IJEAL (*International Journal of English and Applied Linguistics*)
Volume : 4 | Number 1 | April 2024 | E-ISSN : 2787-9482 | DOI: doi.org/ijeal.v4i1.4127

THE USE OF LANGUAGE FUNCTIONS IN DEVELOPING ICT-BASED ENGLISH LEARNING MATERIAL FOR NURSES

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Received: 20/04/2024
Accepted: 30/04/2024
Publication: 30/04/2024

Abstract
The purposes of this study are to (1) describe the realization of the use of teaching materials in learning English for nursing, (2) develop ICT-based English learning materials by using language functions needed in the field of nursing, (3) analyze the quality of ICT-based English learning materials developed by using language functions in the field of nursing. This research was conducted using an exploratory mixed-method design (Creswell, 2003). The results of this study show that; 1) The reality of English learning material did not yet fulfil the need of nursing students to master English for nursing seen in terms of input, content, language focus, and tasks, 2) the design of teaching materials for English speaking skills in the field of nursing with the use of language functions was developed into fifteen topics. The result of the development of this teaching material is in the form of teaching material products that are expected to be able to represent communicative abilities and help students and teachers to be able to achieve learning goals, 3) The quality of English teaching materials in the field of nursing with the use of English functions was classified as "excellent" to be implemented in organizing the teaching and learning process as evidenced by the results of the t-test, which was 0.002 (0.002<0.005). The results of the research and the findings of this study are suggested to be used as a reference source for other similar research and the product can be implemented in English language learning at vocational universities that focus on the field of nursing.

Keywords: ESP, ICT, language function, Learning materials, nursing.

Introduction

In the 21st century, learning environments have undergone significant transformations with the advent of information and communication technologies (ICT) (Ghanizadeh et al., 2015)(Drigas & Charami, 2014)(Alemi, 2016)(Zulkarnain & Yunus, 2023). English for Specific Purposes applied in vocational education in every sector, such as hospitality, business and healthcare, has become a crucial aspect in today's globalized world (Drigas & Charami, 2014). Robinson (1991) further explains “It (here ESP) is generally used to refer to the teaching and learning of a foreign language for a utilitarian purpose of which there is no doubt. Hence, English for Specific Purposes (ESP) is a major force in the field of ELT worldwide". Specifically in the nursing profession, the need for effective communication skills in English has become imperative. This is because general English (GE) cannot fulfil the specific language demands of the field.

Nurses across the globe are required to collaborate and interact with healthcare professionals from diverse linguistic and cultural backgrounds. (Alemi, 2016) As noted by Mede and Çınar in (Milosavljević et al., 2015), "English language proficiency is one of the most important skills for healthcare professionals to be able to provide effective patient care and

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communicate with their colleagues from different countries". Nurse is one of the most challenging professions that requires competency in English due to the sensitive and crucial nature of their duties. Nurses have to give optimal service to the patient by using their English communication skills in various settings such as clinical, community and administration.(Milosavljević et al., 2015)(Oducado et al., 2020) However, in Indonesia, the proportion of English class hours given to nursing students is often insufficient in preparing them for real-world demands (Oducado et al., 2020). To address this issue, ICT-based English learning materials can be an effective solution in developing the nurses' language skills and functions required in their profession.

The integration of Information and Communication Technology (ICT) in nursing education has become increasingly prevalent in recent years, providing new opportunities for enhancing the learning experience of nursing students. As the healthcare industry becomes more technologically advanced, nurses must be equipped with the necessary skills and knowledge to navigate these digital landscapes. One crucial aspect of this integration is the use of language functions in developing ICT-based learning materials, which can significantly impact the effectiveness and engagement of these educational resources.

Numerous studies have highlighted the potential benefits of incorporating technology-enhanced language learning (TELL) into nursing education.(Ghanizadeh et al., 2015) The use of multimedia and digital technologies can provide nursing students with authentic, comprehensible input, which is essential for successful language learning.(Drigas & Charami, 2014) By exposing students to a variety of linguistic and cultural materials through digital platforms, educators can foster a more immersive and engaging learning environment. Furthermore, the versatility of ICT-based learning materials allows for the incorporation of multiple learning styles and modes of communication, interaction, and understanding, catering to the diverse needs of nursing students.(Melkonyan & Matevosyan, 2020)

Effective ICT-based learning materials for nurses should be designed with a focus on language functions, which are the communicative purposes that language serves in various contexts. These language functions can include but are not limited to, describing medical procedures, explaining treatment plans, and engaging in patient-provider communication. By incorporating these language functions into the development of ICT-based learning materials, educators can ensure that nursing students are equipped with the necessary linguistic skills to effectively communicate with patients, colleagues, and other healthcare professionals. Therefore, ESP material with necessary language functions can be an essential tool in preparing nursing students for the linguistic demands of their profession. This statement is in line with McDonough (1998)who stated ESP courses are those where the syllabus and materials are determined in all essentials by prior analysis of the communication needs of the learners. Donough's perspective indicated that ESP material and purposes must be developed based on students' needs, and these needs are stated in KKNI for nursing students. This study proposes the development of English learning material based on linguistic theory. The aims of this research were (1) to analyze the reality of the use of teaching materials in English for nurses, (2) to develop ICT-based English learning materials for nurses through language functions, and (3) to find out the quality of ICT-based English learning materials for nurse through language functions.

Literature Review

Therefore, the theory is presented in an eclectic way by applying several theories originating from the point of view of linguistics and language learning. Therefore, the theory is presented in an eclectic way, i.e. by applying some theories that come from the perspective of linguistics and language learning. All theories are presented to delineate the problems posed, however, which is the umbrella in this study is the English for Specific Purposes theory by Hutchinson and Waters (1987) which states that ESP is a theory in English language learning for special fields and studies that correspond to the needs of the field of science and the English language user profession includes the analysis of needs, learning materials, learning media, learning methods up to with the evaluation used so that, beginning with this theory of umbrellas,

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other supporting theories used to help answer the formula of problems present in this research. First, to show the reality of the use of Nursing English teaching materials, use the theory of English for Specific Purposes by Hutchinson and Waters (1987). Second, after knowing the reality of the previous use of the teaching material then, developed the ideal teaching materiel used by referring to the Theory of Instructional Systems Development (UNESCO version) by Logan (1982) as the core theory and some other theories, such as the Inverted model of Taba (1962) and the systematic approach by Dick and Carey (1996), which was reconstructed into several stages in designing the English textbook in the field of nursing with the acronym DISCLOSURE. Third, to test the quality of the educational material developed reference to the theories of the Criteria of Effective Learning Materials according to Hutchinson and Waters (1987), the Criteria of Material Evaluation by Tomlinson (2017), and the Evaluation of Textbooks by (Litz, 2005) which was also rebuilt into the criteria of the academic books with the acronym INCLUSIVE.

An ESP research was done by Suryati et al. (2019) to develop an ESP web-based for nursing students at ITEKES Bali. The research was done by applying research and development method and following 3 stages. The results of the research found that English learning material covering the language expression of greeting and welcoming patients, establishing a relationship with patients, human body, respiratory system, digest system, neuron system, immune system, cardiovascular system, reproduction system, and family care. This research is relevant with the current research since it was implemented similar research method.

Research Method

This study will utilize a research and development (R&D) approach to design and develop ICT-based English learning materials for nursing students based on language functions. This study uses the exploratory mixed method scheme (Creswell, 2004). The design was chosen because the research used a combination of qualitative and quantitative data. Qualitative data was collected and analyzed first, while quantitative data were collected, and then analyzed as supporting data.

The research approach used was a phenomenological and experimental approach by applying the research and development model of Logan (1982) which consists of three stages, namely, the determination stage, the design stage, and the development stage. According to Borg and Gall (1983), the Research and Development approach was used to produce certain products and test the effectiveness and quality of such products. In this study, the product was produced as an ICT-based English teaching material for nurses through a language functions approach that could be implemented directly at the Nursing Institution in Bali. Data in this study was obtained through interviews, observations, distribution of questionnaires, and product testing. The main sources of the data in this research were documents of the Indonesian National Qualification Framework or Kerangka Kualifikasi Nasional Indonesia (KKNI) as a regulation by the Indonesian government as the need for nursing students to pass a certain level of education in Indonesia, then other sources are lecturers of English classes in two health institutions in Bali, students that attending nursing study program at the Bali Institute of Health Technology, and corresponding literature. The data obtained was analyzed qualitatively and quantitatively. Qualitative analysis was done by classifying the data, while quantitative analytics was done to find the percentage of learning needs of students and lecturers as well as the T-Test to see the quality of the material developed.

Results and Discussions

The Reality of ESP Material for Nurse

Based on the interviews and observations, it was found that the use of English teaching materials for nurses was still not optimal, where teaching materials were available but did not yet match the needs of nurse students. Lack of teaching materials is also a problem because there are no specific English teaching materials for certain degrees of education that match nurse students' needs based on KKNI. This is in line with previous research conducted by

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Suryati, Susanta, and Dewi, which found that English teaching materials still needed to be developed to improve the competence of nursing students in English (Saragih, 2014).

The findings from the previous studies (Poedjiastutie & Oliver, 2017)(Saragih, 2014) showed that the existing English teaching materials for nursing students did not fully meet the students' needs. This is because the materials were not designed based on a comprehensive needs analysis and were not adjusted to the specific language functions needed by nursing students. Hence, the material used need to be analyzed to find the discrepancy between the materials and the student's needs. Hutchinson and Waters (1987) presented the content of an ESP learning material into four parts, those are input, content focus, language focus, and task. Input is a study material for students in the learning process. Inputs can be text, dialogue, video, audio, images, diagrams or other communication data that matches the learning topic. Content focus is the content material used in the teaching-learning process that covers the standards of competence, learning objectives, and learning indicators. Content focus directs the student to be directed in learning. It is part of the content focus. Language focus is related to the aspect of language related to the material or topic of learning. One example of language focus is language expression and also related functional elements of language. The last element is a task which can be understood as an activity that can be done by the student to refine the skills that have been learned. The task in learning English is communication to train the speaking skills of the students.

From the results of interviews with 3 lecturers of English class; two lecturers of bachelor degree of nursing program and a lecturer of diploma IV of nursing degree program and through documentation studies, it was found that the teaching materials used in the English language learning activities in nursing have not been specifically designed and developed to accommodate the needs of the use of English functions in the nurse field. In addition to this, the teaching materials that have been used cover a variety of English language learning topics that have not yet been adapted to the Indonesian National Labour Competence Standards or *Standar Kompetensi Kerja Nasional Indonesia (SKKNI)*. Another thing found in the process of interviews and documentation studies related to the reality of the use of the English language teaching material in nursing is the learning activity more focused on the development of reading skills learners. The existing learning materials could not accommodate learning activities for comprehending language skills. Therefore, the learning activities only slightly lead to other skills, such as speaking, listening, and even writing. This is very different from a Prachanant (2012) study that found that the most essential and essential English language skills to be mastered by practitioners are speech skills, followed by listening, reading, and writing skills.

In addition to the findings above, it was also found that the ESP teaching material suggested by KKNI is not compatible with Indonesian students, because the materials suggested for English as a Second Language (ESL) students, and Indonesian students mostly learn English as a Foreign Language (EFL). All materials do not apply technology effectively, the only technology applied is an Audio CD for listening practice that is hardly being accessed because of the unavailability of a CD. The materials used also do not show elements of the use of language functions that are part of the language focus that should be known and understood by the student.

Designing ICT-based English learning materials for nurses through language functions

This study is based on the reconstruction of the Inverted model by Theory of Instructional Systems Development (UNESCO version) by Logan (1982) as the core theory and some other theories, such as the Inverted model of Taba (1962) and the systematic approach by Dick and Carey (1996), which was reconstructed into several stages in designing the English textbook in the field of nursing with the acronym DISCLOSURE.

As to the reconstructions of the three theories, the design of the English language materials using the ICT-based nursing language functions with the acronym DISCLOSURE consists of: 1) Diagnosis (Diagnosis of student needs), 2) Intention (Formulating Goals), 3) Set Framework (Select a framework), 4) Content (Choosing the content of teaching material), 5) Language Functions (Determination of appropriate language functions), 6) Organization (content organization), 7) Strategy (learning strategy used), 8) Undergoing Formative

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Volume : 4 | Number 1 | April 2024 | E-ISSN : 2787-9482 | DOI: doi.org/ijeal.v4i1.4127

Evaluation (Initial evaluation carried out), 9) Revisions (Revision based on initial evaluation carried out), and 10) Evaluation (Final evaluation carried out) In the design of teaching materials, the results of needs analysis are the first stage in the implementation of research and development. The need analysis in this study is carried out in several approaches, i.e. looking at or studying the use and constraints of English in nursing through KKNI and SKKNI analysis, examining the needs of lecturers who teach bachelor's degree students and similar degrees in the nursing major. The study or analysis of the use of English for nurses was done to find out how the language functions are used in health care so that the teaching materials are developed under nursing needs. Furthermore, the need analysis is also done by analysing the needs of the lecturers and students in the learning process which is useful to see the aspects needed by students and lecturers in the English learning process to improve the skills of listening, speaking, reading and writing. The results of such needs analysis then developed into the English language teaching material in the nursing field that uses an ICT-based through languages functions approach. The material developed can be used by both lecturers, students or practitioners in learning as a reference or learning medium. The curriculum consists of 15 learning topics related to the services provided in the field of nursing.

The quality of ICT-based English learning materials for nurses through language functions

The quality of English teaching materials with the use of language functions in ICT-based nursing can be determined by meeting the reconstruction criteria of qualified teaching material according to the Criteria of Effective Learning Materials according to according to Hutchinson and Waters (1987), the Criteria of Material Evaluation by Tomlinson (2017), and the Evaluation of Textbooks by (Litz, 2005). As to the combination of the three theories, the criteria for qualified learning materials are listed as acronym INCLUSIVE consisting of 1) Interest (attain student's interest), 2) Neat Package (suitable book package), 3) Correct order and design (proper organization and design), 4) Language functions (Exact language functions), 5) Utilize activity and task (The right activities and tasks), 6) Skill (Providing English language skills), 7) Innovation for teachers and students (Innovation for teachers and students), 8) Validate subject and content (correct subject and content), and 9) Experience correct model (The right model). In this study, expert assessments show that the quality of English language material developed using ICT-based language functions belongs to the excellent category. This is because the whole criterion of quality teaching material based on the acronym INCLUSIVE has been fulfilled very well. Based on these results, it can be concluded that the learning material developed in this research is effective for use in the learning process.

Conclusion

Based on the results of research and development of learning materials using English functions in ICT-based nursing, three important points can be concluded, namely as follows. 1) The reality of the use of teaching materials in nursing is seen in terms of input, content, language focus and tasks is not in line with the teaching material standards according to the English for Specific Purposes theory of Hutchinson and Waters (1987). Therefore, students need to have suitable material to enhance English language skills to communicate with attention to the use of language functions used for nursing. 2) Design of English Language Materials developed using ICT-based nursing field language functions is based on the reconstruction of the Theory of Instructional Systems Development (UNESCO version) by Logan (1982) as the core theory and some other theories, such as the Inverted model of Taba (1962) and the systematic approach by Dick and Carey (1996), which was reconstructed into several stages in designing the English textbook in the field of nursing with the acronym DISCLOSURE, consists of: 1) Diagnosis (Diagnosis of student needs), 2) Intention (Formulating Goals), 3) Set Framework (Select a framework), 4) Content (Choosing the content of teaching material), 5) Language Functions (Determination of appropriate language functions), 6) Organization (content organization), 7) Strategy (learning strategy used), 8) Undergoing Formative

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Evaluation (Initial evaluation carried out), 9) Revisions (Revision based on initial evaluation carried out), and 10) Evaluation (Final evaluation carried out)

The quality of English teaching materials with the use of language functions in the field of nursing based on ICT can be determined by meeting the reconstruction of the Criteria of Effective Learning Materials according to Hutchinson and Waters (1987), the Criteria of Material Evaluation by Tomlinson (2017), and the Evaluation of Textbooks by (Litz, 2005). As to the combination of the three theories, the criteria for qualified learning materials are listed as acronym INCLUSIVE consisting of 1) Interest (attain student's interest), 2) Neat Package (suitable book package), 3) Correct order and design (proper organization and design), 4) Language functions (Exact language functions), 5) Utilize activity and task (The right activities and tasks), 6) Skill (Providing English language skills), 7) Innovation for teachers and students (Innovation for teachers and students), 8) Validate subject and content (correct subject and content), and 9) Experience correct model (The right model).

The use of language functions in developing ICT-based learning materials for nurses can help students improve their English language proficiency to communicate effectively in their nursing duties.

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