

Developing Dictionary for Nursing Students of STIKES Bhakti Husada Cikarang

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Abstract

The purpose of this study is designing and developing medical dictionary for nursing students of Diploma and Undergraduate Program in STIKes Bhakti Husada Cikarang. Referring to five stages of ADDIE model: analysis, design, development, implementation, and evaluation, this research carried out Research and Development from Branch (2009). Data was collected using questionnaires and observation. The dictionary was developed based on framework by Jackson (2002), which considers two main structures, namely macro structure (front matter, body, and appendices) and micro structure (arrangement and type of information). There are two experts validating in design and content. Following successful implementation stage that received significantly positive feedback from users, the medical dictionary is successfully developed.

Keywords: Dictionary; ESP; Medic; Nursing; Vocabulary

INTRODUCTION

A strong vocabulary is absolutely essential for learning a language. Without it, your ability to understand others or clearly express yourself is severely limited. When students have limited vocabulary knowledge, they soon discover that their ability to comprehend or express themselves clearly is constrained (Nation, 2001). It is impossible to overstate the importance of vocabulary because it allows us to precisely share our thoughts, ideas, and emotions. Many experts use the analogy of building blocks or bricks to describe vocabulary. Harmer (2008) views vocabulary as the "basic foundation" for learning a new language, similar to constructing a house. Without these fundamental units, no language practices can truly occur. Whether you are reading, listening, speaking, or writing, a solid vocabulary makes all these skills possible. Read (2021) and Nagy & Scott (2000) also stress that vocabulary extends beyond simply knowing isolated words. It involves a deeper understanding of how words relate to each other. For learners of English for Specific Purposes (ESP), acquiring specialized vocabulary relevant to their field is critical for success in their studies and professions. It is not just about general English; it is about mastering the precise terminology, jargon, and collocations relevant to a particular field. This targeted vocabulary enables accurate comprehension of specialized texts and discussions, efficient communication with peers, and successful execution of professional tasks. Without this specific lexical knowledge, learners would struggle to fully engage with their chosen domain, hindering both academic success and professional competence. Essentially, it is the gateway to effective communication within a particular specialized context. Furthermore, for nursing students, mastering medical vocabulary is incredibly important. This specialized language is the backbone of healthcare, allowing nurses to communicate clearly and accurately with everyone from patients to doctors. A misunderstanding of even one term could

lead to serious issues like medication errors or incorrect diagnoses, directly jeopardizing patient safety. A strong grasp of these terms also ensures precise documentation, smooth patient handovers, and correct treatment delivery. Moreover, it is essential for comprehending complex medical information and for ongoing professional growth, ultimately leading to improved patient care and a successful nursing career. In order to enrich vocabulary, dictionaries play a vital role. Dictionaries are crucial for expanding one's vocabulary, as they offer definitions, pronunciation guidance, and examples of how to use new words, making their meanings and contexts clear. By also providing synonyms, antonyms, and grammatical details, dictionaries enable learners to gain a deeper understanding and express themselves with greater accuracy. Essentially, a dictionary serves as an indispensable learning aid that helps students explore words, improve their comprehension, and communicate effectively. According to Abbasi et al. (2019), the dictionary is a well-recognized learning tool that significantly contributes to language acquisition by fostering vocabulary development and overall language proficiency. According to Ezeh et al. (2022), a dictionary is very important because it is a source of learning that helps students understand unfamiliar words and use them according to their context. Similar to dictionary for hotel department students in SMK Persada Husada Indonesia that has been created by Lutfiyanti and Romauli (2025), this research aimed to develop dictionary of medical English as a part of ESP. In line with the purpose, the dictionary needed by Nursing Department students at STIKes Bhakti Husada Cikarang is not a general dictionary but a specialized dictionary that contains various medical terms. Thus, it is crucial to develop a fit-for-purpose dictionary.

METHOD

The method of this research is Research and Development specifically ADDIE that covers analysis, design, development, implementation, and evaluation by Branch (2010). He stated that ADDIE focuses on creating, producing, and validating learning resources and instructional products. Further, Richey and Klein (2014) highlight design and development as a systematic study of design, development and evaluation processes with the aim of establishing basis for the creatio of instructional and non-instructional products and tools and new or enhanced models that govern their development. In the first stage, researchers distributed questionnaire to the nursing students to identify the possible causes for a performance gap by conducting need analysis proposed by Songhori (2008) and Jackson (2002). It is a step where the researcher collects information to know the needs of the users and policymakers. After the need analysis has been carried out, the researchers designed the product by determining the purpose of using the product and the targeted users who would use the product. It includes describing the components of the product. The purpose of this stage is to verify the desired products. In development stage, the researchers also has selected or developed all of the tools needed to implement the planned instruction, evaluate the instructional outcomes, and complete the instructional design process. Not only generating the content, the researcher also required validation from the experts related. Next, to emphasize on the ways how the product is administered in the course of the study, the researchers prepare the learning environment and engage the students. Last stage is evaluation where the researcher assesses the quality of the instructional products and processes, both before and after the implementation. In this stage, the researcher is expected to be able to identify the success of the product, determine the lack of the product, and make a necessary revision.

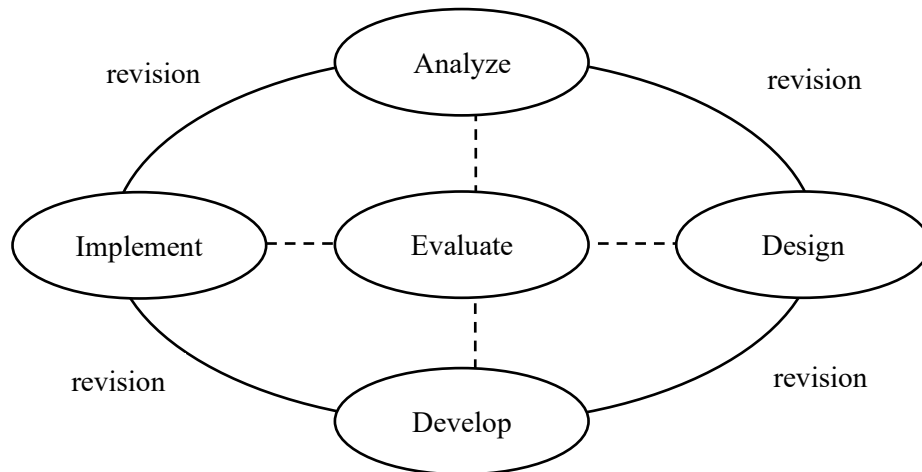


Figure 1. Research Procedure

The object of the study is the students from Intermediate English classes in the even semester of the Academic year 2024-2025. The students themselves are from Diploma and Undergraduate Program. The data from the students were gathered for need analysis, implementation, and evaluation stage. Data collected in this research was obtained from a questionnaires and observation. The questionnaires were distributed in three different stages: analysis, development, and evaluation stages, meanwhile observation was carried out during implementation stage.

RESULTS AND DISCUSSION

Results

In the analysis stage, following the ADDIE model, a questionnaire was administered to 41 nursing students at STIKes BHC. The aim was to gather crucial data directly from the target users. The questionnaire is segmented into two focuses, mainly Target Needs (Songhori, 2008) and Product Needs (Jackson, 2002). For the target needs, the researcher set two statements for wants analysis, two statements for present situation analysis, and five statements for constraint analysis. To obtain the information for the product needs, the researcher referred to macro structure, including two statements for front matter, two statements for body, and one statement for appendices as well as micro structure that covers four statements for arrangement and four statements for range and type of information. In order to find out the learners' goals related to vocabulary mastery, two statements were questioned. For the first statement asking whether the main goal in learning English vocabulary is to understand various words on health topics, the results indicate a strong affirmation of this statement. A significant majority of respondents, 29 students (70.7%), strongly agreed with this objective. The remaining 12 students (29.3%) simply agreed. The second statement illustrating students' expectation of the how a dictionary helping them learning English vocabulary on health topics, 28 students (68.3%) strongly agreed and 13 students (31.7%) agreed. The researcher also questioned the students' present situation in two statements to identify the current vocabulary mastered by the students. To the statement asking if the students have mastered a lot of English vocabulary on health topics, the result reveals that a significant majority of respondents do not feel confident in their mastery of such vocabulary. Twenty five students (61%) disagreed and additional nine students (22%) strongly disagreed. Only a small portion, seven students (17%) agreed with the statement. Another result

demonstrates that dictionaries are a popular learning aid for English study among respondents. A large majority, totaling 85.4%, confirmed frequent dictionary consultation; this includes 27 students (65.9%) who agreed and 8 students (19.5%) who strongly agreed with often using a dictionary while studying.

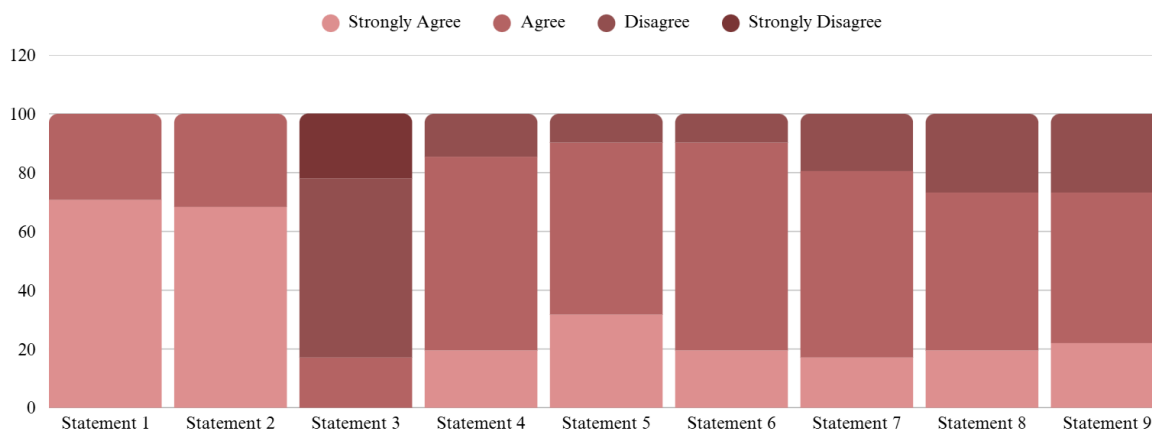


Figure 2. Result of Target Need Analysis

The last aspect of target needs, constraints analysis was conducted. To know the gap between the learners' existing knowledge and wants analysis, five statements questioned. To the statement "I often have difficulty understanding the meaning of English vocabulary on health topics", the data strongly suggests that a significant majority of respondents indeed face challenges in this area. A combined 90.2% of participants reported difficulty, with 24 students (58.5%) agreed and a substantial 13 students (31.7%) strongly agreed. This indicates a widespread struggle with comprehending specialized health-related English terms. Conversely, only a small minority of 9.8% (four students) disagreed, implying they do not often experience such difficulties. Next statement about students' challenge is if they often have difficulty pronouncing English vocabulary on health topics correctly. The majority of respondents, 29 students (70.7%), agreed with this statement, indicating a widespread challenge in pronouncing health-related English vocabulary. An additional eight students (19.5%) strongly agreed, further emphasizing the prevalence of this difficulty. Only a small minority, four students (9.8%), disagreed, suggesting that very few people find this aspect of English pronunciation easy. Along with how it is pronounced, the researcher also asked if the students also often face difficulty in spelling the vocabulary related to health topics. It reveals that a substantial majority of respondents find spelling health-related English vocabulary challenging. Specifically, 26 students (63.4%) agreed with the statement, indicating a general struggle with this aspect. An additional seven students (19.5%) strongly agreed, highlighting a significant level of difficulty for a notable portion of the audience. Conversely, eight students (19.5%) disagreed, suggesting that about one-fifth of the respondents do not find spelling health vocabulary difficult. When asked if they experience difficulty in understanding the part of the speech (verb, noun, adjective, etc.) of English vocabulary on health topics, the data indicates that a majority of respondents struggle with identifying the grammatical function of health-related English vocabulary. Specifically, 22 students (53.7%) agreed with this statement, signifying a common challenge. Additionally, eight students (19.5%) strongly agreed, highlighting that for a notable portion, this difficulty is significant. In contrast, 11 students (26.8%) disagree, suggesting that about a quarter of the surveyed individuals do not find this aspect problematic. Last question of constraint analysis is a statement "I often have difficulty using English vocabulary I know in sentences." This question aims to gauge respondents' ability to apply their existing English vocabulary effectively in a sentence context. Majority of respondents report it as difficult.

Twenty one students (51.2%) agreed and nine students (22%) strongly agreed, combining for over 73% who struggle to actively use known vocabulary in sentences. Conversely, 11 students (26.8%) disagreed, indicating they do not face this problem.

The result of target need analysis above shows that majority of nursing students in STIKes BHC agree or strongly agree with the need for a digital dictionary to help them learn English health-related vocabulary. They acknowledge the importance of learning vocabulary to understand health-related terms (99.7%) and hope for a dictionary to help with this (99.9%), a significant portion still faces difficulties. A substantial number of students express difficulty comprehending the meaning of English health vocabulary (90.2%), as well as challenges with pronunciation, spelling and using the vocabulary in sentences. These results strongly suggest a need for a resource to address these specific learning gaps.

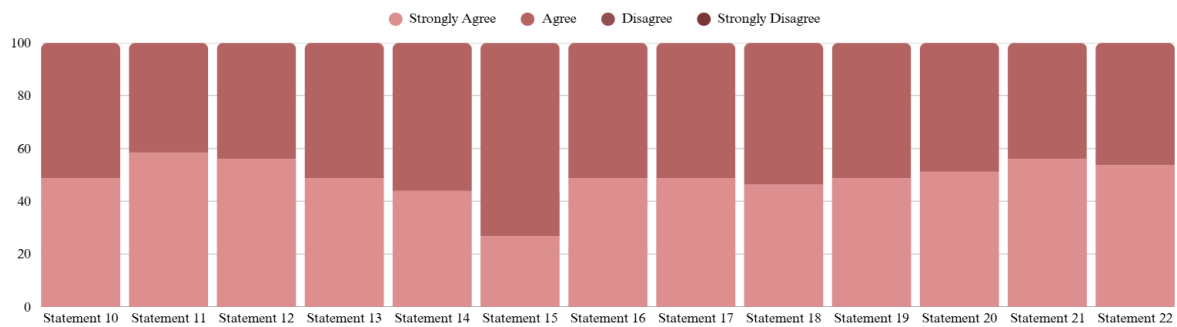


Figure 3. Result of Product Need Analysis

Furthermore, the researcher elaborated the information about the product’s needs that was gathered through the questionnaire. In accordance with the organization of need analysis in the preceding chapter, the first two statements of the questionnaire focused on front matter as a part of macro structure. The data shows that students surveyed want a medical dictionary with instructions on how to use it. Twenty students (48.8%) strongly agreed and twenty one students (51.2%) agreed. When combined, 100% of the responses indicate that everyone agreed on the need for instructions at the beginning of a medical dictionary. The eleventh statement result presents data regarding the arrangement of medic-related vocabulary, showing a strong consensus among respondents. A substantial majority, twenty four students (58.5%), of those surveyed strongly agreed with the statement "I hope the medic-related vocabulary is arranged systematically from the most general to the most specific." The remaining 17 students (41.5%) agreed with this statement. The result above provides data on a survey about the body aspect of the dictionary. The twelfth statement is “I hope for a dictionary that contains a variety of medic-related vocabulary relevant to my major.” Of the respondents, 23 students (56.1%) strongly agreed and 18 students (43.9%) agreed to the statement. This indicated that all respondents believe that the dictionary should contain a wide variety of relevant medical terms. Next, there are 20 students (48.8%) strongly agreed and 21 students (51.2%) agreed to the expectation that there is visualization (images) that helps them understand the vocabulary. It shows that the students view values in visualizations therefore it is expected to be included in the dictionary. The purpose of the question related to this aspect is to determine what kind of appendices users expect to find. The sentence stated the students hope there are appendices that provide necessary additional explanations. The result shows that 18 students (43.9%) strongly agreed and 23 students (56.1%) agreed.

Moreover, the researcher also analyzed the product needs related to micro structure of dictionary. Four statements are asked to find the arrangement of the entries in the dictionary. The fifteenth statement is “I hope the medic-related vocabulary is arranged systematically from

the easiest to the most difficult.” which resulted 11 students (26.8%) strongly agreed and 30 students (73.2%) agreed. Next statement aims to know if the students hope the medic-related vocabulary is arranged systematically from the most general to the most specific. All students generally agreed on this with the detailed data shows 20 students (48.8%) strongly agreed and 21 students (51.2%) agreed. Last arrangement related to the expectation of medical dictionary in digital form of PDF that can be accessed easily. To this statement, 19 students (46.3%) strongly agreed and 22 students (53.7%) agreed. The researcher identify this as an affirmation to design the dictionary in PDF form. Next four statements were questioned to find out the type of information for each entries in the dictionary. Statement 19 on the figure above illustrates 20 students (48.4%) strongly agreed and 21 students (51.2%) agreed that the dictionary designed needs to explain the definitions of the existing vocabulary. To the statement is asking if the students expect a medical dictionary that mentions the correct pronunciation. As shown in the figure, 21 students (51.2%) strongly agreed and 20 students (48.8%) agreed. Next statement questioned is “I hope for a medical dictionary that explains the part of speech (verbs, nouns, adjectives, etc.) in English.”. As important as pronunciation, the researcher aims to discover if the students also expected the dictionary include the part of speech of the entries. The result shows that all students agreed on this statement. It is proven by the fact that 23 students (56.1%) strongly agreed and 18 students (43.9%) agreed. Lastly, it is shown in the statement “I hope for a medical dictionary that provides examples of word usage in sentences.” With significant positive agreement, where 22 students (53.7%) strongly agreed and 19 students (46.3%) agreed, the researcher concluded that the usage of the word in the sentences are necessary.

All of these results illustrate how most students agree or strongly agree on the desirable features of medical dictionary. Across all categories, the combination percentage for “Agree” and “Strongly Agree” are consistently high, ranging from 73.2% to 100%. The result indicates that the students value a dictionary which includes an explanation of how to use it, clearly defined parts and sections, visualizations, and supplementary explanations in appendices. Moreover, the students also prefer systematically arranged dictionary with clear definition, correct pronunciation guides, word class explanation, and example sentences for word usage. The data highlights a clear demand for a comprehensive, accessible, and well-structured medical dictionary.

The gathered information from need analysis was then used as reference to design the dictionary. In the aspect of macro structure, the usage instruction included explains function, topics, and parts of dictionary. The entries related to nursing department determines the topics covering human anatomy, hospital facilities, hospital professionals, medical condition, medical procedure, medication, and nutrition. As requested, appendices explain information about prefixes and suffixes as part of word formation. On the other hand, from the micro structure aspect, the arrangement expected from the students is that the dictionary is in the form of PDF that is systematically arranged from general to specific. As it is themathical dictionary, the entires are displayed based on topics in alphabetical order. Further, the researchers design the type of information foe each entry, they are headword, word class, pronounciation, Indonesian, definition, example of sentence, picture, and source of picture.

Following the design, the medical dictionary was then developed by using Canva. Started from the cover illustrating title, subtitle, and names of developer. After the cover is table of content that lists the content along with topics developed in the dictionary. On the next page, the researcher developed usage direction part mentioning the function, the topics and the parts of the dictionary. Usage instruction is crucial because it ensures users can operate the dictionary correctly and efficiently. The dictionary is structured thematically, with entries grouped by topic. To help users navigate, a sub-cover page is placed at the beginning of each topic, enabling them to quickly locate the most relevant section for a particular entry. Each of these major topics is further divided into several subtopics. For instance, the overarching topic of human

anatomy is broken down into more specific subtopics, such as the musculoskeletal system. This systematic organization continues, with the musculoskeletal system itself being further subcategorized into the axial system, the appendicular system, and the muscular system.

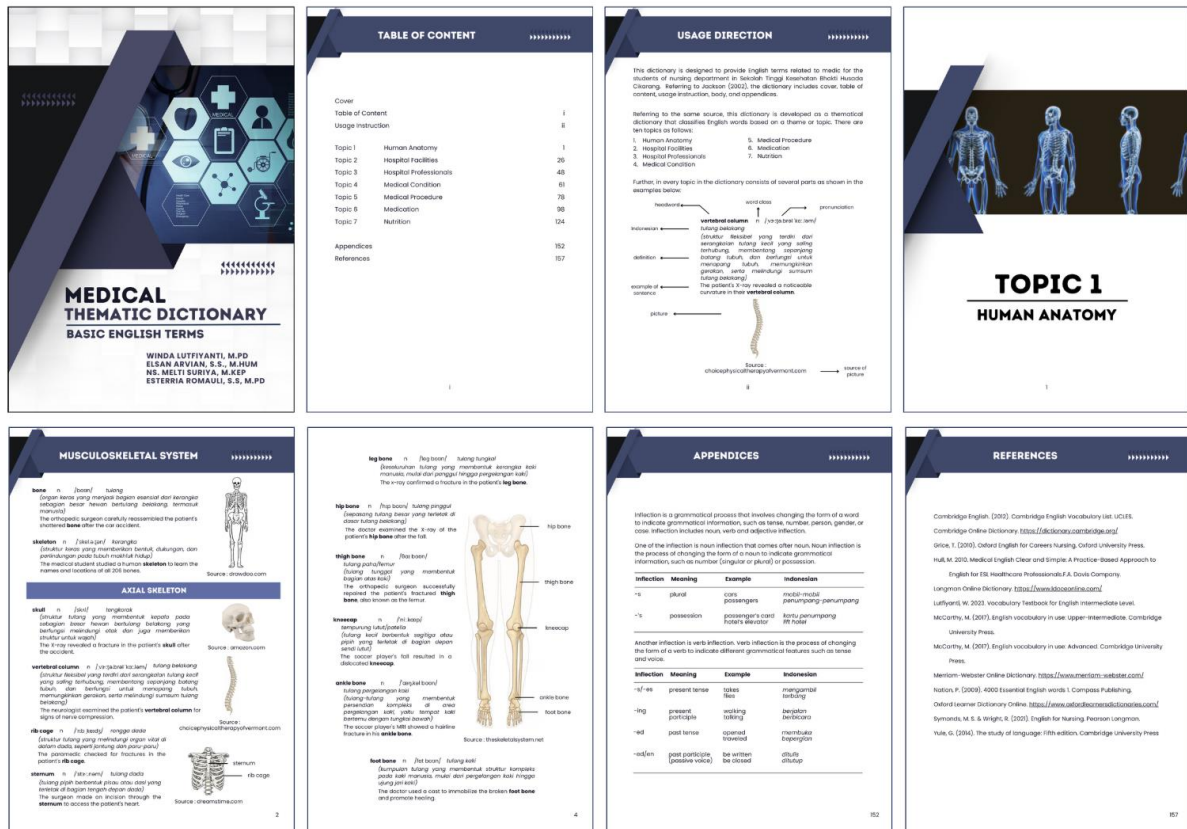


Figure 4. The Result of Medical Dictionary

At the conclusion of the thematic topics, the dictionary includes appendices that serve a crucial educational purpose: explaining the concept of inflection. The appendices specifically concentrate on the role of prefixes and suffixes, which are types of affixes. The last page is references as a crucial component of the dictionary, serving to establish the credibility of the developed product and assuring users that its content is grounded in reliable academic and professional information.

The next step taken was asking for validation from the experts based on two structures of the dictionary by Jackson (2002). The aspects cover front matter, body, appendices, arrangement, and type of information. The result from the validators were gathered and calculated in the form of percentages.

Table 1. Result of Validation

No	Aspect	Score	Category
1	Front matter	94%	It does not need revision
2	Body	96%	It does not need revision
3	Appendices	100%	It does not need revision
4	Arrangement	100%	It does not need revision
5	Scope and type of information	100%	It does not need revision

The table shows that both validators agreed on the statements that the front matter of the dictionary presents the parts and how to use the dictionary in a structured and effective way. In terms of body, the vocabulary and the topic classification are considered appropriate for the

users' major. Moreover, each entry explains the necessary information correctly. Therefore, the body of the dictionary does not need revision. Both validators strongly agreed that the appendices provides appropriate additional information for the users. They also agreed that the dictionary is arranged in a well-structured topics. The same response is also shown in the statement mentioning that the entries have adequate and effective information. Based on these three results, there is no revision needed.

The dictionary was put into use during the Even Semester of the 2024/2025 academic year at STIKes Bhakti Husada Cikarang. The implementation period spanned from May 2nd to June 20th, 2025, and involved second-semester students enrolled in the Intermediate English class. The total number of students participating was 52, comprised of 42 students from the Diploma Program and 10 students from the Undergraduate Program. These students utilized the dictionary as part of their regular coursework, which was held every Friday. This real-world application provided an opportunity to observe the dictionary's effectiveness in a classroom setting with its intended user base.

Evaluation on the learning was carried out during the implementation. The first researcher who played a role as both the lecturer and the observer took several notes regarding the physical setting, the human setting, the interactional setting, and the program setting (Cohen, Manion, and Morrison, 2018, p. 543) as the result of observation of dictionary usage. First, the physical setting which includes classroom and facilities, was deemed suitable for using the dictionary. Secondly, in the human setting, the researcher observed that students could use the dictionary correctly and were engaged during its implementation. The interaction setting was found to be successful, as the dictionary promoted positive communication between the lecturer and students, as well as among the students themselves. The last setting, the program setting, the researcher found that the designed informations were properly utilized in the teaching process.

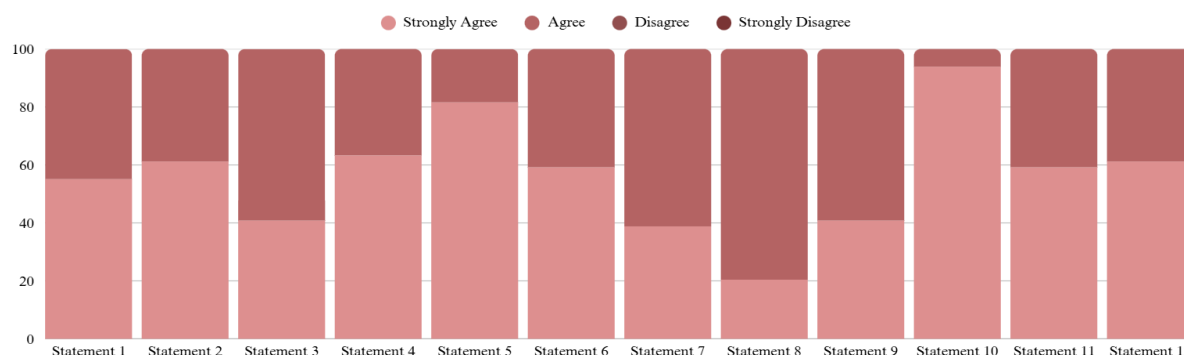


Figure 5. The Result of Evaluation

After the implementation, the researcher distributed questionnaire via Google Form to the students to evaluate the implementation and the dictionary itself. The researcher referred the evaluation standard from Nation (2001) that consists of kind of information, learner preference, and language use. Using Likert-scale, the students chose one of the four options, namely strongly agree, agree, disagree, and strongly disagree, that represented their opinion. The result shows strong positive feedback from students.

In choosing a dictionary for comprehension, the researcher questioned five aspects. The first statement in Figure 5.14 shows there are 27 students (55.1%) strongly agreed and 22 students (44.9%) agreed that the dictionary contains lots of words and word groups, while the second one displays 30 students (61.2%) strongly agreed and 19 students (38.8%) agreed that meanings are easy to understand. The figure also reveals that 20 students (40.8%) strongly agreed and 29 students (59.2%) agreed that derived words and word groups are easy to find. Similar to this,

the meanings are also considered easy to find in the dictionary by 31 students (63.3%) who strongly agreed and 18 students (36.7%) who agreed. The last statement questioned if there are examples to confirm appropriate meaning. There are 40 students (81.6%) strongly agreed and 9 students (18.4%) agreed.

Not only how to choose a dictionary for comprehension, selecting a dictionary for production is also important. The response of five statements related to this are illustrated in Figure 5.15. In the eleventh statement, the researcher intended to know if the dictionary provides a way of finding appropriate words which resulted 29 students (59.2%) strongly agreed and 20 students (40.8%) agreed. When asked their perception if the dictionary provides information about constraints on use of the word, 19 students (38.8%) strongly agreed and 30 students (61.2%) agreed. Next, the users are also asked to evaluate if the dictionary provides plenty understandable example sentences as model for use, 10 students (20.4%) strongly agreed and 39 students (79.6%) agreed.

Moreover, 20 students (40.8%) strongly agreed and 29 students (59.2%) agreed that the dictionary contains easily understood information about grammar and collocation of the word. A significant agreement is shown where 46 students (93.9%) strongly agreed and 3 students (6.1%) agreed to the statement "The dictionary shows how the word is pronounced." It is also crucial to ask for students confirmation if the dictionary developed meets their preference. Fortunately, 29 students (59.2%) strongly agreed and 20 students (40.8%) agreed. Lastly, to the evaluation stating that the dictionary aids language acquisition and practical application, 30 students (61.2%) strongly agreed and 19 student (38.8%) agreed.

In conclusion, a significant majority of students, over 90% in most cases, agreed that the dictionary is effective. The students found that the dictionary contains a wealth of words and word groups, provides easy-to-understand and find meanings, and includes examples to confirm appropriate usage. Additionally, students valued the inclusion of information on grammar, collocation, and pronunciation, confirming the dictionary's utility for both comprehension and production. The overall conclusion is that the dictionary successfully met user preferences and effectively aids language acquisition.

Discussion

From the findings started from analysis stage to the evaluation stage, the researchers found that the students acknowledge the necessity for medical dictionary for learning English. As English is not their main focus, the availability of this developed dictionary is a great help for enriching the vocabulary mastery. The product setting was then analyzed to know the students needs, showing the expected design for the developed dictionary. These desired criteria was further formed into a framework in the design stage. On the next stage, the researcher actualized the design into a developed product. Still on the same stage, the experts validated the product which resulted positive feedback therefore no revision is needed. In the meetings of Intermediate English class, the dictionary was used by the students while the researcher observed the implementation of the product and distributed a questionnaire for the students to know their perception of the product. In the last stage, namely evaluation, the result of the observation and questionnaire were presented and analyzed. After all of the stages, recognizing the substantial positive response to the product, the researcher drew conclusion that the medical dictionary is successfully developed and appreciated.

CONCLUSION

In the end of the research, it is concluded that dictionary is necessary for the nursing students of STIKes Bhakti Husada Cikarang. To develop the appropriate medical dictionary, five stages

of ADDIE were carried out. The stages are analysis, design, development, implementation, and evaluation. The design of the dictionary referred to the structure of macro (front matter, body, and appendices) and micro (arrangement and type of information). Developing from the cover, table of content, usage instruction, entries, appendices, to references, the researcher considered this product as a thematic dictionary. Therefore, the entries in the dictionary are categorized based on related topics in medical English terms, namely human anatomy, hospital facilities, hospital professionals, medical condition, medical procedure, medication, and nutrition.

ACKNOWLEDGMENTS

This article is based on a research report conducted in collaboration between STBA JIA and STIKes Bhakti Husada Cikarang. The researchers would like to express sincere gratitude to the heads of department, students, and validators whose contributions were essential to the development of this medical dictionary. Their participation and support were crucial in bringing this project to its completion.

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