

## **Brainstorming Method to Improve English Vocabulary Mastery among Midwifery Students at a Private Pesantren-Based University**

**Wim Banu Ukhrowi**

Unipdu University (FIK Unipdu Jombang)  
Email: [wimbanuukhrowi@staf.unipdu.ac.id](mailto:wimbanuukhrowi@staf.unipdu.ac.id)

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### **Abstract:**

*Vocabulary mastery is the key to learning English, especially for midwifery students who are expected to communicate effectively in a health context. This study aims to evaluate the extent to which the brainstorming method can improve English vocabulary mastery among midwifery students at a private university based on the pesantren system. This study applied a quantitative approach with a pre-experimental design using a one-group pretest-posttest model. A total of 20 second-semester female students from the D3 Midwifery study program were involved as participants. Data were collected through vocabulary tests, observation sheets, and student perception questionnaires. The results showed that there was a significant increase in participants' vocabulary ability after learning with the brainstorming method. This finding indicates that brainstorming not only enriches vocabulary but also helps to increase students' confidence in the use of English. Therefore, the integration of this method is suggested as a relevant active learning strategy, especially in the context of pesantren-based education.*

**Keywords:** *brainstorming, English vocabulary, midwifery students, active learning, pesantren university*

### **Abstrak:**

Penguasaan kosakata merupakan kunci utama dalam pembelajaran bahasa Inggris, terutama bagi mahasiswa kebidanan yang diharapkan mampu berkomunikasi secara efektif dalam konteks kesehatan. Penelitian ini bertujuan untuk mengevaluasi sejauh mana metode brainstorming dapat meningkatkan penguasaan kosakata bahasa Inggris di kalangan mahasiswa kebidanan di sebuah universitas swasta yang berbasis sistem pesantren. Penelitian ini menerapkan pendekatan kuantitatif dengan desain pra-eksperimental menggunakan model one-group pretest-posttest. Sebanyak 20 mahasiswa semester dua dari program studi D3 Kebidanan dilibatkan sebagai partisipan. Data dikumpulkan melalui tes kosakata, lembar observasi, dan kuesioner persepsi mahasiswa. Hasil penelitian menunjukkan bahwa terdapat peningkatan yang signifikan pada kemampuan kosakata partisipan setelah pembelajaran dengan metode brainstorming. Temuan ini mengindikasikan bahwa brainstorming tidak hanya memperkaya kosakata tetapi juga membantu meningkatkan kepercayaan diri siswa dalam penggunaan bahasa Inggris. Oleh karena itu, integrasi metode ini disarankan sebagai strategi pembelajaran aktif yang relevan, terutama dalam konteks pendidikan berbasis pesantren.

**Kata kunci:** *curah pendapat, kosakata bahasa Inggris, mahasiswa kebidanan, pembelajaran aktif, universitas pesantren*

## **INTRODUCTION**

English is an important competency that midwifery students must have, especially in understanding international medical terms, reading journals, and

conducting basic communication in clinical practice. However, in reality, many midwifery students at pesantren-based universities experience barriers in vocabulary acquisition. This is due to the lack of exposure to contextual vocabulary and passive learning methods.

One method that can be used to overcome these problems is brainstorming. This method involves free-thinking activities in groups to generate a list of ideas or vocabulary as much as possible. Brainstorming encourages students to be active, think critically, and work together, which in turn strengthens the memory of new vocabulary. In the context of midwifery students in pesantren, this method is also relevant because it fosters the spirit of collaboration and active learning.

This study is important to test whether brainstorming can significantly improve the mastery of English vocabulary in midwifery students with pesantren education background. Midwifery students often encounter difficulties in understanding English terms, especially those related to medical terminology. Many of them find it difficult to relate the words learned in class to real practices or contexts in the midwifery world. The lack of learning strategies that link the meaning of words to clinical situations also makes vocabulary learning less meaningful. This has an impact on their low learning motivation and communication skills when doing field practice or reading English reference sources.

In addition, midwifery is closely related to scientific and technical terms that are mostly derived from English, such as cervical dilation, antenatal care, postpartum bleeding, and so on. Understanding these terms is not only academic, but also practical as they are directly related to patient safety and the quality of midwifery services. Therefore, vocabulary mastery is not just a linguistic aspect, but a professional skill that must be mastered by every prospective midwife.

With this background, this research not only offers methodological solutions, but also contributes to the academic world, especially in the field of midwifery education. Hopefully, the results of this study can have a positive impact on a more effective and applicable English learning model. Through the application of the brainstorming method, students not only learn words, but also learn to think and communicate as future health workers who are ready to face global challenges.

## **LITERATURE REVIEW**

Brainstorming has been widely recognized as an effective instructional strategy, especially in enhancing students' writing and speaking skills. Omidvari and Abedianpour (2018) observed that advanced EFL learners who engaged in brainstorming before writing tasks exhibited significant improvements in their writing performance, and many considered the method both helpful and efficient. Supporting this, Amoush (2015) highlighted that brainstorming facilitates idea generation, improves logical structure, and enhances overall writing quality. Extending beyond writing, Malkawi and

Smadi (2018) demonstrated that integrating brainstorming into grammar instruction not only sharpened students' grammatical competence but also fostered stronger teacher-student relationships, contributing to overall academic success across disciplines due to its adaptability.

In the domain of oral communication, brainstorming also plays a critical role. According to Unin and Bearing (2016), it reduces learners' anxiety and hesitation when speaking English, offering practical pedagogical tools for educators dealing with speaking apprehension. In line with this, Namaziandost et al. (2019) found that incorporating cooperative learning techniques, including brainstorming, led to measurable improvements in students' speaking proficiency, reinforcing its status as a dynamic method in language pedagogy.

Beyond linguistic outcomes, brainstorming contributes significantly to the development of creative thinking. Al-Mutairi (2015) reported that students exposed to brainstorming-based instruction performed significantly better in creative thinking tasks compared to control groups. Hidayanti and Agustin (2018) echoed these findings in the context of nutrition education, while Widiastuti et al. (2022) emphasized that brainstorming can heighten student engagement, foster creativity, and support intrinsic motivation and adaptive thinking.

The evolution of brainstorming has also intersected with technological advancements. Tsai et al. (2020) found that when embedded within flipped classroom models, brainstorming activities improved student motivation, creativity, collaboration, and civic understanding. Similarly, Kotb (2016) concluded that although traditional and brainstorming-based methods both produced learning gains, the latter resulted in notably greater instructional performance, particularly in experimental groups.

From a broader educational lens, effective learning hinges on meaningful student engagement. Ginting (2021) stressed that students must actively contribute to academic tasks, and brainstorming naturally supports this requirement. However, Hood (2017) warned that despite the growing emphasis on student-centered learning, the lack of clarity in defining and assessing such approaches may limit their practical impact. Lombardi (2021) reinforced this concern, arguing that the broad and ambiguous conceptualization of active learning poses challenges for its empirical application in higher education.

The successful implementation of brainstorming and other active strategies, therefore, relies not only on pedagogical techniques but also on institutional and environmental support. Susanto et al. (2022) noted that effective teachers balance student-centered activities with structured guidance, enhancing learner participation. Demirci and Akcaalan (2020) further asserted that such methods improve instructional effectiveness and classroom engagement. At the systemic level, Getie (2020) emphasized the importance of improving physical learning environments to maximize the impact of active learning, urging collaboration among policymakers, educators, and communities.

Contextual factors also influence the effectiveness of brainstorming.

Miani (2023) highlighted that its success depends on several variables, including the skill of the facilitator, the readiness of participants, and the timing of problem introduction. Furthermore, Al-Saqriah and Kazem (2023) found that digital forms of brainstorming, particularly in blended learning environments, can significantly enhance students' critical and moral reasoning, illustrating the method's continuing relevance in technology-enhanced education.

This study contributes to the growing body of ESP literature by introducing a context-specific approach to teaching English vocabulary in a midwifery-focused program at a pesantren-based university. Unlike prior studies that emphasize general contexts or passive learning techniques, this research applies active, participatory brainstorming tailored to the needs of female students with unique cultural and academic profiles. By incorporating both quantitative (pretest-posttest) and qualitative (observation and perception) methods, this study offers a comprehensive understanding of the pedagogical and psychological impacts of brainstorming. Findings show notable improvements in vocabulary mastery, motivation, and learner confidence, reinforcing the method's suitability for health-related English education rooted in religious values.

Overall, the study not only fills a research gap in ESP practice within Islamic higher education but also provides valuable insights for educators in similar settings. With its originality in context, methodology, and target population, this research offers strong potential for publication in reputable journals and has practical implications for English language instruction in midwifery and other specialized domains globally.

## **RESEARCH METHOD**

This study used a quantitative approach with a pre-experimental design, specifically the one-group pretest-posttest model. This design was chosen because it is able to describe changes or improvements in learning outcomes in the same group before and after treatment. In this case, the treatment is the application of a brainstorming method in learning English vocabulary. This model allows researchers to assess how much influence the method has on students' ability to master English terms related to the midwifery field. This design is considered relevant and effective in the context of higher education, especially when resource limitations or classroom conditions do not allow the use of a full experimental design with a control group.

This study involved second-semester female students from the D3 Midwifery study program at a private pesantren-based university in East Java. The selection of participants was carried out purposively, namely by considering certain characteristics that are in accordance with the research needs. The respondents were students who had taken basic English courses but still experienced difficulties in mastering vocabulary, especially medical terms. In addition, the pesantren background which has relatively minimal exposure to English in a practical way is also the reason for choosing this subject. This unique learning environment makes the research more interesting because it

can represent the challenges of learning English in the context of Islamic and health vocational education.

In this study, there are two main variables. The independent variable is the brainstorming method, which is a group learning technique that encourages students to think openly and convey as much vocabulary or ideas as possible related to a particular topic. Meanwhile, the dependent variable is the mastery of English vocabulary, especially those related to midwifery terminology. Vocabulary mastery in this context includes the ability to understand the meaning, use of words in sentences, and recognition of medical terms commonly used in midwifery practice, such as terms about pregnancy, childbirth, postpartum care, and body anatomy.

Data collection in this study used three types of instruments. First, a vocabulary mastery test given in two stages: pretest before treatment and posttest after treatment. The test was in the form of multiple choice and short fill-in-the-blank which included general and medical vocabulary in English. Second, the observation sheet was used to record students' engagement during the learning process with the brainstorming method. This observation includes indicators such as active participation, contribution of ideas, and response to the material. Third, a student perception questionnaire aimed at finding out their responses to the method used, including comfort, ease of understanding, and level of motivation to learn. All instruments were validated through expert testing by English lecturers and midwifery lecturers to ensure content suitability.

The research procedure took place in four stages. The first stage was the implementation of pretest to determine the initial ability of students to understand English vocabulary. The second stage was the implementation of learning using the brainstorming method for four meetings. Each learning session focused on a different theme relevant to midwifery, such as pregnancy, childbirth, postpartum care, and anatomy. Students were divided into small groups and asked to extract as many vocabulary words as they knew, then discuss their meaning and usage collectively. The third stage was the observation process during the treatment. The last stage was giving posttest and distributing questionnaires to measure the improvement of vocabulary mastery and students' perceptions of the method used.

The data obtained from the pretest and posttest were analyzed quantitatively. Descriptive analysis was conducted to determine the mean value, highest value, and lowest value of the pretest and posttest scores. Meanwhile, to determine the significance of the difference between pretest and posttest scores, a paired sample t-test statistical test was used with the help of SPSS software. Meanwhile, data from observations and questionnaires were analyzed descriptively to provide a complete picture of the dynamics of the learning process and the level of student satisfaction with the brainstorming method.

The selection of the brainstorming method in this study was based on a number of theoretical and practical considerations. Theoretically, this method is

proven to stimulate cognitive activity and encourage students' active participation in a collaborative learning atmosphere (Kurtubi, 22; Schmitt, 00). In addition, brainstorming also strengthens critical thinking skills, enriches vocabulary, and increases confidence in using English actively. In the context of midwifery students in pesantren, this method is considered very relevant because it is in line with the collective values instilled in pesantren education while supporting the creation of a participatory and fun learning atmosphere. With this approach, it is expected that students will not only acquire new vocabulary but also be able to use it appropriately in the professional context of nursing and midwifery.

## FINDINGS AND DISCUSSION

This study involved second-semester female students from the D3 Midwifery study program at a private pesantren-based university. All participants were women with homogeneous educational backgrounds, where the majority came from a pesantren environment and had limited experience in using English actively, both in academic and clinical contexts. Most of them admitted to having difficulties in understanding English medical terms, especially those related to midwifery practice.

Before the brainstorming method was applied, students took a pretest that revealed low to moderate English vocabulary mastery, with scores ranging from 45 to 70 and an average of 58.25. After four sessions using the brainstorming method, a posttest showed a notable improvement, with scores increasing to a range of 65 to 90 and an average of 78.5, indicating that the method effectively enhanced students' vocabulary, particularly in midwifery-related terms.

### Analysis of student's pre-test and post-test

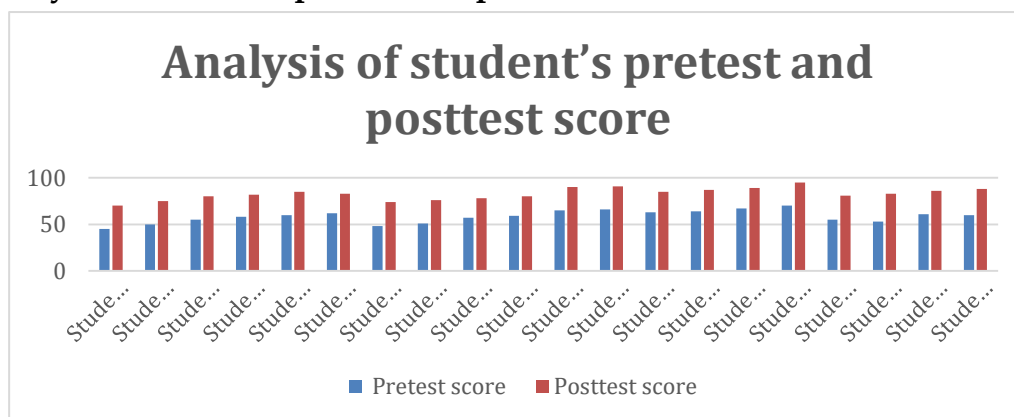


Chart 1. Analysis of student's pre-test and post-test

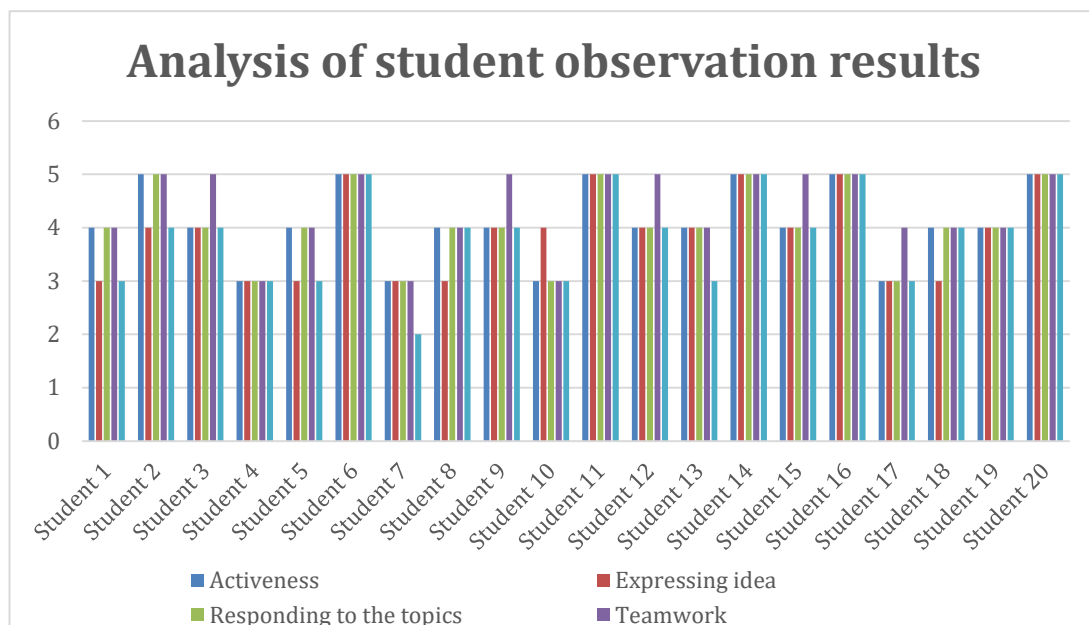
The results of measuring the students' English vocabulary skills before and after the treatment showed a significant increase. The pretest scores showed that the students' initial achievements were quite varied, with the lowest score of 45, the highest score of 70, and an average of 58.15. This value

shows that most female students are still at a basic level in mastering English vocabulary, both general and medical. This reflects that previous learning has not been effective enough in building an adequate vocabulary foundation, especially in the context of midwifery science which requires an understanding of technical terms in English.

After the treatment using the brainstorming method, the posttest results showed a positive spike in scores. The lowest posttest score was 70, while the highest score reached 95, with an average of 82.55. This shows that all female students experienced an increase in scores individually. None of the participants scored below the minimum standard for academic graduation. This improvement not only shows the success of the method in cognitive aspects, but also reflects active engagement and higher learning motivation during the learning process.

The descriptive comparison between pretest and posttest scores showed a 24.4-point increase—an improvement of nearly 42%—highlighting the effectiveness of the brainstorming method in enhancing vocabulary mastery. This approach fosters a more interactive and engaging learning environment, encourages critical thinking, and helps students grasp midwifery-related terms more contextually through active group participation. The significant score improvements and consistent positive outcomes confirm that brainstorming is highly effective for English language learning in midwifery classes, as it promotes exploration, strengthens vocabulary retention, and boosts students' confidence in academic and professional communication.

### **Analysis of student observation results**



**Chart 2. Analysis of student observation results**

Observations were conducted on 20 female students during the learning process using the brainstorming method in the English for Midwifery course.

The five main indicators observed included active participation, contribution of ideas, response to material, teamwork, and independent learning initiative. The assessment using a Likert scale of 1-5 showed that most students showed high engagement, especially in the aspects of activeness and teamwork. This indicates that the brainstorming method is able to create a dynamic classroom atmosphere and encourage active participation.

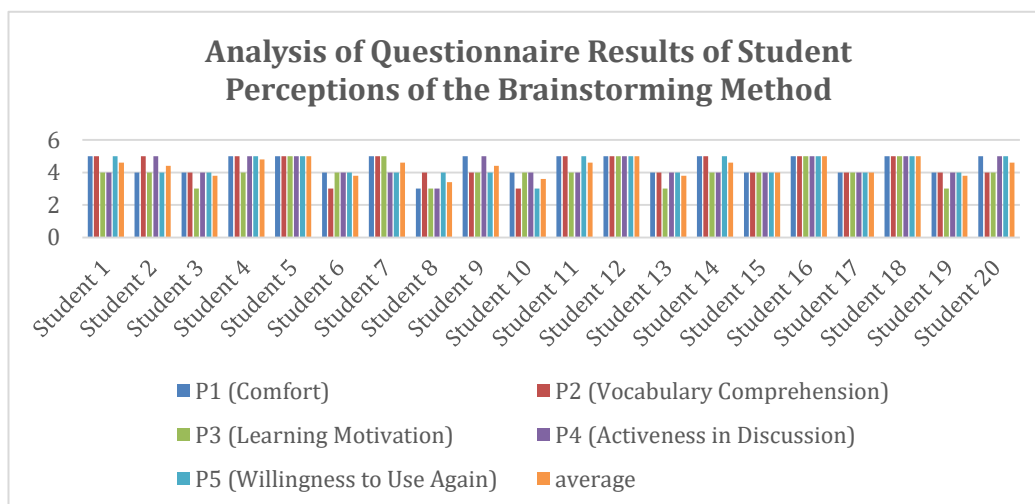
On the active participation indicator, the majority of students scored between 4 and 5, indicating that they were actively involved in group discussions and class assignments. Students not only listened but also dared to express opinions and answer questions from lecturers and peers. This improvement indirectly supports the creation of an interactive and collaborative learning environment, which is very important in foreign language learning, especially in the context of midwifery which requires a lot of communication skills.

Meanwhile, the contribution of ideas also showed positive results, although slightly more varied. Some students showed excellent ability in contributing new ideas in brainstorming, especially related to medical vocabulary. However, there were still a small number of students who were less active in conveying ideas, possibly due to lack of confidence or limited vocabulary. Nevertheless, overall, this indicator shows that the brainstorming method provides space for students to think critically and creatively in learning English.

Responses to the materials provided also showed encouraging results. Students generally responded positively to the materials and methods used, with the average score on this indicator reaching 4. This reflects that the materials provided were appropriate to their needs and interests, and the brainstorming method was considered fun and easy to follow. With an increased understanding of the material, students become more enthusiastic in participating in learning, which has a direct impact on improving vocabulary mastery.

The last indicator, the independent learning initiative, shows an increase in students' internal motivation. Some students even started to look for additional references outside of class and practiced using new vocabulary in medical contexts. The scores on this indicator show that the brainstorming method not only increases engagement during learning but also fosters a sense of responsibility for their learning process. Thus, it can be concluded that this method is effective in increasing students' engagement and learning independence in the context of English language learning in midwifery.

### **Analysis of Questionnaire Results of Student Perceptions of the Brainstorming Method**



**Chart 3. Analysis of Questionnaire Results of Student Perceptions of the Brainstorming Method**

Perceptual questionnaires were given to 20 female students after participating in English language learning with the application of the brainstorming method. The instrument consisted of five statements measuring comfort, vocabulary comprehension, learning motivation, discussion activeness, and willingness to reuse this method. Each item was rated using a Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The results of this questionnaire showed a very positive response from the respondents.

In general, the overall average of the five statements reached 4.4 out of a scale of 5, indicating that the majority of students have a very favorable perception of this learning method. The statement with the highest score was “I want this method to be applied again in the next meeting”, with many students giving the maximum score of 5. This shows the students' enthusiasm and hope that this method will still be used in future learning.

Respondents also gave high scores to the statements “I feel comfortable learning with the brainstorming method” and “This method encourages me to be more active in discussions”, whose averages were above 4.5. This indicates that this method creates a pleasant learning environment, encourages active participation, and strengthens students' emotional engagement during the learning process.

On the statements “The brainstorming method helps me understand vocabulary better” and “I feel more motivated to learn English”, most students also gave scores of 4 and 5. This means that this approach not only creates comfort in learning, but also supports mastery of the material and increases students' intrinsic drive in learning English, especially vocabulary related to the midwifery medical context.

Overall, the results of this questionnaire indicate that the brainstorming method successfully fulfills students' learning needs from both cognitive and affective aspects. This method is considered effective in improving understanding, learning comfort, as well as students' motivation and active participation. Therefore, the application of this method is very feasible to continue to be developed in learning English in midwifery study programs, especially in the context of pesantren-based education

## CONCLUSION

Based on the analysis of three main instruments, namely vocabulary mastery test, observation sheet, and student perception questionnaire, this study shows that the application of the brainstorming method significantly has a positive impact on improving midwifery students' English vocabulary mastery. The increase in mean scores from pretest to posttest indicates that students can absorb and use new vocabulary better after participating in brainstorming-based learning. The use of two types of questions - multiple choice and short fill-in-the-blank - in the pretest and posttest provides a comprehensive picture of vocabulary mastery both in terms of meaning recognition and ability to use in the appropriate context.

The observation results during the learning process corroborate the quantitative findings by showing changes in student learning behavior. Most students seemed more active, enthusiastic, and showed initiative in providing ideas during the brainstorming session. Group activities that involve discussion and collective search for word meanings make learning more meaningful and student-centered. This indicates that brainstorming not only improves cognitive skills, but also affective aspects such as confidence, comfort, and willingness to engage in class activities.

Furthermore, the student perception questionnaire showed that this method was very well received by the respondents. Most students felt that the brainstorming method helped them understand vocabulary, including medical vocabulary, Through a simpler and more engaging approach. Respondents also stated that this method was able to create a learning atmosphere that was not boring and encouraged collaboration between classmates. Confidence in using English also increased as students felt more prepared to deal with foreign terms, especially those related to midwifery.

Thus, the brainstorming method can be concluded as an effective, adaptive, and relevant learning approach to be used in the context of English language learning for midwifery students. The uniqueness of this method lies in its ability to integrate cognitive and affective aspects in the learning process while developing collaborative skills that are highly needed in the world of health professionals. In addition, this method is also proven to be appropriate in a pesantren-based university environment that tends to have a collective learning style and high values of togetherness.

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