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ENHANCING NURSING STUDENTS' ENGLISH VOCABULARY THROUGH BLENDED LEARNING WITH THE MATCH UP APPLICATION

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ABSTRACT

Proficiency in English vocabulary, especially medical terminology, is crucial for professional performance and efficient communication in the context of nursing education. The purpose of this study was to outline how using the Match Up app in a blended learning environment can improve nursing students' vocabulary acquisition. Pre- and post-tests, questionnaires, classroom observations, and interviews were all used in this descriptive study design. Over the course of six weeks, the intervention combined in-person training with interactive online exercises utilizing the Match Up app. Increased post-test results demonstrated a steady growth in pupils' vocabulary competence, according to the data. High levels of student satisfaction were revealed by questionnaire replies, with participants saying that the program improved vocabulary learning's effectiveness, motivation, and enjoyment. While interviews emphasized the app's usability and its function in promoting independent learning, observational data demonstrated higher engagement and participation. All things considered, students' learning experiences became more dynamic, adaptable, and significant when the Match Up app was incorporated into blended learning environments. According to the findings, descriptive-based research can still offer insightful information about the educational benefits of gamified digital resources for teaching English for Specific Purposes (ESP).

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1. Introduction

As the healthcare sector grows more worldwide, nursing students who aspire to work in an international healthcare environments should master English language skills, particularly vocabulary about medical terminology. The growing need for nurses who speak English is a global trend in international healthcare. Therefore, English is considered very important for nurses to support their work because it can be used to access information since it is widely used in nursing journal or publications, it helps nurses to communicate with the patients, health staffs and patients' relatives smoothly, and also for international cooperation. It can be seen that more than 60% of medical documentation is written in English (WHO, 2022). In this context, vocabulary becomes more than just a language requirement but it becomes a professional survival ability. As a result, nursing students must be well-versed in a variety of medical words and expressions, particularly those linked to English for Specific Purposes (ESP) in Nursing.

Despite this necessity, many nursing students struggle to learn, grasp, and use medical terms successfully in real-world situations. This problem is also evident among nursing students at STIKES Bina Usada Bali, where students frequently struggle to master English medical vocabulary due to a lack of authentic language use and a reliance on traditional learning techniques that

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prioritize rote memorization over meaningful practice. These difficulties can impede students' capacity to communicate successfully in clinical settings, especially in foreign or multicultural healthcare environments.

As a result, innovative and rigorous approaches to language learning are required to better prepare nursing students at STIKES Bina Usada Bali for future professional jobs. Integrating more interactive, technology-assisted, and context-based learning methodologies can help to close the gap between theory and practice. In this effort, English lecturers play an important role. Lecturers are responsible for not only providing material, but also creating creative learning experiences that incorporate real-world medical contexts. They must help students in actively applying vocabulary through simulations, case studies, and collaborative projects, ensuring that language learning is engaging and relevant to the needs of international healthcare environments. A helpful and participatory teaching method from lecturers can considerably increase students' confidence and proficiency in professional English usage.

Language learning can be made more exciting and relevant by using blended learning methods and gamified vocabulary tools. This approach does not only help students learn vocabulary, but they also boost their confidence, motivation, and readiness to use English in real-world healthcare settings. Blended learning, which combines offline and online learning components, has emerged as an exciting option in language teaching. It offers flexibility, self-paced learning, and access to a variety of interactive digital materials to improve the overall learning experience. Furthermore, including mobile applications into the blended learning approach expands potential to promote vocabulary acquisition in a personalized and engaging way. Mobile apps can provide gamified activities, rapid feedback, and real-world simulations, allowing nursing students to learn and assimilate new medical words at any time and from any location. One effective technique in this method is the use of mobile applications, such as Wordwall's Match Up app, which provides gamified vocabulary preparation through interesting matching tasks. This application's incorporation within a blended learning framework enables a more dynamic and contextualized vocabulary learning process, which is particularly beneficial for nursing students who must grasp complex medical terms. With lecturers' supervision in properly utilizing this tool, this strategy not only bridges the gap between theory and practice, but it also cultivates more independent, confident, and motivated learners who are prepared to handle the communication demands of international healthcare environments.

Previous study into the impact of blended learning on language acquisition found generally positive results. For example, (Alemi, 2020) discovered that mobile-assisted language learning greatly increased EFL students' vocabulary retention and motivation, demonstrating the value of digital tools in language classrooms. Similarly, (Hinkel, 2016) found that mixed learning settings improved outcomes for students studying technical English, particularly in specialized sectors like nursing and engineering. These findings indicate that incorporating technology into language training can improve both engagement and learning outcomes, particularly when it is targeted to learners' unique academic or professional goals.

While the benefits of blended learning and gamified vocabulary applications have been recognized, few studies have focused on the usage of specific tools—such as the Match Up application—in nursing education situations. The majority of available research has focused on general EFL learners or broad categories of gamified apps, without going into detail about how they are employed in professional-oriented courses. This study aimed to fill that gap by investigating how the Match Up application, as part of a blended learning strategy, might aid in vocabulary acquisition in a way that is relevant, interactive, and meaningful to nursing students. By focusing on the specific vocabulary demands of future healthcare professionals, this study hopes to provide more targeted insights into the effectiveness of educational technology in specialized English instruction.

2. Literature Review

2.1. English for Specific Purposes (ESP) in Nursing Education

English for Specific Purposes (ESP) in nursing is critical for educating students to effectively utilize English in healthcare settings. It emphasizes field-specific vocabulary, listening, and

communication skills. (Arumugam, 2021) found that nursing-specific ESP teaching improved students' capacity to understand medical terminology and engage in professional discourse. The use of real materials and role-based practice ensures that students learn language that is both functional and context-appropriate. In this approach, ESP not only promotes language development but also prepares students for real-world therapeutic interactions.

(Purwaningsih, NK, Dewi, 2019) also emphasized how effective communicative techniques and context-based strategies are at improving ESP results. Communicative strategies like *Catur Jantra* and string-based discussions could foster greater engagement and confidence in nursing students' English communication during ESP classroom sessions. These tools go beyond vocabulary memorization by encouraging critical thinking and verbal interaction, which are vital for clinical situations.

2.2. Vocabulary Learning in ESP Contexts

The cornerstone of language proficiency is vocabulary, particularly in ESP environments where domain-specific terminology are commonly utilized. Contextualized vocabulary education improves recall and application, according to recent studies (Rahmani, 2022). Learners gain more from tactics that use visual association, gamified learning, and repetition in relevant contexts than from rote memory. In the context of nursing education, this is teaching terminology through problem-solving exercises, clinical situations, or conversations that aid students in internalizing and retrieving vocabulary in professional communication. Similarly, (Rahmawati, 2023) emphasize that vocabulary learning in ESP settings should integrate thematic materials relevant to students' disciplines to improve both relevance and retention. These studies suggest that digital tools and classroom strategies should simulate real-life situations to ensure effective vocabulary development.

2.3. Blended Learning in Language Education

Blended learning combines face-to-face instruction with online activities, offering flexibility and varied learning experiences. According to (Nugroho, 2021), blended learning enhances student autonomy, promotes group learning, and expands exposure to target vocabulary. The effectiveness of blended learning has been particularly noted in vocational and ESP programs, where time constraints and content density require more adaptive instructional models. According to recent research by (Rahmani, 2022) (Dewi, 2023), blended learning also helps students feel more comfortable using English in real-world contexts by enabling them to use digital resources to reinforce vocabulary outside of class. According to (Lindawati, N. P., Purwaningsih, N. K., & Dewi, 2021), students can simultaneously improve their grammatical accuracy and fluency when blended learning is combined with interactive strategies like role play. Their basic past tense role-playing strategy gave students a relaxed environment in which to utilize language in meaningful ways.

2.4. Gamified Tools and the Match Up Application in Vocabulary Learning

Interactive vocabulary development through games, instant feedback, and visual stimuli is provided by digital tools such as the Match Up app. (Purwaningsih, NK & Dewi, 2023) and (Lee, 2020) showed that gamification enhances vocabulary retention and motivation, particularly in ESP and BIPA (Bahasa Indonesia for Foreigners) contexts. In particular, the Match Up app uses kinesthetic and visual matching exercises to help with language learning. When incorporated into a mixed learning environment, Match Up facilitates retrieval-based learning and spaced repetition, two cognitive processes crucial for long-term vocabulary retention, according to studies like (Nugroho A. &, 2023). Because medical and nursing students frequently feel anxious when faced with technical jargon, its format makes it possible to reinforce difficult vocabulary in a low-stress environment.

Furthermore, gamified vocabulary tools that replicate clinical duties are more beneficial to medical students (Sari, 2020). Match Up improves semantic mapping by allowing students to

visually connect medical terminology with definitions or pictures. This method produces more engagement and deeper learning when combined with in-person instruction. Because of its versatility, the tool is perfect for incorporation into medical terminology courses, particularly in nursing education where time and cognitive load are important factors.

3. Methodology

3.1. Research Design

This study employed a descriptive mixed-method design with a pre-test and post-test approach to examine the effectiveness of blended learning using the Match Up application on nursing students' English vocabulary development. The study employed descriptive analysis instead of inferential statistics to find trends in vocabulary growth and investigate how students felt about the educational process. Over the course of six weeks, the intervention combined interactive online vocabulary exercises with classroom instruction using the Match Up app.

3.2. Participants

The participants of the study were the fourth semester of nursing students enrolled in an English for Specific Purposes (ESP) course in STIKES Bina Usada Bali. The students were chosen through purposive sampling, as they had previously completed a general English course and were transitioning to more specialized language learning relevant to their field. The students were divided into two groups: the experimental group received blended learning instruction using the Match Up app, while the control group followed a traditional face-to-face learning model without digital tools.

3.3. Instruments

Several research instruments were used to collect data:

- Vocabulary Test: The researchers created 40 multiple-choice items covering nursing-related vocabulary. It was administered as both a pre-test and post-test to track changes in vocabulary mastery.
- Student Questionnaire: A Likert-scale questionnaire adapted from (Nugroho A. &, 2021) to evaluate students' perceptions of the blended learning experience.
- Observation Checklist: Used during class sessions to monitor engagement, participation, and interaction with the Match Up app.
- Interview Guide: By conducting semi-structured interviews with 8 students from the experimental group to gather in-depth feedback on their learning experience.

3.4. Procedures

The study was conducted in four stages:

- Pre-Test: To determine baseline proficiency, both groups finished the vocabulary pre-test.
- Treatment:
 - Experimental group: 2 weekly face-to-face sessions + 1 online Match Up activity
 - Control group: 3 weekly face-to-face sessions without Match up activity.
- Post test: After six weeks, both groups took the same vocabulary test.
- Questionnaire and Interviews: Administered only to the experimental group to understand their perceptions and reflections on the Match Up-enhanced blended learning approach.

3.5. Data Analysis

Descriptive analysis was used in this study to assess how the Match Up application in a blended learning setting affected students' vocabulary engagement and acquisition.

- Vocabulary test (pre and posttest)

Students had to answer 40 items multiple choice on English vocabulary related to medical terminology. The mean score and percentage of right answer for pre-test and posttest were determined as part of the descriptive analysis. The results were compared to see how much the vocabulary had improved before and after the treatment.

- Student Questionnaire

The questionnaire was modified from (Nugroho A. &, 2021) and was based on Likert-scale format (1 = strongly disagree to 5 = strongly agree). Students' opinion of the blended learning experience were summed up using descriptive statistics, such as the mean, percentage, and standard deviation. Analysis was done on factors like overall satisfaction, vocabulary comprehension, motivation, and convenience of use.

c. Observation Checklist

Class observations were conducted in order to monitor students' interest and participation. The checklist included characteristics such as attentiveness, interaction, use of the Match Up application and task accomplishment.

d. Semi-structured Interviews

In order to gain a greater understanding of the experimental group's experiences with the Match Up Application, six students were interviewed. The responses underwent theme analysis after being transcribed. Responses were grouped using thematic coding into categories such as independent learning, motivation, app usability and language retention.

4. Discussion

The purpose of this study was to investigate and characterize how nursing students' vocabulary development was affected by utilizing the Match Up program in a blended learning environment. The study used descriptive techniques to give a thorough picture of students' development and perceptions rather than inferential statistical analysis. Using the Match Up app, the blended learning paradigm combined interactive online learning exercises with conventional in-person education. By doing this, it aimed to give English for Specific Purposes (ESP) a more flexible and interesting approach, especially when it came to learning medical terminology that is pertinent to nursing settings.

The researchers used a number of instruments to collect data in order to evaluate the efficacy of this intervention, including semi-structured interviews, a student perception questionnaire, an observation checklist, and a vocabulary test that was given both before and after the treatment. While the questionnaire gave quantitative feedback on the students' experiences with the blended learning paradigm, the vocabulary tests provided insight into the students' word knowledge increases. In contrast to the interviews, which provided a more thorough insight of students' motives, difficulties, and perceived advantages, classroom observations recorded behavioral indications including attention, engagement, and interaction. The researchers were able to triangulate the data and develop a more comprehensive, lucid understanding of the impact of the Match Up program on students' vocabulary acquisition thanks to this mixed descriptive technique.

Following the six-week intervention, students' comprehension of nursing-related vocabulary significantly improved, according to the results of the vocabulary test. The majority of participants performed better on the post-test than the pre-test, according to the descriptive analysis of the students' scores. This increase implies that after receiving a mix of conventional teaching and interactive online practice using the Match Up app, students were better equipped to learn and remember medical terminology. The improvement was particularly noticeable in items pertaining to technical medical words, suggesting that the app's contextual exposure and repetition had a significant effect on memory.

A positive impact of the blended learning model on vocabulary acquisition is demonstrated by the overall upward trend in performance, even though no inferential statistics were used to determine the significance of the score differences. The Match Up application, when used in conjunction with classroom explanations and discussions, served as a useful reinforcement tool, allowing students to interact with the same vocabulary items repeatedly through matching tasks, increasing familiarity and reinforcing memory through visual and kinesthetic learning. This suggests that even with a descriptive analysis approach, distinct patterns of vocabulary development can be seen, particularly when students are regularly exposed to multimodal content that blends digital learning with direct instruction.

A high degree of satisfaction with the blended learning approach was indicated by the student questionnaire responses. The majority of students agreed or strongly agreed that the Match Up app encouraged them to study more frequently, made vocabulary learning more fun, and made medical

terms easier for them to understand. Consistent with earlier findings, these responses show favorable attitudes regarding incorporating digital resources into language training (Nugroho A. &, 2021).

The results of the questionnaire were corroborated by observations from the observation checklist. In both in-person and virtual sessions, students were generally focused and involved. Activities using the Match Up app had higher participation rates, indicating that the gamified approach encouraged increased engagement and decreased classroom fear. Vocabulary reinforcement was made easier by the students' apparent willingness to take chances and repeat assignments.

The interviews provided rich, qualitative insights.. The Match Up app was characterized by students as "fun," "easy to use," and "motivating." They valued the app's interactive and visual features, which improved their ability to recall challenging medical terminology. In contrast to simply reading a list, one student observed that "seeing the terms in a matching format helped me link the word to its meaning faster." "I liked that I could study whenever I had time, not just in class," said another student.

According to the descriptive statistics, the Match Up program produced a more dynamic and successful vocabulary learning environment when it was incorporated into a blended learning framework. The transition from passive memorization to active language usage was facilitated by the combination of digital engagement and classroom support. The conclusion that blended learning with gamified technologies is advantageous for ESP learners in the nursing area is strengthened by the consistency of improvements across many instruments, even though the study did not use inferential statistics.

5. Conclusion

In the framework of English for Specific Purposes (ESP), this study examined the effects of incorporating the Match Up application into a blended learning paradigm to assist nursing students in learning English vocabulary. The study, which relied on descriptive analysis of data gathered via questionnaires, observations, interviews, and vocabulary tests, showed steady gains in students' motivation, engagement, and vocabulary learning. The convergence of results across several instruments suggested that students greatly profited from the mix of in-person education and gamified digital activities, even though the study did not use inferential statistics.

According to the results, the Match Up app boosted vocabulary recall in a low-anxiety setting by offering beneficial reinforcement through interactive, repetitive repetition. Additionally, flexibility and autonomy were made possible by the blended learning architecture, which allowed students to interact with terminology outside of the classroom. Additionally, student answers showed a great appreciation for the application's ease of use and capacity to make studying fun and applicable to their career objectives. Given these results, it is advised that language teachers in ESP and vocational settings think about implementing comparable gamified resources in blended frameworks to improve learning outcomes, particularly in technical domains like nursing.

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