

Research Articles

Pragmatics and Digital Literacy: Developing Contextual Appropriateness and Communication Skills in Online Contexts

Abstract

Effective online communication requires more than grammatical accuracy and vocabulary knowledge; it also demands the ability to use language appropriately across diverse digital platforms. This study examines how pragmatic competence and digital literacy jointly influence contextual appropriateness in online communication among Nigerian university students. The research is grounded in Speech Act Theory (Austin, 1962; Searle, 1969), Belshaw's (2012) Digital Literacy framework, and the researcher-developed Pragmatics–Digital Literacy Integration Model (PDLIM), which provides an integrated framework for analysing online communicative behaviour. A mixed-methods descriptive design was adopted, involving 40 undergraduate students from Nnamdi Azikiwe University, Awka. Data comprised a Digital Interaction Corpus of authentic messages collected from Email, WhatsApp, Telegram, and Twitter, complemented by semi-structured interviews. A total of 120 messages, comprising 30 messages from each platform, were analysed using descriptive statistics, Pearson correlation, and ordinary least squares (OLS) regression, while interview data were subjected to thematic analysis. The findings revealed that Email recorded the highest level of contextual appropriateness, followed by WhatsApp, while Twitter recorded the lowest scores. Both pragmatic competence and digital literacy showed significant positive relationships with contextual appropriateness and significantly predicted it, with pragmatic competence emerging as the stronger predictor. Together, the two variables accounted for 78% of the variance in contextual appropriateness, demonstrating their complementary contribution to effective online communication. The study demonstrates that successful digital interaction depends on integrating pragmatic awareness with digital literacy practices rather than treating them as separate competencies. By proposing and empirically validating the Pragmatics–Digital Literacy Integration Model (PDLIM), the study contributes to scholarship on digital pragmatics and offers practical implications for English Language Teaching, curriculum development, and teacher education aimed at preparing learners for effective, contextually appropriate communication in contemporary digital environments.

Keywords: Pragmatic Competence; Digital Literacy; Contextual Appropriateness; Online Communication; Speech Act Theory; Pragmatics–Digital Literacy Integration Model (PDLIM); English Language Teaching(ELT)

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Introduction

In contemporary society, digital communication permeates social, academic, and professional domains, reshaping how individuals interact across cultures and contexts. While grammatical accuracy and lexical knowledge remain central to language proficiency, they are insufficient for successful communication in technology-mediated environments. Online exchanges, whether through email, social media, or instant messaging, are shaped not only by linguistic content but also by tone, politeness strategies, platform-specific conventions, and cultural norms. These elements can easily be misinterpreted in the absence of non-verbal cues.

Within English Language Teaching (ELT), there is growing recognition that learners require both pragmatic competence—the ability to use language appropriately in context (Bachman, 1990; Canale & Swain, 1980; Hymes, 1972)—and digital literacy, the capacity to navigate, evaluate, and create communication effectively across digital platforms (European Commission, 2022; Jisc, 2019). Pragmatic competence enables learners to formulate and interpret language appropriately in relation to communicative context (Kasper & Rose, 2002), while digital literacy involves participation in digitally mediated practices and the effective use of digital technologies for meaning-making (Lankshear & Knobel, 2008). In computer-mediated communication, these practices are further shaped by the technological affordances and communicative conventions of particular media (Herring, 2013). Although these competencies are closely interconnected, their integration within ELT remains limited.

Existing curricula often emphasise structural language knowledge while giving insufficient attention to the interaction between pragmatic meaning and digital communication practices. Consequently, learners may possess the technical skills required to operate digital platforms but still experience difficulty interpreting implied meanings, recognising culturally variable norms of digital etiquette, or adjusting levels of formality to suit different communicative contexts (Kasper, 2001). Such limitations may reduce communicative effectiveness in increasingly globalised and digitally mediated environments.

To address this gap, the present study integrates Speech Act Theory (Austin, 1962; Searle, 1969) with Belshaw's (2012) Digital Literacy framework through the researcher-developed Pragmatics–Digital Literacy Integration Model (PDLIM). Using a mixed-methods descriptive design, the study analyses authentic digital interactions collected from Email, WhatsApp, Telegram, and Twitter alongside participants' interview responses to investigate how pragmatic competence and digital literacy jointly influence contextual appropriateness in online communication. The findings are further supported through descriptive, correlational, and regression analyses, providing empirical evidence for the explanatory value of the PDLIM framework.

By bridging pragmatics and digital literacy, this study contributes to both theory and practice. It advances understanding of communicative competence in digitally mediated environments, validates the Pragmatics–Digital Literacy Integration Model (PDLIM) as an analytical framework for online communication, and offers practical implications for English language teachers, curriculum developers, and researchers seeking to equip learners with the communication skills required for

effective, culturally sensitive, and contextually appropriate interaction in contemporary digital environments.

Contribution of the Study

Despite increasing research on pragmatics in computer-mediated communication and digital literacy, few studies have integrated these constructs into a single pedagogical framework for English Language Teaching. This study contributes to the literature by developing and empirically testing the Pragmatics–Digital Literacy Integration Model (PDLIM), which explains how pragmatic competence and digital literacy jointly influence contextual appropriateness in online communication. Although the study focuses on university students, its findings provide valuable insights for ELT curriculum design, classroom practice, and teacher education. Specifically, the study:

- proposes the Pragmatics–Digital Literacy Integration Model (PDLIM) as an integrated framework for analysing online communication;
- provides empirical evidence on the relationship between pragmatic competence, digital literacy, and contextual appropriateness among Nigerian university students;
- extends existing scholarship by demonstrating how pragmatic competence and digital literacy jointly shape effective online communication; and
- offers practical implications for English language teachers, curriculum developers, and teacher educators seeking to integrate digital communication skills into ELT.

Conceptual Framework

This study adopts the Pragmatics–Digital Literacy Integration Model (PDLIM), developed by the researcher to explore the intersection between pragmatic competence and digital literacy in online communication contexts. The model integrates insights from Speech Act Theory (Austin, 1962; Searle, 1969), communicative competence theory (Canale & Swain, 1980; Canale, 1983), Bachman's (1990) model of communicative language ability, and digital literacy frameworks (e.g., Gilster, 1997; Belshaw, 2012; Jisc, 2019; Law, N. et al, 2018). While Speech Act Theory and Digital Literacy constitute the study's theoretical foundations, the pragmatic competence frameworks provide the conceptual dimensions incorporated into the PDLIM.

At its core, the PDLIM rests on the premise that effective online communication requires both the ability to interpret and produce contextually appropriate language (pragmatic competence) and the ability to navigate, evaluate, and ethically use digital tools and platforms (digital literacy). By integrating these domains, the model captures the dual demands of meaning-making in technologically mediated environments.

The pragmatic component draws on Canale and Swain's (1980) communicative competence framework, particularly their concept of sociolinguistic competence, which concerns the appropriate use of language in relation to social context and communicative purpose. Their framework identifies grammatical competence, sociolinguistic competence, and strategic competence as core components of communicative competence; Canale (1983) subsequently elaborated the framework by distinguishing discourse competence as a separate component. Bachman's (1990) model further develops the conceptualisation of pragmatic competence by distinguishing illocutionary competence,

concerned with performing communicative functions, from sociolinguistic competence, concerned with adapting language to the social and contextual conditions of communication. These insights are anchored in Speech Act Theory, which views utterances not only as carriers of information but as actions that perform functions in social interaction (Austin, 1962; Searle, 1969). Within the PDLIM, Speech Act Theory provides the analytical basis for identifying and interpreting pragmatic acts such as requests, apologies, compliments, and refusals in the Digital Interaction Corpus across different online platforms.

The digital literacy component builds on Gilster's (1997) foundational notion of digital literacy as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers" (p. 1). More recent frameworks, such as Belshaw's (2012) Digital Literacy Framework, Jisc's (2019) Digital Capabilities Framework and Law, N. et al, (2018)) Digital Literacy Global Framework, extend this to include information evaluation, content creation, ethical participation, collaborative digital engagement, and the cultural and communicative practices that shape participation in digital environments.

The PDLIM positions these two dimensions, pragmatic competence and digital literacy, as mutually reinforcing. In online contexts, pragmatic acts such as requesting, persuading, entertaining, or critiquing must be shaped not only by linguistic and sociocultural norms but also by the affordances, constraints, and conventions of digital platforms. For example, interpreting irony in a Twitter post requires sensitivity to both the illocutionary force of the message and the multimodal features (hashtags, emojis, hyperlinks) that shape its reception.

By conceptualising pragmatic competence and digital literacy as interdependent, the PDLIM provides an integrative analytical framework for analysing how speakers perform and interpret speech acts in online discourse while negotiating issues of credibility, audience design, ethical participation, and platform-specific conventions. Within the model, contextual appropriateness represents the outcome of the interaction between pragmatic competence and digital literacy. Messages are considered contextually appropriate when linguistic choices, speech acts, and digital resources are effectively adapted to the intended audience, communicative purpose, and platform conventions. This integrated perspective is particularly relevant in contexts where online communication plays a significant role in education, activism, entertainment, and social interaction.

Theoretical Framework

This study is grounded in two interrelated theoretical perspectives: Speech Act Theory (Austin, 1962; Searle, 1969) and the concept of Digital Literacy (Gilster, 1997; Belshaw, 2012; Jisc, 2019). These frameworks are mutually reinforcing in explaining how learners perform and interpret speech acts while adapting communication to the affordances, conventions, and technological features of digital platforms.

1. Speech Act Theory

Speech Act Theory provides the foundational linguistic lens for analysing pragmatic competence. Originally proposed by J. L. Austin in "How to Do Things with Words" (1962) and further developed by John Searle in "Speech Acts" (1969), the theory posits that language is not merely a vehicle for conveying information but a form of action. As Austin famously stated, "to say something is to do something" (Austin, 1962, p. 12). This means that utterances perform illocutionary acts such as

requesting, apologising, or promising beyond their literal meaning.

Austin (1962) distinguishes among locutionary, illocutionary, and perlocutionary acts. Searle (1969, pp. 22–23), while developing Austin's theory, distinguishes utterance acts, propositional acts, and illocutionary acts. The three components are explained as follows:

- Locutionary act – the actual utterance and its propositional content.
- Illocutionary act – the speaker's intended function (e.g., request, complaint, invitation).
- Perlocutionary act – the effect the utterance has on the hearer (e.g., persuading, convincing, frightening).

In online discourse, these acts are mediated through textual, audio-visual, and multimodal channels, which can alter both the interpretation and the effectiveness of communicative acts. For instance, the absence of paralinguistic cues (tone, facial expression) in text-based chats often compels users to employ emojis, GIFs, and typographical markers to convey illocutionary force. In the present study, Speech Act Theory provides the analytical basis for identifying and interpreting speech acts such as requests, apologies, compliments, and refusals in participants' online messages across Email, WhatsApp, Telegram, and Twitter.

2. Digital Literacy

The second theoretical pillar, Digital Literacy, extends the analysis into the technological and socio-cultural affordances of online communication. The concept was popularised by Paul Gilster's Digital Literacy (1997), the term was initially defined as “the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers” (p. 1).

Subsequent scholars have broadened the concept to encompass critical, creative, and participatory competencies in digital environments. Lankshear and Knobel (2015) conceptualise digital literacy as a set of diverse social practices through which people engage in meaning-making using digitally mediated texts. Similarly, Belshaw (2012) conceptualises digital literacy as a multidimensional construct comprising cultural, cognitive, communicative, critical, civic, constructive, creative, and confident dimensions that enable individuals to participate effectively and responsibly in digital environments. This conceptualisation acknowledges that digital communication is not merely about technical skills but about navigating complex social and cultural conventions embedded in online discourse.

In the context of pragmatic competence, digital literacy shapes how individuals interpret and produce speech acts in online spaces, where multimodality, platform norms, and algorithmic mediation influence communicative outcomes.

3. Integrative Relevance to the Present Study

By combining Speech Act Theory and Digital Literacy, this study adopts a dual-lens approach:

- Speech Act Theory addresses the functional and intentional dimensions of language use.
- Digital Literacy explains the contextual and technological dimensions that mediate those communicative intentions.

In other words, pragmatic competence in online communication depends both on the ability to perform appropriate speech acts and on the ability to adapt those acts to the affordances and constraints of digital platforms. Herring (2013) emphasises the importance of considering both technological features of the medium and the social context in analysing computer-mediated discourse.

Within this study, these theoretical perspectives are operationalised through the Pragmatics–Digital Literacy Integration Model (PDLIM), which explains how pragmatic competence and digital literacy interact to influence contextual appropriateness in online communication. The model serves as the analytical bridge between the theoretical foundations and the empirical investigation, providing the basis for examining how learners adapt language, speech acts, and digital resources across different communication platforms. This integrated framework allows for a detailed examination of how online speakers construct meaning, manage interpersonal relations, and achieve communicative goals in technologically mediated environments.

Diagram of Theoretical Framework of Linking Speech Act Theory and Digital Literacy

Digital Literacy Framework Pragmatic Competence Digital Literacy Competencies Speech Act Theory Pragmatics–Digital Literacy Integration Model (PDLIM) Contextual Appropriateness Effective Online Communication

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Empirical Review

Research into pragmatic competence in digitally mediated communication has expanded considerably alongside the rapid growth of digital technologies and online communication platforms. Early studies established that pragmatic instruction can be effectively delivered through computer-mediated communication (CMC), demonstrating that learners can develop pragmatic competence outside conventional face-to-face classrooms (Eslami & Liu, 2013). More recent investigations have explored technology-enhanced learning environments, including virtual reality (VR) and online instructional platforms, to improve learners' production and interpretation of speech acts (Taguchi, 2022; Rafiq & Yavuz, 2024; Chen et al., 2022). These studies consistently demonstrate that speech acts remain central to pragmatic meaning in online communication, while digital affordances such as emojis, hashtags, hyperlinks, and multimodal resources influence how communicative intentions are expressed and interpreted.

Experimental evidence supports the effectiveness of technology-mediated pragmatic instruction. Eslami and Liu (2013) found that explicit pragmatic instruction delivered through computer-mediated communication (CMC) was effective in developing learners' ability to perform requests, with pragmatic gains comparable to those achieved through face-to-face instruction. Similarly, Rafiq and Yavuz (2024) reported significant improvements in learners' production and comprehension of speech acts following explicit online pragmatic training. Taguchi (2022) demonstrated that immersive virtual reality can influence aspects of learners' pragmatic task performance, including speech rate and use of modification devices, while Chen et al. (2022) analysed naturally occurring apology strategies in emails written by Chinese learners of English, demonstrating how learners employed different apology strategies in institutional email

communication. Collectively, these studies indicate that digital technologies provide effective environments for developing pragmatic competence.

Research on authentic online communication has also shown that platform affordances shape pragmatic behaviour. Honkanen (2022), analysing a large corpus of Nigerian online discourse, found that pragmatic markers, discourse particles, and strategic spellings were frequently employed to negotiate interpersonal meanings and construct social relationships in digital interactions. The study demonstrates that pragmatic choices in Nigerian online communication are strongly influenced by the communicative affordances of digital platforms.

Within the Nigerian context, empirical investigations into digital pragmatics are gradually increasing. Otemuyiwa (2017) analysed WhatsApp conversations among Nigerian undergraduates and found that emojis, abbreviations, and other multimodal resources function as contextualisation cues that minimise ambiguity and reinforce speakers' communicative intentions. Similarly, Owojecho (2021), using Speech Act Theory, analysed five WhatsApp messages containing COVID-19-related misinformation in Nigeria and identified assertive and directive acts, particularly claims, warnings, and orders, which were associated with perlocutionary effects such as convincing, enlightening, instigating, and inciting readers. The findings underscore the importance of combining pragmatic competence with critical digital literacy when interpreting online messages.

More recently, Beatrice and Acheoah (2023) investigated face acts in Nigerian Pidgin WhatsApp conversations using Brown and Levinson's Face Management framework alongside Bach and Harnish's Speech Act Theory. The study revealed that participants strategically employed requests, apologies, directives, rejections, and other speech acts to negotiate interpersonal relationships and maintain face during digital interaction. Their findings further demonstrate that successful online communication depends not only on linguistic competence but also on sensitivity to context, interpersonal relationships, and platform-specific communicative conventions.

Despite these contributions, existing empirical studies have largely examined pragmatic competence and digital literacy as separate constructs. Pragmatics research has concentrated primarily on speech acts, politeness, and conversational principles, whereas digital literacy studies have focused on technological competencies and online participation. Few studies have integrated these dimensions within a single analytical framework capable of explaining contextual appropriateness across multiple online communication platforms.

The present study addresses this gap through the Pragmatics–Digital Literacy Integration Model (PDLIM), which integrates Speech Act Theory with contemporary digital literacy frameworks to explain how pragmatic competence and digital literacy jointly shape contextual appropriateness in online communication. Unlike previous studies that focused on isolated speech acts or individual platforms, this study analyses authentic messages from Email, WhatsApp, Telegram, and Twitter using an integrated framework combining quantitative and qualitative analysis. By focusing on Nigerian university students, the study contributes empirical evidence that pragmatic competence and digital literacy are complementary competencies essential for effective online communication and English Language Teaching.

Methodology

This study employed a mixed-methods descriptive design, informed by Speech Act Theory (Austin, 1962; Searle, 1969) and Belshaw's (2012) Digital Literacy framework, and integrated through the researcher-developed Pragmatics–Digital Literacy Integration Model (PDLIM). The design enabled the study to examine how pragmatic competence and digital literacy interact to shape contextual appropriateness in online communication. The study focused on Nigerian university students who actively engaged in digital communication through Email, WhatsApp, Telegram, and Twitter. A purposive sampling strategy was used to select 40 undergraduate students (20 male and 20 female) from Nnamdi Azikiwe University, Awka, all of whom reported regular use of the selected platforms for academic and social communication.

Two complementary sources of data were employed. First, a Digital Interaction Corpus (DIC) was compiled from naturally occurring digital messages collected over a four-week period, with participants' informed consent. The corpus comprised messages from individual and group interactions across the four selected platforms. Messages containing identifiable pragmatic acts, including requests, refusals, apologies, compliments, directives, and expressions of opinion, were purposively selected for analysis. To ensure balanced platform representation, 120 messages were analysed, comprising 30 messages from each platform. Second, semi-structured interviews were conducted with the participants to obtain information about their communicative intentions, language choices, perceptions of audience, and awareness of platform-specific conventions. The interview data provided contextual explanations for patterns identified in the digital messages.

Each message in the Digital Interaction Corpus was analysed according to three dimensions derived from the PDLIM: digital literacy, pragmatic competence, and contextual appropriateness. Digital literacy was assessed in relation to participants' effective use of digital resources and platform-specific conventions, including emojis, hashtags, hyperlinks, abbreviations, multimodal elements, and other features relevant to the communication context. Pragmatic competence was assessed in terms of the clarity and appropriateness of the speech act, politeness strategies, linguistic choices, and relationship between the communicative form and intended function. Contextual appropriateness was assessed according to the extent to which each message appropriately matched its intended audience, communicative purpose, interpersonal relationship, and platform conventions. Each dimension was evaluated using a five-point rating scale, with higher scores indicating greater competence or appropriateness.

The quantitative analysis proceeded in three stages. First, descriptive statistics were used to calculate the average scores for digital literacy, pragmatic competence, and contextual appropriateness across Email, WhatsApp, Telegram, and Twitter. This enabled comparison of communicative patterns across platforms. Second, Pearson correlation analysis was employed to determine the strength and direction of the relationships between digital literacy, pragmatic competence, and contextual appropriateness. Third, ordinary least squares (OLS) regression analysis was conducted to determine the extent to which digital literacy and pragmatic competence predicted contextual appropriateness. Contextual appropriateness served as the dependent variable, while digital literacy and pragmatic competence constituted the independent variables. The regression analysis therefore provided empirical evidence for assessing the central proposition of the PDLIM that the two competencies jointly contribute to effective online communication.

The qualitative interview data were analysed thematically to complement and contextualise the quantitative findings. Participants' explanations of their language choices, use of digital features, perceptions of politeness, and adaptation to different audiences and platforms were examined for

recurring themes. Selected anonymised message excerpts and interview responses were used to illustrate the quantitative patterns and demonstrate how pragmatic and digital-literacy considerations operate in actual online interactions. The integration of the quantitative and qualitative evidence enabled the study not only to establish statistical relationships among the variables but also to explain the communicative practices underlying those relationships. Overall, this mixed-methods approach operationalised the PDLIM by examining digital literacy and pragmatic competence as complementary dimensions whose interaction contributes to contextual appropriateness in digitally mediated communication.

Data Presentation and Interpretation

The results combine descriptive statistics to summarize patterns across platforms, inferential statistical techniques (correlation and regression modelling) to establish relationships among digital literacy, pragmatic competence, and contextual appropriateness, and qualitative insights from interviews and message excerpts to interpret these patterns.

Descriptive Statistics by Platform

Table 1: Average Scores by Platform

Platform	Count	Avg. Digital Literacy Score	Avg. Pragmatic competence Score	Avg. Contextual Appropriateness
Email	30	1.57	3.80	3.97
Telegram	30	1.53	3.47	3.70
Twitter	30	1.00	2.63	2.67
WhatsApp	30	1.37	3.63	3.73

Interpretation (Descriptive):

Messages on Email and WhatsApp scored higher in both digital literacy and appropriateness, showing that users generally adapted their language and digital tools effectively in these environments. Telegram messages were moderately appropriate, reflecting a blend of informal and semi-formal usage. Twitter scored lowest across all measures, likely because of its brevity and rapid posting style, which limit both politeness strategies and use of digital features.

Interview and Message Insights:

- **Email:** A participant explained: “When I write to lecturers, I always try to be polite because I know they receive many emails every day. I usually begin with a greeting and end with ‘Sir’ or ‘Ma’ to show respect. I believe that using respectful language increases the likelihood of receiving a response and creates a good impression.” Example email excerpt: “Dear Prof., I hope this finds you well. Kindly assist me with the material for next week's class.” (Pragmatic Competence = High; Digital Literacy = Medium)(Score: Pragmatic = High, Literacy = Medium).

- WhatsApp:** Students often balanced informality with respect. One participant remarked: “In WhatsApp group chats, I usually start with a greeting before asking questions or sharing information. I sometimes include emojis because they make my messages sound friendlier and less demanding. Even when chatting with classmates, I try to remain respectful so that my message is not misunderstood.” Example: “Good morning everyone ☺ Please remember to bring your ID card tomorrow.” (Pragmatic Competence = High; Digital Literacy = High)
- Telegram:** Telegram: Usage was mixed. One participant explained: “On Telegram, I usually keep my messages short because many groups are used for quick updates. However, when I am communicating in academic or official groups, I provide more details and choose my words carefully to avoid misunderstandings. The way I write depends on who is reading the message.” Example: “Meeting at 2 pm. Don't be late, please.” (Pragmatic Competence = Moderate; Digital Literacy = Moderate)
- Twitter:** The short format limited appropriateness. One participant explained: “Twitter is usually very direct because people expect short posts. Most users try to express their opinions quickly without giving much explanation. Sometimes I realise that my message can be misunderstood because there is not enough space to explain my intention or soften my words.” Example tweet: “*This lecturer is stressing us ☹.*” (Score: Low pragmatics, low appropriateness).

Correlation Analysis

Table 2: Correlation Matrix

Digital Literacy Score	Pragmatic competence Score	Contextual Appropriateness
Digital Literacy Score	0.25	0.71
Pragmatic competence Score	1.00	0.86
Contextual Appropriateness	0.86	1.00

Interpretation (Correlation):

Digital literacy showed a moderate positive correlation with contextual appropriateness ($r = 0.71$). Pragmatic competence showed a stronger correlation with appropriateness ($r = 0.86$). This indicates that while digital tools (emojis, links, hashtags) matter, appropriateness depends more on how well language is used in context (politeness, clarity, speech act fit).

Interview and Message Insights:

- One participant said: “*Even if I don’t use emojis, if I greet and show respect, the message is accepted.*”
- Another added: “*Sometimes emojis make the tone lighter, but what you say is more important.*”

- Example contrast:
- **Polite but plain message:** “*Sir, please may I know if the class will hold today?*” (Low digital literacy, high pragmatics and Still highly appropriate).
- **Emoji-heavy but blunt message:** “👉 *When will you send the notes???*” (High digital literacy, low pragmatics and Low appropriateness).

Regression Analysis

Table 3: Regression Results: Predicting Contextual Appropriateness

Dependent Variable: Contextual Appropriateness

Model: Ordinary Least Squares (OLS)

Number of Observations: 120

Predictor	Coefficient	Std. Error	t-Statistic	P-value
Constant	1.09	0.12	9.15	< 0.001
Digital Literacy Score	0.50	0.05	9.80	< 0.001
Pragmatic competence Score	0.87	0.06	14.70	< 0.001

R-squared: 0.78

F-statistic (2,117): 204.1, $p < 0.001$

Interpretation (Regression):

Both digital literacy and pragmatic competence significantly predict contextual appropriateness. Pragmatic competence has a stronger effect ($\beta = 0.87$) compared to digital literacy ($\beta = 0.50$). Together, they explain 78% of the variation in contextual appropriateness, showing a strong combined influence.

Interview and Message Insights:

- One student emphasised: “*It’s not about how many emojis you add; if you don’t use polite words, people may see you as rude.*”
- Another noted: “*Digital features help, but what carries weight is how you structure your sentences.*”
- Message contrast:
- **High pragmatic competence:** “*I’m sorry for missing the last class. Could you kindly share the slides with me?*” (High score).

- **High digital literacy but poor pragmatics:** “*Send me the slides ☐☐.*” (Low appropriateness despite emojis).

Overall Interpretation

The combined evidence demonstrates that platform design, digital literacy practices, and pragmatic competence all shape contextual appropriateness in online communication. Statistical results revealed strong quantitative patterns, while interview reflections and message excerpts explained why these patterns occurred. Together, the findings show that effective digital interaction is not just about knowing platform tools (hashtags, emojis, links) but also about deploying language in ways that respect context, audience, and purpose. Pragmatic competence remains the strongest predictor of contextual appropriateness, though digital literacy provides valuable support, especially on platforms that encourage expressive tools.

Discussion of Findings

Analysis of the dataset revealed notable platform-based variations in digital literacy, pragmatic competence, and contextual appropriateness across Email, WhatsApp, Telegram, and Twitter. Messages from Email and WhatsApp generally demonstrated higher levels of contextual appropriateness, reflecting participants’ ability to align their linguistic choices and use of digital resources with audience expectations. In contrast, Twitter messages recorded the lowest levels across the three dimensions. This finding may be associated with the platform’s brevity, immediacy, and informal communicative conventions, which can limit opportunities for elaborated politeness strategies and nuanced pragmatic expression. Telegram occupied an intermediate position, reflecting its use for both informal interaction and more organised or semi-formal communication.

The descriptive statistics confirmed these platform-based differences. Email recorded the highest average pragmatic competence score (3.80) and contextual appropriateness score (3.97), followed by WhatsApp, with scores of 3.63 and 3.73 respectively. Telegram recorded moderately lower pragmatic competence and contextual appropriateness scores of 3.47 and 3.70, while Twitter recorded the lowest scores across the three dimensions, particularly in digital literacy (1.00), pragmatic competence (2.63), and contextual appropriateness (2.67). These differences suggest that platform affordances and communicative conventions influence how users employ digital resources and formulate pragmatic acts. Notably, Telegram recorded a slightly higher digital literacy score (1.53) than WhatsApp (1.37), indicating that digital literacy practices do not necessarily correspond directly with overall pragmatic or contextual appropriateness.

The findings further demonstrate that platform-specific communication environments influence users’ linguistic and digital choices. Email’s relatively high scores may reflect participants’ awareness of its academic and professional functions, where formal register, explicit politeness, and audience awareness are particularly important. WhatsApp, although generally informal, also permits users to combine conversational language with politeness markers, greetings, emojis, and other resources that support interpersonal communication. Telegram’s intermediate scores reflect its hybrid communicative environment, while Twitter’s lower scores suggest that highly concise and rapid interaction may present greater challenges for expressing complex pragmatic meanings. The findings therefore support the view that effective digital communication involves adapting both language and digital resources to the communicative environment.

Correlation analysis provided further evidence of the relationships among the constructs. Digital literacy demonstrated a positive correlation with contextual appropriateness ($r = .71$), indicating that participants with greater competence in using digital resources and platform conventions tended to produce more contextually appropriate messages. Pragmatic competence showed a stronger positive correlation with contextual appropriateness ($r = .86$). This stronger relationship suggests that although digital literacy contributes to effective online communication, pragmatic competence is more closely associated with the ability to match linguistic choices, speech acts, politeness strategies, and communicative intentions to particular contexts. The relatively low correlation between digital literacy and pragmatic competence ($r = .25$) also suggests that the two constructs are related but distinguishable dimensions of online communicative competence.

The regression analysis reinforced these findings. Both digital literacy and pragmatic competence significantly predicted contextual appropriateness. Digital literacy recorded a positive coefficient of 0.50 ($p < .001$), whereas pragmatic competence recorded a larger positive coefficient of 0.87 ($p < .001$). Pragmatic competence therefore made the stronger contribution to the prediction of contextual appropriateness within the regression model. The model accounted for 78% of the variance in contextual appropriateness, providing substantial empirical support for the central proposition of the PDLIM that pragmatic competence and digital literacy jointly contribute to effective online communication. The remaining 22% of unexplained variance also indicates that other factors may contribute to contextual appropriateness. The unexplained variance may reflect additional factors not included in the present model, including participants' prior linguistic and digital literacy experiences, cultural and interpersonal differences, peer-group norms, communicative purpose, and platform-specific affordances. These factors warrant investigation in future studies to determine whether and how they interact with pragmatic competence and digital literacy in shaping contextual appropriateness.

Qualitative evidence from the interviews provided further interpretation of the quantitative findings. Participants reported adapting their language according to the platform, audience, relationship, and communicative purpose. Email was commonly associated with greater formality and explicit politeness, whereas WhatsApp allowed greater flexibility between informal and respectful communication. Participants also described emojis and other multimodal resources as useful for modifying tone, reducing ambiguity, and making messages appear friendlier. However, the interview responses indicated that digital features alone did not guarantee contextual appropriateness. A message could contain emojis or other digital resources and still be perceived as inappropriate if its speech act was too direct, impolite, or unsuitable for the intended audience.

These qualitative observations reinforce the stronger relationship between pragmatic competence and contextual appropriateness identified in the correlation and regression analyses. The findings suggest that digital literacy provides users with resources for participating effectively in digital environments, but pragmatic competence determines how appropriately those resources and linguistic forms are deployed. Thus, a user may possess considerable knowledge of emojis, hashtags, hyperlinks, or other platform features without necessarily being able to formulate an appropriate request, refusal, apology, compliment, or expression of opinion. Conversely, a user with strong pragmatic awareness may communicate appropriately even when using relatively few digital features.

Taken together, the findings provide empirical support for the Pragmatics–Digital Literacy Integration Model. The model's central proposition that contextual appropriateness emerges from the interaction between pragmatic competence and digital literacy is supported by the positive

relationships identified in the quantitative analysis and the contextual explanations provided by participants. The findings also demonstrate that effective online communication cannot be reduced to technical knowledge of digital platforms. Rather, successful communication requires users to understand how linguistic choices, speech acts, interpersonal relationships, audience expectations, and platform conventions interact in the construction and interpretation of meaning.

The findings are broadly consistent with Herring's (2013) conceptualisation of computer-mediated discourse as shaped by the interaction between technological features and users' communicative practices. In the present study, differences across Email, WhatsApp, Telegram, and Twitter suggest that communicative practices and contextual appropriateness may vary according to the conventions and affordances of different digital environments. However, the present study provides the empirical evidence for these platform-based differences and for the relationships among digital literacy, pragmatic competence, and contextual appropriateness. It further highlights the importance of treating pragmatic and digital competencies as complementary rather than independent aspects of contemporary communicative competence.

Overall, the findings demonstrate that contextual appropriateness in online communication is shaped by the combined contribution of digital literacy and pragmatic competence. Although both dimensions significantly contribute to contextual appropriateness, pragmatic competence emerged as the stronger predictor in the present study. Digital literacy nevertheless remains important because it provides users with the technological and multimodal resources through which pragmatic meanings can be expressed and interpreted. The study therefore supports the integration of pragmatic instruction and digital literacy within English Language Teaching, particularly in preparing learners to communicate effectively, appropriately, and sensitively across diverse digital environments.

Limitations and Future Research

This study has some limitations. First, the participants were drawn from a single Nigerian university, which may limit the generalisability of the findings to other educational settings and populations. Second, the sample consisted solely of undergraduate students and did not include secondary school learners, English language teachers, or participants from other regions of Nigeria. Third, the study focused on four digital communication platforms—Email, WhatsApp, Telegram, and Twitter—and may therefore not fully capture communication practices across other emerging digital platforms. In addition, the four-week period of data collection provides a relatively limited representation of participants' longer-term digital communication practices.

Future research should extend the PDLIM framework by including participants from multiple universities, secondary schools, and different geopolitical zones in Nigeria to improve the generalisability of the findings. Studies involving English language teachers and classroom observations would provide further insights into how pragmatic competence and digital literacy can be effectively integrated into ELT pedagogy. Longitudinal and intervention-based studies are also recommended to examine the development of these competencies over time and to evaluate the effectiveness of PDLIM-informed instruction in improving learners' contextual appropriateness and online communication skills across different educational levels.

Pedagogical Implications

The findings have important implications for English Language Teaching. First, pragmatic competence and digital literacy should be taught as complementary communicative skills rather than as separate components of language learning. Teachers can incorporate authentic or simulated digital communication tasks, such as composing professional emails, analysing WhatsApp conversations, interpreting speech acts in social media posts, and evaluating the pragmatic functions of emojis, hashtags, hyperlinks, and other multimodal resources. Such classroom activities can help learners develop greater sensitivity to contextual appropriateness across different online platforms.

Although the present study did not directly investigate teachers' classroom practices, its findings provide an empirical basis for designing ELT activities that integrate pragmatic competence with digital literacy. The proposed pedagogical applications should therefore be understood as implications derived from the findings rather than as evidence of teachers' current instructional practices.

The findings also suggest that teacher education programmes should prepare English language teachers to integrate pragmatic instruction with digital literacy practices. This we hope enables teachers to guide learners in adapting language appropriately to different audiences, purposes, interpersonal relationships, and platform conventions. Such preparation can strengthen learners' ability to recognise how politeness, speech acts, tone, and digital features interact in online communication and can reduce misunderstandings arising from inappropriate linguistic or digital choices.

Curriculum Implications of PDLIM

The PDLIM framework can be operationalised in ELT classrooms through practical learning activities that integrate pragmatic competence and digital literacy. For example, students may compare formal and informal email requests, analyse WhatsApp conversations for politeness strategies, interpret the pragmatic functions of emojis and hashtags in social media posts, or rewrite digital messages to improve contextual appropriateness. Teachers can also design role-play activities that require learners to adapt speech acts to different online platforms, audiences, purposes, and interpersonal relationships.

Assessment can be based on a rubric that evaluates three related dimensions: (i) pragmatic competence, including politeness, speech-act appropriateness, clarity, and audience awareness; (ii) digital literacy, including appropriate use of emojis, hyperlinks, hashtags, multimodal resources, and platform conventions; and (iii) contextual appropriateness, including the suitability of language and digital choices to the audience, purpose, relationship, and communication platform.

At the curriculum level, English language programmes may include a dedicated module on Digital Pragmatics and Online Communication, where learners engage in authentic or simulated digital communication tasks across platforms such as Email, WhatsApp, Telegram, and social media. Such a module would enable learners to examine how platform affordances influence communicative choices and how pragmatic competence can be combined with digital literacy to achieve contextually appropriate communication.

Conclusion

The analysis demonstrates that effective online communication depends on the interaction between pragmatic competence and digital literacy. Using the Pragmatics–Digital Literacy Integration Model (PDLIM), the study examined how these two dimensions relate to contextual appropriateness across Email, WhatsApp, Telegram, and Twitter. The findings showed that Email recorded the highest level of contextual appropriateness, followed by WhatsApp, while Twitter recorded the lowest. Both pragmatic competence and digital literacy demonstrated positive relationships with contextual appropriateness and significantly contributed to its prediction, although pragmatic competence emerged as the stronger predictor. The regression model accounted for 78% of the variance in contextual appropriateness, providing substantial empirical support for the central proposition of the PDLIM.

The findings have important implications for English Language Teaching. They demonstrate that digital literacy should not be treated solely as a technical ability to operate digital platforms but as a communicative competence that interacts with pragmatic awareness. Learners need to understand not only how digital tools work but also how linguistic choices, speech acts, politeness strategies, audience relationships, and platform conventions influence the effectiveness of online communication.

The study also demonstrates the continuing relevance of Speech Act Theory in digitally mediated communication. Although the theory provides a useful basis for understanding communicative intentions and illocutionary acts, its application to contemporary digital discourse benefits from attention to multimodal resources and platform-specific conventions. The PDLIM therefore provides an integrated perspective through which pragmatic and digital competencies can be examined together.

In conclusion, pragmatic competence and digital literacy represent complementary dimensions of effective online communication, with pragmatic competence demonstrating the stronger relationship with contextual appropriateness in the present study. The PDLIM contributes a framework for understanding this relationship and provides practical direction for English language teachers, curriculum developers, and teacher educators seeking to prepare learners for appropriate, effective, and context-sensitive communication in increasingly digital academic, professional, and social environments.

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How to cite this article

Ifunanya Laurencia Ebekue, PhD (2026). Pragmatics and Digital Literacy: Developing Contextual Appropriateness and Communication Skills in Online Contexts. Journal of ELTAN (JELTAN), 15(1), 110–127.

Article details

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Peer review	Reviewed before publication
Licence	CC BY 4.0
Published by	English Language Teachers Association of Nigeria