

Undergraduate Students' Needs in Pragmatic Learning: Toward Interactive Electronic Module Development

Eva Fitrianti^{1*}, Syahrul Ramadhan², Agustina²

¹Faculty of Languages and Arts, Padang State University, West Sumatra, Indonesia, ²Department of Indonesian and Regional Language and Literature, Faculty of Languages and Arts, Universitas Negeri Padang, Padang, West Sumatra, Indonesia. *Corresponding Author's Email: evafitrianti@student.unp.ac.id

Abstract

Pragmatic learning in higher education plays an important role in developing students' ability to interpret contextual meaning, analyze communicative intentions, and apply language appropriately in authentic interaction. However, many undergraduate students continue to experience difficulties in understanding pragmatic concepts and applying them in real communicative situations. This study aimed to investigate undergraduate students' learning needs in pragmatic learning as a foundation for designing an interactive electronic module. The study employed an exploratory qualitative needs-analysis design because qualitative inquiry enables an in-depth understanding of students' learning experiences, difficulties, and instructional expectations within authentic educational contexts. Participants consisted of 20 undergraduate students enrolled in a pragmatics course at a private university in Indonesia. Data were collected through questionnaires and focus group discussions (FGDs) and analyzed using thematic analysis. The findings revealed three major themes: (a) instructional and resource-related problems in pragmatic learning, including monotonous lecture-based instruction and limited multimedia learning support; (b) uneven mastery of pragmatic components, particularly implicature, presupposition, deixis, and contextual interpretation; and (c) students' expectations for interactive, multimedia-supported, and context-rich learning environments. Data saturation was reached when no substantially new themes emerged from the discussions. To enhance trustworthiness, triangulation and expert validation were employed throughout the analysis process. The findings highlight the importance of learner-centered pragmatic instruction supported by interactive digital learning materials that facilitate contextual understanding, independent learning, and communicative competence development in higher education.

Keywords: Educational Technology, Interactive Electronic Module, Language Education, Needs Analysis, Pragmatic Learning, Undergraduate Students..

Introduction

Pragmatics is a branch of linguistics that examines how meaning is constructed and interpreted through language use in context. It emphasizes the dynamic interaction between linguistic forms, situational factors, and speakers' intentions in shaping communicative meaning (1). In educational contexts, pragmatic competence is regarded as an essential component of communicative competence because it enables learners to interpret implied meanings, manage interpersonal relations, and use language appropriately across diverse social and cultural situations (2, 3). Consequently, pragmatic instruction plays a crucial role in higher education, where students are expected to demonstrate advanced analytical, interpretative, and evaluative skills in processing authentic language use. At the university level, pragmatics is not merely taught as a theoretical subject but as a means of developing higher-order

cognitive processes, including analysis, synthesis, and evaluation of language phenomena in real-life contexts (4). Prior studies have emphasized that pragmatic learning contributes to students' critical thinking, intercultural awareness, and adaptive language use (5-7). However, empirical evidence consistently shows that pragmatic learning outcomes in higher education remain limited. Many students struggle to connect abstract pragmatic concepts, such as speech acts, implicature, presupposition, deixis, and politeness principles, with authentic communicative practices (8, 9). As a result, pragmatic instruction often becomes theory-driven, decontextualized, and insufficiently responsive to students' communicative realities. To address these challenges, previous research has explored various instructional approaches, including task-based pragmatic instruction, corpus-based learning, and the

This is an Open Access article distributed under the terms of the Creative Commons Attribution CC BY license (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted reuse, distribution, and reproduction in any medium, provided the original work is properly cited.

(Received 03rd March 2026; Accepted 23rd June 2026; Published 22nd July 2026)

development of pragmatic teaching materials. Studies have reported that such approaches can enhance students' pragmatic awareness and comprehension when learning activities are contextualized and systematically designed. Nevertheless, much of this research focuses on isolated instructional strategies or printed teaching materials, with limited attention to sustained learner engagement and multimodal learning experiences (10–13). Moreover, existing pragmatic modules tend to emphasize conceptual understanding rather than facilitating interactive, student-centered learning that supports cognitive engagement and autonomous knowledge construction.

In parallel, rapid developments in educational technology have transformed students' learning habits and expectations. Contemporary undergraduate students are accustomed to accessing information through digital platforms, multimedia resources, and interactive learning environments. Research in educational technology indicates that technology-enhanced learning, particularly when integrating multimedia, interactivity, and flexible access, can foster deeper cognitive processing, motivation, and critical thinking (14). In the context of pragmatic learning, digital technology offers distinctive affordances for presenting authentic communicative situations through audio-visual media, simulations, and interactive tasks, thereby supporting students' understanding of context-dependent meaning (15).

Despite these technological affordances, the integration of interactive electronic modules specifically designed for university-level pragmatic learning remains insufficiently explored. A review of recent literature reveals that while numerous studies address pragmatic competence development, instructional strategies, and technology-enhanced language learning, relatively few studies systematically investigate students' learning needs as the empirical foundation for designing interactive electronic modules for pragmatic instruction (16, 17). In particular, there is a lack of research that simultaneously examines students' learning problems, their mastery of pragmatic components, and their expectations regarding technology-supported pragmatic learning within a coherent needs analysis framework. Without such needs-based evidence, the development of

electronic learning materials risks being driven by technological trends rather than pedagogical relevance.

This study is grounded in three interconnected theoretical perspectives: pragmatic competence theory, constructivist learning theory, and digital pedagogy frameworks (18–22). These perspectives collectively provide the conceptual foundation for understanding students' pragmatic learning difficulties and the pedagogical need for interactive electronic learning materials. From a pragmatic perspective, communicative competence extends beyond grammatical accuracy to include the ability to interpret meaning appropriately within sociocultural and contextual interaction. Canale and Swain's communicative competence framework emphasizes that effective communication involves not only linguistic competence but also sociolinguistic, discourse, and strategic competence (23, 24). In pragmatic learning, students are expected to interpret speaker intention, contextual meaning, implicature, deixis, and interpersonal interaction appropriately in authentic communicative situations. Similarly, Bachman's communicative language ability model highlights the integration of language competence, strategic competence, and contextual language use as essential components of effective communication (25). These perspectives indicate that pragmatic competence requires contextual interpretation, inferential reasoning, and communicative adaptability rather than memorization of isolated linguistic concepts.

Learning is viewed as an active and socially mediated process in which individuals construct knowledge through collaborative interaction, contextual experiences, and engagement with their learning environment (26). Within this perspective, pragmatic understanding develops more effectively when students actively negotiate meaning, analyze authentic discourse, and participate in socially situated learning experiences. Learner-centered approaches, therefore, become particularly important in pragmatic instruction because contextual meaning cannot be fully understood through transmissive lecture-based learning alone. In addition, this study draws upon digital pedagogy and multimedia learning perspectives to support the integration of interactive electronic modules into pragmatic learning environments (27). Cognitive theory of

multimedia learning explains that students learn more effectively when verbal and visual information are meaningfully integrated through multimodal representation (27, 28). Similarly, technology-enhanced language learning frameworks emphasize that digital learning environments can facilitate contextual exposure, interactional engagement, flexible access, and authentic communication experiences (25). The integration of multimedia resources, audiovisual discourse, and interactive contextual scenarios may therefore support deeper pragmatic interpretation and student engagement in higher education learning contexts. Taken together, these theoretical perspectives provide an integrated conceptual foundation for examining students' pragmatic learning needs and for developing learner-centered interactive electronic modules that support contextual understanding, communicative competence, and digital learning engagement (29–32).

Taken together, these theoretical perspectives suggest that pragmatic competence development requires contextualized communicative interaction, socially mediated learning processes, and multimodal instructional support. Pragmatic understanding cannot be constructed solely through conceptual explanation because learners must actively negotiate meaning, interpret contextual cues, and engage with authentic communicative situations. From this perspective, interactive electronic modules may function not merely as technological tools but as pedagogically grounded learning environments that facilitate contextual interpretation, collaborative meaning-making, learner autonomy, and multimodal pragmatic engagement.

Responding to this gap, the present study conducts an in-depth needs analysis of undergraduate students enrolled in a pragmatics course (33). This study examines the major challenges faced by undergraduate students in pragmatic learning, analyzes their level of mastery of essential pragmatic components, and investigates their expectations regarding the development of an interactive electronic module for pragmatic instruction. The contribution of this study extends beyond simply promoting the integration of digital technology in education. Instead, it offers empirically based insights to support the pedagogically informed design of interactive

electronic learning materials tailored to students' cognitive characteristics, learning needs, and pragmatic understanding. The proposed instructional orientation highlights the importance of interactivity, multimodal representation, contextual learning, multiliteracy, and the integration of emerging digital technologies, including artificial intelligence, to foster more meaningful and engaging pragmatic learning experiences. Accordingly, this study aims to explore students' difficulties in pragmatic learning, evaluate their understanding of core pragmatic concepts and contextual meaning, and identify their expectations for interactive digital modules in higher education settings.

Accordingly, this study addresses the following research questions:

- (a) What learning problems do undergraduate students experience in learning pragmatics?
- (b) How is the distribution of undergraduate students' mastery of core pragmatic components? and
- (c) What are undergraduate students' expectations for an interactive electronic module in pragmatic learning?

By answering these questions, the study aims to contribute theoretically to pragmatic education research and pedagogically to the design of technology-supported pragmatic instruction in higher education. The findings are expected to provide practical guidance for educators, instructional designers, and policymakers in developing interactive electronic modules that support higher-order cognitive processes and pragmatic competence among undergraduate students.

Methodology

Study Design and Setting

This study employed an exploratory qualitative needs-analysis design to investigate undergraduate students' learning needs in pragmatic learning as a foundation for developing an interactive electronic module. A qualitative approach was considered appropriate because it enables researchers to explore participants' experiences, perceptions, and instructional expectations in depth while capturing the complexity of educational phenomena within authentic learning environments (34–37). In needs-analysis research, qualitative inquiry is particularly useful for identifying discrepancies

between existing instructional practices and learners' actual educational needs, especially during the preliminary stages of instructional material development.

The study was conducted in the Indonesian Language and Literature Education program at a private university in Indonesia. Pragmatics is offered as a compulsory course within the curriculum and focuses on contextual meaning, speech acts, implicature, politeness, deixis, and discourse interpretation in communicative interaction. The educational setting was selected because students had previously demonstrated varying levels of difficulty in understanding pragmatic concepts and applying them in authentic communicative situations. Rather than testing predetermined hypotheses, this study sought to generate empirically grounded insights into students' pragmatic learning difficulties, their understanding of pragmatic components, and their expectations regarding technology-supported learning environments. Such an exploratory orientation supports the development of pedagogically responsive instructional materials grounded in learners' actual experiences and educational contexts instead of relying solely on prescriptive theoretical assumptions (38).

Study Participants and Sampling

Participants consisted of 20 undergraduate students enrolled in a pragmatics course during the 2025/2026 academic year. Participants were selected through purposive sampling because the study targeted students with direct experience of pragmatic learning in higher education contexts. Inclusion criteria included:

- (a) active enrollment in the pragmatics course,
- (b) willingness to participate voluntarily, and
- (c) completion of the learning activities during the semester.

Students who did not complete the questionnaire or were absent during the focus group discussions were excluded from the study. No participants withdrew during the research process.

To obtain more in-depth qualitative insights, five students were invited to participate in focus group discussions (FGDs). These participants represented different levels of academic achievement, categorized as high, medium, and low based on course performance records and lecturer recommendations. The inclusion of participants with diverse academic backgrounds was intended

to capture varied perspectives regarding pragmatic learning experiences and instructional needs.

Data saturation was used as an indicator of sample adequacy. Saturation was considered achieved when no substantially new themes, patterns, or perspectives emerged from subsequent focus group discussions, indicating that sufficient depth and variation of participants' experiences had been obtained. Participation was entirely voluntary and did not influence students' academic grades, lecturer evaluation, or course standing.

Data Collection Tool and Technique

Data were collected using two primary instruments: questionnaires and focus group discussions (FGDs). The use of multiple instruments enabled methodological triangulation and enhanced the credibility of the findings by allowing comparison across different data sources. The questionnaire was designed to identify students' learning experiences, perceived difficulties in pragmatic learning, understanding of pragmatic components, and expectations regarding interactive electronic learning materials. Questionnaire items consisted of both closed-ended and open-ended responses to obtain descriptive and reflective data.

Qualitative data were subsequently collected through focus group discussions guided by 12 semi-structured prompts covering five domains:

- (a) learning difficulties in pragmatics,
- (b) understanding of pragmatic concepts,
- (c) contextual interpretation,
- (d) instructional experiences, and
- (e) expectations toward interactive digital learning materials.

The semi-structured format allowed participants to elaborate on their experiences flexibly while maintaining thematic consistency across discussions. All FGDs were conducted in small groups to encourage interaction, collaborative reflection, and exchange of perspectives among participants. Each session lasted approximately 60–90 minutes and was audio-recorded with participants' consent. Preliminary interpretations from both questionnaires and FGDs were subsequently reviewed through expert consultation with two senior scholars in language education to strengthen interpretative credibility and analytical accuracy.

Ethical Consideration

This study received ethical approval from the Research Ethics Committee of Universitas Negeri Padang under approval number 2372/UN35.15/TU/2026. Before data collection, all participants were informed about the objectives of the study, research procedures, confidentiality measures, and their right to withdraw from participation at any stage without academic consequences. Written informed consent was obtained from all participants before the commencement of data collection.

To ensure anonymity and confidentiality, participants' identities were replaced with coded identifiers throughout the research and reporting processes. Because the study involved focus group discussions, participants were additionally informed that complete confidentiality among group members could not be fully guaranteed. All digital recordings, transcripts, and research documents were securely stored and accessed only by the research team.

Statistical Analysis Method

Data analysis followed a thematic analysis approach to identify, analyze, and interpret patterns emerging from participants' responses. Questionnaire data were first tabulated descriptively to identify general trends related to students' learning experiences, pragmatic competence, and instructional expectations. These descriptive findings served as an initial analytical framework for interpreting the qualitative data obtained from the focus group discussions.

Audio-recorded discussions were transcribed verbatim and analyzed through several coding stages. First, open coding was conducted to identify meaningful units related to students' learning difficulties, contextual understanding, and expectations toward technology-supported instruction. Second, axial coding was employed to categorize related codes into broader conceptual themes. Finally, selective coding was applied to synthesize the categories into overarching thematic findings.

To enhance analytical reliability, two researchers independently reviewed and coded the transcripts before discussing differences in interpretation to achieve consensus. Constant comparison techniques were employed throughout the analytical process to ensure that themes remained grounded in participants' perspectives rather than the

researcher's assumptions.

Results

The data on student needs analysis sourced from the distribution of questionnaires and interviews raise problems in learning, the distribution of pragmatic components, as well as students' suggestions and expectations for pragmatic learning. The data reveal three main themes that describe the experience of students who have gone through a pragmatic learning process in achieving learning goals.

Problems Encountered in Pragmatic Learning

The questionnaire and focus group discussion findings indicate that undergraduate students encounter various interconnected challenges in pragmatic learning. These difficulties involve instructional approaches, conceptual understanding, and limitations in learning resources. Five major issues were identified, namely monotonous teaching practices, difficulties in understanding pragmatic concepts, limited access to learning materials, lack of innovative instructional media, and low engagement with academic references.

Questionnaire data revealed that pragmatic instruction is still largely dominated by lecture-based teaching, resulting in minimal classroom interaction and limited opportunities for students to apply pragmatic concepts within authentic communicative situations. Findings from the focus group discussions further suggest that this instructional pattern contributes to reduced learning motivation and passive participation during classroom activities. Students also expressed considerable difficulty in comprehending pragmatic concepts, particularly when theoretical explanations were presented without sufficient contextual illustrations or practical examples. Another major issue relates to the accessibility of learning resources. Participants reported that existing pragmatic textbooks are often highly theoretical and difficult to understand independently, causing students to depend heavily on lecturers' explanations. Furthermore, the limited availability of multimedia-supported learning media was perceived as a barrier to understanding pragmatic phenomena, especially those involving contextual interpretation and interpersonal meaning. Low engagement with academic references further intensified these

challenges, as many students acknowledged that limited study time reduced their opportunities for independent reading and exploration.

The questionnaire and focus group discussion findings indicate that undergraduate students encounter various interconnected challenges in pragmatic learning. These difficulties involve instructional approaches, conceptual understanding, and limitations in learning resources. Five major issues were identified, namely monotonous teaching practices, difficulties in understanding pragmatic concepts, limited access to learning materials, lack of innovative instructional media, and low engagement with academic references.

Questionnaire data revealed that pragmatic instruction is still largely dominated by lecture-based teaching, resulting in minimal classroom interaction and limited opportunities for students to apply pragmatic concepts within authentic communicative situations. Findings from the focus group discussions further suggest that this instructional pattern contributes to reduced learning motivation and passive participation during classroom activities. Students also expressed considerable difficulty in comprehending pragmatic concepts, particularly when theoretical explanations were presented without sufficient contextual illustrations or practical examples. Another major issue relates to the accessibility of learning resources. Participants reported that existing pragmatic textbooks are often highly theoretical and difficult to understand independently, causing students to depend heavily on lecturers' explanations. Furthermore, the limited availability of multimedia-supported learning

media was perceived as a barrier to understanding pragmatic phenomena, especially those involving contextual interpretation and interpersonal meaning. Low engagement with academic references further intensified these challenges, as many students acknowledged that limited study time reduced their opportunities for independent reading and exploration.

The findings indicate that undergraduate students experience several interconnected challenges in pragmatic learning related to instructional practices, conceptual understanding, and learning resources. Five major problems emerged from the data: monotonous lecture-based instruction, difficulty understanding pragmatic concepts, limited accessibility of learning materials, lack of innovative instructional media, and low engagement with academic references.

Questionnaire and focus group discussion data revealed that pragmatic instruction remains predominantly lecture-oriented, resulting in limited classroom interaction and reduced opportunities for students to apply pragmatic concepts in authentic communicative contexts. Most participants also reported difficulty understanding abstract pragmatic concepts when explanations were not accompanied by contextualized examples or practical illustrations. In addition, students perceived existing pragmatics textbooks as highly theoretical and difficult to study independently, leading to strong dependence on lecturers' explanations. Figure 1 illustrates the major problems students encounter in pragmatic learning.

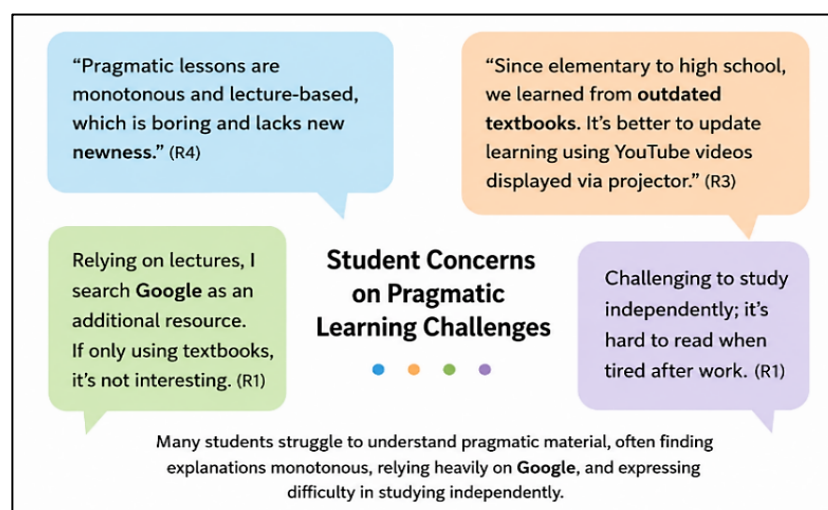


Figure 1: Problems Encountered in Undergraduate Pragmatic Learning

Overall, the findings suggest that students' difficulties in pragmatic learning are influenced not only by the complexity of pragmatic concepts but also by instructional limitations and insufficient multimedia-supported learning resources.

Distribution of Students' Mastery of Pragmatic Components

The second major finding concerns the uneven distribution of students' mastery of core pragmatic components. Questionnaire data indicate that certain pragmatic topics are more frequently understood than others, reflecting selective rather

than comprehensive acquisition of pragmatic knowledge. Speech acts constitute the most commonly mastered pragmatic component, with 14 out of 20 students (70%) reporting familiarity with the concept. Politeness principles were identified by 12 students (60%), whereas only six students (30%) demonstrated familiarity with implicature and the cooperative principle. Presupposition and deixis emerged as the least-mastered components, each recognized by only four students (20%). Figure 2 presents the distribution of students' mastery across core pragmatic components.

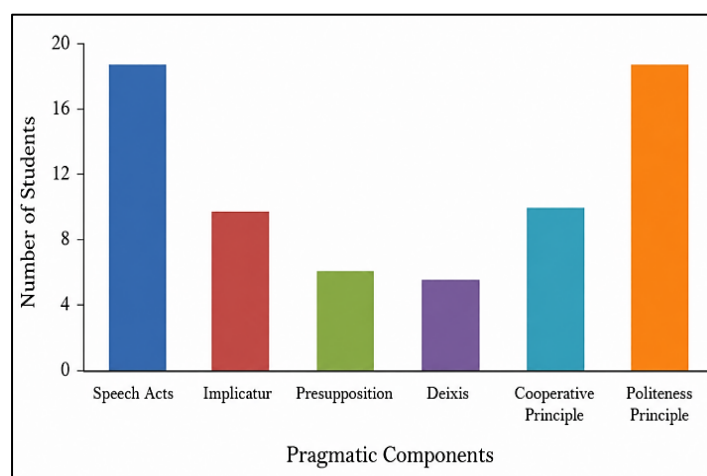


Figure 2: Distribution of Students' Mastery of Core Pragmatic Components

The findings indicate that students tend to demonstrate a stronger understanding of pragmatic components that are explicitly taught and frequently illustrated during classroom instruction. In contrast, components involving inferential reasoning, contextual interpretation, and abstract meaning construction remain considerably more challenging for students.

Students' Understanding of Context in Pragmatic Learning

Students' understanding of context emerged as a critical area of difficulty in pragmatic learning. Interview responses indicate that most students conceptualize context in a limited manner, often

equating it with general situational conditions rather than recognizing its multidimensional nature. Questionnaire data reveal substantial differences in students' understanding of extralinguistic and intralinguistic contexts.

Among extralinguistic contextual dimensions, cultural context was the most recognized component, identified by 12 students (60%). Social context was recognized by eight students (40%), while situational and societal contexts were identified by seven students (35%) and six students (30%), respectively. Epistemic context demonstrated the lowest level of recognition, with only four students (20%) reporting familiarity.

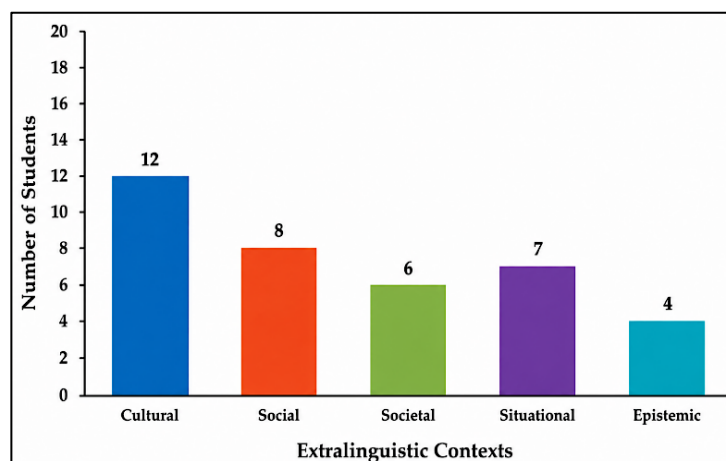


Figure 3: Distribution of Students' Understanding of Extralinguistic Contexts

The distribution presented in Figure 3 suggests that students are generally more familiar with extralinguistic contexts closely associated with everyday communication, particularly cultural and social contexts. Cultural context appears as the most widely recognized component, indicating that students are more capable of connecting pragmatic meaning with shared cultural practices, norms, and communicative experiences. Conversely, the relatively limited recognition of epistemic context indicates that students have difficulty understanding the contextual dimensions of knowledge states, assumptions, and shared

background information between speakers and listeners.

Regarding intralinguistic context, intonation was recognized by nine students (45%), followed by stress identified by eight students (40%). In contrast, duration was recognized by only five students (25%), while silence as a pragmatic cue was identified by merely three students (15%). These findings indicate that students possess limited awareness of prosodic and temporal features that contribute to pragmatic interpretation.

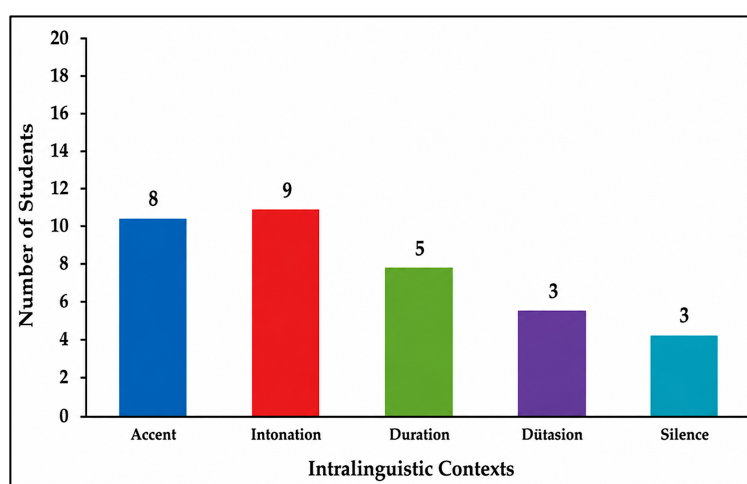


Figure 4: Distribution of Students' Understanding of Intralinguistic Contexts

Figure 4 demonstrates that students have a relatively narrow understanding of intralinguistic context. Most students recognize intonation and stress because these features are more noticeable in spoken communication. However, only a small number of students identify duration and silence as meaningful contextual cues.

Students' Expectations for Pragmatic Learning Supported by an Interactive Electronic Module

The final theme concerns students' expectations regarding future pragmatic learning environments. Participants consistently expressed a preference for pragmatic instruction supported by interactive electronic modules that are accessible,

concise, multimedia-supported, and compatible with their learning habits. Students expected pragmatic learning materials to provide contextual explanations, authentic communicative examples, audiovisual resources, animations, and interactive learning activities. They also emphasized the importance of varied instructional approaches, including case-based learning, project-oriented

tasks, and collaborative discussions. In addition, flexible technological access through hyperlinks and compatibility with commonly used digital devices were identified as important features of future pragmatic learning materials. Figure 5 summarizes the major components expected in an interactive electronic pragmatics module.

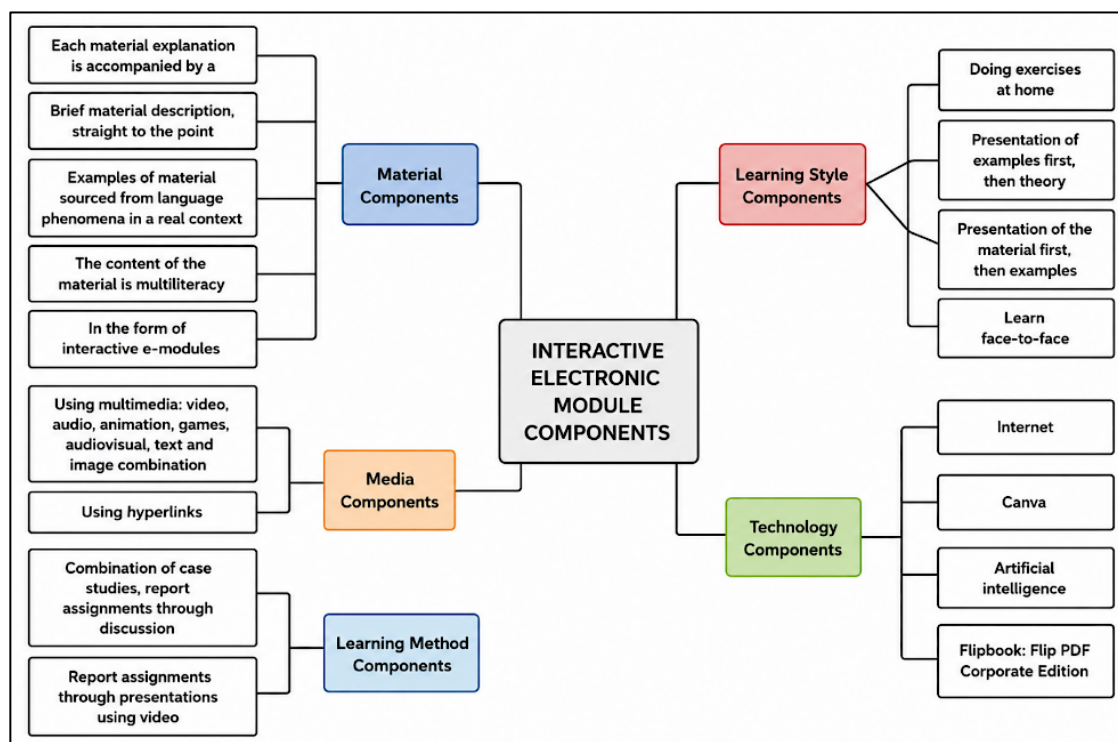


Figure 5: Key Components Expected in an Interactive Electronic Pragmatics Module

Overall, the findings indicate that students expect pragmatic learning environments that integrate contextual learning, multimodal representation, interactive engagement, and flexible digital accessibility. The results reveal that interconnected instructional, cognitive, and resource-related challenges characterize undergraduate students' pragmatic learning. Students demonstrate uneven mastery of core pragmatic components, with stronger understanding of more explicitly taught topics and limited awareness of context-dependent and inferential aspects of pragmatics. The findings also indicate that students possess a narrow and fragmented understanding of pragmatic context, particularly intralinguistic and epistemic dimensions. At the same time, students clearly articulate expectations for pragmatic learning that is interactive, multimedia-supported, and aligned with their learning characteristics. Taken together, these results provide a comprehensive empirical basis for understanding

students' pragmatic learning needs and serve as a foundation for further discussion on pedagogically driven instructional design.

Discussion

The present study aimed to investigate undergraduate students' learning needs in pragmatic learning as a foundation for designing an interactive electronic module. The findings provide empirical evidence that pragmatic learning challenges are not solely cognitive in nature but emerge from the interaction between instructional practices, learning resources, and students' learning characteristics. This section discusses the findings in relation to recent theoretical and empirical studies in pragmatics education and technology-enhanced language learning (17, 39).

Instructional Practices and Students' Difficulties in Pragmatic Learning

The findings indicate that monotonous, lecture-dominated instruction remains a central issue in pragmatic learning. This instructional pattern limits students' opportunities to actively engage with pragmatic phenomena and to apply theoretical concepts in authentic communicative contexts. Although previous studies have primarily interpreted students' pragmatic difficulties as consequences of linguistic complexity and inferential processing demands, the present findings suggest a broader instructional dimension. Students' difficulties were not limited to understanding abstract pragmatic concepts but were also strongly associated with restricted contextual exposure, limited multimodal learning support, and insufficient opportunities for authentic communicative engagement. The overall evidence demonstrates that pragmatic competence development is shaped not only by cognitive processing but also by the accessibility and pedagogical quality of instructional environments (40–42).

Students' reported difficulty in understanding pragmatic concepts further supports the argument that pragmatics cannot be effectively learned through decontextualized instruction alone (29–32, 43). Pragmatic meaning is inherently context-dependent and inferential, requiring learners to actively interpret speakers' intentions, social relationships, and situational cues. When instruction fails to provide sufficient contextual grounding, students are more likely to memorize definitions rather than develop functional pragmatic competence. This explains why students within the present context reported difficulty connecting pragmatic theories to everyday language use.

Similar instructional challenges have also been reported in higher education contexts across East Asia and Middle Eastern EFL environments, where pragmatic instruction frequently remains theory-oriented and insufficiently contextualized. However, unlike several previous studies emphasizing solely linguistic limitations, the present findings highlight the combined influence of instructional design, learning resources, and digital accessibility on students' pragmatic development.

Uneven Mastery of Pragmatic Components

The uneven distribution of students' mastery of pragmatic components reflects differential cognitive demands across pragmatic topics. Speech acts and politeness principles, which were reported as the most mastered components, are often introduced through explicit categorization and familiar communicative routines. These components are relatively observable and can be illustrated through concrete examples, making them more accessible to learners. In contrast, implicature, presupposition, deixis, and contextual interpretation require higher levels of inferential reasoning and sensitivity to implicit meaning. Recent research emphasizes that these components are particularly challenging because they rely on learners' ability to integrate linguistic cues with background knowledge and contextual assumptions (42). The fragmented mastery observed within the present context suggests that pragmatic instruction may prioritize surface-level components while insufficiently scaffolding deeper pragmatic reasoning processes. This finding reinforces the need for instructional designs that systematically integrate complex pragmatic components into meaningful, context-rich learning activities.

Limited Understanding of Context as a Core Pragmatic Issue

One of the most critical findings of this study is students' limited understanding of context, particularly intralinguistic and epistemic contexts. Although students demonstrated some awareness of cultural and social contexts, their understanding remained partial and fragmented. This finding resonates with recent conceptualizations of context in pragmatics, which emphasize that meaning emerges from the dynamic interaction of linguistic, cognitive, and socio-cultural factors (29, 44). The limited recognition of intralinguistic contextual features such as intonation, stress, duration, and silence indicate that students tend to focus on propositional meaning rather than pragmatic meaning conveyed through prosodic and temporal cues. Recent studies in pragmatic competence development highlight that insufficient exposure to authentic spoken discourse contributes to learners' inability to interpret such cues effectively (45). This finding underscores the importance of incorporating

audio-visual and multimodal resources into pragmatic instruction to support holistic meaning-making.

Students' Expectations and the Need for Interactive Electronic Modules

Students' strong preference for interactive electronic modules reflects broader shifts in learning culture and technology use among undergraduate learners. Contemporary students increasingly expect learning materials to be accessible, concise, and supported by multimedia resources that facilitate independent and flexible learning (46). The expectation for multimedia-rich content, such as videos, animations, and interactive tasks, suggests that students perceive these features as essential for understanding pragmatic phenomena that are difficult to capture through text alone. Importantly, students within the present context did not merely express a desire for technology but articulated specific pedagogical expectations, including varied learning methods, contextual explanations, and authentic examples. This finding supports recent arguments that effective technology integration must be pedagogy-driven rather than technology-driven. Interactive electronic modules that align with students' cognitive needs and learning preferences can serve as mediational tools that bridge the gap between pragmatic theory and real-world language use.

Practical Implications for Higher Education

The findings of this study provide several practical implications for pragmatic instruction in higher education contexts. First, curriculum development should place greater emphasis on contextualized and interaction-oriented pragmatic learning rather than predominantly theory-driven instruction. Pragmatic learning activities should incorporate authentic communicative situations, collaborative meaning negotiation, and multimodal contextual representation to support students' interpretative abilities (11).

Second, lecturer preparedness plays an important role in the successful implementation of technology-supported pragmatic learning (20, 21). Lecturers may require professional development and pedagogical training related to digital instructional design, multimodal learning strategies, and technology-enhanced language learning practices. Without sufficient pedagogical

readiness, digital learning tools may function merely as technological supplements rather than meaningful learning environments.

Third, the implementation of interactive electronic modules should consider technological accessibility and institutional readiness. The integration of pragmatic learning materials into learning management systems (LMS), blended learning environments, and mobile-accessible platforms may enhance flexibility, independent learning, and continuous engagement with pragmatic content beyond classroom settings (18, 47). Finally, the findings suggest that effective pragmatic instruction requires alignment among curriculum objectives, instructional design, lecturer competence, and technological infrastructure. Interactive electronic modules, therefore, should be developed not only as digital products but also as pedagogically grounded learning systems that support contextual understanding, inferential reasoning, and authentic communicative competence in higher education.

Conclusion

This study demonstrates that undergraduate students' challenges in pragmatic learning extend beyond the inherent complexity of pragmatic concepts to include instructional constraints, limited contextual engagement, and insufficient access to interactive learning resources. The findings reveal uneven development of pragmatic competence, particularly in areas requiring inferential interpretation, contextual sensitivity, and intralinguistic awareness, suggesting that students' pragmatic understanding remains fragmented rather than integrative. The study further highlights the importance of learning environments that are contextualized, multimodal, interactive, and digitally accessible in supporting pragmatic competence development. Rather than functioning merely as supplementary technological tools, interactive electronic modules may serve as pedagogically grounded environments that facilitate contextual interpretation, authentic communicative engagement, and learner-centered meaning-making processes. Theoretically, these findings reinforce contemporary perspectives that position pragmatic competence as a socially mediated and context-dependent construct requiring cognitively supportive instructional experiences. Pedagogically, the study provides an empirical basis for the design of technology-

enhanced pragmatic learning materials integrating authentic discourse, multimodal representation, and flexible digital accessibility within higher education contexts.

Although this study provides empirical insights into students' needs for interactive electronic modules in pragmatic learning, several limitations should be considered. The study involved a relatively small number of participants from a specific higher education context, which may limit the broader transferability of the findings. Therefore, future studies are recommended to involve larger and more diverse participant groups across different educational settings and further examine the effectiveness of interactive electronic modules through experimental or longitudinal research designs. Overall, the study underscores the need to reconceptualize pragmatic instruction beyond predominantly theory-oriented approaches toward more contextualized, interaction-oriented, and technologically responsive learning practices capable of supporting meaningful and sustainable pragmatic competence development in contemporary higher education.

Abbreviations

AI: Artificial Intelligence, EFL: English as a Foreign Language, ESL: English as a Second Language, ICT: Information and Communication Technology, LMS: Learning Management System.

Acknowledgment

The authors would like to express their sincere gratitude to the undergraduate students who voluntarily participated in the present context and shared their learning experiences and perspectives. Appreciation is also extended to the lecturers and academic staff of the Indonesian Language and Literature Education program for their support during the data collection process. The authors are particularly grateful to the experts in language education who provided valuable feedback on the research instruments and data interpretation. Any remaining errors or limitations are the sole responsibility of the authors.

Author Contributions

Eva Fitrianti: Conceptualization, Data Collection, Formal Analysis, Writing Original Draft Preparation, Syahrul Ramadhan: Supervision, Validation, Writing Review, Editing, Agustina: Methodology, Validation, Writing Review, Editing.

Conflict of Interest

The authors declare no conflict of interest.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Artificial Intelligence (AI) Assistance

During the preparation of this manuscript, the authors used Grammarly to support language refinement and editing. ChatGPT was also used to assist with language polishing and the refinement of figure presentation, including improving visual clarity, formatting, and layout. The AI-assisted tools were not used for study design, data collection, data analysis, data interpretation, or the generation of scientific conclusions. All figures, data, and scientific content were prepared, reviewed, verified, and finalized by the authors. The authors take full responsibility for the accuracy, originality, and final version of the manuscript.

Ethics Approval

This study received ethical approval from the Research Ethics Committee of Universitas Negeri Padang under approval number: 2372/UN35.15/TU/2026. All participants were informed about the objectives of the study, confidentiality procedures, voluntary participation, and their right to withdraw at any stage without academic consequences. Written informed consent was obtained before data collection.

To maintain confidentiality, participants' identities were anonymized using coded identifiers. Because the study involved focus group discussions, participants were additionally informed that complete confidentiality among group members could not be fully guaranteed. All digital recordings, transcripts, and research data were securely stored and accessed only by the research team.

Funding

This research received no external funding.

References

1. Ifantidou E. Non-propositional effects in verbal communication: The case of metaphor. *J Pragmat.* 2021;181:6–16.

- <https://linkinghub.elsevier.com/retrieve/pii/S0378216621001831>
2. Cai L, Wang Y. Interlanguage pragmatics in SLA. *Theory Pract Lang Stud* [Internet]. 2013;3(1):142–7. <https://doi.org/10.4304/tpls.3.1.142-147>
 3. Rasouli Khorshidi H, Bagherzadeh Nimchahi A. Motivation and interlanguage pragmatics in Iranian English language learners. *English Lang Teach* [Internet]. 2013;6(6):86–96. https://doi.org/10.5539/elt.v6n6p86?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle
 4. Roever C, Higuchi Y, Sasaki M, Yashima T, Nakamuro M. Validating a test of L2 routine formulae to detect pragmatics learning in stay abroad. *Appl Pragmat* 2023;5(1):41–63. <https://doi.org/10.1075/ap.20015.roe>
 5. Qi M, Thai YN. Cognitive salience features enhance multitask deep learning for pragmatic reasoning across cultures. *Sci Rep* 2026;16(1). <https://doi.org/10.1038/s41598-026-40809-8>
 6. Morady Moghaddam M. Enhancing language learners' pragmatic skills through augmented reality: the speech act of request in the spotlight. *Innov Lang Learn Teach*. 2025;1-21. <https://doi.org/10.1080/17501229.2025.2544018>
 7. Chuah KM, Kabilan MK. The Development of Mobile Applications for Language Learning: A Systematic Review of Theoretical Frameworks. *Int J Learn Teach Educ Res*. 2022;21(8):253–270. <https://doi.org/10.26803/ijlter.21.8.15>
 8. Sun Q, Qu P. Measuring Secondary School English Teachers' Professional Competencies: Scale Development and Validation. *SAGE Open*. 2026;16(1). <https://doi.org/10.1177/21582440251412777>
 9. Kupchyk L, Litvinchuk A, Danyliuk O. Digital competency of university language teachers in Ukraine: A state-of-the-art analysis. *JALT CALL*. 2025;21(2). <https://doi.org/10.29140/jaltcall.v21n2.102631>
 10. Yang H, Ren W. Pragmatic awareness and second language learning motivation: A mixed-methods investigation. *Pragmat Cogn*. 2019;26(2–3):447–473. <https://doi.org/10.1075/pc.19022.yan>
 11. Ravari RK, Rashidi N. Interlanguage Pragmatic Learning Strategies (IPLS) as Predictors of Iranian EFL Learners' Comprehension of Conversational Implicature: Structural Equation Modeling Approach. *J Asia TEFL*. 2024;21(1):139–160. <https://doi.org/10.18823/asiatefl.2024.21.1.8.139>
 12. Tajeddin Z, Malmir A. Learners' Use of Pragmatic Learning Strategies Across Language Learning Experience and Gender: An Investigation Framed by Rebecca Oxford's Taxonomy of Learning Strategies. *Lang Teach Res Q*. 2024;41:99–115. <https://doi.org/10.32038/ltrq.2024.41.08>
 13. Banerjee S, Firtell J. Pedagogical models for enhancing the cross-cultural online public health learning environment. *Health Educ J*. 2017;76(5):622–631. <https://doi.org/10.1177/0017896917710970>
 14. Maba A, Sakar MH. EFFECTS OF TECHNOLOGY-ENHANCED ACTIVE LEARNING ON THE MUSICAL CREATIVITY OF GIFTED STUDENTS. *Creat Stud*. 2025;18(1):79–99. <https://doi.org/10.3846/cs.2025.16335>
 15. Angganing P, Budiningsih CA, Haryanto. The Profile of Students' Communication Skills on Science Learning in Elementary Schools. *Pegem Egit ve Ogr Derg*. 2022;13(1):117–124. <https://doi.org/10.47750/pegegog.13.01.14>
 16. Masrour MR, Babaii E, Atai MR. Interlanguage Pragmatics: Iranian EFL Teachers' Cognition. *Alberta J Educ Res*. 2019 10;65(3):238–257. <https://orcid.org/0000-0002-4164-4115>
 17. Taguchi N, Li S. Contrastive Pragmatics and Second Language (L2) Pragmatics: Approaches to Assessing L2 Speech Act Production. *Contrastive Pragmat*. 2021;2(1):1–23. <https://doi.org/10.1163/26660393-BJA10014>
 18. Lähdesmäki S, Maunumäki M, Nurmi T. Play is the Base! ECEC Leaders' Views on the Development of Digital Pedagogy. *Early Child Educ J* [Internet]. 2024;52(8):1897–1910. <https://doi.org/10.1007/s10643-023-01530-7>
 19. Bećirović S. What Is Digital Pedagogy? In: Springer Briefs in Education. International Burch University, Sarajevo, Bosnia and Herzegovina: Springer Science and Business Media B.V. 2023:1–13. https://doi.org/10.1007/978-981-99-0444-0_1
 20. Poznansky R, Pryimak L, Apelt H, Savchuk N, Kopchak L. Transforming Foreign Language Education: The Role of AI-Based Adaptive Learning Systems in Enhancing Personalized Learning Amid Global Instability. *Metaverse Basic Appl Res*. 2025;4. <https://doi.org/10.56294/mr2025179>
 21. Huang JY, Cai S, Huang Z, et al. Analyses of child cardiometabolic phenotype following assisted reproductive technologies using a pragmatic trial emulation approach. *Nat Commun*. 2021;12(1). <https://doi.org/10.1038/s41467-021-25899-4>
 22. Higgins C, Furukawa GK. Localizing the transnational call center industry: Training creole speakers in Dominica to serve Pidgin speakers in Hawai'i. *J Socioling* [Internet]. 2020;24(3):613–33. <https://doi.org/10.1111/josl.12437>
 23. Berezenko V, Cherkhava O, Musiienko Y. Communicative Language Teaching Approach In Promoting The Linguistic Competence Of Efl Learners. *Adv Educ*. 2022;2022(20):88–96. <https://doi.org/10.20535/2410-8286.224016>
 24. Wenqi D, Khan A, Subramaniam I. Intercultural Communicative Competence of Chinese Language Learners in the Democratic Republic of the Congo. *Lang Matters* [Internet]. 2025;56(1):44–66. <https://doi.org/10.1080/10228195.2024.2446899>
 25. Rahmanu IWED, Molnár G. Virtual reality in English language education: A systematic review of opportunities and challenges in higher education. *Acta Psychol (Amst)*. 2026. <https://doi.org/10.1016/j.actpsy.2026.106358>
 26. Vygotsky, Lev S. *Mind in Society: The Development of Higher Psychological Processes*. Edited by Michael Cole, Vera John-Steiner, Sylvia Scribner, and Ellen Souberman. Cambridge, MA: Harvard University Press. 1978. <https://doi.org/10.2307/j.ctvjf9vz4>
 27. Hakim FN, Solechan A. Design and implementation multimedia learning success for vocational schools. *Int J Electr Comput Eng*. 2018;8(2):1067–1073.

- <http://doi.org/10.11591/ijece.v8i2.pp1067-1073>
28. Mayer RE. The Past, Present, and Future of the Cognitive Theory of Multimedia Learning. *Educ Psychol Rev* . 2024;36(1):8.
<https://doi.org/10.1007/s10648-023-09842-1>
 29. Rahardi KR. Social-Societal Context Element Changes in Cyberpragmatics Perspective. *Theory Pract Lang Stud* . 2023;13(11):2771–2779.
<https://doi.org/10.17507/tpls.1311.06>
 30. Sedaghatgoftar N, Reiterer SM. Second language pragmatics aptitude. *Cogent Arts Humanit* . 2022;9(1).
<https://doi.org/10.1080/23311983.2022.2129473>
 31. Wei REN, Li S, Xiaoxuan LÜ. A Meta-analysis of the Effectiveness of Second Language Pragmatics Instruction. *Appl Linguist*. 2023;44(6):1010–29.
<https://doi.org/10.1093/applin/amac055>
 32. Ton-Nu AT, Nguyen LT. Pragmatics and Instructional Pragmatics in Second/Foreign Language Preservice Teacher Education: A Case Study in Australia and Vietnam. *RELJ*. 2024;55(3):748–63.
<https://doi.org/10.1177/003368822311871>
 33. Andor J. István Kecskés: The socio-cognitive approach to communication and pragmatics. *Folia Linguist* 2024;58(2):563–9.
<https://link.springer.com/book/10.1007/978-3-031-30160-5>
 34. Dyar KL. Qualitative inquiry in nursing: Creating rigor. *Nurs Forum*. 2022;57(1):187–200.
<https://doi.org/10.1111/nuf.12661>
 35. Kingsley J. Visual Methodology in Classroom Inquiry: Enhancing Complementary Qualitative Research Designs. *Alberta J Educ Res*. 2010;55(4):534–48.
<https://doi.org/10.55016/ojs/ajer.v55i4.5534430>
 36. Kniffin LE, Priest K. Qualitative inquiry in leadership development: An overview for practitioner-scholars. *New Dir student Leadersh*. 2022;(175):93–103.
<https://doi.org/10.1002/yd.20523>
 37. Walther J, Sochacka NW, Benson LC, Bumbaco AE, Kellam N, Pawley AL, Phillips CML. Qualitative Research Quality: A Collaborative Inquiry Across Multiple Methodological Perspectives. *J Eng Educ*. 2017;106(3):398–430.
<https://doi.org/10.1002/jee.20170>
 38. Zydny JM, Warner Z, Angelone L. Learning through experience: Using design based research to redesign protocols for blended synchronous learning environments. *Comput Educ*. 2020;143:103678.
<https://doi.org/10.1016/j.compedu.2019.103678>
 39. Dong GZ. Improvement validity of modern chinese reading teaching based on pragmatics. *Kuram ve Uygulamada Egit Bilim*. 2018;18(6):3354–3360.
<https://doi.org/10.12738/estp.2018.6.240>
 40. Farinde RO, Oyedokun-Alli WA. Pragmatics and language teaching. *J Lang Teach Res*. 2020;11(5):841–846.
<https://doi.org/10.17507/jltr.1105.21>
 41. Ton-Nu A. Why is L2 pragmatics still a neglected area in EFL teaching? Uncovered stories from Vietnamese EFL teachers. *IRAL - Int Rev Appl Linguist Lang Teach*. 2025;63(3):1915–1939.
<https://doi.org/10.1515/iral-2023-0172>
 42. Thi Thuy Nguyen M, Basturkmen H. Task Design Features and Pragmatics Learning: A Systematic Review of Recent Research. *Lang Teach Res Q*. 2023;34:19–34.
<https://doi.org/10.32038/ltrq.2023.34.02>
 43. Ivanyan A. Digital pragmatics and AI tools in business English. *Discov Educ*. 2026;5(1).
<https://doi.org/10.1007/s44217-026-01347-7>
 44. Tian Y, Liu D. Relevance theory perspective of emojis used by Chinese younger and older adults in WeChat. *Humanit Soc Sci Commun* . 2025;12(1).
<https://doi.org/10.1057/s41599-025-05464-w>
 45. Tao H, Salaberry MR, Yeh M, Burch AR. Using authentic spoken language across all levels of language teaching: Developing discourse and interactional competence. *Chinese as a Second Lang Res*. 2018;7(1):1–13.
<https://doi.org/10.1515/caslar-2018-0001>
 46. Behrendt MR, Smallfield S. The Development of an Interactive Multimedia E-Learning Module for Functional Cognition. *J Occup Ther Educ*. 2024 ;8(4):17.
<https://doi.org/10.26681/jote.2024.080417>
 47. Mayer RE. Introduction to Multimedia Learning. In: *The Cambridge Handbook of Multimedia Learning* . University of California, Santa Barbara, United States: Cambridge University Press; 2021:3–16.
<https://doi.org/10.1017/CBO9780511816819.002>

How to Cite: Fitrianti E, Ramadhan S, Agustina. Undergraduate Students' Needs in Pragmatic Learning: Toward Interactive Electronic Module Development. *Int Res J Multidiscip Scope*. 2026;7(3):1300-1313. DOI: 10.47857/irjms.2026.v07i03.010949