

Improving Digital Learning Tool in the Classroom through Interactive Bilingual Ebook Based On Local Wisdom of Indonesia

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ABSTRACT: The purpose of this study is to develop a bilingual interactive ebook with a constructivism for Basic English courses. The quality of bilingual interactive ebook is reviewed based on aspects of validity, practicality, and effectiveness. This research is a development research with ADDIE model (Analysis, Design, Development, Implementation, Evaluation). (1) The analysis phase includes (a) curriculum analysis; (b) analysis of teaching materials; and (c) analysis of student characters. (2) The design phase includes (a) outline design of a bilingual interactive ebook; (b) compile a map of textbook needs; and (c) preparation of research instruments. (3) The development phase includes (a) writing a bilingual interactive ebook; (b) validation of bilingual interactive ebook; and (c) revised interactive bilingual ebook. (4) The implementation phase includes testing textbooks. (5) The evaluation phase includes (a) an interactive bilingual ebook evaluation by the lecturer; (b) evaluation of the practicality of bilingual interactive ebook by students; and (c) evaluating the effectiveness of using bilingual interactive ebook in learning. The product of this research is a bilingual interactive ebook media for Basic English courses. The results obtained include (1) the quality of bilingual interactive ebook based on validity aspects, including the very good category with an average score of 4.41 according to material expert ratings and 4.51 according to media expert ratings; (2) the quality of the interactive bilingual ebook from the aspect of practicality in terms of the response of lecturers is very good with an average score of 4.53; (3) the quality of bilingual interactive ebook based on the effectiveness aspect in terms of the results of the pretest and posttest students of the Basic English course showed an increase in learning achievement from an average score of 50.9 at pretest to 73.9 at posttest; and (4) the final evaluation of a bilingual interactive ebook in terms of the responses of students who took the Basic English course with an average score of 4.20 English students responding to the agree category.

KEYWORDS : *Interactive ebook, bilingual, constructivism, ethnochemistry, Basic English*

I. INTRODUCTION

Education is a means to improve the quality of human resources. Adequate education will enable humans to have the opportunity to improve their lives and be more open to accept various innovations, broaden their horizons and sharpen various phenomena. Seeing the importance of education in improving the quality of human resources, it is necessary to improve the quality of education in order to keep up with the challenges of changing times. Education is an effort to educate the nation's next generation so that they have the knowledge and expertise in accordance with the development of science and technology. Improving the quality of education must always be done, both regarding the curriculum, infrastructure, and also learning activities in the classroom. In line with the current globalization, the need for English language skills is increasingly felt. This globalization competition has made the government move to improve the quality of education in Indonesia.

Today the development of science and technology is very rapid in various fields such as telecommunications. As a result of this technological progress, humans are required to be able to manage information and think critically, systematically, logically, and creatively. Interesting, effective, and fun learning does not need enough instant or live teaching material. An educator is demanded for his creativity to be able to compile teaching materials that are innovative, varied, interesting, and in accordance with the needs of students so that the learning process becomes interesting and fun[1].

According to Andriani[2], through the constructivism approach, knowledge will be structured and built up in the minds of students themselves as they try to organize their new experiences based on the cognitive framework that already exists in their minds. In constructivism classes, students are empowered by the knowledge that lies within them, thereby encouraging the development of curiosity naturally in students. One of the most important principles in educational psychology is that teachers do not merely provide knowledge for

students. Students must build their own knowledge in their minds[3]. Therefore, learning using the Constructivism approach needs to be applied.

The choice of constructivism approach in learning will facilitate and help educators to be able to develop a more comprehensive learning process that includes aspects of doing, experiencing, feeling, seeing, hearing, thinking, concluding. Learning like this facilitates active student learning, the teacher is not transferring the knowledge he has to students, but students themselves are actively forming those thoughts or ideas in themselves [4]. This is in line with the opinion of Hapsari[5], that constructivism is a learning process that explains how knowledge is organized in humans, so that teachers do not necessarily transfer knowledge to students in an all-round form, but students must build a knowledge based on experience each and learning is the result of the efforts of the students themselves.

The next improvement is in learning resources. In the teaching and learning process every student must have a learning resource. One learning resource that can be used by students is the ebook. Ebook will provide opportunities for students to learn in their own way, because students use different techniques to solve certain problems based on their background knowledge and habits. Development of teaching materials must pay attention to the demands of the curriculum, meaning teaching materials that are developed must be in accordance with the current curriculum.

II. LITERATURE REVIEW

2.1. Digital Technologies in the Classroom

Technology can improve teaching and learning process through different ways, for instance: with greater enthusiasm by learners, enriched communication skills, assessable to learners of all levels and capabilities, excellent research tool, good assessment tools, better preparation of students for education. Information and Communication Technology (ICT) not just modifies the social behaviors of students but also teaches them in several ways to interact in a social environment by instilling different values in them[6].

The purpose of the integration of ICT to improve quality studying and educating experience in educational institutions implies a succession of various physical mediums of transmission such as communication channels. According to Roger's diffusion model, the course of embracing the new developments in technology involves different procedures. The procedure will begin with first state knowledge that symbolizes decision making features of the unit by the ICT users to incorporate the technology. The procedure ends with the approval of the users to agree to use technology. Integrating and making solid use of technology in educational setups confirms the fulfilling application of creative approaches and develops an understanding among different people belonging to the same community[7].

E-learning has been introduced as a tool in the learning process in the majority of the international universities worldwide. "e" in e-learning should not stand for electronic; it should be an abbreviation for "evolving, enhanced, everywhere, every time and everybody." In fact, most of the advantages of e-learning for learners and instructors. E-learning has grown in significance as an educational tool just like technology has developed and progressed over the years. Interestingly, there have been more efforts at advancing technology than on attempting to understand the needs and learning styles of individual learners and instructional design. The 21st century has seen rapid progress with such things as the Internet and online learning[8].

The success of e-learning methods in higher education can only be measured according to the effectiveness of delivery. Therefore, the adoption of e-learning initiatives falls considerably on the training of staff which is really a major challenge. It has been acknowledged that many faculty members are reluctant in accepting aspects of technology in the teaching process. Unfortunately, teachers that are not well trained might face difficulties in application use[9]. Moreover, in order for success to occur lecturers in higher educational institutions must accept, implement and adopt technological advancements offered by e-learning. Such new educational approaches are imperative in order to maintain the quality of courses[10]. Having said that, training lecturers on how to use e-learning to enhance teaching practices should not focus primarily on how to use the hardware and software, but rather on how to be adaptable to both formal and less formal teaching methods and techniques[11].

2.2. Interactive Bilingual Ebook

Based on the rapid technological development, e-book should contain a compilation of learning videos, animation, audio, and images. So that the contents of e-book are not monotonous, interesting, interactive, and can foster students' critical thinking skills through the interaction obtained from the use of the ebook, especially in the topic of energy resources that require many representations of images or videos in learning. This is supported by research conducted by Husein et al. showing that using interactive multimedia in learning physics for high school students can enhance students' critical thinking[12]. Ebook, designed with the scientific approach on a topic of wave, which contains videos, animations, and simulations can improve sciences process skills and learning outcomes.

Using ebook for student development in literacy is an important topic to research. An ebook can be an effective tool that can gain student interest and motivate them to complete the task at hand. Literacy involves

understanding all forms of meaning that are represented within a set of social practices embedded in culture. In order to incorporate literacy into classrooms, teachers must come up with using different literacy practices within the classroom[13]. A child should be able to actively read, interpret, talk back to texts, as well as identify the many visible and invisible messages that comprise these texts. In the 21st century, a child must be able to use both a print and technology based text that connects in and out of school events.

In recent years, researchers have turned their attention to the cognitive impact of bilingualism, and the benefits of using two languages have become increasingly apparent. Children raised in bilingual families exhibit stronger awareness of the style and tone of language, stronger cognitive development, and higher levels of reading skill than children raised in families where only one language is used.

2.3. Local Wisdom as Learning Material

Culture can also be referred to as local wisdom. Local wisdom includes the values prevailing in the community and is believed to be a reference in daily behavior. Local wisdom contains intelligence, creativity, and local knowledge that determines the dignity of human beings in the development of civilization [14]. It means that local wisdom is the certain people's result through their experience and uncertain experienced by the other people. The values will be very strong on certain society and the value has experienced in long time, as long as the existence of people. Local wisdom must be cultivated because it is an idea, values, knowledge, rules and customs that have long been growing and developing in a society.

In fact, in recent years, local wisdom in various regions in Indonesia began to fade. The next generation is no longer able to filter out incoming cultures and even more often follow outside cultures, especially in this modernization era. Cultivating local wisdom as a source of learning in secondary education is an alternative in maintaining local wisdom and realizing the role of higher education[15]. In education, local wisdom can function superiority local in economic aspect, cultural art, language, human resources, technology, information and communication, ecology, etc into school curriculum that finally function for competency development of student that can be functioned for global rivalry[16].

III. METHOD

3.1. Research Procedure

The procedure for developing a bilingual interactive ebook is carried out with the ADDIE development model, which is a development model consisting of five stages, namely Analysis, Design, Development, Implementation, and Evaluation. An explanation of the stages of developing a bilingual interactive ebook is as follows.

1. Analysis

The analysis used is curriculum analysis, analysis of teaching materials, and analysis of student characteristics. Curriculum analysis is done by examining the Chemistry Education Department's curriculum. Analysis of teaching materials is carried out by analyzing teaching materials that have been used before. Analysis of student characteristics is done by finding information about students in general by paying attention to expert opinions and looking for information about students specifically by interviewing lecturers.

2. Design

The design phase is carried out to obtain a bilingual interactive ebook design that is consistent with the results of the analysis phase. The subject of the design phase is to design an outline of the contents of a bilingual interactive ebook, compile a map of the needs of a bilingual interactive ebook and develop a research instrument.

3. Development

The development phase is carried out by writing a bilingual interactive ebook draft in accordance with the design that has been determined at the design stage. Subjects carried out at the development stage are the writing of bilingual interactive ebook and validation of bilingual interactive ebook by material and media experts.

4. Implementation

The implementation phase is the stage to test the bilingual interactive ebook that have been developed. Stages of trials conducted in this study in the form of learning Basic English with a constructivism approach using bilingual interactive ebook.

5. Evaluation

Evaluations are carried out throughout the stages in the development of interactive bilingual ebook, evaluations are conducted by researchers, supporting lecturers, and validators. The final evaluation is based on observing student responses.

3.2. Research Instruments

The research instruments used in this study are as follows.

1. Validation sheets by material experts and media experts

This instrument sheet serves to determine the quality of the bilingual interactive ebook that was developed in terms of content worthiness, language worthiness, presentation worthiness, and graphic

worthiness. This instrument is addressed to material experts and media experts. The assessment format used is an assessment format using a Likert scale with five alternative answers.

2. Assessment sheets by supporting lecturers

This instrument sheet is used to find out the quality of bilingual interactive ebook that have been developed in terms of linguistic feasibility, presentation worthiness, and graphic worthiness. This instrument is intended for supporting lecturers. The rating format used is a five-point rating format on the Likert scale.

3. Student questionnaire responses

This instrument serves to determine student responses after using bilingual interactive ebook and to obtain input and suggestions directly from students that can be used to improve interactive bilingual ebook.

3.3. Data Analysis Techniques

Data analysis techniques for validation sheets by experts, assessment sheets by supporting lecturers, and student response questionnaire sheets are as follows.

1. Change qualitative data into quantitative data with the following conditions.

Table 1. Rules for Weighting Assessment Results by Material Experts and Media Experts, and Assessment Results by Lecturers

| The answer | Score positive statement |
|-------------------------------|--------------------------|
| Very good / Very suitable | 5 |
| Good / Appropriate | 4 |
| Enough | 3 |
| Not good / Not suitable | 2 |
| Very bad / Very inappropriate | 1 |

Table 2. Rules for Weighting the Results of Questionnaire Responses by Students

| The answer | Score positive statement | Score negative statement |
|---------------------------------|--------------------------|--------------------------|
| Very happy / Very agree | 5 | 1 |
| Happy / Agree | 4 | 2 |
| Ordinary | 3 | 3 |
| Not happy / Disagree | 2 | 4 |
| Very displeased / Very disagree | 1 | 5 |

2. Calculate the average score of each assessment criteria by the formula

$$\bar{X} = \frac{\sum x}{n}$$

Information :

\bar{X} = Average score for all aspects

$\sum x$ = Total score of all aspects

n = Number of statement items

3. Change the average score of all aspects into qualitative values as follows

Table 3. Assessment Criteria

| No | Score interval | Category |
|----|--------------------|-----------|
| 1 | $4,2 < X$ | Very good |
| 2 | $3,4 < X \leq 4,2$ | Well |
| 3 | $2,6 < X \leq 3,4$ | Enough |
| 4 | $1,8 < X \leq 2,6$ | Less |
| 5 | $X \leq 1,8$ | Very less |

Information :

X = empirical score

IV. RESULTS AND DISCUSSION

4.1. Curriculum Analysis, Teaching Materials, and Student Characteristics

Curriculum analysis is carried out by examining the curriculum of the Basic English course taught by Mrs. ReskyUspayanti, S.Pd, M.Pd. Basic English courses are subjects that cover the basic formula of sentence structure and the noun phrase. Teaching materials used by lecturers are obtained from the internet. In addition, lecturers also use dictionaries in the learning process. Supporting lecturers do not have standard teaching materials. The learning media used is Power Point. Characteristics of students who contract a Basic English course are described as active students and have sufficient English language skills. So that lecturers more often teach through articles uploaded from the internet to be later discussed in class discussions.

4.2. Interactive Bilingual Ebook Design

The results of the ebook requirements analysis were obtained from the distribution of open questionnaire questionnaires to Chemistry Education Department students who had taken English courses. In learning in these subjects, the teaching materials used are still dominated by printed books, dictionaries, materials provided by supporting lecturers, and the Google Translate application. Learning media that are often used include Edmodo, PowerPoint, and articles. Assignments given by lecturers to students include making articles.

Student responses to the question of whether or not the introduction of local wisdom or culture in learning media in general is filled with necessary answers and some fill with answers is very necessary. Likewise on the question of whether or not the introduction of local wisdom in English courses, students (respondents) answer the need. Respondents are of the opinion that the introduction of local wisdom can increase students' motivation and interest in studying English courses.

Respondents assume it is necessary to develop teaching materials in the form of interactive bilingual ebooks for learning English, because students can be invited to follow technological developments, especially in the field of education, students become more interested in learning the material, and can broaden students' insights. An interesting thing that is important for researchers is the suggestion from respondents to include journals in interactive bilingual ebooks that will be developed.

Efforts that have been made by lecturers in accommodating the application of the learning process based on local wisdom include through the delivery of the main material being taught. The lecturer also gave an independent task in the form of an analysis of Indonesian local cultures through the concept of chemistry.

Based on the results of the research team's discussion, it was agreed that 5 (five) local wisdom topics will be raised in an interactive bilingual ebook to be developed, namely the utilization of Dewa Leaves, Shells, Pineapple, the process of making Papeda, and Salted. An interactive bilingual ebook developed will be able to support learning in English courses.

The next stage is the preparation of research instruments, namely the expert validation sheet, the lecturer response sheet, the pretest and posttest sheets, and the student response sheet. The expert validation sheet serves to find out the quality of the interactive bilingual ebook that were developed in terms of content worthiness, language worthiness, presentation worthiness, and graphic worthiness. This instrument is aimed at material experts and media experts to fulfill the validity aspects.

The instructor response sheet of the lecturers serves to find out the quality of the bilingual interactive ebooks that were developed in terms of linguistic feasibility, presentation worthiness, and graphic worthiness. This instrument is intended for supporting lecturers to fulfill practical aspects.

Pretest and posttest sheets function to find out changes in student learning achievement during the learning process. This instrument is intended for students who contract a Basic English course to fulfill aspects of effectiveness.

The student response sheet serves to determine the response of students after using an interactive bilingual ebook and to obtain input and suggestions directly from students that can be used to improve interactive bilingual ebook.

4.3. Development of Interactive Bilingual Ebook

Subsequently a draft of the interactive bilingual ebook was prepared using the Sigil ebook editing application version 0.9.18. In the compilation obtained 2 drafts of interactive bilingual ebook that have gone through three times of expert validation. Material experts selected in this study were Mrs. EvyNurvitasari, S.Pd, M.Pd. The material expert is tasked to examine the contents of the material from the interactive bilingual ebook that was developed. The selected media experts in this study were Mr. NasraPratama, S.Kom, M.Cs. The media expert is tasked with examining the application and graphic design of the interactive bilingual ebook that was developed. For the ebook reader application, the Moon + Reader application is used. The results of the validation are shown in table 4.

Table 4. Results of validation of material experts and media experts

| Description | Material Experts | Media Experts |
|----------------------------|------------------|---------------|
| Validation average 1 | 3,94 | 4,18 |
| Average validation 2 | 4,47 | 4,53 |
| Average validation 3 | 4,82 | 4,82 |
| Average overall validation | 4,41 | 4,51 |
| Category | Very Good | Very Good |

The third validation product is the final product. After the bilingual interactive ebook draft meets the validation criteria by the expert, the product begins to be refined according to the advice of the media expert and material expert. Bilingual interactive ebook contains 2 languages namely Indonesian and English. Ebook are

interactive because they contain videos in each chapter and have a page-over look like a printed book. The ebook also has a table of contents that can directly guide the reader to the desired page. Examples of ebook displays are presented in Figure 1-4 below.

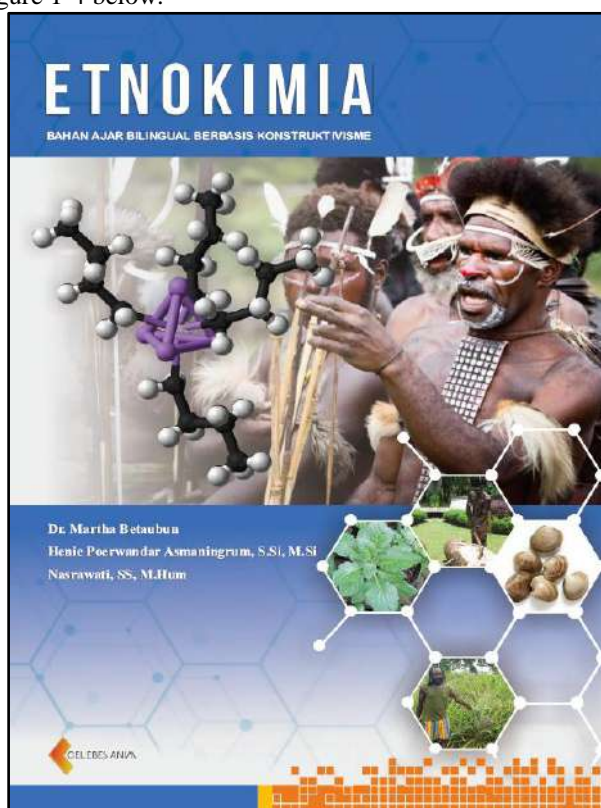


Fig 1. Interactive Bilingual EbookCover

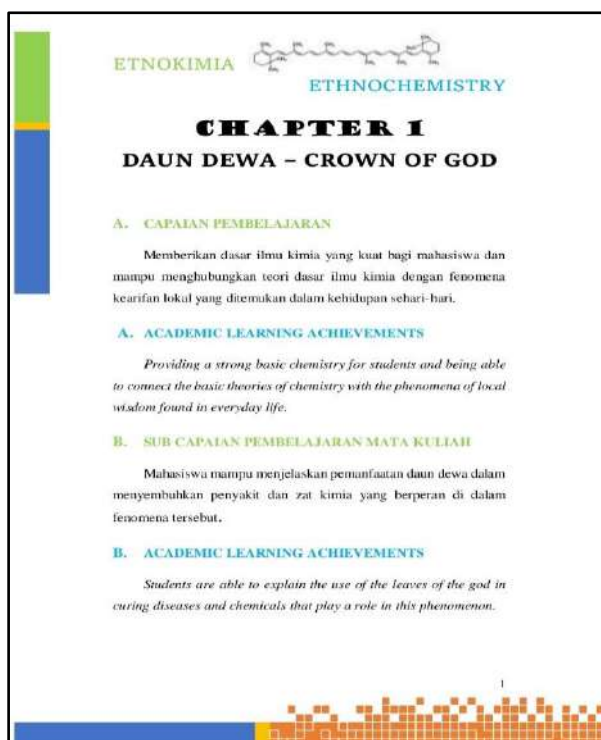


Fig 2. Sample display of academic learning achievement

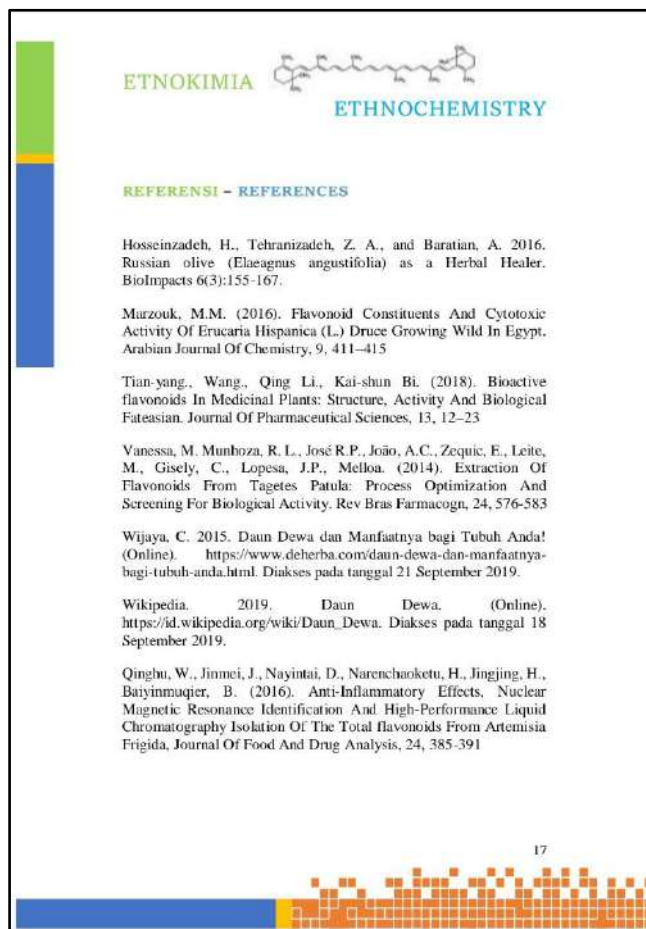


Fig 3. Sample display of references

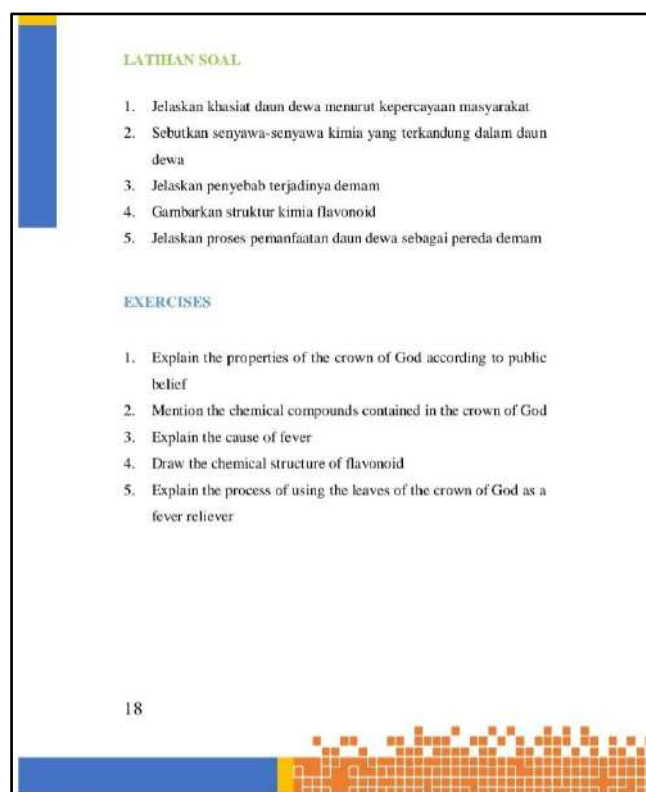


Fig 4. Sample display of exercises

4.4. Implementation of Interactive Bilingual Ebook

The implementation phase is the stage to test the interactive bilingual ebook that have been developed. The test is conducted in the process of learning Basic English. Students are given a pretest then the learning process is carried out using an interactive bilingual ebook media that is being developed. After that students are given a posttest to see changes in their learning achievement. The results of the pretest posttest are shown in table 5.

Table 5. Basic English Learning Achievement Data

| Description | Pretest | Posttest |
|--------------------|---------|----------|
| Number of students | 10 | 10 |
| Ideal value | 100 | 100 |
| Lowest value | 42 | 65 |
| The highest score | 57 | 80 |
| Average value | 50,9 | 73,9 |

Table 5 shows that there was an increase in student learning achievement from an average score of 50.9 to 73.9. This shows that students are enthusiastic and more interested in learning Basic English using interactive bilingual ebook. thus the effectiveness aspect has been met. Then the response of lecturers of Basic English courses is done using a response questionnaire. The results of the lecturers' responses are shown in table 6.

Table 6. Results of lecturers' response in Basic English

| No | Components and Indicators | Score |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A | Assessment of learning activities using bilingual interactive ebooks | |
| 1 | Learning with interactive bilingual ebooks makes me passionate in teaching | 5 |
| 2 | English learning activities that have been carried out help students more easily understand the problem when learning English | 4 |
| 3 | Learning activities that have been carried out require students to link English problems with realistic situations | 4 |
| 4 | I am sure I can understand the entire contents of this interactive bilingual ebook well | 4 |
| 5 | I use the experience I gained to work on problems in a bilingual interactive ebook | 5 |
| 6 | This learning makes students happy to discuss with group members to solve problems by exchanging the results of discussions | 4 |
| 7 | I always check the results of student work | 5 |
| 8 | Practice questions in bilingual interactive ebooks help students to develop their English skills | 4 |
| 9 | I can connect the contents of this interactive bilingual ebook with things that I have seen, done or thought about in my daily life | 5 |
| 10 | This learning made me express ideas or opinions about a given problem | 4 |
| 11 | After participating in learning using this interactive bilingual ebook, my material understanding improved | 5 |
| 12 | I can gain new knowledge by participating in a series of activities in a bilingual interactive ebook | 5 |
| B | Assessment of ebooks used in learning | |
| 13 | The style of presentation of this interactive bilingual ebook is interesting | 5 |
| 14 | In this interactive bilingual ebook, several questions are presented that build my new knowledge | 5 |
| 15 | Words or sentences in communicative and bilingual interactive ebooks are easy to understand | 4 |
| 16 | The exercises in this interactive bilingual ebook helped me to gain new knowledge | 4 |
| 17 | This interactive bilingual ebook material is very useful for me | 5 |
| Total score: | | 77 |
| Average score: | | 4,53 |
| Category : | | Very Good |

Table 6 shows that the response of lecturers in English courses reached an average score of 4.53 which was in the very good category. In the interview the lecturers of the English course said that the interactive bilingual ebook media that was developed was very helpful in the process of learning Basic English. Students become active in discussions, motivated to work on group assignments, and achieve good grades on tests. Besides the allocation of learning time becomes more efficient and effective with the existence of interactive bilingual ebook media.

Supporting lecturers of Basic English courses give suggestions for further developing contextual and constructivism teaching materials that are tailored to the needs of students. Thus the practical aspects have been met.

4.5. Final Evaluation of a Bilingual Interactive Ebook

The final evaluation is based on observing student responses. Students who were respondents were ten students who had contracted Basic English courses. The results of student responses are summarized in table 7.

Table 7. Results of student responses to bilingual interactive ebook

| No | Components and Indicators | Score |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|
| A | Assessment of learning activities using bilingual interactive ebooks | |
| 1 | Learning with interactive bilingual ebooks makes me excited in learning | 4,3 |
| 2 | The English learning activities that have been implemented have helped me to more easily understand problems when learning English | 4,3 |
| 3 | The learning activities that have been carried out require me to link English problems with a realistic situation | 4,1 |
| 4 | I am sure I can understand the entire contents of this interactive bilingual ebook well | 4,2 |
| 5 | I use the experience I gained to work on problems in a bilingual interactive ebook | 3,9 |
| 6 | This learning makes me happy to discuss with group members to solve problems by exchanging the results of discussions | 4 |
| 7 | I always check the results of my work | 3,8 |
| 8 | The practice questions in the interactive bilingual ebook helped me to develop my English skills | 4,2 |
| 9 | I can connect the contents of this interactive bilingual ebook with things that I have seen, done or thought about in my daily life | 4,7 |
| 10 | This learning made me express ideas or opinions about a given problem | 4,1 |
| 11 | After participating in learning using this interactive bilingual ebook, my material understanding improved | 4,3 |
| 12 | I can gain new knowledge by participating in a series of activities in a bilingual interactive ebook | 4,3 |
| B | Assessment of ebooks used in learning | |
| 13 | The style of presentation of this interactive bilingual ebook is interesting | 4,1 |
| 14 | In this interactive bilingual ebook, several questions are presented that build my new knowledge | 4 |
| 15 | Words or sentences in communicative and bilingual interactive ebooks are easy to understand | 4,1 |
| 16 | The exercises in this interactive bilingual ebook helped me to gain new knowledge | 4,1 |
| 17 | This interactive bilingual ebook material is very useful for me | 4,9 |
| Total score: | | 71,4 |
| Average score: | | 4,20 |
| Category : | | Agree |

Table 7 shows that the average score of responses of students who have contracted Basic English courses reached 4.45 and is in the very good category, while the average score of responses of students who are contracting Basic English courses reaches 4,20 and in the good category. General description of the results of the study is shown in table 8.

Table 8. General description of research results

| Description | Data | Category |
|------------------|------|----------|
| Validity aspects | | |

| | | |
|--------------------------------------------|------|-----------|
| Material experts | 4,41 | Very Good |
| Media experts | 4,51 | Very Good |
| Practical aspects | | |
| Response of lecturers in Basic English | 4,53 | Very Good |
| Aspects of effectiveness | | |
| Pretest | 50,9 | |
| Posttest | 73,9 | |
| Final Evaluation | | |
| Student responses in Basic English courses | 4,20 | Agree |

Chou has found that when in the field, teachers who use ebook with ESL (English as a Second Language) or EFL (English as a Foreign Language) get more of a response out of their readers and notice that students are actually obtaining effective reading strategies. This growth in reading strategies may be due to the fact that ebook have multiple features for student. For this literature review it is essential to understand all the enhanced features an eBook contains. Student that were using ebook were able to develop new literacies that allowed successful maneuvering through the 21st century texts. Basic functions of an ebook include student being able to select the story they wish to read, have the story read aloud to them and while the story is being read words may be highlighted or underlined, and the story may also include interactive features that the student can take part of may increase student interaction and focus on reading. When using ebook, student were expected to be able to navigate through the built-in dictionary, work the text-to-speech function, and use the note-taking application while reading the passage[13]. If students are unable to use these interactive features, students lack the ability to use ebook to their full potential.

V. CONCLUSION

The results obtained include (1) the quality of bilingual interactive ebook based on validity aspects, including the very good category with an average score of 4.41 according to material expert ratings and 4.51 according to media expert ratings; (2) the quality of the interactive bilingual ebook from the aspect of practicality in terms of the response of lecturers is very good with an average score of 4.53; (3) the quality of interactive bilingual ebook based on the effectiveness aspect in terms of the results of the pretest and posttest students of the Basic English course shows an increase in learning achievement from an average score of 50.9 at pretest to 73.9 at posttest; and (4) the final evaluation of a bilingual interactive ebook in terms of the responses of students who took the Basic English course with an average score of 4.20 English students responding to the agree category.

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REFERENCES

- [1] A. Prastowo, *Panduan Kreatif Membuat Bahan Ajar Inovatif: Menciptakan Metode Pembelajaran yang Menarik dan Menyengkan*. Yogyakarta: Diva Press, 2011.
- [2] M. Andriani, Melly, dan Hariyani, *Pembelajaran Matematika*. Pekanbaru: Benteng Media, 2013.
- [3] Nurhajati, "Pengaruh Penerapan Pendekatan Konstruktivisme Dengan Model Pembelajaran Kooperatif Berbantuan Program Cabri 3D Terhadap Kemampuan Penalaran Dan Koneksi Matematis Siswa SMA Di Kota Tasikmalaya," *J. Pendidik. dan Kegur.*, vol. 1, no. 1, pp. 1–11, 2014.
- [4] O. P. Artiono, "Pengembangan Buku Ajar Matematika dengan Pendekatan Konstruktivisme untuk Siswa Kelas V SDIT Internasional Luqman Al-Hakim Yogyakarta Kelas Bilingual," 2015.
- [5] T. S. Hapsari, "Penerapan Model Pembelajaran Konstruktivisme untuk Meningkatkan Hasil Belajar IPA," *J. Pendidik. Penabur*, no. 16, pp. 34–45, 2011.
- [6] M. Prensky, "The role of technology," *Educ. Technol.*, vol. 48, no. 6, 2008.
- [7] F. Shahid, M. Aleem, and M. A. Islam, "A Review of Technological Tools in Teaching and Learning Computer Science," vol. 15, no. 11, 2019.
- [8] A. El-Seoud, M. S. A.; Taj-Eddin, I. A. T. F.; Seddiek, N.; El-Khouly, M. M.; Nossier, "E-Learning and Students' Motivation: A Research Study on the Effect of E-Learning on Higher Education," *iJET*, vol. 9, no. 4, 2014.
- [9] M. Elkhouly, *Cases on challenges facing e-learning and national development: Institutional Studies*

- and Practices, elearning in EGYPT*. Eskisehir-Turkey: Anadolu University, 2010.
- [10] D. Holley, “Which room is the virtual seminar in please?,” *Educ. Train.*, vol. 44, no. 3, pp. 112–121, 2002.
- [11] P. Maltz, L.; Deblois, “The EDUCAUSE Current Issues Committee, ‘Top Ten IT Issues,’” *Educ. Rev.*, vol. 40, no. 1, pp. 15–28, 2005.
- [12] L. . & G. Husein, S.; Herayanti, “Pengaruh Penggunaan Multimedia Interaktif terhadap Penguasaan Konsep dan Keterampilan Berfikir Kritis Siswa pada Materi Suhu dan Kalor,” *J. Pendidik. Fis. Dan Teknol.*, vol. 1, no. 1, pp. 7–10, 2015.
- [13] S. Brown, “Young Learners’ Transactions with Interactive Digital Texts Using EReaders,” *J. Res. Child. Educ.*, vol. 30, no. 1, 2016.
- [14] N. Ridwan, “Landasan keilmuan kearifan lokal,” *J. Stud. Islam dan Budaya*, pp. 27–38, 2007.
- [15] O. H.P. Asmaningrum and Irianto, “Need Analysis of Chemical Learning Devices Based on Asmat Tribe Culture (Case Study on MA Annajah Yamra Merauke),” *QUANTUM J. Inov. Pendidik. Sains*, vol. 10, no. 1, pp. 16–26, 2019.
- [16] Fajarini, “Peranan Kearifan Lokal dalam Pendidikan Karakter,” *J. Sosio Didakt.*, vol. 1, no. 2, 2014.