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Factors Influencing English Teachers' Use of Generative Ai for Teaching Speaking Activities at a Language Center in Ca Mau

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ABSTRACT: Despite the potential of Generative AI (GenAI) to reduce Foreign Language Anxiety (FLA) in speaking instruction, its implementation in resource-constrained settings like a language center in Ca Mau province, Vietnam, remains underexplored. This study investigates the paradox of "digital native" instructors who possess high digital literacy but face infrastructural and pedagogical barriers in the Mekong Delta region of Vietnam. Employing an explanatory sequential mixed-methods design, quantitative data were collected from 58 EFL teachers via surveys, followed by semi-structured interviews. Utilizing the SAMR model as a diagnostic framework, the findings revealed the existence of a Substitution Plateau. Although teachers frequently used GenAI for administrative tasks (Substitution level, M = 3.91), its application for transformative, real-time voice interactions was notably limited (Redefinition level, M = 1.96). Stepwise multiple regression and thematic analyses demonstrated that infrastructural barriers (beta = -.52) and ethical concerns regarding "synthetic fluency" significantly inhibited advanced GenAI adoption, outweighing the positive influence of teachers' TPACK competence. The study concludes that in peripheral educational settings, the primary limiting factor is not technological illiteracy, but rather a contextually driven "safety-first" pedagogical strategy. These findings challenge the universality of tech-integration models and provide localized implications for AI adoption in the Global South.

KEYWORDS: Generative AI, Substitution Plateau, EFL Speaking, Resource-Constrained Contexts, SAMR Model, TPACK

1. INTRODUCTION

1.1. Context

Historically CALL has had difficulty helping students develop productive skills — especially speaking— because traditional instructivist tools — ranging from early desktop software to current mobile apps like Duolingo — have provided learners with little opportunity to negotiate meaning in a second language learning process (Long, 1996). Recently, however, there has been a major paradigm shift in this area due to the advent of new types of computer-assisted technology that are using generative artificial intelligence (Gen AI) and large language models (LLM) such as Chat GPT and Gemini. This type of technology is different from earlier forms of CALL technology; it provides learners with intelligent interlocutors which enable the delivery of real-time contextually relevant feedback and, importantly, it provides learners with a psychological “safety net.” Because Gen AI enables learners to simulate conversations in an environment where there is no risk of negative social evaluation — learners are less likely to feel anxious about producing oral output and therefore can focus on developing their oral skills (Kohnke et al., 2023).

Although GenAI is gaining popularity globally, the GenAI adoption rate is not consistent across all areas of the world. The majority of existing GenAI research is based on "The Global North" or elite metropolitan education hubs. In addition, these hubs have both fast internet connections available at all times and also provide a high-speed digital infrastructure. Therefore, there are very few studies researching GenAI in resource- constrained settings such as semi-rural areas in countries like Vietnam; specifically, the Mekong Delta region where the term "digital divide" means the reliability of connection to the internet and not just access to the hardware (Tran & Nguyen, 2020). A further paradox has been identified in this context. A significant number of the teaching workforce are now "digital natives," young teachers who were born and raised using digital technologies, therefore they are innately familiar with the use of technology in their daily life. However, preliminary observations indicate that their use of GenAI in their classrooms is still tentative. This indicates that there exists a significant gap between the use of GenAI in their personal lives and the implementation of GenAI in the classroom (the "implementation gap"). However, this gap is not due to technological incompetence (technological knowledge - TK), because if they can use GenAI in their personal lives, then why do they appear to

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hesitate to use GenAI in their professional practice? The current frameworks used to explain how GenAI is used in education, typically confuse the ability to use digital technology (digital literacy) with innovative pedagogy, without taking into consideration the safety-first strategies that teachers develop when faced with uncertainty in regards to the infrastructures available to them and the ethical implications of students achieving synthetic fluencies.

1.2. Research Questions

The present study used a sequential explanatory mixed-methods approach to examine how GenAI is adopted as an aid for teaching English speaking skills at a provincial representative language school in Ca Mau province. As opposed to relying on teachers' subjective opinions about their interest in using GenAI, this study aims to develop empirical measures to gauge the degree of GenAI's integration into the teaching process and identify the factors that are driving or hindering its use. The study will address two major research questions.

1. To what extent do EFL teachers integrate Generative AI into speaking instruction based on the SAMR model?
2. Which internal and external factors significantly predict EFL teachers' adoption of Generative AI?

This study added to current literature on the use of GenAI in education, by introducing the term “the Substitution Plateau,” a phenomenon where GenAI adoption stops at the most minimal level of pedagogical change due to unique environment related barriers.

2. LITERATURE REVIEW

2.1. Generative AI in English Speaking Instruction

2.1.1. The Paradigm Shift from "Instructivist" CALL to "Constructivist" GenAI

Computer-Assisted Language Learning (CALL) was heavily influenced by behaviorist principles. Warschauer (1996) describes traditional CALL as "drill-and-kill" approaches that are primarily used as a repository of information. Desktop programs and web-based programs, including modern mobile apps, like Duolingo, have largely limited their use to the facilitation of receptive skills (listening and reading) and discrete grammatical points. As a result, these Web 1.0/2.0 programs have largely failed to provide an adequate learning environment for productive speaking skills. One reason for this limitation is that the design of most of these programs limits the potential for the "negotiation of meaning," a fundamental element of Long's (1996) Interaction Hypothesis, which states that language acquisition takes place when there is negotiation to resolve communication breakdowns. The traditional CALL interface does not allow for meaningful interaction between the learner and the computer, as it is a predetermined linear process. The learner enters the input based upon the input provided by the computer; the computer evaluates the response based upon a pre-programmed set of rules, and then provides feedback based upon those same pre-determined rules. This type of rigid interface eliminates the opportunities for students to participate in turn taking, to develop pragmatic strategies, or to produce new ideas and content in conversation with a machine.

Generative AI (GenAI) represents a significant shift away from the previous generation of CALL programs. Unlike the previous generation of chatbots (such as ELIZA), which relied on a series of if-then statements based on decision trees, large language models (LLMs) such as ChatGPT and Gemini rely on a series of probabilities to generate responses. These changes represent a paradigmatic shift from "Instructivist CALL" (where the computer provides instruction to the student) to "Social Constructivist GenAI" (where the computer is involved in the co-construction of meaning with the student). Recently, researchers have begun to describe LLMs as "Intelligent Interlocutors" (Baidoo-Anu & Ansah, 2023); the first time in history that learners can engage in extended conversations with a computer. Table 1 demonstrates the key differences in pedagogy between these two generations of technologies. It also illustrates the transition from "reproduction" to "production."

Table 1. Comparative Analysis of Pedagogical Affordances: Traditional CALL vs. Generative AI

Feature	Traditional CALL (Web 1.0/2.0) (Instructivist Paradigm)	Generative AI (Web 3.0/LLMs) (Social-Constructivist Paradigm)
Interaction Mode	**Static / Pre-scripted** Linear interaction constrained by finite decision trees and pre-recorded responses.	**Dynamic / Probabilistic** Open-ended, non-linear interaction generated in real-time based on context and user input.

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Feedback Mechanism	**Corrective / Binary** Focuses on formal accuracy (Right/Wrong) against a fixed database.	**Adaptive / Scaffolding** Provides nuanced, explanatory feedback that negotiates meaning and suggests pragmatic alternatives.
Locus of Control	**Computer-Driven** The system dictates the pace and path (Drill and Practice).	**Learner-Driven** The learner co-constructs the dialogue trajectory with the AI (Intelligent Interlocutor).
Speaking Task	**Reproduction:** Gap-fills, reading aloud, or rote memorization of dialogues.	**Production & Negotiation:** Role-plays, debates, and complex tasks requiring pragmatic competence and adaptability.
Primary Limitation	**Lack of Meaning Negotiation:** Inability to repair communication breakdowns or understand context.	**Hallucination & Synthetic Fluency:** Risk of factual inaccuracies and the generation of culturally sterilized or overly polished language.

***(Source**: Synthesized by the author based on Warschauer, 1996; Baidoo-Anu & Ansah, 2023)*

2.1.2. Affordances

While there are certainly language barriers in developing EFL speaking proficiency, the main obstacles to achieving it are typically psychological and not strictly related to language itself. Horwitz et al.'s (1986) Foreign Language Classroom Anxiety (FLCA) framework and Krashen's (1982) Affective Filter Hypothesis continue to serve as two of the most influential models to understand FLCA.

In many Confucian heritage countries such as Vietnam, where maintaining a positive "public face" is a critical aspect of social hierarchy, the potential for negative peer feedback can create a very high-stakes environment for students when they speak orally. GenAI has the potential to intervene in this process by creating a "judgement-free zone".

Empirically (Kohnke et al., 2023; Nguyen, 2024; Zhang & Zhao, 2023), research suggests that engaging with an AI agent reduces the affective filter more so than engaging with another person. The AI serves as a "pseudo-social" partner providing a "safe space" or "sand box" for learners to practice communicating with less concern about being judged. This affords students who have anxiety with speaking the opportunity to engage in WTC (Willingness to Communicate) behaviors, including taking risks, making mistakes and self-correcting without having the social-cognitive burden of being embarrassed.

Barrot (2023) describes this as a way to separate "practice" from "performance", enabling anxiety-prone students to develop procedural fluency privately prior to entering the public domain of the classroom to perform their communication skills.

2.1.3. Potential Challenges

However, the pedagogically positive effects of integrating GenAI into education come with significant risks. As we have discussed, a growing body of literature has described the risks associated with “Technological Solutionism.” Although GenAI can mimic conversations with students in order to provide them with feedback, this has created a unique risk associated with “Synthetic Fluency” – the tendency for students to appear fluent in a language through using GenAI to develop scripts or answers to questions they would otherwise be unable to answer themselves. This concern is also related to what some researchers refer to as “Cognitive Offloading,” as when GenAI generates the student’s script or answers, the student does not engage in the productive struggle that is an essential part of language acquisition.

Teachers are increasingly concerned that students who use GenAI will transition from being language users to becoming prompt writers, and there is evidence to support these concerns. The problem of “Hallucinations,” (i.e., GenAI developing reasonable-sounding information based on either factual inaccuracies or cultural misinformation), requires students to possess a high degree of critical digital literacy skills, many novice language learners do not have the ability to critically evaluate the accuracy and relevance of the information generated by the GenAI system. The ethical and pedagogical ambiguity surrounding these issues has been so significant that many educators have been hesitant to adopt GenAI technology into their classrooms in spite of the potential benefits of doing so.

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2.2. A Diagnostic Framework for GenAI Integration with the SAMR Model

The "extent" of Gen AI use can be measured in an objective manner by using the SAMR model developed by Puentedura (2006). The researchers will apply this model as a qualitative and quantitative tool for distinguishing between "digitizing on the surface" (Enhancement) and "transformative teaching" (Transformation). This model has been applied to EFL speaking instruction (as seen in Fig. 1) and is used as a diagnostic tool to assess how Gen AI may support the teaching of English through various levels of integration with instructional activities.

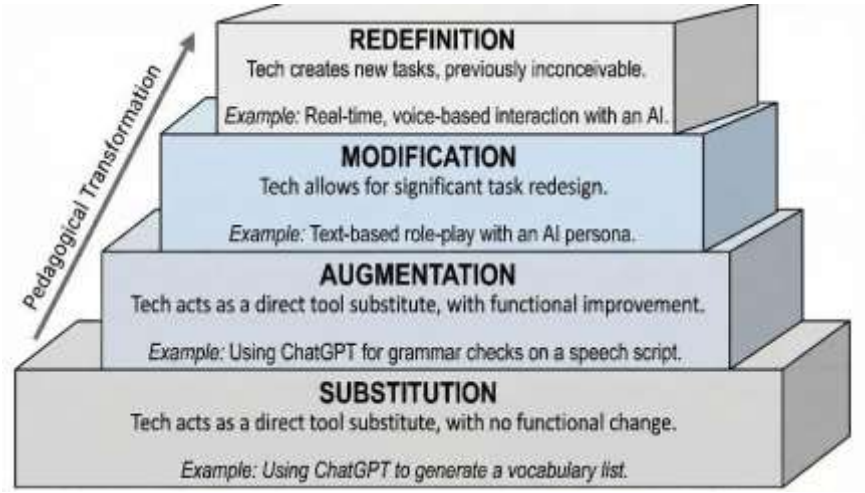

Figure 1. ***The SAMR Model applied to Generative AI in EFL Speaking (Adapted from Puentedura, 2006).***

2.2.1. Digitizing Traditional Pedagogy in the Enhancement Phase

The initial two levels are an example of "instrumental rationality," in which GenAI is used mainly to expedite current pedagogical processes without changing the essential processes themselves.

- **Substitution (No Functional Change)**
  GenAI is a tool that will directly replace another tool. A speaking instructor uses ChatGPT to create a list of vocabulary related to the topic they have been assigned to speak about. Although the delivery mechanism changed from a book to a prompt, the cognitive task for the student is still to memorize.
- **Augmentation (Functional Improvement)**
  GenAI improves upon a function. For example, students send their draft speech work to Grammarly or ChatGPT so they can receive instant syntactic corrections. The "value" is that it is ubiquitous, however the interaction still does not include the immediacy or pressure of real time oral communication because it is asynchronous and text-based.

2.2.2. The Pedagogical Leap in the Transformation Phase

The top two levels represent a major transition from 'the teaching of language' to 'language use', using real-world contexts.

- **Modification (Task Redesign)**
  GenAI provides opportunity for a large-scale task redesign. Unlike static dialogues, students can use GenAI as a conversational partner in text-based role-play activities (e.g., "Play the part of a difficult customer"), forcing the student to create meaning on the fly and respond to unpredictable inputs.
- **Redefinition (Previously Inconceivable Tasks)**
  This is the ultimate example of this type of integration by using Real-Time Voice mode (e.g., Gemini Live), where students are able to conduct live, oral conversations with an AI that can mimic human prosody, hesitation and interruption, creating an immersive communicative experience that replicates the pressures of the actual world (Immersion), but with no social consequences. Prior to GenAI, such experiences could only be created with a one-to-one native speaker.

2.3. Drivers and Inhibitors

In order to address internal and external factors that drive or inhibit of the decision-making processes related to GenAI

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adoption, this study identifies that GenAI adoption is the result of a deliberative negotiation between internal drivers (teacher competence) and external inhibitors (environmental constraints).

2.3.1. Re-imagining TPACK for the AI Era as Internal Drivers

The Technological Pedagogical Content Knowledge (TPACK) Framework, developed by Mishra and Koehler (2006) will serve as the major theoretical framework for evaluating teacher competencies in this study. In addition to a central focus on pedagogy (PK) and content (CK) as shown in FIGURE 2, effective technology integration depends on the intersecting knowledge of the three primary knowledge domains

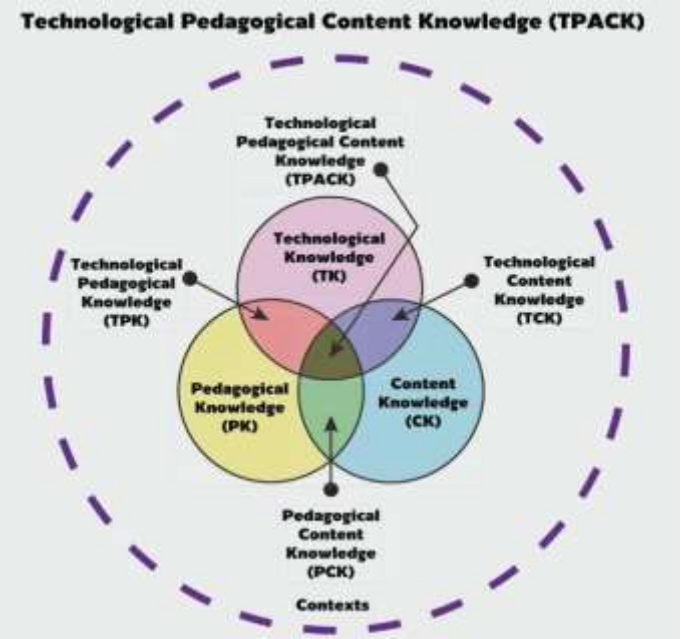

Figure 2. The TPACK Framework and its Knowledge Components (Mishra & Koehler, 2006).

In the particular context of Generative AI (2024 onwards), the definition of Technological Knowledge (TK) has changed. As such, TK is now longer just about digital literacy; it is also defined as "AI Literacy" and "Prompt Engineering." Prompt engineering includes the technical skills of navigating LLM interfaces and iteratively generating output from these systems. The hypothesis of the "Competence-Performance Gap" in this study posits that while many teachers have high levels of TK because they are Digital Natives; there exists a gap between their TPK (Technological Pedagogical Knowledge) and ability to modify/transform how they teach.

2.3.2. The "Reliability Gap" and Ethical Hesitancy as External Inhibitors

Adoption of TPACK-based GenAI is still inhibited by external factors - especially those related to resource-poor environments - even when internal factors (GenAI) are well established.

- Infrastructural Instability: The infrastructural instability of high-level GenAI tasks (redefinition) require low latency networking for reliability; however, as we have observed in the Mekong Delta, the bandwidth fluctuations create a “Reliability Gap” which creates uncertainty and limits the willingness of teachers to attempt to use high bandwidth applications. It has nothing to do with the teacher's ability to use the technology; it is about the teacher's unwillingness to take on the risk associated with the possibility of technical failures that will negatively impact their academic integrity.
- Ethical Hesitancy: Perhaps the most significant inhibitor of GenAI adoption is the fear of "Cognitive Offloading," and subsequently the threat to "Academic Integrity." As such, teachers are hesitant to allow students to use GenAI tools that could potentially lead to "Prohibitive Pedagogy" - that is, restrict the use of AI tools in lieu of scaffolding them to encourage student learning and independence.

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2.3.3. Conceptual Framework of the Study

The conceptual framework for the present study and the specific environmental factors are illustrated together in Figure 3, which depicts the central hypothesis; that the integration process represents a "tug of war," where the positive force of TPACK is frequently counteracted by the negative force of environmental barriers, resulting in teacher's being "trapped" at the low end of the SAMR model.

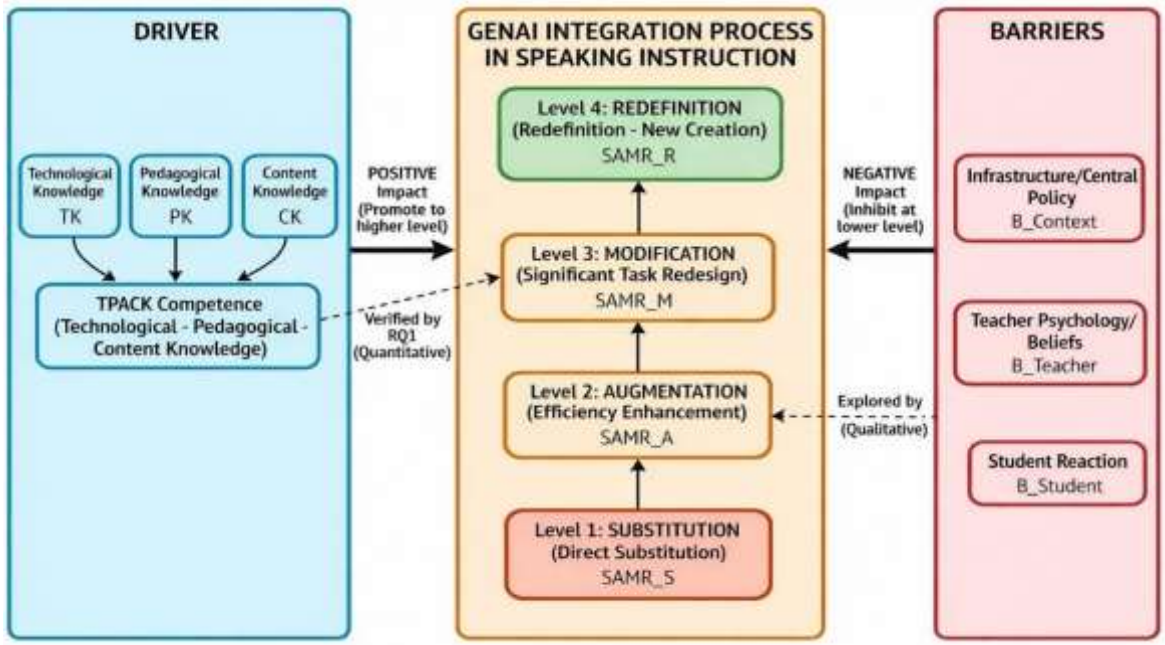

Figure 3. The Conceptual Framework: Drivers (TPACK) vs. Barriers (Contextual & Psychological) in GenAI Adoption Process.

3. METHODOLOGY

3.1. Research Design

To adequately examine the "Implementation Gap" between the competence of educators in teaching with technology and their implementation of AI tools, the research was completed using an explanatory sequential mixed methods design (Creswell, 2014) as the methodological structure. The reason for choosing a two-stage approach is that it was expected to allow for overcoming the limitations of a single-methodological approach in a highly constrained environment.

The rationale behind the two stages of the methodology follows a particular logic: To start with, an institutional census-based survey was used to gather baseline data about the institution regarding the levels of technological pedagogical content knowledge (TPACK), the levels of SAMR (Substitution Augmentation Modification Redefinition) integration, and the perceived barriers to integrating the use of AI tools by faculty members. This stage was focused on establishing a broad view of how the surveyed educators utilized AI (RQ1) in terms of statistical correlation and trend. Following the survey data analysis, in-depth, semi-structured interviews were conducted to provide detail or 'meat' to the bones of the statistical data collected during Stage 1. Stage 2 allowed for a detailed look at the 'gaps' in the data, and provided insight into the lived experience of the educators in finding balance between what they believed should be done and the ability to do so due to institutional constraints (RQ2).

3.2. Context and Participants

3.2.1. Research Context: The "Resource-Constrained" Prototype

The research takes place at an English Language Center located in the Ca Mau Province of Vietnam; this location has "ecological validity" due to its ability to provide insight into EFL students based on "a Global South perspective." Additionally, this center does not possess the same luxury as the elite international schools in major metropolitan areas with access to unlimited

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bandwidth or state-of-the-art Artificial Intelligence ("AI") technology, instead they operate under typical constraints including, but not limited to, unreliable Internet ("Reliability Gap"), budgetary constraints to invest in education technology ("Ed Tech"). As a result, this environment will be a model representation of the numerous barriers to AI implementation in the Mekong Delta Region.

3.2.2. Quantitative Sample (N=58)

Because of the interest in focusing on a single institution so as to be able to isolate environmental factors, a Census Sampling Strategy was used and all EFL Teachers at the Language Center were surveyed. In total, 58 valid surveys were returned (Response Rate = 96.6%). Demographic information about the sample (See Table 2) shows that the cohort is comprised of "Digital Natives," but also that they are pedagogically inexperienced:

- Age: 82.8% of the respondents are between the ages of 20-30.
- Experience: The majority of the sample (65.5%) are "Novice" teachers who have less than three years of teaching experience.
- Implication: This homogenous sample makes it an ideal subject to test the hypothesis: Will youth-based digital fluency automatically equate to pedagogical expertise?

3.2.3. Qualitative Sample (N=6)

To prevent selection bias, purposeful sampling using a "Maximum Variation" strategy was used to select the interviewees for the follow-up interviews. Six participants (designated as P1-P6) were chosen for the interviews based on their survey responses so that the six would provide a complete range of the possible types of adopters:

- **The Tech-Evangelist (n=2):** Both reported a high rate of adoption (Modification/Redefinition).
- **The Pragmatist (n=2):** Both reported a selective approach to adoption (Substitution/Augmentation).
- **The Skeptic (n=2):** Both reported a low level of adoption/Resistance because of ethical issues.

By identifying these distinct categories of adopters, the researchers can ensure that the qualitative data capture the entire range of behaviors exhibited during the decision-making process — from embracing AI enthusiastically to rejecting it on principle.

3.3. Research Instruments

To ensure construct validity, the data collection instruments were adapted from established frameworks and subjected to rigorous pilot testing.

3.3.1. The Quantitative Questionnaire

The main tool used to measure the defined variables was an evaluation of the conceptual model via a thirty-two- item questionnaire that assessed the extent of integration of Generative AI in English as a foreign language (EFL) speaking. The survey was conducted online by using Google Forms link sent to the purposively selected participants. To enhance content validity, the questionnaires were developed by adapting and modifying existing, validated scales (Mishra & Koehler, 2006; Puentedura, 2006) to assess the generative AI in EFL speaking environment. The survey included three separate sections:

- **Section A (Demographic Profile):** Provided information about the teacher's age, gender, years of teaching experience, and whether they own a digital device to determine if the respondent group qualified as "digital natives".
- **Section B (Extent of Integration):** Assessed the level of frequency of GenAI use across the four levels of the SAMR Model (Substitution, Augmentation, Modification, Redefinition). Section B contained 12 items and respondents rated their responses using a 5-point Likert Scale from Never (1) to Always (5).
- **Section C (Determinants of Adoption):** Contained 20 items to examine the degree of tension between the internal drivers (perceived usefulness, TPACK proficiency) and external inhibitors (infrastructural instability, ethical issues related to plagiarism and synthetic fluency) of the GenAI adoption.

Reliability Check:

Before conducting the larger study, a pilot test was completed with a subset of teachers (n = 15) to assess the internal consistency of the research instrument. The Cronbach's Alpha coefficients for each subscale were greater than .70 (recommended threshold; Nunnally, 1978) as shown in Table 2, ranging from .79 to .88. Therefore, the research instrument has high reliability in the context of this study.

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Table 2. Reliability Statistics and Sources of the Research Instrument (N=15)

Construct / Variable	No. of Items	Cronbach's Alpha (α)	Source (Adapted from)
Technological Knowledge (TK)	5	.84	Mishra & Koehler (2006)
Pedagogical Knowledge (PK)	4	.82	Mishra & Koehler (2006)
GenAI Usage (SAMR Levels)	8	.79	Puentedura (2006)
Infrastructural Barriers	5	.88	Self-developed
Ethical Concerns	4	.87	Self-developed
Total Instrument	**32**	**.86**	

(Cronbach's alpha > .70 indicates acceptable reliability; Cronbach's alpha > .80 indicates good reliability)

3.3.2. The Semi-Structured Interview Guide (Qualitative)

In order to investigate the underlying reasons for the statistically significant patterns from Phase 1, a semi-structured interview tool was constructed. While survey instruments are structured to elicit responses in a very particular way, semi-structured tools allow respondents to provide narrative descriptions of their lived experiences and decisions they make while teaching. To elicit these narratives, the interview protocol was based upon Flanagan's (1954) Critical Incident Technique (CIT), which requires respondents to recount specific incidents related to successful or unsuccessful use of technology. The CIT allows researchers to identify both positive and negative incidents that are important to the respondent and can help explain why a teacher made certain decisions in a particular situation. The guide for the interviews was centered around three thematic areas:

- **The Technical Axis (Probing the "Reliability Gap")** through interview questions, *"Describe an example of when you tried to use GenAI to support a speaking activity, but encountered technical problems. Describe how you managed the classroom chaos resulting from the problem and whether that experience has influenced your future adoption of GenAI."*
- **The Ethical Axis (Probing "Synthetic Fluency")** through the question, asking *"How do you differentiate between a student who uses AI as a learning aid (scaffold) and one who uses AI to circumvent cognitive work (plagiarize)? Have you developed a rubric to address this issue?"*
- **The Pedagogical Axis (Probing the "Safety-First" Strategy)** with the question about *"Why do you believe many teachers prefer to use AI for lesson planning (substitution), and not for supporting live student interactions (redefinition)? What concerns keep you from using AI for live student interactions?"*

It is worth noting here that the interviews were completed in Vietnamese (L1 of the participants) to ensure that participants could express themselves in detail and without a high level of cognitive load. The emotional expressions of participants concerning fear, anxiety and frustration may have been difficult to detect during L2 (English) interviews. After being recorded, the interviews were transcribed and then translated into English for thematic analysis.

3.4. Data Analysis Procedure

The quantitative and qualitative data were analyzed sequentially to ensure methodological rigor and alignment with the research questions.

3.4.1. Quantitative Analysis

Survey data from 58 respondents were cleaned and analyzed using a statistical tool for analysis (SPSS version 26.0.)

- **To address RQ1:** Descriptive statistics, including Means (M) and Standard Deviations (SD), were calculated to map teachers' current instructional practices across the four tiers of the SAMR framework. This allowed for the identification of the prevailing level of AI usage within the institution.
- **To address RQ2:** Stepwise multiple regression analysis was conducted to determine which internal factors (TPACK competence) and external factors (infrastructural barriers, ethical concerns) significantly predicted the integration of Generative AI.

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Given the sample size (N = 58), the data does not strictly meet the optimal heuristic thresholds for generalized predictive modeling (Green, 1991). Consequently, the regression model in this study was explicitly utilized as an *exploratory* analytical tool. Rather than aiming for universal generalizability, the regression was employed to establish comparative weightings between localized drivers and inhibitors, thereby constructing a targeted framework for the subsequent qualitative phase.

3.4.2. Qualitative Analysis

To provide a deeper contextual understanding for RQ2, the qualitative data from the semi-structured interviews (n = 6) were analyzed using Thematic Analysis (Braun & Clarke, 2006). The transcripts were subjected to an inductive coding process by identifying recurring keywords related to technical disruptions, pedagogical choices, and ethical reservations, then grouping these initial codes into broader categories (e.g., "Technological Reliability," "Risk-Averse Pedagogy"), and ending with synthesizing categories into overarching themes that explain the mechanisms behind the quantitative predictors, such as the fear of "synthetic fluency" and the impact of infrastructural instability.

3.4.3. Methodological Triangulation

A "Convergence Model" of triangulation (Creswell, 2014) was used to increase the confidence in the results. Statistical evidence was compared and contrasted to qualitative narratives to find areas of convergence or divergence. In case a regression model found a negative correlation between the Infrastructural Barriers and Adoption, the qualitative component of the research was designed to provide narrative examples of how technical issues affected students' ability to access virtual labs; thereby validating the statistical trend. This "thick description" is a way to counteract the limited size of the quantitative sample and will be based on actual experiences and not solely on p-value significance.

4. RESULTS AND DISCUSSION

4.1. Quantitative Findings

4.1.1. Participants' Demographic Profile

The quantitative phase provides a statistical overview of the demographic and professional profiles of the 58 respondents. The demographic distribution indicates a predominantly young workforce, with 82.8% of the participants falling into the 20-25 age bracket, firmly classifying them as "digital natives." Consequently, a significant majority (65.5%) are novice educators with less than three years of professional teaching experience.

This demographic composition highlights a critical "paradox of adoption": while the workforce possesses an innate familiarity with digital tools, they are simultaneously in the nascent stages of developing their pedagogical instincts (Pedagogical Knowledge - PK).

Table 3. Demographic Characteristics of Respondents (N=58)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	18	31.0%
	Female	40	69.0%
Age Group	20 – 25 years old	32	55.2%
	26 – 30 years old	16	27.6%
	Over 30 years old	10	17.2%
Teaching Experience	Novice (< 3 years)	38	65.5%
	Experienced (> 3 years)	20	34.5%
Highest Degree	Bachelor's (TEFL/TESOL)	51	87.9%
	Master's (MA/M.Ed)	7	12.1%

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4.1.2. Evaluation of AI Integration via the SAMR Framework (RQ1)

To address RQ1, descriptive statistics were calculated to assess the depth of GenAI integration across the four levels of the SAMR model. The data reveals a distinct "inverse trajectory," wherein the frequency of GenAI usage sharply declines as the instructional tasks increase in pedagogical complexity.

Table 4. Descriptive Statistics of GenAI Usage across SAMR Levels (Scale: 1 = Never, 5 = Always)

SAMR Level	Specific Speaking Activity	Mean (M)	SD
SUBSTITUTION	Using ChatGPT to generate vocabulary lists	4.12	.78
	Using AI to translate dialogue scripts	3.70	.85
	Cluster Mean	**3.91**	**.81**
AUGMENTATION	Using AI to check grammar in speech drafts	3.45	.92
	Using AI to brainstorm discussion questions	2.79	1.01
	Cluster Mean	**3.12**	**.96**
MODIFICATION	Text-based role-play with an AI persona	2.55	1.15
	Rewriting speeches in different tones	2.35	1.10
	Cluster Mean	**2.45**	**1.12**
REDEFINITION	Live Voice Conversation (Real-time)	1.88	.75
	AI-simulated debates with multiple personas	2.05	.82
	Cluster Mean	**1.96**	**.79**

As shown in Table 4, the highest mean score was recorded at the Substitution level (M = 3.91, SD = .81), indicating a strong preference for using GenAI as an administrative tool for routine tasks. Conversely, usage at the transformative levels saw a dramatic drop, with Modification at M = 2.45 and Redefinition recording the lowest frequency (M = 1.96, SD = .79). The standard deviation for the "Live Voice Conversation" item (SD = .75) demonstrates strong agreement among respondents regarding their reluctance to have GenAI act as a real-time conversational partner. This downward trend provides strong empirical evidence for the existence of a "Substitution Plateau." Teachers predominantly domesticate GenAI to accelerate traditional, teacher-centered routines rather than utilizing it to orchestrate novel, immersive speaking environments.

4.1.3. Predictors of GenAI Adoption

To identify the primary drivers and inhibitors of GenAI adoption (RQ2), a Pearson correlation analysis (Table 5) followed by a stepwise multiple regression analysis (Table 6) was conducted.

Table 5. Pearson Correlation Matrix of Study Variables

Variable	1	2	3	4	5
1. GenAI Usage	—				
2. TPACK Competence	.41**	—			
3. Anxiety Reduction Belief	.36*	.29*	—		
4. Infrastructural Barriers	-.69***	-.12	-.05	—	
5. Ethical Concerns	-.38*	.05	.11	.21	—

*Note: *p < .05, **p < .01, ***p < .001.*

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Table 6. Stepwise Multiple Regression Analysis Predicting GenAI Usage

Predictor Variable	B	SE	β	t	p
(Constant)	1.84	.31		5.89	.000
Infrastructural Barriers	-.48	.08	-.52	-5.89	.000
TPACK Competence	.32	.09	.29	3.41	.001
Ethical Concerns	-.18	.08	-.20	-2.35	.022
Anxiety Reduction Belief	.12	.09	.10	1.36	.179

Model Fit: R^2 = .542; Adjusted R^2 = .518; F(4, 53) = 18.65, p < .001.

The regression model accounted for a significant portion of the variance in GenAI usage (R^2 = .542, p< .001). The findings indicate that external environmental constraints overshadow internal technological competence. Infrastructural Barriers emerged as the strongest negative predictor (beta = -.52, p < .001), exerting an inhibitory force almost double the positive influence of teachers' TPACK Competence (beta = .29, p = .001). Additionally, Ethical Concerns negatively predicted advanced integration (beta = -.20, p = .022). Surprisingly, while correlational data showed a relationship between anxiety reduction beliefs and usage, this belief did not emerge as a statistically significant driver in the final regression model (p = .179). This implies that practical and ethical barriers effectively neutralize theoretical enthusiasm.

4.2. Qualitative Findings: Unpacking the Mechanisms of Adoption

To triangulate the quantitative findings and explore the contextual factors driving the "Substitution Plateau," a thematic analysis of the semi-structured interviews (n=6) was conducted. The qualitative data reveals that the barriers to adoption are pedagogically and psychologically complex, centering the three themes:

(1) the **"Safety-First" Strategy for explaining the Substitution Plateau.** While survey data indicated a preference for low-level tasks, interviews revealed this is not due to a lack of technical skill, but rather a deliberate "risk management strategy." Educators recognized that open-ended AI interactions (Redefinition) could introduce unpredictability into large, mixed-ability classrooms. Participant 2 (The Pragmatist) articulated this tension clearly: *"I know that ChatGPT can produce great role-plays... But in a 45-minute class with 40 students, I cannot afford to lose control. If I allow them to interact with the AI, the volume levels rise and I am unable to check on what each student is doing. Generating a vocabulary list by using AI (Substitution) is safer... I know exactly what will occur."* This narrative supports the "Substitution Plateau," illustrating that teachers trade pedagogical innovation for classroom manageability;

(2). **The "Trauma" of Technical Failure for explaining the Infrastructure Coefficient.** Corroborating the regression model, which identified infrastructural barriers as the primary gatekeeper (beta = -.52), the interviews highlighted the severe psychological impact of technological disruptions. Educators operating in resource-constrained settings frequently encounter a "reliability gap." Participant 5 (The Skeptic) detailed a critical incident that prompted a cessation of live AI tasks: *"I tried a live speaking task with Gemini Voice last month and the school Wi-Fi slowed down the AI's response... Those 30 seconds of silence made the situation uncomfortable. The rest of the class started to laugh and lose focus... I felt embarrassed. Since that day I have used nothing but paper handouts. Paper never loses a signal."* This demonstrates that the reliability gap is a source of professional anxiety; the risk of losing pedagogical authority deters teachers from engaging in high-bandwidth activities regardless of their TPACK capabilities.

(3) **The Fear of "Synthetic Fluency" for explaining Ethical Hesitancy**. The third theme explores ethical hesitancy (beta = -.20). Teachers expressed sophisticated concerns regarding cognitive offloading, fearing that GenAI creates a false sense of competency that dissipates once the tool is removed. Participant 1 (The Tech- Evangelist), despite supporting AI integration, shared this deep-rooted concern: *"The students love writing their speeches using AI. They sound like native speakers. However, when I ask them to turn off the iPad and present, they fall silent. They can speak fluently with the tool, but they are unable to speak without it. I call this 'synthetic fluency'."* This illustrates that reluctance to integrate AI is partially rooted in a pedagogical conscience regarding

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whether authentic language acquisition is actually occurring.

4.3. Discussion

4.3.1. Interpreting the "Substitution Plateau"

The findings of this study critically challenge the assumption that a digitally native workforce will naturally implement transformative educational technologies. Despite 82.8% of the participants being under 30 years old with high digital literacy, their instructional application of GenAI remains remarkably conservative, clustered heavily at the Substitution level (M = 3.91).

This paradox can be explained through the lens of "instructional survivalism." In a context where the majority of educators possess less than three years of teaching experience, high Technological Knowledge (TK) does not automatically translate to advanced Pedagogical Knowledge (PK). Instead of leveraging GenAI to redefine speaking instruction, these novice educators "domesticate" the technology to accelerate traditional, teacher-centered routines—such as generating vocabulary lists. This pragmatic adoption path highlights that without targeted pedagogical training (TPK), advanced AI tools are utilized merely to optimize outdated methodologies rather than to innovate them.

4.3.2. Contextual Drivers and Inhibitors as Factors of AI Integration

The integration of GenAI in the semi-rural context is characterized by a constant tension between its psychological affordances and environmental/ethical constraints.

- **The Affective Filter vs. The Infrastructure Trap:** The study supports Krashen's (1982) Affective Filter Hypothesis, with educators acknowledging GenAI's ability to serve as a non-judgmental interlocutor. However, this driver is severely compromised by the "Infrastructure Trap." Utilizing Maslow's Hierarchy of Needs as an analogy for EdTech, connectivity represents the physiological baseline. Teachers cannot ascend to "pedagogical self-actualization" (SAMR Redefinition) when their foundational need for a stable technological environment (consistent Wi-Fi and premium access) is unmet. In resource- constrained settings, reliable internet is a volatile variable, making the return to "Substitution" a rational decision to minimize risk.
- **Negotiating Authenticity:** The prevalent fear of "synthetic fluency" introduces a new layer of complexity to EFL assessment. While GenAI lowers the short-term anxiety of performance for students, it simultaneously elevates "authenticity anxiety" among educators. The qualitative evidence suggests that transitioning to higher SAMR levels will require a paradigm shift in assessment frameworks—moving away from evaluating the polished final product toward assessing the interactive, real-time process of meaning negotiation.

5. CONCLUSION AND IMPLICATIONS

5.1. Summary of Findings

This study investigated the Implementation Gap of Generative AI (GenAI) in EFL speaking instruction within a resource-constrained context in the Mekong Delta. Utilizing an explanatory sequential mixed-methods design, the research addressed two primary dimensions: the extent of GenAI integration and the predictive factors influencing its adoption.

Regarding the extent of integration, the findings empirically confirm the existence of a "Substitution Plateau." Despite the workforce possessing high digital literacy (over 82.8% being "digital natives" under 30 years old), educators utilized GenAI primarily for administrative efficiency and routine content generation (Substitution and Augmentation levels). Transformative applications involving real-time, interactive AI mediation (Modification and Redefinition) remained profoundly underutilized.

Regarding the determinants of adoption, the study revealed that external environmental constraints significantly overshadow internal technological competence. Regression analysis demonstrated that Infrastructural Instability (beta = -.52) is the primary gatekeeper, exerting an influence far greater than teachers' TPACK competence. Furthermore, qualitative findings highlighted profound ethical apprehensions concerning "synthetic fluency" and cognitive offloading. Consequently, the limited integration of GenAI is not a symptom of technological illiteracy, but rather a rational, risk-averse pedagogical strategy adopted by educators to navigate contextual constraints, maintain classroom authority, and preserve academic integrity.

5.2. Pedagogical Implications

The findings necessitate a paradigm shift from techno-centric integration to contextually grounded pedagogy. The following implications are drawn to optimize AI-mediated speaking instruction:

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- **Redefining Assessment (From Product to Process):** Given GenAI's capability to instantly generate flawless linguistic output, traditional product-oriented assessments are increasingly obsolete. Assessment frameworks must pivot to evaluate the *process* of interaction. Educators should assess how effectively learners negotiate meaning, resolve communication breakdowns, and utilize AI as a cognitive partner rather than a shortcut.
- **Pedagogical Synergy (Form versus Meaning):** A synergistic instructional model is proposed wherein AI is explicitly delegated the "mechanical" aspects of language learning (e.g., grammar correction, vocabulary drills, and pronunciation feedback). This cognitive offloading allows the human educator to focus entirely on the authentic, socio-emotional dimensions of communication, such as active listening, pragmatic nuance, and interpersonal connection.
- **AI-Mediated Tasks for Scaffolding:** Capitalizing on GenAI's proven ability to lower the Affective Filter, educators should formalize AI interactions as mandatory pre-task scaffolding. Utilizing AI as a private, non-judgmental rehearsal space allows students to build procedural confidence before engaging in high-stakes human-to-human classroom performances.

5.3. Recommendations for Enhancing AI Integration

To transcend the Substitution Plateau, a coordinated effort between institutional management and teaching practitioners is required.

5.3.1. Recommendations for Institutional Management

- **Bridging the Reliability Gap:** To facilitate Redefinition-level activities, institutions must invest in stable technological infrastructure. This includes upgrading institutional bandwidth and securing premium, enterprise-level access to advanced AI tools to prevent live-class disruptions.
- **Establishing a Pedagogical Prompt Library:** To reduce teacher workload and standardize quality, academic departments should curate a centralized repository of pedagogically validated AI prompts.
- **Targeted Professional Development:** Training initiatives must shift from basic operational skills (Technological Knowledge) to advanced pedagogical application (Technological Pedagogical Knowledge). Workshops should focus explicitly on prompt engineering for language acquisition and ethical AI integration.

5.3.2. Recommendations for Teaching Practitioners

- **Implementing Process-Oriented Accountability:** To combat "synthetic fluency," teachers should require students to submit their "AI Chat Logs" alongside speaking assignments. Evaluating the student's iterative prompt history ensures transparency and assesses the authentic learning journey.
- **Delineating AI and Human Zones:** Educators should establish clear pedagogical boundaries within the lesson framework. Designating specific "Machine Zones" (for independent brainstorming and phonetic drilling) and "Human Zones" (for spontaneous, unassisted peer interaction) mitigates over-reliance and preserves authentic communication.

5.4. Limitations and Future Research

Several limitations must be acknowledged. First, the sample size (N = 58) from a single regional institution restricts the statistical generalizability of the quantitative predictive models to broader, differently resourced populations. Second, the reliance on self-reported survey data may introduce social desirability bias, potentially creating discrepancies between reported confidence and actual classroom praxis. Third, the study derived conclusions regarding the Affective Filter exclusively from teacher observations, lacking direct empirical input from the learners themselves. Finally, the rapid evolution of GenAI technologies means these findings capture a specific temporal snapshot of a highly dynamic field.

Future inquiries should address these limitations by expanding the research scope. Incorporating the student perspective through learner-centric qualitative studies (e.g., focus groups or reflective journals) is essential to validate the perceived reduction in speaking anxiety. Furthermore, quasi-experimental designs comparing the speaking proficiency outcomes of AI-assisted cohorts versus traditional cohorts would provide robust evidence of GenAI's pedagogical efficacy. Lastly, longitudinal studies tracking educator practices over an extended period would ascertain whether the Substitution Plateau is a permanent contextual barrier or a temporary developmental phase in technology adoption.

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