



THE ANALYSIS OF BIOLOGY STUDENTS' NEEDS IN ENGLISH LANGUAGE LEARNING

Hermawan

Universitas Terbuka Garut
Email:
jaliludinn@gmail.com

Article History

Submitted 1 February 2022
Revised 1 March 2022
Published 23 March 2022

Abstract.

This study aims to analyze what English skills are most needed by English students and how to structure the curriculum in English. This research method uses qualitative methods with case study research design. This research was conducted in Biology education at a university in Garut. The subjects of this study were 6 students from level 4 and 25 students from levels 1-4. This study used three instruments, namely interviews, analyzing documents, and questionnaires. The results of the study showed that reading skills that was English skill needed by Biology students, having these abilities could help and support their understanding in reading books, journals, and modules in English. Not only that, speaking skills were also needed by them to support future careers, especially in teaching. Second, mastery of vocabulary and grammar aspects is an aspect that Biology students feel is still lacking, so this has an impact on their speaking and reading processes. Therefore, learning English is still lacking if it is only taught one semester in the Biology Study Program.

Keywords: need analysis, ESP, English for biology

INTRODUCTION

In Indonesia, English is taught both formally and informally. Formally, English is taught in every school as a compulsory subject from elementary school to high school or vocational school, while at the level of higher education language, English is a compulsory subject. Informally, English can be learned with take English courses (Dja'far, 2017). According to lesson plans English in biology department, there are two English learning models in Biology Department in one of University in Garut. The first is General English (GE) learned before midterm exam which focus to speaking, writing, and reading that consists of the materials introducing yourself, introducing yourself and others, talking about family and friends, talking about habitual activities, talking about last experience, talking about wish and hope, and talking about critical issue.

The second is English for Specific Purpose (ESP) learned after midterm exam which focus on terms and vocabulary that consists of the materials process photosynthesis, physiology, food chain, and etc. So, English in biology is expected that student can communicate each other use simple English communication. In order to make the material in line with the students' need. Need analysis should be required. So, ESP which is an approach to design a curriculum and starts with the question of why the students need to learn English for all departments in the university. Starfield (2016) said that ESP is an approach focused on both of the learner's needs and expectations. ESP researchers have argued that the use English also fits into government education policies that emphasize the goal of learning English, specifically for their academic and careers (Starfield, 2016).

Many studies have been done on this subject. Some studies which focus of English language in specific purpose does not mean to the students need. The first, (Chostelidou, 2010) his research conducted need analysis on accountancy students, the result shows that students have different expectations with respect to their need to use the target language for study or professional purposes. Secondly, (Aliakbari & Boghayeri, 2014) the researchers tried to investigate the needs and views or architecture students and graduates, and the effectiveness of their ESP courses, the result show that the syllabus has different, so the revision of the programs seem to be necessary to offer effective ESP course. Third, (Nurpahmi et al., 2020) conducted need analysis of English for math in UIN Alauddin Makassar, the result show that 1) students have fair ability in English skills, listening, speaking, reading, writing, vocabulary, and grammar, and pronunciation; 2) students need to learn more in reading than others skills. Vocabulary relates to their major, and grammar; 3) students need to learn auditorily and visual through video.

Students need to learn in a small group and work in pairs. From the above research, it can be concluded that their research has several focuses, namely need analysis on accountancy, the needs and views or architecture students and graduates, and the need analysis of English for math. It means that it is still necessary to conduct studies with different focus. Therefore, this research aims to the analysis of Biology students' needs in English language learning. The researcher chooses this topic because English has a compulsory subject that must be studied for all majors in university, and every major has a uniqueness and distinctiveness in learning English.

Therefore, this study tries to investigate what the uniqueness and distinctiveness of biology students in learning English.

LITERATURE REVIEW

Need Analysis

Need analysis is carried out in order to create a desire that fits the needs, especially in this research analysis of biology students' needs in English language learning. According to (Saragih, 2014) said that need analysis is very important before designing teaching materials for English Specific Purpose. It means of establishing the how and who the ESP design to use for the target. According to Badruddin (2016) needs analysis refers to activities involved in gathering that will serve as the basis for developing a curriculum that will meet the learning needs of a particular group of students. In this occasion the researcher try to analysis of Biology students' needs in learning English.

English for Biology

The necessity of studying English at the college level has been emphasized by the syllabus of learning English in Indonesia, as English is a compulsory subject for universities, considering this need, teaching English in Biology is taught specifically for one semester. According to Meyerhöffer & Dreesmann (2019) stated that the introduction of bilingual instruction of subject matter, often referred to as Content and Language Integrated Learning (CLIL), allows for incorporating English as a medium of direct communication into science classroom. Based on the book "Science for junior high school" which contains the material about growth and development, the human musculoskeletal system, the human digestive system, the human respiratory system, the human cardiovascular system, the structure of plants, photosynthesis, and movement in plants (Sumarwan et al., 2010). This book is aimed to enrich students' knowledge so as to enable them to follow the rapid development of science and technology.

So, Teaching English for biology subjects has started in junior high schools, especially in ninth grades in junior high schools in Germany which have implemented a bilingual program, maybe it will continue if the program also continues in college. According to Nurpahmi et al., (2020) stated English for Biology Education students is academic necessity which will later support their future, namely to get a scholarship and get a better job. This course emphasizes the basic skills that must be possessed by students including reading, writing, and speaking. In particular, students are given a text related to a biology course and then introduced to vocabulary related to the topic of discussion, such as an example of studying the process of photosynthesis in English.

METHODOLOGY

Given the purpose of this study is descriptive qualitative design with case study. This design deemed appropriate for this study because the study aims to find the answer of research question posed in this research. In this research, there are three types of instruments utilized in this study; document analysis, interview and questionnaire. First, document analysis is used book science bilingual and lesson plans English in biology. Second, interview is used for various questions to know deeply about the problem of interviewee. Last, questionnaire is used to as additional evidence and reinforcing the

results of the interview. In addition, it will be focused on phenomenon that happens in natural settings (Creswell, 2018). This study will employ content analysis of Biology students' needs in learning English.

The participants in this study were the students of the Biology Education Program in one of university in Garut. These students have different levels of English proficiency. The researcher chose six of them purposively as a sample of this study, this is based on the level cognitive (2 low, 2 middle, 2 high) for interview. Then, the researcher chose 25 of them as sample of this study for questionnaire.

FINDING AND DISCUSSION

According to the objective of this study it was found that reading is the skill that is most needed by student of biology. Relevant to study by (Borza, 2013) stated that English teaching does not reply the students' needs and does not improve their level. Also, it is related by (Kurniawan, 2022) stated that students have not been able to understand reading in English Science Text, difficulty reading sentences, difficulty distinguishing topics, main ideas, and supporting details

Based on the result it can see that students of biology choose reading skill to support their knowledge to learning English in biology. As S1-S5 said that reading skill became the highest skill chosen by biology students as their necessity to meet the needs of understanding reading books, modul, and journal. Furthermore, S6 stated that the writing is highest skill that the most needed by students of biology to support their knowledge to learning English in biology. This is similar to the finding of Canbay (2018) he found that reading as the most important skill in their studies investigating the language needs of engineering students in turkey. It means that not only in biology but also engineering reading skill is needed in their study.

Moreover, mastering vocabulary became the hardest aspect of learning English in Biology. As S1, S2, S3, S4, S5, and S6 students said that the vocabulary in Biology studies tend to be different from the regular. Based on this problem, it impacts on reading skill since the basic important aspect in reading is understanding the words. Besides the lack of vocabulary, grammar also became the hardest aspect that felt by biology students. Grammar will be very difficult because the lack of vocabulary and do not know the meaning of the words. This finding is similar to study by Kurniawan (2022), that the students should learn and practice English material more in order to improve their English skill comprehension especially on English for Biology.

The Biology students learn English to support their career and job in the future. It is indicated that the students' goal in learning English is to be a professional worker when they graduate. This similar finding in (Nurpahmi et al., 2020). In his study found that students have fair ability in English skills, listening, speaking, reading and writing for support their career after graduating from university. On the other hands this study also justified the importance of learning English for the future. As the student said in the interview

“karena bahasa inggris adalah bahasa internasional, untuk kedepannya akan menjadi bekal saya di masa depan, jika saya di takdir kan bisa lanjut S2 atau mengajar di sekolah internasional.”.

This study found that to support their careers and work in the future, they want master speaking as a language skill. But differently, in her study (Ratnasari, 2020) explain that EFL students' problem in learning speaking were caused by some factors, such as; the lack of vocabulary, limited background knowledge, and lack exposure in English. one of the results of the Ratnasari's study said that lacking vocabulary and grammar mastery is one factors faced by EFL students in learning speaking.

Since in this study, Biology students want to master speaking skill. However, from the problems that have been found, they tend to lack mastering vocabulary and grammar. This is important for ESP teacher. ESP teacher must use methods and materials that are suitable for teaching biology students so that biology students can master speaking with their limitations in mastering vocabulary and grammar. Based on the explanation, biology students want to master speaking skill to support their career in the future. This is similar to the finding in (Ratnasari, 2020), based on her research results obtained by her, analysis of target needs of nutrition students show that they need the ability to speak fluently and communicatively to meet the demands of their professional going forward.

The skill that is Most Needed by Student of biology

In this study, the respondents' voice are based on the first research question. The first research questions was “What are the English language skills that is most needed by students of Biology”. So, this research presents some items which related to the first question, the students of biology need in English language learning, which skill the most needed, how process English material transfer, how effective English in biology, how long they learn it, and what they are necessities in learning English.

a. The Skill that is Most Needed by Student of Biology

Based on the interviews, many students answered that they usually used reading skill that is most needed. Writing and listening, because as a biology student must be able to write in English, especially in conducting cross-sectional research in English, secondly listening, because we find a lot of material on YouTube where the speakers use English. Reading, because we have to read English-language journals and biology modules.

From the data, reading became skill that is most needed by student of biology. This is due to the use of source books and journal in English, and the compulsion to understand the contents of a text.

b. The Hardest Aspect of Learning English in Biology

There were some aspects of learning English which learn in biology, especially basic English like vocabulary, grammar, pronunciation, and est.

Pronunciation and grammar, if I have to learn more about pronunciation because there are many words that are difficult to pronounce, then grammar has many rules, especially tenses in its use, which makes me dizzy.)

Grammar, because of the difficulty in implementing tenses such as when to use them correctly, and in terms of vocabulary, I also feel that there are many vocabs that I don't know yet, thus making it difficult for me to

c. The Process of Teaching English in Biology

English is one a compulsory subject in university, especially for biology department. Teaching English in biology can be effective way the process by lecture. As stated by students:

d. The Biology students' wants in learning English

English has become the compulsory skill should be mastered. Especially for Biology students. In regard to the interview data. Biology students learn English because the requirement of the era. As students said;

Based on the findings gained in this study, some critical points that needed to be discussed. The discussion of those points will be divided into three parts; the weakness, strengths, and uniqueness of this study. First, the weakness of this study. First, the weakness of this study the subject was not representative of the student population in indonesia, because the researcher just researching the student of Biology which was a weakness of this study. The study only focuses in a few students and have done with students of Biology department in one university in Garut.

Second, the strengths of this study were related to research instrument and participant involved in the study. In research instrument, the researcher uses three research instruments to collect data they are; Interview, questionnaire and data analysis. In collecting data, the researcher chose several people from all semesters and from different levels to get various data.

The third, the uniqueness of this study there was still a bit study that discuss about this topic, especially those related to student needs in one department in university. Furthermore, the uniqueness of this study also related with the fact that mastering vocabulary and lack of learning time becomes a something that needs to be improved. As a result, this topic was interesting and worthy of discussion for stakeholder because this study can assist students in optimizing English language learning in Biology.

CONCLUSION

The aim of this study to analysis the students of Biology in English language learning. Based on the data analysis in the chapter IV, it could be concluded that:

- a. Reading and speaking skill became the most needed skill by student of Biology. They think that by mastering reading skill they can be able to support the reading comprehension of books, modul, and journal which related about their study. While speaking skill can be used for teaching and communication each other.
- b. The lack of aspect vocabulary, grammar, and learning time became the less aspects felt by Biology students in learning English. It has an impact for their understanding in reading skill since the basic important of both of it is mastering vocabulary and grammar. It means someone must provide input to cover the lacks of student biology in learning english, namely the role ESP.

- c. The biology students' want in learning English is speaking skill to support career and job in the future since the progress of the era.

REFERENCES

- Aliakbari, M., & Boghayeri, M. (2014). A Needs Analysis Approach to ESP Design in Iranian Context. *Procedia - Social and Behavioral Sciences*, 98, 175–181. <https://doi.org/10.1016/j.sbspro.2014.03.404>
- Badruddin, D. (2016). Developing a Task-Based Syllabus Based on Needs Analysis for Midwifery At Uin Alauddin Makassar. *ETERNAL (English, Teaching, Learning and Research Journal)*, 1(1), 112–130. <https://doi.org/10.24252/eternal.v11.2015.a4>
- Borza, N. (2013). *Register Analysis of English Biology Texts : a Corpus-Based Exploratory Study of Grammar*. 7(May), 29–47.
- Canbay, M. O. (2018). *Strengthening a Content-Based Instruction Curriculum by a Needs Analysis* STRENGTHENING A CONTENT-BASED INSTRUCTION CURRICULUM Graduate School of Education In Partial Fulfillment of the Requirements for the Degree of in. July 2006.
- Chostelidou, D. (2010). A needs analysis approach to ESP syllabus design in Greek tertiary education: A descriptive account of students' needs. *Procedia - Social and Behavioral Sciences*, 2(2), 4507–4512. <https://doi.org/10.1016/j.sbspro.2010.03.721>
- Dja'far, V. H. (2017). Analisis Kebutuhan pada Pengajaran Bahasa Inggris di PG-PAUD. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, 4(2), 92. <https://doi.org/10.21107/jpgpaud.v4i2.3572>
- Kurniawan, A. E. (2022). , *Hera Hartati 2* , *A Eki Kurniawan 3*. 24–28.
- Meyerhöffer, N., & Dreesmann, D. C. (2019). English-bilingual biology for standard classes development, implementation and evaluation of an English-bilingual teaching unit in standard German high school classes. *International Journal of Science Education*, 41(10), 1366–1386. <https://doi.org/10.1080/09500693.2019.1607620>
- Nurpahmi, S., Kamsinah, K., & Ningsih, N. (2020). *Need Analysis of English For Math Instructional Material*. June. <https://doi.org/10.4108/eai.12-10-2019.2292207>
- Ratnasari, A. G. (2020). EFL Students' Challenges in Learning Speaking Skills: A Case Study in Mechanical Engineering Department. *Journal of Foreign Language Teaching and Learning*, 5(1). <https://doi.org/10.18196/ftl.5145>
- Saragih, E. (2014). *Designing ESP Materials for Nursing Students Based On Needs Analysis*. 6(4), 59–70. <https://doi.org/10.5296/ijl.v6i4.5983>
- Starfield, S. (2016). English for specific purposes. *The Routledge Handbook of English Language Teaching*, 150–163. <https://doi.org/10.4324/9781315716893-5>
- Sumarwan, Sumartini, Kusmayadi, Sulastri, S., & Priambodo, B. A. (2010). No Title. In R. Widjajanti, H. P, E. Widijanto, & Supriyana (Eds.), *SCIENCE for Junior High School Grade VIII* (p. 383). PENERBIT ERLANGGA.