Ecolinguistic-Based English for Computer Learning Tools to Develop Students' Creative Thinking Ability

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Abstract

Belajar bahasa Inggris merupakan salah satu aspek fundamental penting yang harus dikuasai siswa dari proses pembelajaran leksikon/kosa kata. Saat ini dosen hanya fokus memberikan tugas pada soal-soal ulangan di buku-buku bahasa Inggris umum. Hal ini mengakibatkan siswa tidak percaya diri dalam berbicara bahasa Inggris karena tidak memiliki koleksi kosa kata yang mumpuni. Penelitian ini bertujuan untuk menghasilkan perangkat pembelajaran English for Computer berbasis Ekolinguistik. Metode Penelitian ini adalah penelitian pengembangan (Research Development) dengan menggunakan model ADDIE yang terdiri dari beberapa langkah, yakni analysis, design, develop, implementation, dan evaluation. Subjek dalam penelitian ini terdiri dari 3 validasi ahli, dan 30 mahasiswa pada program studi teknologi informasi STKIP Yapis Dompu. Instrumen penelitian yang digunakan dalam penelitian ini yaitu: Lembar Validasi Perangkat Pembelajaran, Rencana Pelaksanaan Pembelajaran, Whorksheet, Angket respon, dan Tes Hasil Belajar. Teknik analisis data dalam penelitian ini analisis validasi ahli, analisis data uji coba, dan analisis tes hasil belajar.Berdasarkan hasil validasi data perangkat pembelajaran (buku ajar) bahasa Inggris berbasis Ekolinguistik dinyatakan layak untuk digunakan pada perkuliahan bahasa inggris karena disusun sesuai dengan standar penulisan perangkat pembelajaran, materi yang disajikan dengan baik, bahasa yang digunakan mudah untuk dipahami, soal yang diberikan dapat dikerjakan oleh mahasiswa. Buku ajar juga efektif dalam meningkatkan pencapaian hasil belajar mahasiswa karena terlibat secara aktif dalam menemukan materi, menemukan hubungan antara materi, mampu menerapkan pengetahuannya sehingga mahasiswa akan mampu mengkonstruksi pengetahuan yang diperoleh dari pengalamannya. Produk yang dihasilkan berupa buku ajar mata kuliah bahasa Inggris untuk mahasiswa pada Program Studi Pendidikan Teknologi Informasi.

Keywords: Bahasa Inggris, Ekolinguistik, Leksikon, Berpikir Kreatif.

Abstract

Learning English is one of the important fundamental aspects that students must master from the lexicon/vocabulary learning process. Currently, lecturers only focus on giving assignments on test questions in general English books. This results in students not being confident in speaking English because they do not have a large collection of vocabulary. This study aims to produce an Ecolinguistic-based English for Computer learning tool. This research method is research development using the ADDIE model which consists of several steps, namely analysis, design, development, implementation, and evaluation. The subjects in this study consisted of 3 expert validation and 30 students in the information technology study program STKIP Yapis Dompu. The research instruments used in this research are Learning Device Validation Sheet, Learning Implementation Plan, Worksheet, Response Questionnaire, and Learning Outcome Test. The data analysis techniques in this study were expert validation analysis, test data analysis, and test analysis of learning outcomes. The result of this study shows learning tools of the material are presented well, the language used is easy to understand, and the questions given can be done by students. Textbooks are also effective in increasing the achievement of student learning outcomes because they are actively involved in finding material, finding relationships between materials, and being able to apply their knowledge so that students will be able to construct knowledge gained from their experiences. The resulting product is in the form of English course textbooks for students in the Information Technology Education Study Program.

Keywords: English, Ecolinguistics, Lexicon, Creative thinking.

1. INTRODUCTION

To improve the quality of English learning at Universities, lecturers in English courses are obliged to develop learning tools for development in Indonesia's education policy as outlined in the education curriculum in Indonesia. The implementation of the MBKM

curriculum mandates lecturers to develop student-centered learning. Student-centered learning will give students a role to contribute to developing creative thinking skills (Ilhan & Ekber Gülersoy, 2019; Rajabi et al., 2015). The competencies to be achieved include attitudinal, knowledge, and skill competencies. The availability of effective, efficient, and innovative learning tools for lecturers and students can show positive things and improve the quality of learning. In line with the development of science and technology and ethnic diversity, a nation requires creative and superior human resources to be used. Where at the university level, it requires students to have creative abilities in their thinking and behavior (Nonthamand & Songkhla, 2018; Nurhayati & Rahardi, 2021). The development of student's skills and knowledge is adjusted to their immediate environment, both the environment and the environment students in the form of experience and linguistic knowledge that they have outside themselves, such as family and classroom environment (Afrianti & Nur Wahyuni, 2021; Chong et al., 2019). Learning English is one of the essential fundamental aspects that must be mastered by students from the lexicon/vocabulary learning process. Lexicon/vocabulary is a critical component for supporting the four language skills, including listening, speaking, writing, and reading (Afrianti et al., 2021; Mudofir, 2016). The lexicon recorded through the conceptualization process in the speaker's mind becomes a functional lexicon. Thus, language speakers will use the existing glossary in their concept if the current physical environment supports it. Conversely, the lexical conception in the speaker's mind will change if there is a change in the physical environment. This change occurred for a long time, resulting in the disappearance or shrinking of several lexicons, even in bilingual communities, and a shift to another lexical conception of language (Van Lier, 2010; Yuniawan et al., 2018). To apply ecolinguistics in English classes, lecturers' creativity in designing teaching materials or learning experiences and assignments to carry out meaningful learning involving students' real-life situations in class routines is needed (Luardini & Sujiyani, 2018; Tjendani et al., 2019). Class interactions and educational experiences in each area have different environmental conditions, so in certain communication situations, they have different dialogue models (Bundsgaard, 2012; Mali & Lim, 2021). Thus, the lexicon can be interpreted as a language component that contains all information about the meaning, word use, and vocabulary, which is more emphasized on the richness of words owned by a person or a language; in general, language learning from an ecological perspective is an approach that focuses on the quality of learning (Boddaert et al., 2021; Xu, 2017).

Based on the results of an interview with one of the students of the Technology Information Study Program, several factors make it difficult for students to understand English. Namely, traditionally, English learning is still carried out, emphasizing mastery of the material, rarely practicing. Furthermore, the learning materials are still textbook-based, where students are only invited to discuss the material contained in the e-book; students rarely apply it in everyday life. The English book used is general, while the use of student worksheets is rarely done because the lecturer only focuses on giving assignments on test questions in general English books. Therefore, students are not confident in speaking English because they do not have an extensive collection of vocabulary. Furthermore, the material used is general English, so English courses are uninterested in the computer major. Seeing the problems that arise in the English learning process, especially knowledge of the computer lexicon, the researchers designed exceptional English for Computer learning devices using an ecolinguistic approach. The learning tools developed are Lesson Plans, Student Worksheets, and Textbooks. Ecolinguistic-based English for Computer learning is defined as studying the interaction between language and its environment. By analyzing the language system used, environmental factors can influence the character of human heredity and personal traits, such as intelligence and personality. Furthermore, the immediate environment affects personality and intelligence, so local wisdom is considered in planning language learning ecologically to

physically, socially, and technologically preserve environmental resources (Fen & Poh, 2015; Hornberger, 2018).

Research on ecolinguistic-based English for computer learning at the tertiary level is rarely done because previous researchers have applied more ecolinguistic-based learning in elementary and high schools. The following describes a literature review of the results of previous studies that are relevant to this study. Researched with the title "An Ecolinguistics Perspectives Syllabus Development". This study aimed to develop a syllabus based on an ecolinguistic perspective (Tjendani et al., 2019). The result was the content of the syllabus is developed based on the following elements; namely text, context, linguistic elements, learning situations, teaching and learning activities, and evaluation. The content of the text is adjusted to the transactional and interpersonal functions (Tjendani et al., 2019; Wang, 2019). The context is based on inter, intra, and trans-cultural contexts from the ecological, social, and ideological dimensions. KBM is structured according to linguistic and cognitive processes for language-related activities and based on the situation chosen by the learner for language production. It is similar to research that studies ecolinguistic-based English learning (Tjendani et al., 2019). Still, the differences are in the object looked at, the application of knowledge, and the method used. Another research the titled "Ecolinguistic Approaches in Development of English Teaching Materials for English for Business." This study found that the environmental system in language education has several characteristics used to find new ways to be applied in language learning (Krismayani et al., 2021). Based on the problems and results of previous research, the researcher is interested in conducting a study related to Ecolinguistic-Based English for Developing Students' Creative Thinking Abilities. Thus, the objective of this study was to produce an Ecolinguistic-based English for Computer learning tool, "lexicon in the Mbojo Language," to develop students' creative thinking skills of good quality.

2. METHODS

This research was carried out on students of the Information Technology Education Study Program STKIP Yapis Dompu, Semester II, with 30 students in the 2022/2023 academic year. This research was developmental research by developing English for computer learning tools: lesson plans, worksheets, textbooks, and students' creative thinking instruments that refer to the ADDIE model (Tegeh & Kirna, 2013). This study used Research and Development (RnD) design by Dick and Carey, namely ADDIE (Analysis, Design, Development, Implementation, and Evaluation) (Muruganantham, 2015). The research instruments used in this study were: the Learning Device Validation Sheet, Worksheet, and Observation Sheets on the ability of lecturers to manage learning, response questionnaires, and Learning Outcomes Tests. The steps of this study include First, researchers identifying the causes of learning problems and the analysis stage. The analysis carried out is an analysis of product needs in the field, student characteristics, analysis of the features of learning devices, and the breakdown of infrastructure facilities. Second, this design phase aims to produce a prototype of the learning tools developed, including preparing tests, media selection, format selection, and initial design of learning tools. The steps are preparing tests, selecting media, selecting formats, and the initial design of learning devices (Mahardika et al., 2022). Third, this development stage aims to produce learning tools revised based on expert input (Fathirma'ruf et al., 2021). Fourth, the implementation stage is the application of learning tools that include learning English for computers through an ecolinguistic approach to determine its feasibility. The application of learning tools will be tested on students of the information technology education study program, STKIP Yapis Dompu. The fifth stage is the evaluation stage which includes formative and summative. Formative evaluation is carried

out at each phase of the ADDIE model to improve learning tools. At the same time, the summative assessment was conducted to determine the feasibility of the learning tools developed based on the values of validity, practicality, and effectiveness. (Nadjamuddin et al., 2020).

The data analysis technique was carried out by analyzing validation data, analyzing test data, and analyzing learning outcomes test data. The data from the assessment results from the validators were analyzed based on the average score (Sugianto, 2011). Thus, the results of data analysis that do not meet one of the good or very good categories will be taken into consideration for revising the learning tools (Sumiyati & Yusnarti, 2021). Analysis of Learning Outcome Test Data: The data obtained from Learning Outcome Test Data was then processed to determine the validity of the test items, the sensitivity of the test items, and the reliability of the test. Analysis of learning outcomes data: Descriptive analysis of student learning outcomes data aims to describe the completeness of student learning outcomes. The data analyzed is post-test data. A student is said to have completed his studies individually if the score obtained by the student is more than or equal to 70% of the total score. At the same time, classical learning completeness is achieved if the class is more than or equal to 85% of students completing their studies (Afrianti & Nur Wahyuni, 2021; Jamdin et al., 2019).

3. RESULTS AND DISCUSSION

Result

This research aims to produce English for Computer learning tools based on Ecolinguistics "lexicon in the Mbojo language" to develop students' creative thinking skills of good quality. To achieve this goal, firstly, the development of learning tools using the ADDIE model. The activities and results obtained from each stage.

Analysis stage

The first stage in this development research is a needs analysis by observing the English Constitutional Court in the Information Technology Education Department of STKIP Yapis Dompu. The analysis results will be used as a reference for the development of Ecolinguistic English for Computer Learning Tools "lexicon in the Mbojo language" to develop students' creative thinking skills. Based on the results of observations made by researchers in the department of information technology education in the process of teaching and learning activities in English courses, lecturers only use general English books that are used as learning resources. In using general English books, students do not experience changes in learning English because students are only monotonous in doing the test questions in the book. So that the learning process in the classroom dominates the lecturer, commonly called the teacher-center. In the learning process in class, students tend to be bored and passive because students only do test questions and rarely practice with the help of some media. Based on these reasons, students need learning tools that can stimulate and arouse enthusiasm for learning and as an alternative source of learning by using an ecolinguistic approach so that students can think creatively in doing English assignments both individually and in groups. Adjustment of the material's content in the learning device is adjusted to the book used by the lecturer and directs students to be interested in the learning process. Ecolinguistic-based English for computers can allow students to choose and study independently. Ecolinguistic-based English for Computer has complete content and clear instructions so that users can use it without the guidance of others. Based on the results of the needs analysis, it can be concluded that the development of English for Computer learning tools based on Ecolinguistics "lexicon in the Mbojo language" is essential to develop students' creative thinking skills in a more enjoyable learning process so that they can attract

students' attention and foster student motivation and attitudes. Ecolinguistic-based English for Computer learning tools has many advantages. Namely, they can display images and videos and directly bring objects related to computers to be used as learning resources.

Design stage

Referring to the needs analysis, a general description of the problems faced and the facilities in the classroom are obtained. The planning stage is a follow-up to the needs analysis, planning for Ecolinguistic-based English for computer learning tools tailored to the needs analysis. At this stage, various kinds of activities must be carried out, including the following: preparation of lesson plans, making worksheets, and making creative thinking test questions. The preparation of the learning tools above has been revised based on input from experts, namely content, design, and language experts. Content and design experts for teaching materials provide assessments, opinions, and suggestions on the content and aspects of the display/layout of learning devices. Meanwhile, linguists provide estimates, ideas, and suggestions for the linguistic aspects of learning devices. The learning tools above apply an ecolinguistic approach which includes language skills, language components, and soft skills. The emphasized language component is related to the lexicon or computer English vocabulary. The designs of the worksheets and English for computer textbooks are shown in Figure 1 and Figure 2.

Figure 1. Design Worksheet

Before Revision   **After Revision**

Figure 2. Design Text Book

Developing stage

The purpose of the development stage is to produce a draft device revised based on expert input, expert validation results and analysis of readability test data. Expert Validation Results, the first activity carried out at the development stage asks for input from English education experts (validators). The feedback given is in the form of an assessment and suggestions for device improvement. The validation results are used as the basis for making

decisions about the feasibility and revising the learning tools. The draft of the fixed learning tool based on expert input is called draft I. The learning tool declared valid by the validator is called draft II. Results of data analysis Testing of learning tools is carried out to obtain data or input from lecturers, students, and observers on all learning tools that have been prepared as a basis for revising improvement). Result of experts' validation that has been carried out by 2 experts. The instrument validation results are shown in Table 1 and the device validation results are shown in Table 2.

**Table 1**. Instrument Validation Results

No	Device	Average	Category
1	Syllabus	3,3	Valid
2	Lesson Plans	3,3	Valid
3	Worksheet	3,6	Very valid
4	Textbooks	3,0	Valid
Average		3,3	Valid

Table 2. Device Validation Results

No	Device	Average	Category
1	Syllabus	3,78	Very Valid
2	Lesson Plans	3,76	Very Valid
3	Worksheet	3,87	Very Valid
4	Textbooks	3,66	Very Valid
Average		3,802	Very Valid

The results of the validation of the lesson plan given to the validator contain assessments and comments on suggestions for improvement. The results of the validator's review can be seen in Figure 3.
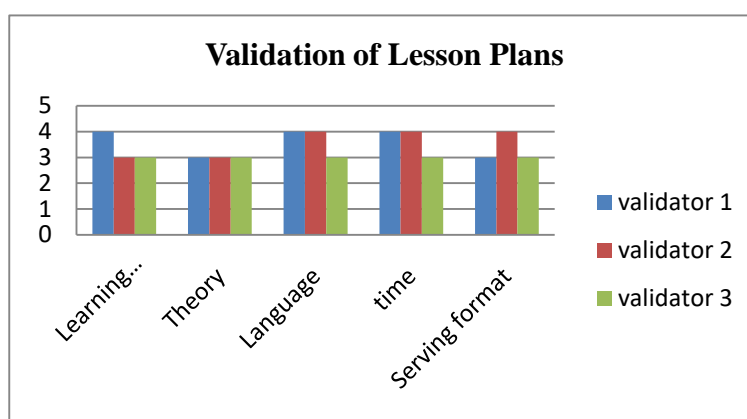
**Figure 3.** Results of Validation of Lesson Plan

Figure 3 shows that the average assessment of each indicator for all aspects is in the good and very good categories, so it can be stated that the Lesson Plan in draft 1 is valid. The validators noted that the lesson plans were of excellent value and could be used with minor revisions. Revisions are made based on the validator's suggestions, such as the time allocation given for each learning activity. The results of the revised Lesson Plan are listed in Table 3.

Table 3. Revised Lesson Plan based on Validation Results

Components	Before revision	Suggestions	After revision
Time allocation in Lesson Plan 1–Lesson Plan 4	The debriefing stage was allocated for 15 minutes. The stage of working on particular questions with an allocation of 20 minutes.	The debriefing stage was reduced by 5 minutes. Whereas, The stage of working on particular questions is extended by 5 minutes.	The debriefing stage was allocated for 10 minutes. The stage of working on particular questions with an allotted time of 25 minutes.

The validation instrument given to the validator contains an assessment and comments on suggestions for improvement. The evaluation results of the validators can be seen in Figure 4.
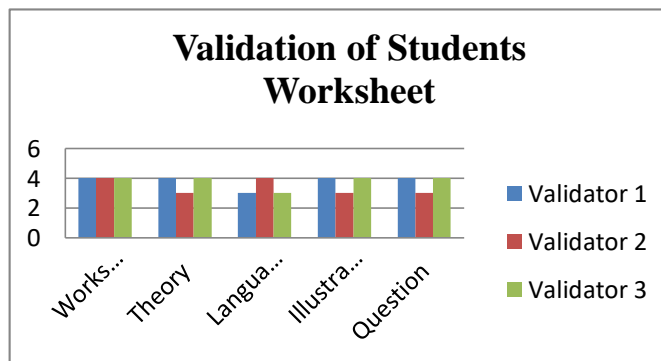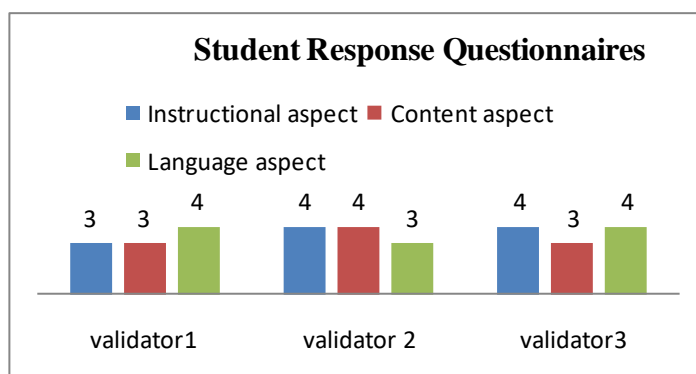

Figure 4. Result of Validation of Student Worksheet

Figure 4, shows that the average of each indicator in all aspects assessed is in the good and excellent categories. The results of the general assessment of the worksheet show that the worksheet is of excellent quality. So it can be used with minor revisions. The revisions were made on the validator's suggestions, such as improving the use of language and increasing the image size and clarity of image colors. The revision results based on the validation results can be seen in Table 4.

Table 4. Revision of Worksheets Based on Validation Results

Components	Before revision	Suggestions	After revision
Worksheet 1-Worksheet 4 all pictures	Size and color clarity	The image	The image size is enlarged and the colors are tee made clear.
The front cover of Worksheet 1-Worksheet 4.	Vocabulary of computer	Fix terms	English for computer

The student response questionnaire validation instrument was given to the validator, containing assessments and comments on suggestions for improvement. The results of the validator's review can be seen in Figure 5.

Figure 5. Student Response Questionnaire Validation Results

Figure 5, shows that the average of each indicator in all aspects assessed is in the good and excellent categories. The results of the general assessment of the student response questionnaires show that they are of excellent quality and can be used with minor revisions. Suggestions made revisions from the validator, such as using terms and improving sentence language. The suggestions that must be improved are sentence corrections. The expert/validator assessment results described in diagrams 1, 2, and 3 show that the learning tools consisting of lesson plans, and worksheets in terms of format, language, content, and illustrations are categorized as good. This is indicated by the average score of the expert's assessment of the lesson plans, and worksheet of more than 3.50. The Ecolinguistic-based English for Computer learning tool "lexicon in the Mbojo language" To Develop Students' Creative Thinking Skills developed is in the "excellent" category and can be used with a few revisions. So, overall the Ecolinguistic-based English for Computer learning tool "lexicon in the Mbojo language" for Developing Students' Creative Thinking Ability is good according to expert judgment. Analysis of Readability Test Data, based on the results of the validation of the learning tools obtained. A readability test is carried out before being implemented or tested in the field. The readability test was carried out by giving worksheets and student creative thinking tests to 5 students in the Department of Information Technology Education, STKIP Yapis Dompu who had high, medium, and low academic abilities (one person each). The readability test results showed that the worksheets and the student's creative thinking test needed to be improved. These improvements were made so that students more easily understood student worksheets and creative thinking tests.

Implementation stage

The fourth stage of activity is implementation. The results of the development are applied in learning to determine the effect on the quality of learning which includes the effectiveness, attractiveness, and efficiency of learning. Related to the development of learning materials, it can be pointed out that measures the level of effectiveness seen from the group of appreciation of students learning to use the program and the desire of students to continue using the program. In development research in the field of learning, indicators to state that the implementation of learning tools in this study are said to be effective, for example, can be seen from the components: (1) student activities; (2); student responses and (3) student learning outcomes. In this study, the implementation steps were not fully implemented because this research only arrived at a formative evaluation, which deals with product development improvements. The implementation carried out in this study was not comprehensive because only one chapter was tested in the field test. Learning device trials, and results of data analysis testing of learning tools were carried out to obtain data or input from lecturers, students, and observers on all learning tools prepared as a basis for revision

(improvement). The implementation of the trial of the device involved one partner lecturer and two observers. Partner lecturers are tasked with implementing draft III learning tools, observers in charge of observing student activities, and observers to monitor the implementation of learning tools.

The analysis results are used as consideration for revising draft III to become the final draft. Data taken from field trials include data on the ability of lecturers to manage learning, student activity data, student response data, and last post-test data. Data on the power of lecturers to work to learn were collected using the learning management observation sheet instrument. Student activity data was collected using the student activity observation sheet instrument. Student response data were collected using student response questionnaires. Meanwhile, the creative thinking test collected the pre-test and post-test data. Evaluation Observed Aspects Lecturer's ability to manage to learn is shown in Figure 6.
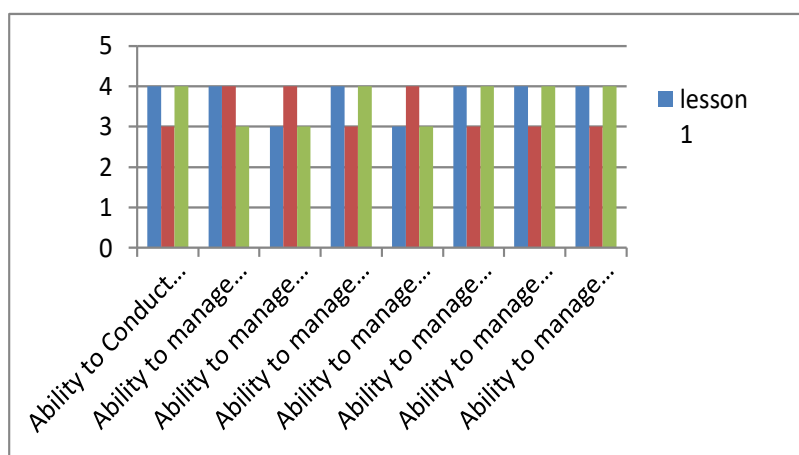

Figure 6. Evaluation Observed Aspects Lecturer's ability to manage to learn

Figure 6 shows that these results were obtained because the average score of each aspect of the lecturer's ability to manage to learn, assessed in each lesson plan, reached a minimum category of "good." Based on the type of ability of the lecturer to work to learn, the results of data analysis of each aspect of the lecturer's ability to manage learning that was observed for four meetings indicated that the teaching was effective. This is indicated by the average score of each aspect of the lecturer's ability to manage to learn, reaching a minimum category of good. The results of observing student activities during learning, the number of students observed was five people, namely one person from the top group, two people from the middle group, and two from the bottom group. One person made observations. The results of observations of student activities can be seen in Table 5.

Table 5. Student Activities during learning (trial)

No	Observation Aspect	Effectiveness Limit Criteria (%)
1	Pay attention to/take notes/to ask/answer explanations or questions from lecturers during orientation and debriefing.	14,94%-18,26%
2	Complete individual worksheets: • Read the questions/write down the problem-solving in the worksheet. • Ask or listen to the direction of the lecturer related to the worksheet.	25,02%-30,58%

No	Observation Aspect	Effectiveness Limit Criteria (%)
3	Complete the worksheet through group discussion: • Write/add answers worksheet. • Deliver answers or pay attention to/ask a friend's answers during group discussions. • Asking or listening to the direction or guidance of the lecturer related to the group discussion/worksheet.	19,98%-24,42%
4	Participate in presentation activities: • Presenting answers. • Pay attention to/ask/respond to a friend's answer who presents the answer. • Paying attention to/asking for directions/explanations from lecturers during presentations	25,02%-30,58%
5	Follow the conclusion.	5,04% - 6,16%
6	Irrelevant behavior	0,00% - 5,00%

Table 5 shows that the criteria for the effectiveness of student activity trials for every aspect of student activity for all semester implementation plans are within the criteria interval of the ideal time tolerance limit. The criteria for the effectiveness of student activities in Aspect 1 of "Paying attention/notes/asking/answering explanations or questions from lecturers during orientation and debriefing" for all lesson plans are at the ideal time criteria. The perfect timing criterion is the second aspect of "complete individual worksheets" for all lesson plans. The perfect time criterion is the third aspect of "finishing the worksheet through group discussion" for all lesson plans. The perfect timing criterion is the fourth aspect of "participating in presentation activities" for all lesson plans. The 5th aspect of "following the conclusion" for all lesson plans is the ideal timing criterion. The perfect timing criterion is the 6th aspect of "irrelevant behavior" for all lesson plans. Based on the data above, it can be concluded that student activities are categorized as "effective." The results of the student response questionnaire, student response questionnaires were distributed to students after the Ecolinguistic-based English for Computer learning was completed. The recapitulation of student response questionnaire results can be seen in Table 6.

Table 6. Student Response Questionnaires

No	Statement	Percentage (%)
1	Ecolinguistic-based English for Computer learning is more useful for learning English.	83,34
2	In my opinion, Ecolinguistic-based English for Computer learning in English learning is boring.	33,34
3	Learning English using Ecolinguistic-based English for Computer learning has made me more skilled.	66,67
4	Ecolinguistic-based English for csssssss makes it difficult for me to solve problems in English lessons.	66,67
5	Learning English using Ecolinguistic-based English for Computer learning made me understand the material better.	66,67
6	Learning English using Ecolinguistic-based English for Computer learning makes me feel more motivated.	53,34

No	Statement	Percentage (%)
7	Learning English by using Ecolinguistic-based English for Computer learning trained me to be able to express my opinion.	60
8	Learning English using Ecolinguistic-based English for Computer learning makes me more active in learning.	50
9	Learning English using Ecolinguistic-based English for Computer learning makes the material easy to remember.	66,67
10	Ecolinguistic-based English for Computer learning makes English lessons more interesting to learn.	50

Based on Table 6, it is known that the distribution of post-test questionnaire was given to students of the information technology education study program totaling 30 students, and a total of 10 statements on the questionnaire items in tabular form with instructions to put a checkmark in the column that reads strongly agree, agree, disagree, and disagree. Filling out this questionnaire is very important to find out student responses to English for Computer learning tools/textbooks taught with an Ecolinguistic approach. In addition, the effect of learning computer English based on ecolinguistics that is applied can increase vocabulary/lexicon knowledge in Mbojo and English as well as interest and confidence in the learning process in the classroom can add new vocabulary knowledge related to computers, namely by applying an ecolinguistic approach, especially by information technology expertise. In the questionnaire, No. 1 student who chose strongly agreed with 25 people with a percentage of 83.34%, students who decided to settle were four students with a share of 13.34%, and one student disagreed with a rate of 3.34%. Furthermore, for the 2-10 learning questionnaire, only a small number of students agree. It differs because learning English, especially vocabulary/lexicon, using an Ecolinguistic approach is quite fun and practical, students feel they have more control over English grammar and increase vocabulary mastery, and students are more focused on participating in Ecolinguistic-based English for Computer learning in the classroom, it fosters student interest and confidence when studying English, Indonesian, and Mbojo vocabulary/lexicon.

Test results of learning outcomes test, the purpose of the Creative thinking test trial is to obtain data on the validity of the test items, the reliability of the test, and the sensitivity of the test items, these three indicators are the determinants of whether the developed test needs to be revised or not. The results of the analysis of the validity of the test items, the reliability of the test, and the sensitivity of the test items showed that all test items for learning outcomes of English for Computer-based on Ecolinguistics "lexicon in the Mbojo language" to Develop Students' Creative Thinking Ability have sufficient and high validity, this is in line with Arikunto's statement. That an item is declared valid if the coefficient of the truth of the article is interpreted at least sufficiently. The validity of each Creative thinking test trial item is in the moderate and high categories. The reliability of the learning outcomes test is included in the high category, and all test items are sensitive to learning.

Evaluation stage

The last stage is to conduct an evaluation that includes formative and summative assessments. Formative evaluation is carried out to collect data at each stage used for refinement. Summative evaluation is carried out at the end of the program to determine its effect on student learning outcomes and the quality of learning in general. In this study, only formative evaluation was carried out because this type of evaluation was related to the stages of development research to improve the resulting product development.

Discussions

This study aims to produce valuable and practical learning tools suitable for use in English courses at the Information Technology Education Study Program, STKIP Yapis Dompu. The development of ecolinguistic-based computer English learning tools through 5 stages, namely 1. Analysis; 2. Planning; 3. Development; 4. Implementation, and 5. Evaluation. Learning tools are developed in English courses for second-semester students of the Information Technology Education Study Program of STKIP Yapis Dompu. The manufacturing process is carried out in stages, and to produce appropriate learning tools, a series of material expert validations, media expert validation, and product trials are carried out (Martín et al., 2021; Pentury et al., 2019). As explained by previous studies learning tools have valid criteria if the learning tools reflect the consistency between the parts of the tools that are compiled and the suitability between the learning objectives, learning materials, and assessments that will be given (Akker et al., 2013). The character between the features of the arranged learning device is called construct validity. The suitability between learning objectives, learning materials, and the assessment is called content validity. If the compiled learning device meets the construct and content validity, the learning device is said to be valid (Astra et al., 2020; Mustaming et al., 2015). All of these series are intended to obtain data that will be revised or improved to achieve appropriate and helpful learning tools for their users.

Based on the findings in this study, the results of the expert/validator assessment show that the learning tools consist of lesson plans, worksheets, and creative thinking tests in terms of format indicators. In addition, language, content, and illustrations are categorized as good. This is indicated by the average score of the expert's assessment of the Lesson plans, worksheet, and creative thinking test of more than 3.50. Therefore, in general, the Ecolinguistic-based English for Computer learning tool "lexicon in the Mbojo language" To Develop Students' Creative Thinking Skills is in the "excellent" category and can be used with a few revisions. So, overall the Ecolinguistic-based English for Computer learning tool "lexicon in the Mbojo language" for Developing Students' Creative Thinking Ability is good according to expert judgment. The results of the validation of the observation sheet on the implementation of the Ecolinguistic-based English for Computer learning tools and the student response questionnaire to the Ecolinguistic-based English for Computer learning tools were also in the correct category (Krismayani et al., 2021; Tjendani et al., 2019). According to a previous study the validity test was carried out to determine the instruments' advantages and disadvantages (Fadila, 2018). The two experts also stated that the tools developed and the devices used in the research could be used with minor revisions. So that in terms of the validity aspect of the Ecolinguistic-based English for Computer learning tool, it has been fulfilled and is suitable for use as a textbook for English courses in the information technology education study program. Furthermore, the practicality of the learning tools developed can be seen from the reliability coefficient between the two practitioners and the two observers. According to the previous study, test reliability is used to state the consistency of one test in providing results even though the test has been tested many times (Mustaming et al., 2015). The analysis results show that the Ecolinguistic-based English for Computer learning tools that have been developed meet the practical requirements. So, it can be concluded that the Ecolinguistic-based English for Computer learning tools developed have completed the practical needs and are suitable for use (Alenezi, 2020; Asuman et al., 2018).

In general, the results of student assessment of the learning tools used developed on average are in the very positive category. From these results, it can be interpreted that the learning process with the Ecolinguistic learning model is received positively by students. Ecological teaching model, the most important thing is to carry out environmental research on the teaching concept, and the most important one is the co-localization of the lecturer's teaching

concept. In short, under ecological teaching, the imbalance of students' English ability structure will be attributed to the imbalance of the lecturer's English ability structure (Hornberger, 2018; Lavania & Mohamad Nor, 2021).

In other words, the developed Ecolinguistic-based English for Computer learning tools has high appeal. Learning to activate students' creative thinking skills through an ecolinguistic approach using the developed learning tools has also met the effectiveness criteria, namely (1) the average result of working on the worksheets of all groups utilizing this development learning tool has achieved minimum completeness and includes the score criteria. Good; (2) the average test results of all students after using the learning tools as a result of this development have also reached minimum completeness and are included in the criteria for good grades; (3) student activities during learning have gained 81.2% which reflects these activities by the ecolinguistic approach. The average result of working on the worksheets of all students is higher than the average. The test results for all students are due to work on the worksheets in groups being carried out together so that existing difficulties can be helped to overcome by students with higher abilities (Khoiriyah & Husamah, 2018; Raysha et al., 2020). While doing the test independently depends on each individual's power, there are still 16.67% of students whose scores are lacking. The implication of this study provides an overview and understanding of ecolinguistic-based English for computer learning tools to develop students' creative thinking abilities. This research will be very useful for educators, especially in the field of English in providing classroom learning to develop students' creative thinking abilities. This study has limitations, namely the limitations of research subjects that only involve one university. It is hoped that future research will be able to further deepen and broaden the scope of research related to Ecolinguistic-Based English by considering other factors that have not been included in this study.

4. CONCLUSION

The development of Ecolinguistic-based English learning tools was declared suitable for English lectures because the writing standards of teaching materials followed the syllabus. The material is presented well, the language used is easy to understand, and students can work on the questions given. After going through the development stage with the ADDIE model, we were finally able to produce a product. The product resulting from this research and development is a textbook for English courses for students in the Information Technology Education Study Program at STKIP Yapis Dompu. This English textbook is feasible and can be used in learning and lectures.

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