
Communication Apprehension	2.761 (Mod.)	2.401 (Mod.)	0.360	11.018	<.001***	3 (Lowest)

The results demonstrate several critical findings:

First, all three dimensions showed statistically significant reductions in the online context (all p-values < .001). However, the magnitude of change, indexed by the mean difference (M_diff), varied dramatically across dimensions.

Second, Fear of Negative Evaluation and Test Anxiety both transitioned from the moderate anxiety range in the physical context to the low anxiety range in the online context. This represents a categorical shift in affective experience for these dimensions. In contrast, Communication Apprehension remained firmly within the moderate anxiety range in both contexts. Despite a statistically significant reduction, its level did not cross the threshold from moderate to low. This indicates a more persistent, context-resistant form of anxiety.

Third, the data robustly support the hypothesized gradient of contextual sensitivity. Fear of Negative Evaluation was the most context-sensitive dimension (M_diff = 0.579). This pattern is evident in the item-level data: "I am embarrassed to volunteer answers in front of other students" showed one of the largest contextual drops (physical M=2.842 vs. online M=2.185). Concerns about teacher correction showed more moderate reductions.

Fourth, Test Anxiety also showed high sensitivity (M_diff = 0.573). Its mean score dropped from 2.827 (moderate) in the physical context to 2.254 (low) online. This reduction is nearly identical in magnitude to that of Fear of Negative Evaluation.

4.3 Illustrative Item-Level Insights

Examining responses to individual items provides richer insight into the mechanisms behind the dimensional differences. Notable patterns include:

Social Spotlight vs. Digital Buffer: The Fear of Negative Evaluation item "I am embarrassed to volunteer answers in front of other students" showed one of the largest contextual drops. In the physical context, raising a hand and speaking into a silent room makes the student acutely

visible. In the online context, using a raise hand button or simply unmuting feels less performative and conspicuous. This demonstrates how the digital interface buffers against the spotlight effect (Gilovich et al., 2000).

The Persistent Cognitive Core: Despite the overall reduction, the single highest anxiety item in the online context was "I start to panic when I have to speak without preparation" (Communication Apprehension, M=2.550). This underscores that the core cognitive pressure of spontaneous speech remains a potent source of anxiety. This pressure—the rapid mental formulation of ideas in a linguistically imperfect system, persists regardless of whether the audience is physically present or digitally mediated.

Attenuated Social Comparison: Items directly related to peer comparison, such as "I'm worried that other students in class speak better than I do" (Fear of Negative Evaluation), showed pronounced decreases online. This supports the notion that digital mediation reduces the immediacy and salience of upward social comparison. By placing peers in separate visual frames and often depersonalizing them into icons or names, digital platforms reduce a key trigger for evaluative anxiety.

Shifting Anxiety Foci: In the physical context, the highest anxiety item overall was related to misunderstanding the teacher ("It frightens me when I don't understand what the teacher is saying in English", FNE, M=2.953). In the online context, while this item's anxiety decreased, concerns about being put on the spot without preparation (CA) became relatively more prominent. This suggests not just a reduction in anxiety online, but a potential reconfiguration of the anxiety profile. Social-evaluative concerns recede, while cognitive-linguistic challenges come to the fore.

5. Discussion

5.1 Communication Context as an Affective Architect: Validating the Differential Sensitivity Framework

The results provide robust empirical validation for the proposed theoretical framework. They establish the communication context, defined by its specific media characteristics, as a powerful architect of learner affect. The significant overall reduction in ESA online aligns with a growing body of literature. Online environments can create a less threatening space for performative tasks like language production (Chen & Zhang, 2022). These environments feature leaner cue systems and lower social presence. However, the true theoretical contribution of this study lies in the differential sensitivity pattern revealed by the dimensional analysis. This pattern moves beyond a generic "online reduces anxiety" conclusion to offer more nuanced insights into the nature of language learning anxieties themselves.

The finding that Fear of Negative Evaluation (FNE) is the most context-sensitive dimension offers strong confirmatory evidence for its conceptualization as a primarily social-evaluative construct. It reduces dramatically online because the medium makes the evaluating audience less salient, less immediate, and less tangible. This aligns directly with the "online disinhibition effect" (Suler, 2004), which posits that the reduced social cues and physical distance in digitally-mediated environments lower psychological barriers to self-expression by diminishing the perceived presence of an evaluating audience. This effect is further supported by core tenets of communication theory regarding social presence and cue multiplicity (Short et al., 1976; Daft & Lengel, 1986). The physical classroom makes the audience vividly present; the digital classroom, particularly when cameras are optional, renders that audience more abstract and distant. This interpretation aligns with Bárkányi and Brash's (2025) recent finding that online learners' fear of negative evaluation manifests differently than in face-to-face contexts. Technology serves as both an anxiety-inducing and anxiety-buffering mechanism. Their study revealed that students employ more nuanced avoidance strategies online, ranging from complete withdrawal to full engagement via text chat, a finding that complements the observation of Communication Apprehension's relative stability across contexts.

The near-equivalent reduction of Test Anxiety (TA) presents an intriguing finding that necessitates a revision of the original hypothesis. The initial prediction of TA's contextual stability was derived predominantly from Western theoretical frameworks that conceptualize assessment anxiety as consequence-focused—tied to fears of poor grades or academic failure (Aida, 1994; Çağatay, 2015; Horwitz et al., 1986). However, the empirical pattern compels recognition that in the Chinese educational context, TA is not purely consequence-focused; it is substantially infused with social-evaluative concerns rooted in collectivist culture and 'face'

dynamics (Wen & Clément, 2003; Liu, 2006). An oral test in a physical classroom is not merely an academic evaluation—it is a public performance where errors risk social embarrassment and loss of face before peers and the instructor. When the online context attenuates this social-evaluative component (through reduced audience salience, optional camera use, and physical distance), TA decreases alongside Fear of Negative Evaluation, yielding the near-equivalent reduction observed. Thus, rather than being context-stable, TA in the Chinese EFL context exhibits high contextual sensitivity—a finding that revises rather than merely complicates the original hypothesis.

This interpretation is supported by item-level response patterns: consequence-focused concerns dominated in the physical context, while preparation-related pressure became relatively more prominent online. Nevertheless, TA remained the highest among the three dimensions in the online context, indicating that the fundamental fear of academic consequences persists, potentially compounded by technology-related reliability concerns during digital assessments (Wang et al., 2021).

This heightened sensitivity can be further understood through the cultural lens of "face" (面子) in the Chinese educational context. In collectivist Confucian-heritage cultures, public performance is closely tied to social standing and the avoidance of public embarrassment (Goffman, 1955; Yum, 1988; Hwang, 2012). Research has shown that individuals from interdependent self-construal cultures—where the self is defined in relation to others—exhibit higher susceptibility to embarrassment than those from independent self-construal cultures (Singelis & Sharkey, 1995). The physical classroom, with its high social presence and immediate audience feedback, amplifies face-threatening possibilities. An incorrect answer or accented pronunciation risks not merely a low grade but public loss of face (Wen & Clément, 2003; Liu, 2006). The online environment attenuates these face threats through features such as optional camera use and reduced non-verbal cue visibility. This digital face buffer may be especially potent and liberating for Chinese EFL learners (Chen & Chew, 2021; Cheng & Sun, 2025). Recent qualitative work on Chinese learners' online experiences further supports this interpretation (Li et al., 2023).

Conversely, Communication Apprehension (CA) shows a smaller yet statistically significant reduction across contexts, a pattern that is equally theoretically significant. Its smaller reduction indicates that a substantial, core component of this anxiety is rooted in intra-individual cognitive and linguistic processes rather than in the external social context (MacIntyre, 1995; MacIntyre & Gardner, 1994). The anxiety linked to accessing lexical items, assembling grammatical structures, monitoring pronunciation, and managing fluency under real-time pressure appears to be a more stable trait (Woodrow, 2006; Gregersen & Horwitz, 2002). It is less malleable by simply changing the communication channel. This finding corroborates the view that ability-based or cognition-generated anxiety represents a more enduring challenge in language acquisition (MacIntyre, 1995; Trebits, 2025; Alkamel, 2025). It also highlights an important caveat for online language teaching: while the digital space may lower social barriers (Chen & Zhang, 2022; Resnik et al., 2022), it does not automatically lower the cognitive barriers to speaking.

5.2 Strategic Implications for Communication-Optimized Language Pedagogy

These findings carry implications for the design and implementation of blended language courses. They argue for moving beyond the logistical question of "what to put online vs. offline" toward a more principled, dimension-aware, context-strategic pedagogical approach. Instructional decisions should be informed by an understanding of which anxieties a given activity primarily engages and which communication context is best suited to manage that specific affective load.

Leveraging the Digital Affective Buffer for Social-Evaluative Goals: Instructional activities whose primary aim is to build initial confidence, encourage participation from reticent learners, or develop fluency through low-stakes practice should be strategically placed in the online context. This placement deliberately leverages the online environment's inherent capacity to dampen Fear of Negative Evaluation. Techniques such as asynchronous video responses, text-based or voice-message discussions in small breakout rooms, or the use of anonymous polling and response tools (Kohnke & Moorhouse, 2022) can maximize this affective benefit. These methods create a communicative space that allows learners to focus more on message formation and less on audience judgment. This is particularly important in the early stages of a

course or when introducing new, challenging topics.

Preserving the Physical Context for Complex Communication Competence: The development of higher-order communicative skills requires the rich, high-context environment of the physical classroom. Skills such as negotiating meaning in real-time group work, interpreting nonverbal cues, and managing the cognitive-affective load of spontaneous interaction are best cultivated face-to-face. The data suggest that the anxiety associated with these complex tasks (largely falling under Communication Apprehension) is less alleviated online anyway. Therefore, the physical classroom's unique affordances for embodied, multimodal practice should be preserved and prioritized for these advanced objectives. This argues for a flipped use of contexts: using online spaces for preparation, practice, and confidence-building, and reserving face-to-face time for the most interactionally complex and socially rich communicative activities.

Decoupling Assessment Anxiety from Delivery Mode through Design: To genuinely address Test Anxiety, the focus must shift from the delivery mode to the fundamental design of assessment itself. Strategies proven to reduce the threat value of evaluation should be employed in both contexts. These include implementing more frequent, low-stakes formative assessments (Black & Wiliam, 1998); using portfolio assessments that emphasize growth; providing transparent, criteria-based rubrics well in advance (Panadero & Jonsson, 2013); and conducting practice or mock assessments in both formats to build familiarity. For high-stakes summative assessments, ensuring clarity of task requirements, providing choice where possible, and guaranteeing technological robustness in the online context are essential (Yang, 2024).

5.3 Theoretical Contributions, Limitations, and Future Directions

This study makes a distinct contribution by bridging applied linguistics with communication and media studies. It demonstrates that established theories of media richness and social presence can effectively predict and explain nuanced patterns of language learner emotion. It validates a model of affective constructs as having differential sensitivity to environmental parameters. This challenges treatments of anxiety as a monolithic entity. The findings suggest that the common finding of lower anxiety online is largely driven by the reduction of one specific component: Fear of Negative Evaluation (FNE).

Several methodological limitations must be acknowledged. These reflect practical constraints and design choices common in survey-based EFL research:

First, the cross-sectional design captures a snapshot. It cannot trace how individual learners' dimensional anxiety profiles might adapt over time with sustained exposure to a blended environment. Does the online buffer effect for FNE persist, or do learners adapt?

Second, the study relied on self-report measures. While reliable, these cannot capture the real-time, moment-to-moment fluctuations of anxiety during actual speaking tasks.

Third, the sample, while sizable, was drawn from one province in China. The findings may be influenced by the specific cultural and educational context of Chinese universities.

These limitations do not undermine the core findings but instead point to valuable directions for future research.

Longitudinal & Dynamic Studies: Employing longitudinal designs or experience-sampling methods to track the co-adaptation of anxiety dimensions and context over a semester.

Mixed-Methods Integration: Combining quantitative surveys with qualitative methods (e.g., stimulated recall interviews, classroom observation) to unpack the lived experience of dimensional anxiety in different contexts.

Expanding the Nomological Network: Investigating how different anxiety dimensions mediate or interact with other key variables like Willingness to Communicate (WTC), self-efficacy, and self-regulation strategies. Such investigation could reveal their impact on ultimate communicative performance.

Platform-Specific Research: From a communication studies perspective, research on how specific platform features (e.g., virtual backgrounds, reaction emojis, immersive view vs. gallery view, the use of avatars) differentially modulate the three anxiety dimensions could provide actionable insights for educational technology design.

6. Conclusion

This investigation reveals that the communication context—the physical, co-

present classroom versus the digitally-mediated, online classroom—does not simply change the volume of anxiety; it fundamentally alters its composition. The online environment acts as a selective filter. It is particularly effective in muting social-evaluative anxiety (Fear of Negative Evaluation). However, it offers far less attenuation for cognition-based anxiety (Communication Apprehension) rooted in the linguistic act itself. Test Anxiety, tied to the perceived stakes of evaluation, shows significant reduction, though its high contextual sensitivity in the Chinese context revises initial expectations.

These findings deliver a clear message to educators and instructional designers. In a world moving toward blended learning, strategic context-design is essential. This involves moving beyond the binary logistics of modality choice. It requires making principled decisions based on the affective profile of learning objectives. By consciously matching activities that trigger social-evaluative fear with the buffering digital context, and reserving the rich, high-context physical environment for practicing the complex cognitive and interactive demands of real communication, educators can create more supportive and effective language learning journeys. Such an approach leverages understanding of both language and communication to better scaffold learners' path from anxious silence to confident, competent, and context-adaptive expression.

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