JEEF
Journal of English Education Forum
https://jeef.unram.ac.id/index.php/jeef/index

Development of a Blended English Language Learning Module for Pharmacy Students Using the Whole-Part-Whole (WPW) Model to Support Project-Based Learning (PjBL)

I Made Sujana[1], Eka Fitriana[2], Agus Saputra[3], La Ode A. H. Munandar[4], Amniyatul Izzah[5]
[1 2 3 4 5] English Education Study Program, Faculty of Teacher Training and Education, University of Mataram, Indonesia

Received : December 19, 2025
Revised : December 26, 2025
Accepted : December 28, 2025
Published: December 28, 2025

Corresponding Author
La Ode A. H. Munandar
laode_alfinharis@unram.ac.id

DOI: 10.29303/jeef.v5i4.965

Abstract
Pharmacy students require tailored English language skills to support their academic and professional needs. Traditional approaches often fail to address diverse learning preferences, technological advancements, and specific linguistic demands. This study aimed to develop an innovative blended English language learning module using the Whole-Part-Whole (WPW) model to support Project-Based Learning (PjBL) for Pharmacy students at the University of Mataram. Employing a Research and Development (R&D) approach, this study utilized the ADDIE model (Analyze, Design, Develop, Implement, Evaluate). Data were collected through document reviews, FGDs, interviews, observations, and questionnaires and analyzed using quantitative and qualitative methods based on Miles and Huberman's model. The module design successfully integrated ESP, TPACK principles, Blended Learning, WPW structure, and PjBL strategy. Students reported improved engagement, confidence in English use, and collaborative skills. Experts' evaluations also confirmed the module's effectiveness. The WPW-based blended English module supports Pharmacy students' diverse learning needs and enhances language proficiency, collaboration, and 21st-century skills. Future research should expand its application to other disciplines and update digital content continually.

Keywords
English for Pharmacy, Blended Learning, Whole Part Whole model, Project-Based Learning, Module Development

INTRODUCTION

The success of a research endeavor culminates in the products generated from conducted studies, intended to benefit the target audience. This study extends previous research on English for Specific Purposes (ESP) instructional design (Sujana et al., 2019, 2020; Sujana, Fitriana, et al., 2023; Sujana, Saputra, et al., 2023), which concluded that ESP-oriented designs often face conflicts among components, such as high English demands in the global era, low student proficiency, limited instructional time, diverse learning needs, and curriculum variations. To address these issues, prior recommendations included restructuring English course orientations towards "learning language" rather than "learning about language," aligned with Sujana, Fitriana, Apgrianto, & Saputra (Sujana et al., 2023).

The conceptual framework for this study draws on four major areas. First, ESP design emphasizes addressing learners' specific needs through Needs Analysis (Anthony, 2018; Brown, 2016; Hutchinson & Waters, 2010; Woodrow, 2018), involving Target Situation Analysis (TSA), Present Situation Analysis (PSA), and Learning Situation Analysis (LSA). Second, TPACK (Technological, Pedagogical, and Content Knowledge) integration supports blended learning environments (Koehler & Mishra, 2009), merging face-to-face and online modalities to enhance engagement, flexibility, and accessibility (Bergmann & Sams, 2012; Graham, 2006). Third, the Whole-Part-Whole (WPW) learning model (Swanson & Law, 1993) introduces holistic learning by presenting a complete concept, analyzing its components, and synthesizing the understanding—a method effective for language teaching (Susilo & Wijayanti, 2019; Syah & Fitri, 2020). Fourth, Project-Based Learning (PjBL) promotes critical thinking, collaboration, creativity, and communication (Bell, 2010; Krauss & Boss, 2013; Thomas, 2000), aligning with 21st-century educational needs (Imbaquingo & Cárdenas, 2023; Lu, 2021).

These strategies converge towards the application of Project-Based Learning (PjBL) to enhance learning outcomes and meet Higher Education Key Performance Indicators (Kemendikbudristek, 2023). Thus, this research focuses on developing a blended English module for Pharmacy students, utilizing the WPW model to support PjBL, aiming to accommodate diverse learning needs and styles while improving English proficiency in higher education.

In the current higher education landscape, the absence of an integrated and pedagogically coherent English learning model for Pharmacy students presents an increasingly critical challenge. The growing reliance on English in pharmaceutical education, research dissemination, and professional communication, combined with persistent constraints such as limited instructional time, varied student proficiency levels, and rapidly evolving digital learning environments, demands an immediate and responsive instructional solution. Without timely intervention, these conditions risk limiting students' academic participation, collaborative capacity, and preparedness for global professional contexts. Consequently, the development of a blended English module that systematically integrates the Whole Part Whole model with Project Based Learning becomes an urgent necessity rather than an optional innovation. This approach is essential to bridge the gap between theoretical instructional design and practical classroom implementation, ensuring that English instruction for Pharmacy students remains relevant, adaptive,

and aligned with contemporary educational and professional expectations.

RESEARCH METHOD

To achieve the purposes of the study established above, the present study employs a Research and Development (R&D) method using the ADDIE model (Branch, 2009). The development process of this teaching module passes 5 stages, consisting of (1) analyzing stage, that is, conducting needs analysis; (2) designing stage; (3) developing stage; (4) Implementing; and (5) Evaluating. The descriptions of stages, activities, methods, instruments, and output of each stage of ADDIE model are presented in the table below:

STAGES	ACTIVITIES	METHODS	INSTRUMENTS	PRODUCTS
1	2	3	4	5
A Analyzing	Conducting a needs analysis for English learning among Pharmacy students.	Needs Analysis FGD Interview	Worksheet (Checklist) for needs analysis data Interview worksheet	NA data and revised plan for designing module
D Designing	Planning the instructional framework and syllabus based on identified needs	Designing	Worksheet for various development procedures based on models/methods	Matrix for module development (online dan printed)
D Developing	Creating printed and online modules hosted on the SPADA Unram platform.	Development	Development checklist	Module Design & LMS on spada.unram.ac.id Results of Formative Assessment
I Implementing	Pilot testing and formative evaluation involving both experts and students.	Observation Testing Questionnaire Interview	Observation sheet Test – Non-Test Questionnaire Interview worksheet	Results of implementation Students' opinions
E Evaluating	Refining and finalizing the product based on feedback and expert judgment.	Evaluation and revision	Evaluation checklist	Final Draft (Printed Module and LMS on spada.unram.ac.id) "English for Students of Pharmacy"

Data Analysis Techniques

Quantitative data were analyzed statistically, while qualitative data were analyzed following Miles and Huberman's model (2016), consisting of data reduction, data display, and conclusion drawing.

RESULT AND DISCUSSION

Development of module for teaching English for Pharmacy students follows the stages in ADDIE model consisting of analysis, design, development, implementation, and evaluation stages.

Result

Analysis Phase

From the analysis various aspects of needs from various resources, it was found that

a. The main goals of learning English for students of Pharmacy are consistent to other study programs at Faculty of Medicine and Health Science, the University of Mataram, that is, to achieve short-term goals to prepare students to be able to use English for academic support, mid-term goals -- to prepare students for fulfilling graduation requirements and attending development programs, and long-term goals to prepare job competitions and professional development.
b. Students of Pharmacy have mixed-ability ranging from 313 – 513 on TOEFL scores.
c. The results from questionnaire and interview show that diverse learning preferences, including independent, paired, and group learning, with a strong inclination toward digital tools.
d. Students generally expressed low confidence in accessing English-based academic materials.

From the results of needs analysis above, the teaching of English for Pharmacy students is directed to General Academic English. GAE in this context is the use of academic skills in more general information, rather than pure academic references, in pharmacy fields in order to bridge students' current levels to real academic English. The selection of GAE is due to learners mixed-English ability. To facilitate learners to improve their English optimally, the design of the modules employs various approaches and models such as Blended Learning with Flipped Model, Whole-Part-Whole model, and Project-Based Learning (PjBL). It is described further below.

Design Phase

To accommodate various aspects of the aforementioned needs, the design of English instruction for Pharmacy students

adopts several instructional design stages. From the perspective of design approach, this study applies the English for Specific Purposes (ESP) framework, which emphasizes learner needs from multiple aspects as the foundation of the design (Anthony, 2018; Hutchinson & Waters, 1987; Woodrow, 2018).

In terms of design modality, English instruction for the Pharmacy Study Program is implemented using a *blended learning* model—combining face-to-face and online learning. Printed materials are developed for face-to-face sessions, while online learning materials are created to facilitate easier access to learning content. The online materials are developed by utilizing Unram Online Learning System (SPADA) available at spada.unram.ac.id.

The application of Blended Learning aims to address several learning challenges, including (1) the limited time allocation for English instruction (2 credits) to meet the diverse demands mentioned above, and (2) the need to address 21st-century learning challenges related to digital literacy in meeting the learning styles of Generation Z. The complete instructional design is presented in the following diagram:

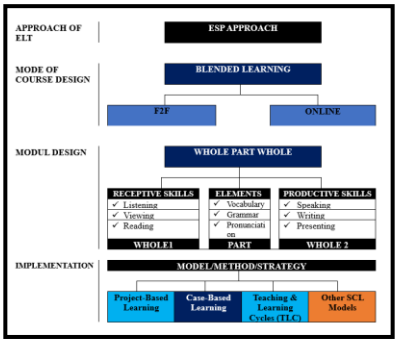

Figure 1. Skeleton for development of English for students of pharmacy

The module design for the course English for Pharmacy adopts the Whole–Part–Whole approach, which is an instructional design model where learners are first exposed to a complete language task (Whole), then guided through specific language elements and skills in isolation (Part), and finally return to the complete task with enhanced understanding and performance (Whole). This approach promotes contextualized, meaningful, and communicative language learning by integrating both macro and micro language skills systematically.

The design begins by presenting the first "Whole" in the form of Receptive Skills (Reading, Listening, and Viewing). In the context of language use, sources of information (input) may be in both spoken and written forms. In accessing knowledge in the field of pharmacy, students will be exposed to reading texts, watching instructional videos, and listening to other academic content. From these sources of information, students are introduced to vocabulary, grammar, and phonological features. The information gained from receptive skills and lexico-grammatical learning serves as the foundation for engaging in productive skills, namely Speaking, Writing, and Presenting.

Development Phase

During the Development Phase, the modules were produced in both printed and online formats to ensure accessibility and flexibility for students. The printed module provided structured guidance for in-class learning, while the online version, hosted on the SPADA Unram platform (https://spada.unram.ac.id/login/index.php). proffered interactive components that supported independent study. The learning materials incorporated a variety of resources, including instructional videos, reading texts, and guided mind-mapping tasks designed to help students organize information from the input stage. Collaborative project activities were also embedded to encourage communication, teamwork, and application of language skills within meaningful contexts. Together, these components formed a comprehensive learning package that supported the Whole Part Whole cycle and aligned with the blended learning approach used in the course.

Whole 1 – Printed and non-printed materials

Figure 2. Sample of materials in LMS - spada.unram.ac.id (1)

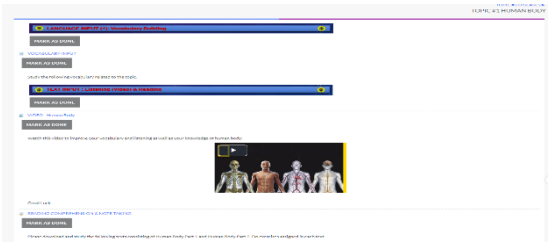

Figure 3. Sample of materials in LMS - spada.unram.ac.id (2)

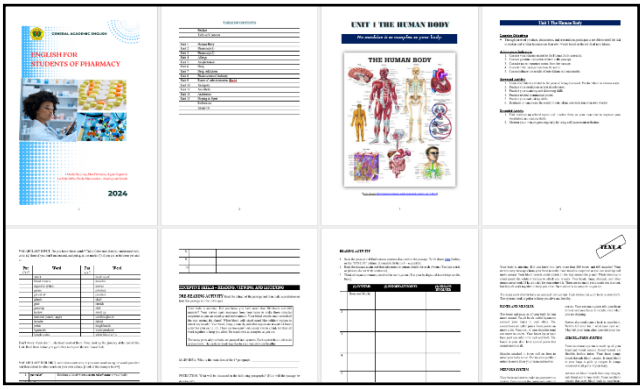

Figure 4. Sample of Printed Materials

Parts

In the Parts phase, students focused on developing the linguistic resources needed to understand and produce the targeted language. Vocabulary building was supported through a dedicated Glossary that presented key words and phrases relevant to the unit's topic, allowing students to familiarize themselves with essential terminology before engaging in productive tasks. This phase also introduced Grammar Points that highlighted structural features drawn from the input materials, enabling students to recognize patterns and apply them appropriately in context. The Glossary

functioned as both a reference tool and a learning scaffold, providing clear definitions and examples that strengthened students' comprehension and prepared them for the subsequent Whole phase, where they applied this knowledge in communicative activities.

Whole 2

In the Whole phase, classroom learning shifted toward productive language use, allowing students to apply the knowledge they had gained from the earlier stages. Students engaged in a variety of communicative activities, including reporting and discussing ideas derived from the mind maps and tasks they had completed during out-of-class preparation. These activities were conducted in multiple formats such as pair work, small group discussions, and individual reporting, ensuring that students could practice expressing their understanding in different interactional settings. In addition to oral activities, writing tasks were incorporated to reinforce students' ability to produce coherent and contextually appropriate texts. This combination of spoken and written outputs enabled students to consolidate their learning and demonstrate their developing proficiency in meaningful and purposeful ways.

Implementation Phase

In the Implementation Phase, students engaged with the learning materials through a blended format that combined online preparation with in-class application. Prior to class meetings, students accessed the materials on the SPADA Unram platform, which included videos, texts, and structured tasks designed to build foundational understanding. This online preparation allowed students to familiarize themselves with key concepts at their own pace before attending face-to-face sessions. During class meetings, the focus shifted to active engagement through discussions, consolidation of ideas, and collaborative project development. These activities provided opportunities for students to clarify their understanding, interact with peers, and apply the language skills they had acquired in meaningful academic tasks.

Figure 5. Project Presentation – Video

Evaluation Phase

In the Evaluation Phase, the module underwent a series of formative assessments designed to ensure its quality and relevance for student learning. Expert reviewers examined the content, structure, and pedagogical alignment of the module, providing feedback on its clarity, accuracy, and suitability for Pharmacy students. In addition to expert evaluation, student feedback was collected to gauge usability, engagement, and perceived effectiveness of the learning materials. Insights from these evaluations were then used to revise and refine the module. The revisions strengthened the instructional flow, improved accessibility of materials, and enhanced overall usability, resulting in a more effective learning resource for future implementation.

Discussion

Students of Pharmacy at the Faculty of Medicine and Health Science face several learning challenges. The needs analysis revealed a wide range of English proficiency, shown by TOEFL scores between 313 and 513. The large number of students in each class and the diversity of learning needs and preferences further complicate the instructional process. These findings are consistent with earlier research showing that ESP course design often struggles with mismatches between proficiency levels, learning needs, and instructional expectations (Sujana et al., 2019, 2020; Sujana, Fitriana, et al., 2023; Sujana, Saputra, et al., 2023). To address these conditions, the present research directed the learning design toward General Academic English so that students at different proficiency levels could access materials that support their academic development.

The design process drew on the English for Specific Purposes framework, which emphasizes developing instruction based on learner needs identified through Target Situation Analysis and Present Situation Analysis (Anthony, 2018; Brown, 2016; Hutchinson & Waters, 1987; Woodrow, 2018). The selection of General Academic English was based on the results of needs analysis from various aspects, including students' expected language use in academic settings, their current proficiency, and their preferred ways of learning.

Another important consideration in the development process relates to the characteristics of today's learners who rely heavily on technology in their daily activities. To support these learners, the instructional design employed a blended learning model. Blended learning combines face-to-face instruction with online learning activities and provides flexibility in terms of access, time, and learning pace. This approach is aligned with the view that blended learning enhances engagement and supports diverse learning needs (Graham, 2006). It also strengthens interaction between teachers and students across both physical and virtual spaces (Garrison & Vaughan, 2008). The blended format also accommodates differences in proficiency and supports students who prefer independent, paired, or group learning.

The implementation of the module through both printed materials and the SPADA Unram platform enabled the use of the Flipped Learning Model. In this model, students study instructional input outside of class, while classroom meetings are used for clarification, interaction, and application. This model supports deeper engagement and allows students to come to class with initial understanding already established (Bergmann & Sams, 2012). The structure helped address students' low confidence in accessing English academic materials by providing opportunities to preview content before participating in discussions.

The Whole Part Whole model served as the core instructional structure. The aim was to guide students to use English for communication rather than to learn about language in isolation. In this model, students first encounter complete tasks through reading, listening, or viewing. They then examine vocabulary, grammar, and text structures, followed by a return to complete tasks in the form of speaking, presenting, or writing. This approach aligns with evidence

showing that Whole Part Whole supports improvements in language skills through structured exposure and practice (Susilo & Wijayanti, 2019; Swanson & Law, 1993; Syah & Fitri, 2020). The sequence allows students to participate more confidently in classroom learning because they have acquired relevant vocabulary and linguistic resources beforehand.

CONCLUSION

This research, conducted through a series of studies using the ADDIE Model, resulted in the development of a printed book titled *General Academic English for Students of Pharmacy*, consisting of 13 units designed using the Whole–Part–Whole approach, where Whole 1 presents reading and/or listening materials, the Part focuses on supporting vocabulary and grammar, and Whole 2 emphasizes productive skills such as speaking, presenting, and writing. Each unit includes Learning Outcomes, Learning Steps, Brainstorming, Receptive Materials and Exercises, Productive Activities, and a Glossary. The learning implementation applied the Flipped Learning Model and Project-Based Learning to provide varied activities and promote student-centered learning, resulting in a 100% pass rate with varied scores and positive student responses toward both the module and its implementation. Overall, the development of this blended English module effectively addresses the diverse needs of Pharmacy students by enhancing language proficiency, collaboration skills, and learning engagement. Future research is recommended to extend the application of this model to other academic programs to examine its adaptability across disciplines, to continuously update and enhance digital content and platform management in response to evolving technologies and learner needs, and to conduct longitudinal studies to evaluate the long-term impacts of this instructional design on students' English proficiency and overall academic performance. The authors gratefully acknowledge the University of Mataram for funding this research through PNBP funding in Fiscal Year 2024, the Pharmacy Study Program, Faculty of Medicine and Health Sciences, University of Mataram for institutional support, and the EED students involved in Collaborative Research 2024 for their assistance in preparing the module.

Acknowledgments

We would like to express our gratitude to the University of Mataram for funding this research through Non-Tax State Revenue (PNBP) in Fiscal Year 2024 via the Institute for Research and Community Service (LPPM), as well as to the Pharmacy Study Program, Faculty of Medicine and Health Sciences, University of Mataram for supporting this research, and the EED students involved in Collaborative Research 2024 for their assistance in preparing the module.

REFERENCES

Anthony, L. (2018). *Introducing English for Specific Purposes*. Routledge.

Bell, S. (2010). Project Based Learning for the 21st century: Skills for the future. *The Clearing House*, *83*, 39–43.

Bergmann, J., & Sams, A. (2012). *Flipped your classroom: Reach every student in every class every day*. ISTE & ASCD.

Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer.

Brown, J. D. (2016). *Introducing needs analysis and English for Specific Purposes*. Routledge.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended Learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

Graham, C. R. (2006). Blended Learning systems: Definitions, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), *The Handbook of Blended Learning* (pp. 3–21). Pfeiffer.

Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes: A learning-centred approach*. Cambridge University Press.

Hutchinson, T., & Waters, A. (2010). *English for Specific Purposes: A learning-centered approach*. Cambridge University Press.

Imbaquingo, A., & Cárdenas, J. (2023). Project-Based Learning as a methodology to improve reading and comprehension skills in the English language. *Educ. Sci.*, *13*(587). https://doi.org/10.3390/educsci13060587

Kemendikbudristek. (2023). *Paradigma baru pembelajaran*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, *9*(1), 60–70.

Krauss, J., & Boss, S. (2013). *Thinking through Project-Based Learning*. Corwin Press.

Lu, Q. (2021). A new Project-Based Learning in English writing. *International Journal of Emerging Technologies in Learning*, *16*(5), 113–124.

Miles, M. M. and H. A. M. (2016). *Analisa dan penelitian kualitatif*. Universitas Indonesia.

Sujana, I. M., Fitriana, E., Apgrianto, K., & Saputra, A. (2023). Analisis kebutuhan dan rekomendasi rancangan Bahasa Inggris berbasis Blended Learning Model untuk mahasiswa farmasi. *Jurnal Ilmiah Profesi Pendidikan*, *8*(4), 2526–2535. https://doi.org/10.29303/jipp.v8i4.1818

Sujana, I. M., Hanafi, N., Wilian, S., Fitriana, E., & Syahrial, E. (2019). Negotiating conflicts of needs in designing teaching English for midwifery students. *International Journal of Language Education*, *3*(2), 20–26.

Sujana, I. M., Saputra, A., Melani, B. Z., Munandar, L. O. A. H., & Riyanto, A. A. (2023). Pengembangan modul ajar inovatif Bahasa Inggris SMP dengan menggunakan Artificial Intelligence (AI) dan Game-Based Instructions (GBI). *Jurnal Pengabdian Magister Pendidikan IPA*, *6*(3), 668–678. https://doi.org/10.29303/jpmpi.v6i3.5096

Sujana, I. M., Waluyo, U., Fitriana, E., & Suryani, D. (2020). SKDI-based needs analysis for designing English for students of medicine in Indonesia. *International Journal of Language Education*, *4*(2), 209–221. https://www.researchgate.net/publication/346989203

Susilo, B., & Wijayanti, A. D. (2019). The effect of whole-part-whole approach on improving junior high school students' English writing skills. *Jurnal Cakrawala Pendidikan*, *7*(2), 155–164.

Swanson, R. A., & Law, B. D. (1993). Whole-Part-Whole Learning Model. *Performance Improvement Quarterly*, *6*(1), 43–53. https://doi.org/10.1111/j.1937-8327.1993.tb00572.x

Syah, M., & Fitri, Y. (2020). The effectiveness of whole-part-whole approach in improving senior high school

students' English speaking skills. *Jurnal Tadris Bahasa Inggris*, *9*(1), 63–72.

Thomas, J. W. (2000). *A review of research on Project-Based Learning*. Autodesk Foundation. http://www.bobpearlman.org/BestPractices/PBL_Research.pdf

Woodrow, L. (2018). *Introducing English for Specific Purposes*. Routledge.