

Speaking English with confidence: Tailored needs for pharmacy students

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Abstract

Proficiency in English is an essential skill for pharmacy students, especially in vocational school, where graduates must communicate successfully in professional healthcare environments. Many pharmacy students encounter difficulties in developing speaking abilities due to insufficient exposure, a scarcity of contextualized resources, and restricted opportunities for interactive practice. This study seeks to (1) ascertain the English-speaking requirements of pharmacy students and (2) investigate the impact of technology-enhanced learning, specifically the Pharmatalk application, in fulfilling these requirements. A quantitative requirements analysis was conducted utilizing a questionnaire based on the English for Specific Purposes (ESP) paradigm. The participants comprised vocational pharmacy students from two Indonesian colleges. The data were evaluated descriptively to examine students' learning priorities, views of technology utilization, and the usability of the Pharmatalk application. The results demonstrate that speaking is seen as the most crucial English skill for pharmacy students, particularly for future professional interactions. The findings indicate robust positive evaluations of the usability, utility, and motivational influence of the Pharmatalk application, especially in improving confidence, vocabulary understanding, pronunciation, and engagement. The research shows that the integration of technology-enhanced training with Visual, Auditory, and Kinesthetic (VAK) learning principles can effectively facilitate English learning for Pharmacy students. These findings have significant pedagogical implications for the development of contextualized, learner-centered, and technology-enhanced English curriculum in vocational pharmacy education.

Keywords

English for pharmacy, Speaking skills, Needs analysis, Educational technology, VAK learning, Augmented reality

Introduction

English has emerged as a crucial language in the global healthcare sector, particularly in pharmacy practice, where specialists must communicate proficiently with patients,

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colleagues, and overseas stakeholders. In a progressively globalized healthcare landscape, pharmacists are required to possess not only technical expertise but also sufficient English-language communicative proficiency to guarantee patient safety, facilitate professional collaboration, and access current scientific information [1].

For pharmacy students, particularly those at vocational institutions, English proficiency is not only an academic obligation but also a professional need. Prior research indicates that inadequate English proficiency can impede students' preparedness for clinical practice and diminish their confidence in professional engagements [2,3]. Of the four language skills, speaking is particularly vital, facilitating real-time communication in genuine job scenarios like as patient counseling, drug explanation, and interprofessional dialogue.

Despite its significance, English speaking continues to be one of the most arduous talents for pharmacy students to acquire. Empirical research from vocational and English for Specific Purposes contexts demonstrates that students frequently encounter speaking anxiety, exhibit a lack of confidence, and possess restricted possibilities for practicing oral communication in significant contexts [4,5]. Conventional English education in vocational institutions often prioritizes grammar proficiency and reading comprehension, whereas speaking practice is commonly undervalued or executed in isolated contexts.

In light of these problems, educational technology has been recognized as a viable solution to improve language acquisition. Technology-enhanced language learning environments, including mobile applications, augmented reality (AR), and blended learning models, provide dynamic, flexible, and learner-centered possibilities for speaking practice [6,7]. When properly built, such technologies can provide immersive, low-anxiety settings that facilitate repeated practice and instantaneous feedback.

Recent research indicate that the efficacy of educational technology is contingent not only upon its accessibility but also on its congruence with learners' particular requirements and disciplinary settings [8–10]. In ESP contexts, technology must be pedagogically sound and contextually pertinent to learners' prospective professional responsibilities. Consequently, performing a systematic needs analysis is essential to guarantee that technology-enhanced training meets specific learner requirements instead of generic language objectives.

In this context, there is a necessity for empirical study investigating pharmacy students' English-speaking requirements in conjunction with their perceptions of technology-enhanced learning aids. This study examines the speaking demands of vocational pharmacy students and evaluates the usability and perceived effectiveness of the Pharmatalk application as a technology-based solution rooted on English for Specific Purposes (ESP) and VAK learning principles.

This research advances the discipline in three notable aspects. This study advances ESP research by offering a comprehensive understanding of learners' linguistic, contextual,

and emotional speaking requirements in practical pharmacy education. Secondly, it enhances technology-assisted language acquisition by illustrating the impact of usability and perceived utility on students' engagement and confidence in speaking. Third, it provides a pedagogical contribution by presenting a VAK-based technology integration framework that matches instructional design with the professional communication requirements of learners.

Literature Review

English for specific purposes (ESP) in pharmacy education

English for Specific Purposes (ESP) emphasizes the development of language training tailored to the academic and professional requirements of learners. In pharmacy education, English for Specific Purposes (ESP) prioritizes communicative activities including patient counseling, elucidating medication usage, and comprehending pharmaceutical terminology. Needs analysis is a crucial element of English for Specific Purposes (ESP), since it guarantees that instructional material is pertinent and significant to learners' prospective professional environments [2,11–13].

Speaking skills in vocational education

Speaking is frequently seen as the most intricate language skill, especially for vocational students with no exposure to English beyond the classroom. Fear of errors, diminished self-confidence, and insufficient practice chances are prevalent obstacles to speaking advancement. Studies indicate that interactive, contextually pertinent learning settings are crucial for enhancing speaking abilities in vocational education [4,14].

Technology-enhanced language learning

Technology-enhanced language learning has garnered significant interest owing to its capacity to facilitate engagement, flexibility, and learner autonomy. Mobile-assisted language learning and augmented reality simulations facilitate learners in practicing language skills inside authentic contexts while obtaining instantaneous feedback [10,15–17].

VAK learning approach

The Visual, Auditory, and Kinesthetic (VAK) learning model recognizes that individuals assimilate information via distinct sensory channels. Incorporating VAK concepts into technology-enhanced training fosters inclusive and engaging learning experiences through the integration of visual media, aural input, and tactile activities (Nopita 2022; Permatasari, Ridwan, and ... 2022; Rosdiana, Muslimin, and Firmansyah 2022).

Method

Research design

This study utilized a quantitative research design with a needs analysis technique to investigate pharmacy students' English-speaking requirements and their impressions of technology-enhanced learning.

Participants

The participants comprised vocational pharmacy students from SMK Muhammadiyah Bandungan and SMK Bumantara. The participants exhibited a variety of academic and practical backgrounds in vocational pharmacy education.

Instrument

Data were gathered via a structured questionnaire formulated according to the ESP framework established by Hutchinson and Waters. The questionnaire assessed students' learning objectives, preferred language abilities, anticipated use of English, and judgments regarding the usability and utility of the Pharmataalk applications.

Data analysis

The data were studied descriptively through percentages and trend analysis to discern predominant patterns in English-speaking requirements and technology utilization.

Results

English speaking needs of pharmacy students

The findings indicate that speaking is regarded as the paramount English skill for pharmacy students. The majority of students indicated that their principal goal for studying English is to facilitate future professional communication. Speaking proficiency was deemed more significant than reading, writing, and listening, underscoring the practical learning requirements of pupils (Figure 1).

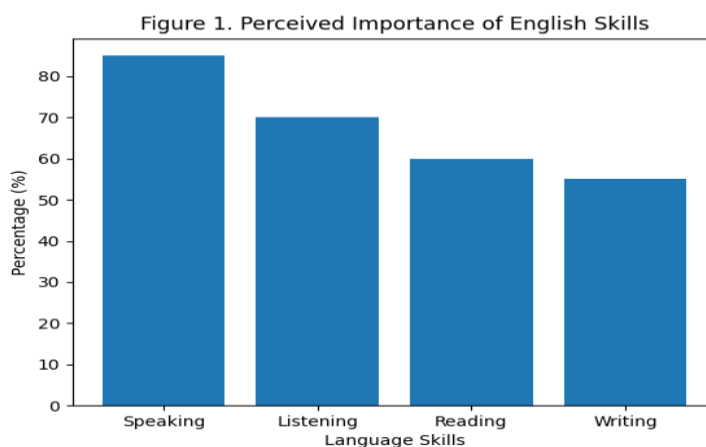


Figure 1. Perceived importance of English skills among pharmacy students

Usability of the pharmatalk application

Students expressed favorable evaluations of the Pharmatalk application across various usability criteria. The majority of pupils concurred that the program is user-friendly, systematically structured, and not excessively intricate. They also stated that the features are seamlessly integrated and operate cohesively (Figure 2).

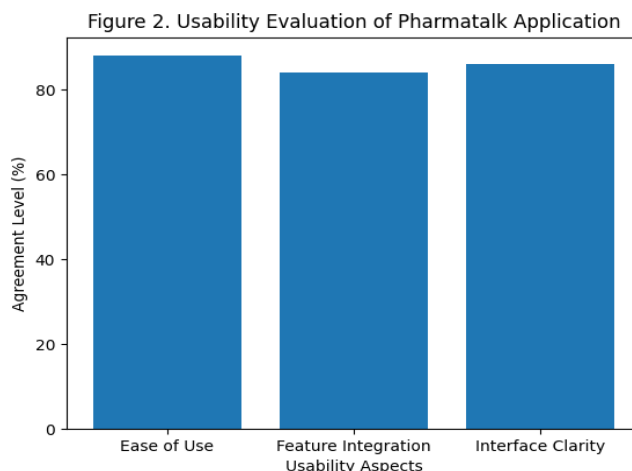


Figure 2. Usability evaluation of pharmatalk application

Perceived usefulness and learning support

The majority of students regarded the Pharmatalk application as beneficial for acquiring English proficiency in Pharmacy. Students indicated that the program facilitates vocabulary acquisition, pronunciation practice, and comprehension of pharmacy-related terminology. A considerable number of students argued that utilizing the application facilitates more rapid comprehension than conventional ways (Figure 3).

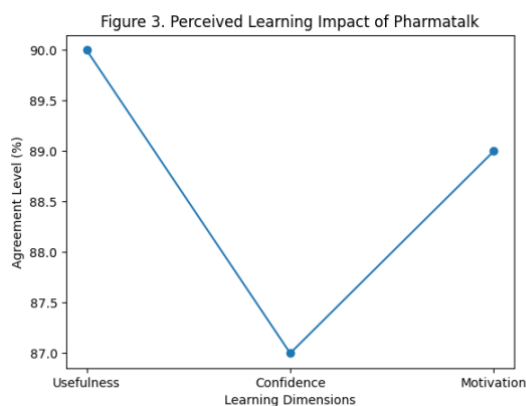


Figure 3. Perceived Learning Impact of Pharmatalk Application

Confidence, motivation, and intention to use

The majority of students concurred that utilizing the Pharmatalk application enhanced their trust in English speaking. The application was seen as motivational and interesting, prompting pupils to practice English more often. Students demonstrated a robust commitment to persist in utilizing the tool for English language acquisition.

The findings demonstrate that the Pharmatalk application proficiently meets pharmacy students' English-speaking requirements by offering an accessible, pertinent, and stimulating learning atmosphere.

Discussion

This study offers significant empirical and theoretical insights into English for Specific Purposes (ESP), especially within the realm of vocational pharmacy education. Integrating a needs analysis framework with the usability evaluation of a technology-enhanced learning application enhances existing discourse on the systematic alignment of digital tools with learners' professional communication requirements.

Reinterpreting speaking needs in English for pharmacy

The results confirm that speaking is seen as the crucial English skill for pharmacy students, especially for future professional interactions. This study builds on prior ESP research that highlights the significance of oral communication in hospital settings (Basturkmen, 2020; Hyland, 2022) by illustrating that speaking requirements encompass not just language aspects but also emotive and environmental dimensions. Students' focus on confidence, relevance, and low-anxiety practice indicates that speaking proficiency in vocational pharmacy education should be perceived as a synthesis of linguistic knowledge, professional context, and learner psychology.

This reconceptualization enhances ESP theory by endorsing a comprehensive perspective on needs analysis, considering learners' emotional preparedness and perceived self-efficacy as essential elements of communication requirements. This perspective broadens conventional ESP needs analysis, which has typically concentrated on target scenarios and linguistic requirements, by including learners' experiential and emotional aspects.

Novelty of integrating needs analysis with usability-oriented evaluation

This study's primary innovation is its amalgamation of ESP needs analysis with insights on usability and technology adoption. This research portrays the Pharmatalk application as a pedagogical solution directly addressing recognized learner requirements, rather than viewing technology as a supplementary tool. This alignment fortifies the theoretical connection between ESP curriculum development and educational technology research.

Prior research on mobile-assisted or augmented reality-supported language acquisition has predominantly concentrated on learning results or user satisfaction [21–24]. This study illustrates that perceived ease of use, functional integration, and relevance are not solely technical characteristics but are pedagogically significant aspects that influence learners' motivation to participate in speaking practice. This discovery enhances the Technology Acceptance Model in ESP contexts by emphasizing the significance of discipline-specific relevance as a crucial factor in acceptance and continued utilization.

VAK-based technology integration as a theoretical contribution

This study also provides empirical evidence for the integration of Visual, Auditory, and Kinesthetic (VAK) learning concepts within a technology-enhanced English for Specific Purposes (ESP) framework. Although VAK has frequently been examined conceptually, actual evidence substantiating its significance in ESP and vocational education is scarce. The results indicate that multimodal learning environments integrating visual representations, auditory stimuli, and interactive simulations are very helpful in facilitating speaking development.

This theoretically endorses multimedia learning theory [25,26] and expands its application to professional language acquisition, where authenticity and contextualization are crucial. The kinesthetic feature, facilitated by simulations and role-playing activities, proves particularly beneficial in pharmacy education, as it reflects authentic communicative tasks like patient counseling and drug explanation. This substantiates the assertion that ESP pedagogy is enhanced by experiential and practice-based learning frameworks.

Addressing confidence and speaking anxiety through technology

The significant perceived influence of the Pharmatalk application on learners' confidence underscores a crucial emotive aspect of technology-enhanced language learning. In accordance with other studies [27,28], the results indicate that digital environments may alleviate speaking anxiety by offering a low-risk setting for practice and exploration.

The theoretical conclusion is that technology serves not just as a channel for transmission but also as an emotional framework. Technology-mediated speaking exercises can promote incremental confidence development by permitting repeated practice without immediate social pressure. This finding informs current discussions regarding the integration of emotive elements into models of communicative competence in English for Specific Purposes (ESP).

Implications for ESP theory and instructional design

The findings enhance ESP theory by illustrating that effective English for Pharmacy instruction necessitates the alignment of three interconnected components: (1) explicitly defined professional speaking requirements, (2) technology-enhanced learning environments that are functional and pertinent, and (3) pedagogical models that cater to varied learning modalities.

This study theoretically endorses a design-based perspective on ESP, wherein needs analysis, instructional design, and technology integration are perceived as an iterative and interrelated process rather than as separate stages. This viewpoint urges ESP researchers and practitioners to transition from static curriculum models to adaptive, learner-centered designs guided by ongoing feedback.

Conclusion

This study emphasizes the necessity of developing English for Pharmacy instruction that addresses students' speaking requirements. Technology-enhanced learning, especially when combined with VAK principles, can significantly facilitate speaking development, bolster confidence, and boost engagement.

The results indicate that vocational colleges ought to include mobile applications, augmented reality simulations, and blended learning methods into English courses. Future research may utilize experimental designs to investigate the effect of such technology on students' actual speaking performance.

References

1. Anthony, L. *Introducing English for Specific Purposes*; 1st ed.; Routledge: Australia, 2018; ISBN 9781138936652.
2. Helen, B. ESP Teacher Education Needs. *Lang. Teaching* **2019**, *52*, 318–330.
3. Chou, M.H. Speaking Anxiety and Strategy Use for Learning English as a Foreign Language in Full and Partial English-Medium Instruction Contexts. *TESOL Q.* **2018**, *52*, 611–633, doi:10.1002/tesq.455.
4. Roy, S. Challenges in Developing Learners' English-Speaking Skills at the Tertiary Level in the EFL Context: Teachers' and Learners' Perceptions. *Res. Sq.* **2024**, *1*, 1–16.
5. Ivanytska, N.; Tymoshchuk, N.; Dovhan, L.; ... EFFECTIVENESS OF DIGITAL RESOURCES IN THE LEARNING MANAGEMENT SYSTEM WITHIN ONLINE EDUCATION OF FUTURE ENTREPRENEURS. ... *Educ.* **2021**.
6. Klimova, B.; Pikhart, M.; Polakova, P.; Cerna, M.; Yayilgan, S.Y.; Shaikh, S. A Systematic Review on the Use of Emerging Technologies in Teaching English as an Applied Language at the University Level. *Systems* **2023**, *11*, 1–15, doi:10.3390/systems11010042.
7. Yildiz, G.; Yildirim, A.; Akca, B.A.; Kok, A.; Ozer, A.; Karatas, S. Research Trends in Mobile Learning. *Int. Rev. Res. Open Distrib. Learn.* **2020**, *21*, 176–196.
8. Al-emran, M.; Mezhuyev, V.; Kamaludin, A. Technology Acceptance Model in M-Learning Context: A Systematic Review. *Comput. Educ.* **2018**, *125*, 389–412, doi:10.1016/j.compedu.2018.06.008.
9. Gause, G.; Mokgaola, I.O.; Rakhudu, M.A. Technology Usage for Teaching and Learning in Nursing Education: An Integrative Review. *Curationis* **2022**, *45*, 1–9, doi:10.4102/curationis.v45i1.2261.
10. Bermejo, B.; Juiz, C.; Cortes, D.; Oskam, J.; Moilanen, T.; Loijas, J.; Govender, P.; Hussey, J.; Schmidt, A.L.; Burbach, R.; et al. AR/VR Teaching-Learning Experiences in Higher Education Institutions (HEI): A Systematic Literature Review. *Informatics* **2023**, *10*, 1–16, doi:10.3390/informatics10020045.
11. Rus, D. English for Specific Purposes in the Context of the Shifting Educational Paradigm Triggered by Industry 4.0. In *Proceedings of the MDPI*; 2021; p. 64.
12. Aboe, R.M.; Ismail, A. Need Analysis of English for Specific Purposes (ESP) at SMK 1 Ternate. *Int. J. Adv. Sci. Technol.* **2020**, *29*, 336 – 345.
13. Rifah, L.; Zunaidah, A.; Sari, C.C. Developing ESP-Based CLIL to Increase Students' Engagement in Higher Education. In *Proceedings of the Proceedings - International Conference on Education and Technology, ICET*; Institute of Electrical and Electronics Engineers, 2022; Vol. 2022-October, pp. 147 – 152.
14. Yao, L.; Abas, N.; Roslim, N. ESP in Vocational Institutes: A Mixed-Method Study of Students' ESP Learning Style Preferences. *World J. English Lang.* **2025**, *15*, 70 – 80, doi:10.5430/wjel.v15n1p70.
15. Wang, P. Emerging Applications of Blockchain Technology on a Virtual Platform for English Teaching and Learning. *Wirel. Commun. Mob. Comput.* **2020**, *2020*, doi:10.1155/2020/6623466.
16. Siregar, D.S.; Syahputri, D. The Effect of Augmented Reality Based Learning Strategy on EFL Students' Vocabulary Mastery. *J. English Educ.* **2025**, *10*, 1320–1327.
17. Pratama, A.; Santoso, B. The Effect of Augmented Reality-Based Learning Technology on Improving Student Motivation and Learning Outcomes in Secondary Schools. *Int. J. Educ. Insights Innov.* **2024**, *1*, 1–4.
18. NOPITA, N. ... OF USING VISUALIZATION, AUDITORY AND KINESTHETIC (VAK) MODEL LEARNING TOWARDS STUDENTS' WRITING ABILITY IN PROCEDURE TEXT AT THE ...; repository.radenintan.ac.id,

- 2022;
19. Permatasari, D.; Ridwan, R.; ... The Effectiveness Of Visual, Auditory, Kinesthetic (VAK) Model In Teaching Writing On Procedure Text For The Seventh Grade Students At SMP Muhammadiyah 2 *Lang. Educ.* **2022**.
 20. Rosdiana, M.P.M.; Muslimin, M.; Firmansyah, F. The Use of Visual, Auditory, Kinesthetic (VAK) Learning to Increase Student Learning Outcomes. *Inornatus Biol. Educ. J.* **2022**, *2*, 85–93, doi:10.30862/inornatus.v2i2.343.
 21. Ameri, M. The Use of Mobile Apps in Learning English Language. *Budapest Int. Res. Critics Linguist. Educ.* **2020**, *3*, 1363–1370.
 22. Safitri, L.; Pramana, E.; Setiawan, E.I.; Studi, P.; Informasi, T.; Timur, J. FACTORS AFFECTING THE ADOPTION OF MOBILE LEARNING IN VOCATIONAL HIGH. *J. Univers. Stud.* **2024**, *4*, 7379–7398.
 23. Impact, T.H.E.; Digital, O.F.; On, T.; Development, T.H.E.; Speaking, O.F. The Impact of Digital Tools on the Development of Speaking Skills of Students Learning English as a Foreign Language. *J. Appl. Sci. Soc. Sci.* **2026**, *16*, 102–107.
 24. Li, R. Effects of Mobile-Assisted Language Learning on Foreign Language Learners ' Speaking Skill Development. *Lang. Teach. Technol.* **2024**, *28*, 1–26.
 25. Rohi, M.P.; Nurhayati, L. Multimodal Learning Strategies in Secondary EFL Education : Insights from Teachers. *Veles J.* **2024**, *8*, 458–469.
 26. Akinbadewa, B.O. The Effect of Multimedia Instructional Packages on Students' Academic Achievement in Biology. *Int. Online J. Educ. Teach.* **2020**.
 27. Rachmawati, D.L.; Irawan, N. Integrating Digital Technologies in ESP Classroom : A Comprehensive Overview of Current Practices and Pedagogical Implications. *Int. J. Pedagog. Lang. Lit. Cult. Stud.* **2024**, *01*, 27–35.
 28. Pinto, M.; Leite, C. Digital Technologies in Support of Students Learning in Higher Education: Literature Review. *Digit. Educ. Rev.* **2020**.