

**DEVELOPING A WEB-BASED APPLICATION  
FOR TEACHING GRAMMAR  
FOR 10<sup>th</sup> GRADE STUDENTS OF SENIOR HIGH SCHOOL**



**THESIS**

**Submitted to Faculty of Tarbiya and Teacher Training of  
State Islamic University Prof. K.H. Saifuddin Zuhri Purwokerto  
as a Partial Fulfillment of Requirements for Sarjana Pendidikan (S.Pd.)  
Degree**

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Assalamu'alaikum Wr.Wb

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## **MOTTO**

**The best revenge is to improve yourself.  
(Ali ibn Abi Thalib)**



## **Dedication**

I dedicate this work to my mom. Thank you for being a great mom and for always making me your priority.



## ACKNOWLEDGEMENT

Peace be upon the king of life, Allah SWT. So far, grace and blessings have allowed the paper to be completed properly. Sholawat and greetings are always extended to the Prophet Muhammad SAW, Allah's most beloved prophet, his relatives, and companions. I realize that I could not complete this thesis without the support, help, and encouragement of many people who care about me. Therefore, I want to express my heartfelt gratitude and appreciation to:

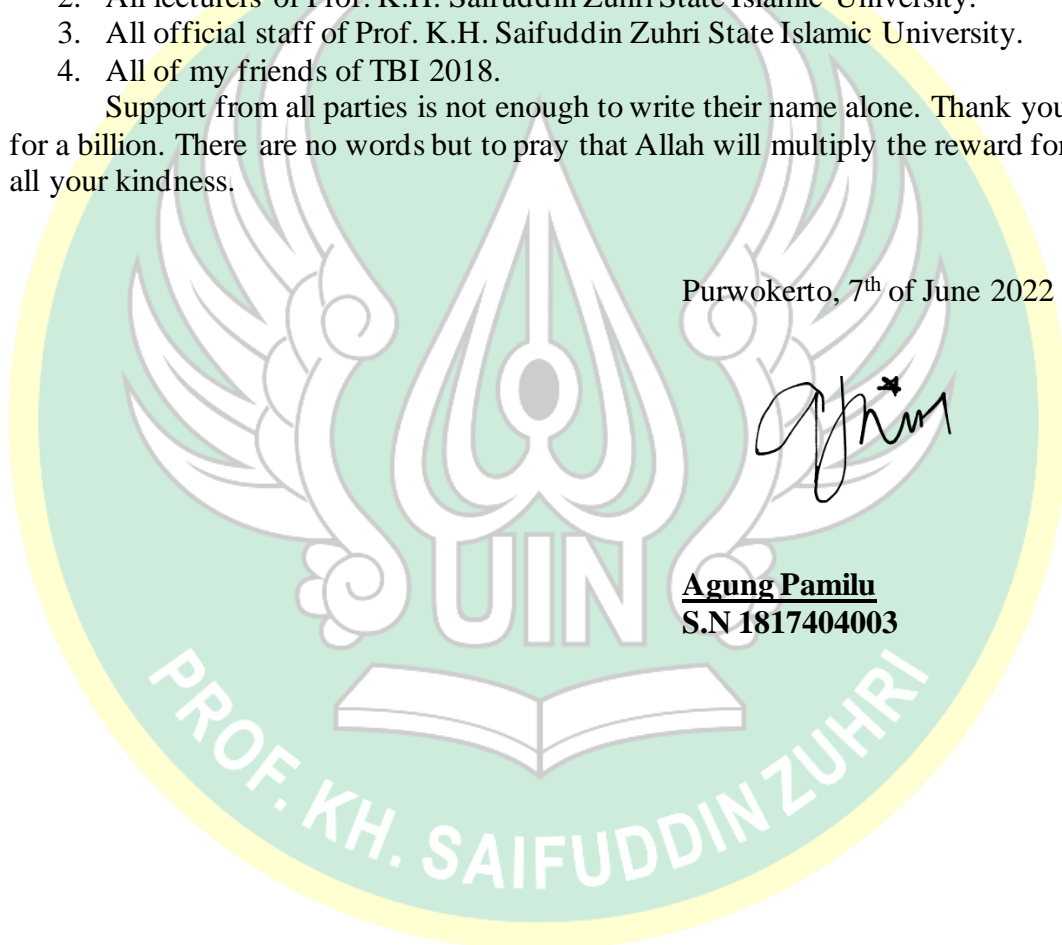
1. Maulana Mualim. M.A, as the supervisor who always give supports, wide-knowledge, motivations and suggestions for finishing this thesis.
2. All lecturers of Prof. K.H. Saifuddin Zuhri State Islamic University.
3. All official staff of Prof. K.H. Saifuddin Zuhri State Islamic University.
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Support from all parties is not enough to write their name alone. Thank you for a billion. There are no words but to pray that Allah will multiply the reward for all your kindness.

Purwokerto, 7<sup>th</sup> of June 2022



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# DEVELOPING A WEB-BASED APPLICATION FOR TEACHING GRAMMAR FOR 10TH GRADE STUDENTS OF SENIOR HIGH SCHOOL

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**Abstract:** Grammar is the rules governing the arrangement and relationship of words in a sentence. It is important to be mastered by English learners. However, students often find difficulties in learning grammar. Considering this fact, the researcher designed a grammar application on both mobile and computer for teaching grammar to 10th-grade students in senior high school. This research is categorized as a R&D (Research and Development) research with ADDIE model including five stages, namely Analysis, Design, Development, Implementation, and Evaluation. The subjects of this research were 10th-grade students of MAN 1 Banyumas consists of 41 random respondents from 2 classes. In collecting the data, interviews and observations were conducted. Then, questionnaires were distributed to 2 language experts and students. The results of the study revealed that overall, web-based application learning can help 10th-grade students understand the grammar lessons based on the standard scoring criteria as shown in the questionnaires.

**Keywords:** Grammar, Web-based Application, ADDIE (Analyze, Design, Develop, Implement, Evaluate)



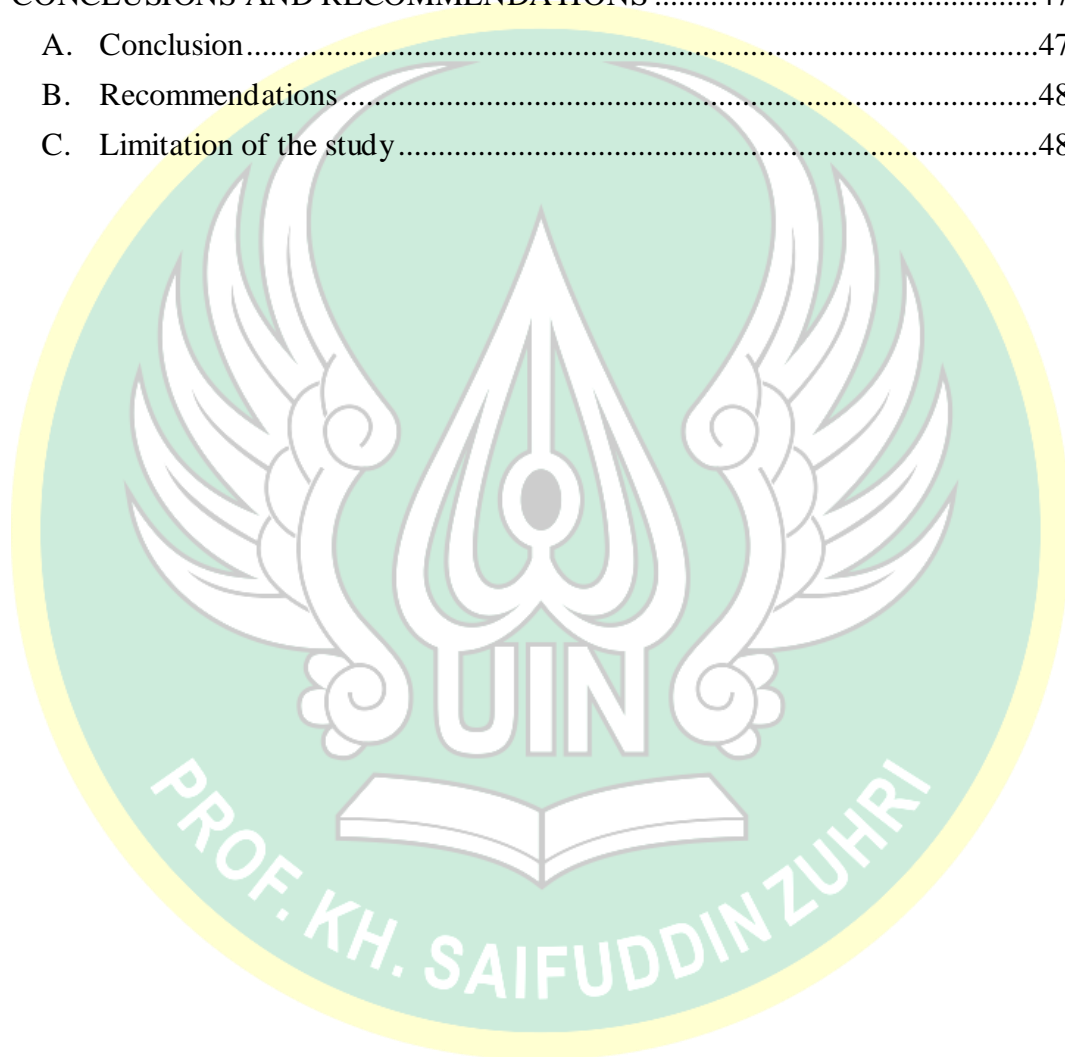
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# CHAPTER I

## INTRODUCTION

### A. Background of Study

English is a fundamental skill to improve someone's quality in this era. English is one of the dominant subjects taught in high schools in Indonesia. Curriculum 2013 requires the students to be able to produce grammatically correct English. To construct accurate English sentences, mastering grammar is needed.

Brown claimed that grammatical competence occupies an important position as a major component of communicative components.<sup>1</sup> While the term language does not seem to have a fixed and precise definition, grammatical correctness is described as analyzing and explaining a sentence.<sup>2</sup> At the same time, it focused on ensuring that those learners can use the language in an authentic context.

In Indonesia, it is commonly understood that students face difficulties in learning English since English do not generally use as a daily language<sup>3</sup>. When learning English, they should know the structure or the pattern of a sentence in the target language because it is different from their first language. If students have little to no knowledge about grammar, they fail to express their ideas, feelings, and thoughts freely. Grammatically correct writing also make the writing easier to read. Thus, students must thoroughly understand grammar in the target language.

Grammar is considered the basis of a series of language skills  
Grammar is considered the basis of a series of language skills consisting of listening, speaking, reading, and writing which is reflected in both oral and

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<sup>1</sup> Brown, H. Douglas. (2001). *Teaching by Principle and Interactive Approach to language pedagogy*. New York: Longman Inc. Brown, H. Douglas.

<sup>2</sup> Atiqoch. (2019). *Students' Difficulties in Grammar of Seventh Grade Junior High School 1 Magelang*. Conference of English Language and Literature (CELL).

<sup>3</sup> Gunawan & Yusniaty. (2021). *Masalah Yang dihadapi Pelajar Bahasa Inggris dalam Memahami Pelajaran Bahasa Inggris*. *Dialetika: Jurnal Bahasa, Sastra dan Budaya*.

written language output.<sup>4</sup> Knowing that grammar is one vital skill of language, the researcher developed a web-based application for teaching grammar to 10th-grade students of the senior high school in this study.

Researchers made web-application grammar because of the simple and easy-to-use website using an internet connection at any time. The materials conveyed are simple present and past, as a result of interviews with a teacher, since those are the basic concepts in which the students lacked in. Therefore, developing a web-based application to help students learn grammar is necessary. Due to such a condition, the web-based application was implemented on Wednesday, July 26th, 2022, in MAN 1 Banyumas to learn grammar through the internet.

## **B. Conceptual Definition**

### **1. Grammar**

According to Radford, Grammar is subdivided into two different areas of study: Morphology and Syntax. Those two areas of study are interrelated because Morphology arranges the smaller units (morphemes) to be a word, and Syntax organizes the formed two words to be phrases then sentences.<sup>5</sup>

### **2. Teaching Grammar**

Teaching grammar in context is a method and approach for teaching grammar. Below is our rationale and guiding set of principles for teaching grammar in this way. It means that the teaching of grammar is embedded and integrated into other aspects of the curriculum, such as creative writing and analytical reading, rather than a standalone activity.<sup>6</sup>

### **3. Web-based Application**

The web-application based of grammar learning designs growth is designed in a way in order to make the learning can be effective. There are three main

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<sup>4</sup> Puspa Amelia. (2018) "Correlation between students' grammar mastery and students' speaking ability at the fifth semester students of unismuh makassar. Thesis, Muhammadiyah University of Makassar

<sup>5</sup> Radford, "*Syntactic theory and the structure of English: A minimalist approach*", Cambridge University Press, 1997.

<sup>6</sup> Aarts, Bas, Chalker, Richard Hudson, and Author Ian Cushing. 2014. Oxford Teaching Guides: How To Teach Grammar.

elements that must be present in the design of a web-based learning model, namely learning tasks, learning resources, and learning supports. Learning tasks include activities, problems, and interactions to involve students. Learning resources contain content, information, and sources that can be accessed by students. Learning supports are related to learning instructions, motivation, feedback, and easy access for students.<sup>7</sup>

### **C. Research Question**

The researcher considers that it is very important to make the statement of problem before conducting the research as this following:

1. How is the development of the web-based applications for teaching grammar?

### **D. The Objective and Significance of The Research**

#### **a. Objective of The Research.**

1. To develop the web-based applications for teaching grammar.

#### **b. Significance of The Research**

##### **1. Theoretical significance**

- a) The researcher expects this research can be used as a reference for another researcher who wants to develop applications, especially in grammar teaching.

##### **2. Practical significance.**

###### **a) For teacher.**

Especially for teachers of 10th grade, the researcher expects the teacher will mix the strategies to teaching and learning grammar using the book and using the web-based grammar application to make the teaching and learning process more effective.

###### **b) For school.**

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<sup>7</sup> Henny Uswatun Hasanah, "Respon Mahasiswa terhadap Pembelajaran Grammar Berbasis Website", *STAIN Pamekasan Jurnal Online*, hlm. 60-61.

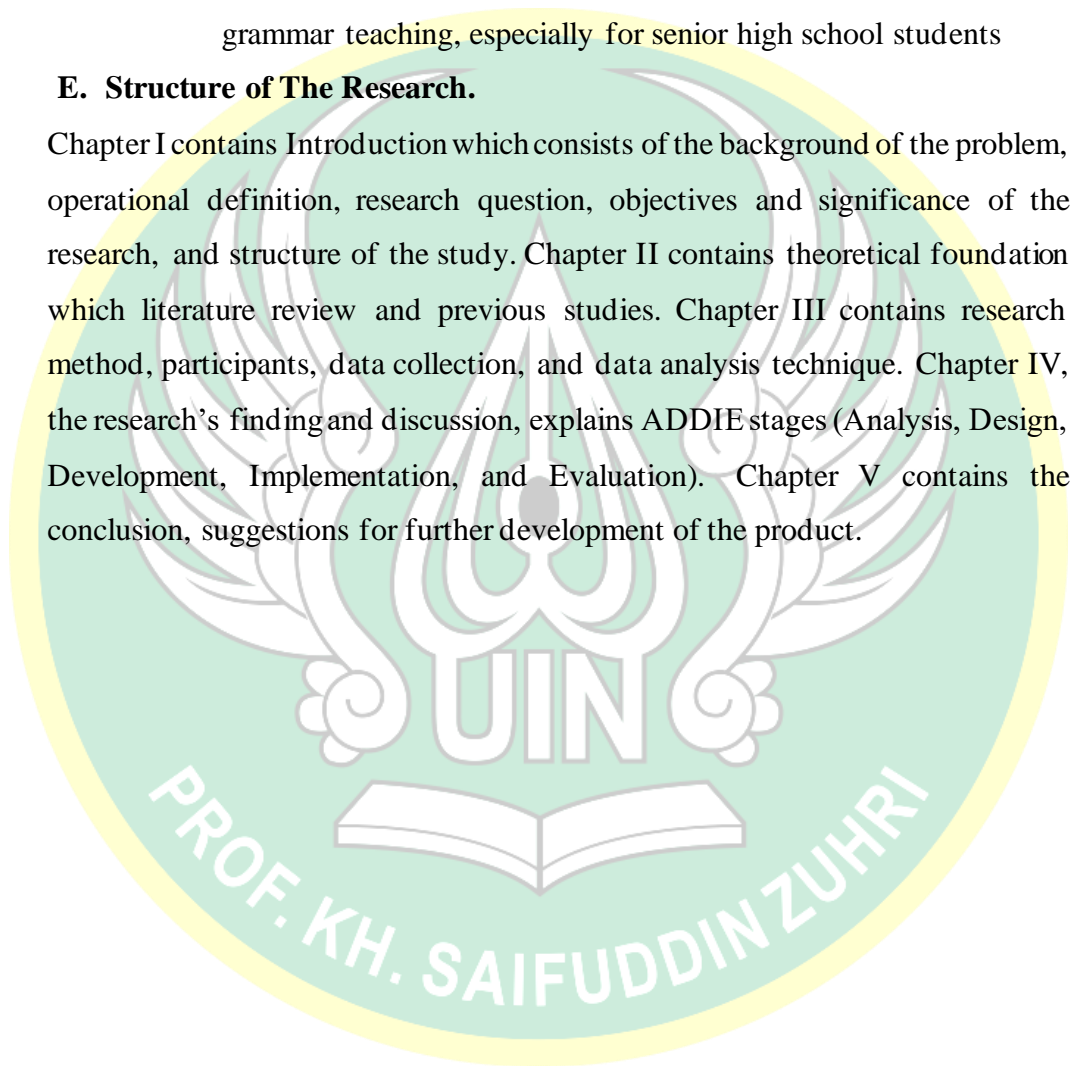
The researcher expects for the school to use this web-based application as a teaching and learning medium.

**c) For Researchers.**

The researcher expects this research to be used as a reference for other researchers who have the same object in their research. Also, the application can be helpful for everyone who wants to study grammar teaching, especially for senior high school students

**E. Structure of The Research.**

Chapter I contains Introduction which consists of the background of the problem, operational definition, research question, objectives and significance of the research, and structure of the study. Chapter II contains theoretical foundation which literature review and previous studies. Chapter III contains research method, participants, data collection, and data analysis technique. Chapter IV, the research's finding and discussion, explains ADDIE stages (Analysis, Design, Development, Implementation, and Evaluation). Chapter V contains the conclusion, suggestions for further development of the product.





## CHAPTER II

### THEORITICAL REVIEW

#### A. Literature Review

Several key terms are used to explain, discuss, and report the present study results. There are five keywords used, i.e., Teaching grammar through Web-based application, Web-based application, and Grammar.

#### 1. Grammar

According to Radford, the two main study areas in grammar are syntax and morphologies. Since morphology arranges the tiniest units (morphemes) to produce a word, these two fields of expertise are connected.<sup>8</sup>

Syntax is the proper order of words in a sentence or phrase, and a syntax is a tool used to write correct grammatical sentences. Furthermore, grammar is related to the structure of words and sentences and shows that the linguistic process can create structural meaning..

Grammar is a difficult material for students to study. This is evident from the low score on the student test.<sup>9</sup> Many students have low score in English grammar. According to Crystal, there are different rules in teaching grammar to students<sup>10</sup>, as follows:

- a. Context rules  
Teach the structure of language along with its context or meaning.
- b. Terms of use  
Encourage students to use grammatical rules in daily communication.
- c. Economic rules  
Maximize the use of time to explain grammar so that maximum learning is achieved.
- d. Rule of relevance

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<sup>8</sup> Radford, "Syntactic theory and the structure of English: A minimalist approach". Cambridge: Cambridge University Press, 1997.

<sup>9</sup> Nafisah Endahati. "Pendekatan Komunikatif untuk Meningkatkan Pemahaman terhadap Grammar pada Mahasiswa Prodi Pendidikan Bahasa Inggris FKIP UPY", 2017, hlm. 3.

<sup>10</sup> Crystal, 2000, dalam Nafisah Endahati, 2017, hlm. 5.

Give more explanation on parts of the grammatical material that students have difficulty in learning.

e. Rule of nurture

Strive for fun and enjoyable learning conditions.

f. Rule of precision

Teach in essence by using context to help students understand the grammar topic.

All of these rules are applicable to web-based application to help students learning and understanding English grammar.

## 2. Teaching Grammar.

Teaching English Grammar is a challenging experience for teachers. A teacher must be mastered grammar to make learners understand the materials. Nowadays, teachers have changed the method for teaching grammar from traditional to communicative. It emphasizes that learners understand the meaning and rules of grammar in interactive ways. The teacher does not allow to explain the formula directly to learners. Learners must learn from the example given by the teacher.<sup>11</sup>

According to Widodo, there are five stages in teaching grammar<sup>12</sup>, as follows:

a. Practice

Practice is usually applied in classroom learning to shape the accuracy and fluency of students. Accuracy can be obtained in learning with controlled or semi-control activities or tasks. Fluency can be achieved if students are able to use the basic sentence patterns in written and spoken form.

b. Consciousness-raising

Ellis defines consciousness raising as an attempt to explain the concept to students so that they have a very good understanding of the specific

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<sup>11</sup> Agatha Pepy Yerinta, 2014, "The contibution of web-based grammar practice to students grammatical competence and writing skill". Thesis, universitas sanata dharma yogyakarta

<sup>12</sup> Handoyo Puji Widodo, "Approaches and Procedures for Teaching Grammar", *English Teaching: Practice and Critique*, 2006, V, hlm. 123-126.

grammatical characteristics to form sentences directly, not procedurally<sup>13</sup>.

c. Explicit and implicit knowledge

Explicit knowledge is known as conscious learning, while implicit learning is learning or understanding of a material implicitly or impliedly.

d. Deductive and inductive

Deductive learning has been introduced in teaching English. Deductive teaching is a learning process by introducing theories or patterns first, then followed by examples of the use of these patterns in their written and oral application. Meanwhile learning using inductive techniques is the introduction of basic patterns of language structures through examples and practice assignments first, then ends with an explanation of the basic patterns. Each of the inductive and deductive approaches has its own advantages and disadvantages.

Teaching procedure by using web-based application aimed to teach English grammatical in functional context, not language as structure patterns. For this reason, all activities in the learning process are expected to have communicative system. Introduction of English grammar using communicative approach focuses on understanding language communicatively or using language in communication, not on understanding its structure or grammar alone. Communicative language learning is a paradigm shift in language learning. Teachers, textbooks, and teaching methods are no longer seen as the main factors for successful language learning but instead focus on student activities. This method can improve students' understanding of English grammar and make learning more enjoyable.

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<sup>13</sup> R. Ellis, 2002, "Grammar teaching-practice or consciousness-raising?" dalam Handoyo Puji Widodo, "Approaches and Procedures for Teaching Grammar", *English Teaching: Practice and Critique*, 2006, V, hlm. 123-126.

### 3. Web-based application

Along with the times, the use of the internet for various purposes in Indonesia continues to grow. The advancement of information technology can increase efficiency and make a variety of tasks easier to complete, precisely and accurately, increasing productivity. Today's development of information technology leads to various types of activities based on this technology, including in the field of education.

With the rapid development of information technology, it is now possible to use online platform to link faculty members and learners, distribute coursework, monitor grades, review, and even have dialogues is frequently used online training procedure. The after mentioned components, among others, are necessary for a web-based distance learning program:

a. Student activity center

Students can increase their abilities, read lecture materials, find information and others via web-based application.

b. Interaction in groups

Student can interact in the form of discussions among students; or involving teachers.

c. Grading system

Students can check grades through the web system.

d. The deepening of materials and examinations

Teacher can send material of enrichment for students who need them, according to their abilities via web-based application.

e. Digital library

Teachers can provide links which contains various e-book information in the form of databases and online library information that can be accessed.<sup>14</sup>

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<sup>14</sup> Arif S. Sadiman, 2000, “*Media Pendidikan: Pengertian, Pengembangan, dan Pemanfaatannya*” dalam Henny Uswatun Hasanah, “Respon Mahasiswa terhadap Pembelajaran Grammar Berbasis Website”, *STAIN Pamekasan Jurnal Online*, hlm. 60-61.

Teachers can use the internet as a source of teaching materials by educational materials, accessing online lesson plans or syllabuses curricula with new methodologies, methods, accessing suitable subject matter appropriate topics for their students, and being able to convey conveying their ideas. Meanwhile, students can use internet for self-study to increase and expand knowledge, learn to interact, and develop abilities in the field of research.

#### **4. Teaching Grammar through web-based Application**

Teaching through a web-based concept means a new role for instructors and students. The instructor or the teacher is not the only resource of learning or the only one who transfers the knowledge because the web can also be an open source of learning many things.

As users of the web, students now are the learning center since they participate in this process. Masda mentioned that some language instructors would change their pedagogical approach and teaching techniques. After explaining the subject matters in class, teacher can advise some necessary web addresses for students to do some tasks. The students can get materials from a textbook, the web, and art. They may also gain other necessary information from that web address since it can link to another web for further details or subjects.<sup>15</sup>

One of the web-based learning models developed by Davidson and Rasmussen includes the stages of analysis, design, development, implementation, and evaluation<sup>16</sup>, as follows:

- a. The analysis phase includes problem analysis and learning component analysis.
- b. The design phase includes learning design and software design.

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<sup>15</sup> Masda Surti Simatupang & Yusniaty Galingging, "How web-based technology applied in teaching grammar". *Dialetika Jurnal Bahasa, sastra dan budaya Fakultas sastra universitas kristen Indonesia Jakarta*. Thn1, No.1, Juni 2013

<sup>16</sup> Davidson-Shirens dan K.L. Rasmussen, 2006, "*Web Based Learning-Design, Implementation and Evaluation*" dalam Henny Uswatun Hasanah, "Respon Mahasiswa terhadap Pembelajaran Grammar Berbasis Website", *STAIN Pamekasan Jurnal Online*, hlm. 64.

- c. The development stage is assembling various components of learning design and software into a web-based learning program.
- d. The implementation phase consists of temporary implementation and full implementation.
- e. The evaluation stage is divided into formative evaluation and summative evaluation.

The establishment of web-based grammar learning designs is done in a manner that allows the online learning activity to function well. Learning objectives, educational materials, and teaching aids are the three key components that must be featured in a web-based learning method. Projects, challenges, and encounters are all examples of learning tasks that include learners. Learners can download information, knowledge, and references through learning platform. Directions for studying, student motivation, assessment, and ease of access are all aspects of learning supports.

#### **5. ADDIE (Analyze, Design, Develop, Implement, and Evaluate)**

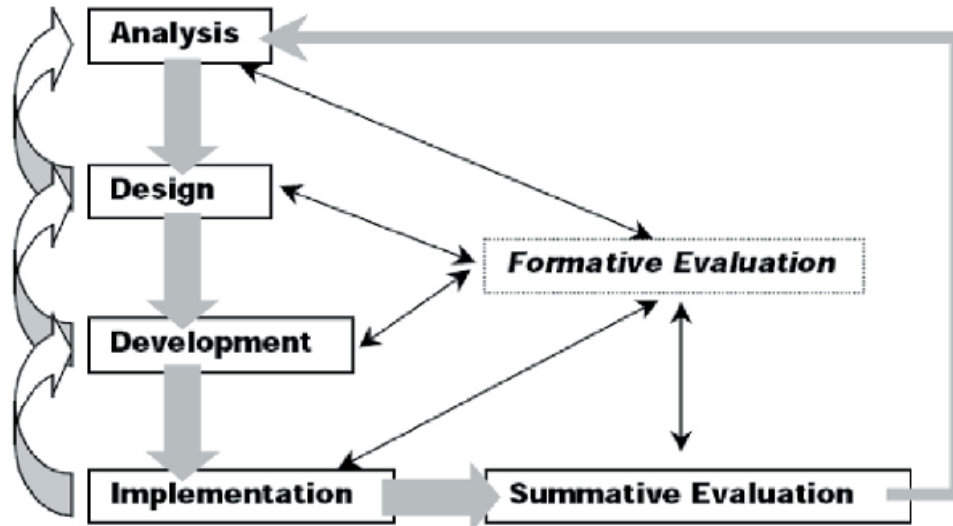
The branch claims that ADDIE is a product innovation concept. The words "analyzing, designing, developing, implementing, and evaluating" are abbreviated as "ADDIE." This model outlines a method used in instructional design specifically to produce instances of meaningful learning. The Addie segment provides a broad review of the objectives, processes, and objectives connected to each of the five Addie stages..

It is a framework for instructional systems design (ISD). The Dick & Carey and Kemp ISD approaches are two additional models. The majority of existing instructional design concepts are extensions or modifications of the ADDIE model. Prototype is a widely regarded method for enhancing this paradigm. It's the idea of entering continuous or constructive feedback during the creation of teaching materials. This model tries to save time and money by relating problems while they're still easy to fix.

Pedagogical propositions also play an essential part in the design of teaching materials. Approaches similar as cognitivism, social learning,

constructivism, and behaviourism aid shape and describe the outgrowth of educational materials.<sup>17</sup>

Each stage in the ADDIE paradigm has a result that influences the next phase .



Mc Griff described the five ADDIE stages. ADDIE consists of five stages. Investigation is the initial thing to do. Determining what has to be studied is the procedure at hand. The product's design comes next. It is the procedure of laying out how it will be found. Develop goes next. It is the act of writing and creating content. Implementation is the following step. Implementing the project in the actual world is what it entails. Currency is the final stage. This is the procedure used to assess the value of education. The ADDIE model is a methodical teaching procedure that allows the education programmer to go back to any prior stage depending on the results of each stage.

The researcher came to a conclusion about the pertinent theories addressed in the preceding step in order to address the research issue. To conduct this study, the researcher applied McGriff's ADDIE diagram.<sup>18</sup>

<sup>17</sup> Branch, R. M, (2009) "Instructional design: The ADDIE approach". Georgia: Springer.

<sup>18</sup> McGriff, S. J, 2000, September."Instructional systems design (ISD): Using the ADDIE model.

Retrieved on from

<https://www.lib.purdue.edu/sites/default/files/directory/butler38/ADDIE.pdf>

The researcher discovered learners' demands and issues with material comprehension in the first step, analysis, by conducting interviews with 10<sup>th</sup> grade students.

The researcher established the quantifiable goal of the media, the material components, together with references linked to the grammar syllabus, and the headlining directions at the outset of the materials during the design phase after gathering information from the instructor.

The researcher began developing the material through a web-based application. Because the study was web-based, the researcher used an online website that users could access via mobile phones and computers. The researcher created an online mobile-friendly website that used hypertext markup language with many source codes.

In this research, the researcher will develop a web-based app because compared to other application, it is much less expensive. They don't take as much time to produce as a mobile app would. Consequently, a single web app version can accommodate a variety of operating systems.

The following step is implementation. The researcher made observations in 10<sup>th</sup> students' classes. The author gave the questionnaire to various students. The researcher tested the product for 10<sup>th</sup> senior high school students from different classes and its supporting tools like mobilephone, internet connection and students. All participations were randomly selected by the researcher to avoid bias that might arise during this research.

The last phase of ADDIE is evaluation. In evaluating the product, the researcher used questionnaires to analyze the web-based application to meet the validity of the standards by TEFL experts, IT experts, and users. The questionnaire is adapt of a questionnaire from Belinda Hana Dwiaji's thesis with the title "Easy English Learning Android Application (EEL) : An M-Learning Model To Learn Speaking Skill For Grade XI Students". In this questionnaire contains assessments from the participants in the form a of a rating scale for application, criticism, input and suggestion The



distributed questionnaires are a combination of open-ended and close-ended questions to keep the objectivity in assessing the materials. Afterward, the researcher gave recommendations to the teacher and the students purposefully to maximize the quality and effectiveness of the design.

## **B. Previous Studies**

Previous study performed by Hong Minh and Thuy Linh stated that online platforms can improve students' grammatical learning scores as well as a significant relationship between online exercises and students' grammar score. This study use grammar exercise in pre intervention and post intervention combined with questionnaires for students and teachers. The result of this study showed that the pre-test mean score of 10.95 out of 25.00 and indicated the poor understanding of grammar. This could prevent students from efficient communication and producing well written article. However, after students were introduced to the developed learning management, the score were improved significantly. The findings showed that online based learning system can improve students' performance in grammar.<sup>19</sup>

Yuliyanto and Fitriyati reported the role of web-based application in motivating students in learning grammar. This study use Quizlet application, where the platform uses flash card system that allows students to study grammar using game-like learning tools. The result of this study showed that the improvement of students motivation in learning grammar, more engaging classroom condition, make learning grammar not only more fun and enjoyable but also accessible. Students can also exchange knowledge and learn together with their friends outside the class.<sup>20</sup>

Maedhaha and Zebua also use web-based platform to teach grammar to Indonesians. The kind of system that was used in this study is TiPS, a developed

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<sup>19</sup> Nguyen Thi Hong Minh and Truong Thuy Linh. "Designing Online English Grammar Exercise 10<sup>th</sup> Graders via Learning Management System Chamilo". *Journal of English Language Teaching and Applied Linguistics*, 2021.

<sup>20</sup> Yusuf Yuliyanto and Nur Rokhmah Fitriyati. "Boosting Students' Interest in Learning Grammar by Using Quizlet." *The 2<sup>nd</sup> International Conference on Language, Literature, and Teaching*, 2019.

web-based application that utilized the concept of sentence pattern. The TiPS application accommodate Indonesians to learn and exercise grammar. The result showed that the web-based application are significantly improve Indonesian grammar skills. In addition, by using the web-based platform, Indonesian can study remotely, anywhere, and anytime.<sup>21</sup>

Observation performed by Musdalifah using Kahoot website showed that the platform can improve students' grammar skill. This study used simple present tense and past tense of reading test as instrument design in pre-test and post-test. This study showed that Kahoot website significantly improved the post-test score. Students in pre-test of simple present tense got 56.86, but after learning using Kahoot website, the post-test score improved into 73.32. While for the past tense topic, students in pre-test got 51.86, and post-test was 70.81. From this result can be seen that web-based application can improve students score in grammar.<sup>22</sup>

Another study performed by Rosydah using downloadable Memrise Application, an online course that teach student to learn irregular verb and improve grammar skill. This application gives exercise for students to understand and remember irregular verbs. The result of this study showed that Memrise Application could improve students' mastery of irregular verb, and have significant difference between control class and experimental class.<sup>23</sup>

Most of these previous studies used downloadable or available web-based application to teach grammar to students. Hong Minh and Thuy Linh even though use similar concept of pre-test and post-test score in grading students' grammatical ability in Grade X by using their own developed system, but the platform being used are different. This platform is not equipped with the discussion of the answers after the students' completed the post-test. Based on

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<sup>21</sup> Febe Maedjaja and Arozisokhi Zebua. "Web Based Application of TiPS, a Programmable Method of Teaching Simple Statement Grammar in the English Language to Indonesians." *Majalah Ilmiah*, 2015.

<sup>22</sup> Musdalifah. "Using Kahoot Website in LearninQg Grammar at SMA Negeri 8 Gowa." *Thesis*, 2018.

<sup>23</sup> Elly Cholifatur Rosydah. "Improving Student's Mastery of Irregular Verb by Using Memrise Application at the Tenth Grade of MAN Sidoarjo." *Thesis*, 2018.

these previous studies can be seen that this current research is novel and original to improve Grade X students' Grammar ability by developing web-based application system.



## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **A. Research Method**

The method used to answer the research questions is quantitative and qualitative data in this study for intervention development. All steps in Addie are almost qualitative, but a quantitative descriptive analysis is needed in the evaluation method. Meanwhile, to develop this study, ADDIE design is taken. The researcher will use five steps in ADDIE as a guide to build and validate materials for this research. Those are analysis, design, development, implementation, and evaluation.

##### **1. Analysis**

The researcher used an interview instrument to collect the data required for the analysis step. The researcher identified the learner's need for problems in understanding materials by conducting interviews with two grammar teachers. Researchers will make a grammar exercise using the existing syllabus. The data obtained will be considered for making a web-based grammar application.

##### **2. Design**

After the researcher collected the required data, the researcher constructed the measurable objectives considering the goals. In addition, the developers begin designing, or it is known as draft making (blue print) of media which will be developed.

##### **3. Development**

The researcher began to develop the material by a web-based application. Since this was a web-based, the researcher used an online website that users could access via mobile phones and computers. The researcher created an online mobile-friendly website that used hypertext markup language with many source codes.

In this study, the researcher will develop a web-based app because it is way cheaper than other types of app developments. They do not require much

time for the product like a mobile app. Therefore, a single version of a web app can support several operating systems.

#### **4. Implementation**

The researcher made observations in 10th students' classes. The researcher distributed the questionnaire to the different students. The researcher tested the product for 10th senior high school students from different classes and its supporting tools such as the place, computers, internet connection, and students. All participations were chosen randomly by the researcher to avoid any biases that could be happened during this research. The researcher instructed the students to do the test. Students tested the application in about 30 minutes, and the researcher distributed the Google Form questionnaire to students. The results from the questionnaire showed whether the application meets the standard or not.

#### **5. Evaluation**

In evaluating the product, the researcher used questionnaires to analyze the web-based application to meet the validity of the standards by users. The questionnaire is adopt of a questionnaire from Belinda Hana Dwiaji's thesis with the title "Easy English Learning Android Application (EEL): An M-Learning Model to Learn Speaking Skill For Grade XI Students". In this questionnaire contains assessments from the participants in the form a of a rating scale for application, criticism, input and suggestion. The questionnaires are distributed to the experts and 10th senior high school students to evaluate the product. The distributed questionnaires are a combination of open-ended and close-ended questions to keep the test's objectivity in assessing the materials. Afterward, the researcher gave recommendations to the teacher and the students purposefully to maximize the quality and effectiveness of the design.

### **B. Research Setting**

This research is done at MAN 1 Banyumas, the school is located in Jl. Senopati No.1, Kejawar, Arcawinangun, Kec. Purwokerto. The researchers chose this

school because, based on the results of interviews with English teachers at the school, there were problems with student learning activities, especially in English lessons, namely the difficulty of students in understanding grammar material.

### C. Research Participants

To develop a learning model using this application, the researcher collected data from several experts. The target of this research is the 10th grade by trying out the learning application and then providing feedback in the form of criticism and suggestions for the researcher presented through questionnaires and interviews. So that, the application can be further improved. As already reviewed above, there are two experts who validate this learning application, namely language expert and IT/ Technology expert. The TELF expert for this application is Agus Husein As Sabiq an English lecturer at UIN Syarifuddin Zuhri Purwokerto, while the IT expert for this application is Gafar Bagas Habibi, S.Kom a programmer from PT Cyber Indonesia.

**Table 1 Expert Experience**

Participant	Educational background			Experience		
	S1	S2	S3	1-5 years	6-10 years	11-15 years
Language Expert		√			√	
IT Expert	√			√		

Experts validate the application by providing criticism, input, and suggestions for the researcher regarding the application that the researcher make. As for language expert it is by providing criticism, input, and suggestions regarding the material presented whether it is appropriate or not. Meanwhile, IT expert provide criticism, input, and suggestions regarding the application design, whether it meets the standards or not.

## **D. Data Collecting technique**

In this study, the researcher used three kinds of instruments. They were interviews, observation, and questionnaires to collect the data required for analyzing and evaluating steps.

### **1. Interviews**

According to Esterberg, an interview is a meeting of two people to exchange information and ideas through questions and answers so that interview can construct that meaning on a particular topic.<sup>24</sup> Interviews are used as a data collection technique if the researcher wants to conduct a preliminary study to find problems that must be investigated, but also if the researcher wants to know things about the respondents more deeply. Having interviews was the initial step in ADDIE instructional design model.

The first steps in ADDIE is analisis, the researcher obtained information about the students' needs to conduct the study. An interviewee is a teacher who taught grammar to 10-grade students. Meanwhile, the interviews with the teacher were done separately based on the teacher's teaching schedules. By obtaining the data from teachers' points of view, the researcher could compare the results and opinions about the things needed to develop web-based grammar. In this step, The researcher interviewed the teacher on July 26, 2022 at Man 1 Banyumas. The interviews were conducted in a formal face-to-face meeting to obtain more in-depth information because the gathered data from the interviews were really needed in setting the test. The interviews were conducted with teacher and 41 random samples from 10th-grade students. This type of interview aims to find problems more openly, where the parties invited to the interview are asked for their opinions and ideas. In addition, the interview guide used is only an outline of the questions to be asked. This unstructured interview was conducted with 10th-grade students.

### **2. Observation**

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<sup>24</sup> Sugiyono. *Metode Penelitian Pendidikan*. (Bandung: Alfabeta, 2018), p.320

Observations in the data collection process were conducted to learn more about the student's background, the school's habits, what problems often arise in the teaching and learning process, and so on. In this observation stage, the researcher can see firsthand the conditions and situations of learning in the classroom so they can analyze problems from the results of these observations. According to Widyoko, observation is the "systematic observation and recording of elements that appear in a symptom on the object of research". According to Sugiyono, observation is a complex process, a process composed of various biological and psychological processes.

The researcher made observations by participating in the classroom at MAN 1 Banyumas. The blueprint used to make observations is as follows:

**Table 2 Blueprint Observation**

No	Aspect	Indicators
1	Opening	<ul style="list-style-type: none"> <li>a. Open lesson</li> <li>b. Prepare students for learning</li> <li>c. Provide students motivation for learning</li> </ul>
2	Strategies	<ul style="list-style-type: none"> <li>d. Teachers use media that are in accordance with basic competencies</li> <li>e. The teacher relates the material to the reality of life</li> <li>f. The teacher organizes student oriented learning</li> <li>g. The teacher carries out the final evaluation according to the student's competence</li> <li>h. The teacher prepares a summary of learning by involving students</li> <li>i. The teacher gives homework</li> </ul>



3	Closing	i. The teacher closes the meeting and invites the students to pray together.
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### 3. Questionnaires

Two experts distributed the questionnaires during the development steps, and also the users to evaluate the web-based application. The participants distributed the questionnaires after they had finished doing the grammar exercise. The distributed questionnaires were a combination of open-ended and close-ended questions to keep the test's objectivity in assessing the materials.

The 10th-grade students are participants who will provide an assessment of the learning application that the researcher has made. Students will be asked for their opinion on whether this learning application helps them in the learning process, and they will provide an assessment of whether the learning application is easy to use or not. As for language experts, the researcher will make a questionnaire about the content or material of the learning application and whether the material is appropriate. The TEFL expert will provide:

1. An assessment of the grammar in the application.
2. The clarity of the material.
3. The practice questions have met the standard or not.

Meanwhile, for IT experts, the researcher will prepare a questionnaire about how IT experts evaluate the learning application made by the researcher. IT experts will assess the design, layout, and so on. Whether this application meets the standard application criteria or if there is still a need for improvement before this application is published. This questionnaire uses a closed-ended type so that respondents can only choose one answer that has been provided

**Table 3 Frequency degree of agreements for questionnaires**

Frequency Degree of Agreements	Meaning
4	The participants strongly agree with the statements.
3	The participants agree with the statements.
2	The participants disagree with the statements.
1	The participants strongly disagree with the statements.

### **E. Data Analysis**

This part discusses the techniques for analyzing the obtained data in the analysis and evaluation step. The information obtained from both the teacher and the students would be used to consider producing a practical test.

#### **1. Analyzing**

In the initial step of ADDIE, the researcher analyzed the interviews' results. The researcher sorted all the information based on the similarity of the answer. Afterward, the researcher concluded and combined the conclusion with the syllabus of Grammar to determine the topics of the test which were going to be done by students.

#### **2. Evaluating**

In this last research step, the researcher analyzed the participants' responses to the distributed questionnaire. Since there were two questionnaires, the researchers used different techniques to analyze the questionnaire. For the close-ended questions, the researcher analyzed the participants' responses to each statement based on the degree of agreement that the participants chose by finding the mean of the participant's responses in each statement. Every statement has four degrees of agreement. They strongly disagreed with the statement, Disagree with the statement, agree with the statement, and strongly agree with the statement. After that, the researcher multiplied the number of participants' responses and the degree of agreement and then divided it by the total number of participants who agreed or disagreed about the web-based application to find the primary responsibility of each

statement. The researcher used the formula below to calculate the participants' responses.

$$\text{Mean} = \frac{\sum x}{\text{total}}$$

- Mean : the average number
- $\sum x$  : numbers of participants who chose the certain statement time the number of the degree of agreement
- total n : total numbers of the participant

The researcher also applied standard scoring criteria to determine whether the design of web-based application was acceptable or not based on the evaluation by the students and the experts. The formula of standard scoring criteria was:

$$\text{Standard Scoring} = \frac{\text{Range} \cdot \text{Highest } f \text{ score} - \text{lowest } f \text{ score}}{\sum fa} = 4 \text{ (from strongly disagree to strongly agree)}$$

$$\frac{4 - 1}{4} = 0,7$$

Therefore, the standard scoring criteria for the descriptive statistics would be:

**Table 4 Standard scoring criteria**

Score Interval	Description about the product
1.00 – 1.75	Very unacceptable; bad

1.76 – 2.51	Unacceptable; not good enough
2.52 – 3.27	Acceptable; good enough
3.28 – 4.0	Very acceptable; very good

For the open-ended questions, the researchers sorted all the participants' comments and suggestions from the most to the less important. Afterward, the researcher chose one top critical comment or suggestions by both the students and the experts. The researcher used the chosen comment or suggestion to have a better web-based application.



## CHAPTER IV

### RESEARCH RESULTS AND DISCUSSION

This chapter consists of two parts. The first part describes and explains the model of web-based application in teaching and learning grammar. The second part is the presentation of the web-based grammar application.

On purpose to answer the first question of the research problem, the researcher used five steps of ADDIE. The five steps are:

#### **A. Finding**

##### **1. Analysis**

This was the first step of ADDIE. In this step, the researcher obtained information about the students' needs to conduct the study. An interviewee is a teacher who taught grammar to 10-grade students. Meanwhile, the interviews with the teacher were done separately based on the teacher's teaching schedules. By obtaining the data from teachers' points of view, the researcher could compare the results and opinions about the things needed to develop web-based grammar. Based on the interview with the English teacher said that:

“I think, based on the student's competence especially in Man 1 Banyumas, only 50% student understand about grammar. It is so hard to explain the grammar material. So one way I use to learning detail about the pattern or each tenses, for easier to know about time present and past”

The student's usually facing difficulties in grammar. When they are learning English, they should know the sentence's structure or pattern because it is different from their language. Students usually get confused when they want to make the sentence grammatically. In addition, the English teacher also said that students experienced problems understanding the material because of several things, such as low vocabulary mastery. Moreover, The student found difficulty with the materials, such as simple present, simple past tense, and present continues. The transcript of the interview with the English teacher is as

follows:

Interviewer: How is the ability of grade 10 students to learn English?

Teacher: "I think, based on the student's competence, especially in Man 1 Banyumas, only 50% of students understand grammar. It is so hard to explain the grammar material. So one way I use to learn detail about the pattern or each tense, for easier to know about time present and past."

Interviewer: What are the students' difficulties in learning grammar?

Teacher: Generally, they do not understand the structure/grammar, so grammar skills must improve it again. There need to be suitable learning media for learning grammar.

Interviewer: What materials do grade 10 students need from the existing grammar syllabus?

Teacher: They need the material simple present, simple past tense, and present continues.

In this case, students know that they have difficulties understanding grammar. The teacher thought the materials needed an independent review because they found many difficulties in learning grammar. Besides, the handout book did not put the materials in one chapter. That caused the students to have difficulties understanding the topics. From the interview teacher say that:

"In my opinion, the use of web applications is very good because the web-based application can access it anywhere so that learning can help by the characteristics of students."

The teacher, accustomed to online testing, gave his opinion about the mobile web-based application grammar. The teacher thought it was good because the practicality of the tests was high, and the students could do the test whenever and wherever, although they did not have a laptop or computer. She suggested that the researcher was required to create the designed grammar exercise as well as possible because this was the first time having a mobile web-based test. The teachers would use the web-based application grammar if they had the adequate skill to manage it.

## 2. Design

### a. Designing the materials

After gathering the data in analyzing, the researcher continued the study by designing the app. In this step, the researcher designs a learning application based on the syllabus's materials selects the appropriate materials and designs research instruments such as questionnaires and interview guides.

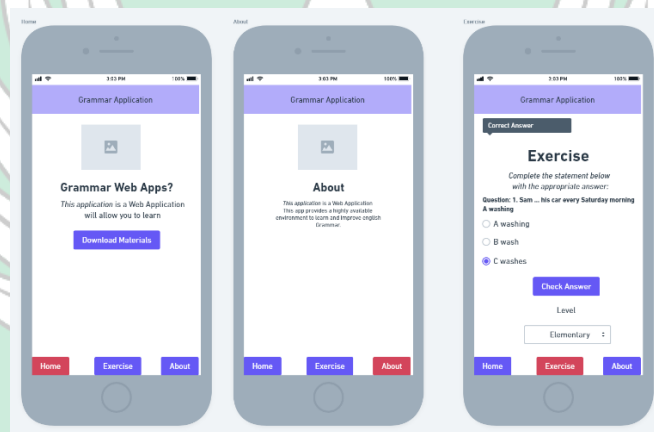
The researcher adapted School-Based K13 (Curriculum 2013) for developing learning media. In the syllabus K13, there are Core Competencies and Basic Competencies. Core Competencies are the level of ability to achieve graduate competency standards that students must possess at each level, class, or program. In contrast, Basic Competence is the ability to achieve core competencies that students must obtain through learning. Essential Competencies are content or competencies consisting of attitudes, knowledge, and skills that are derived from Core Competencies that students must mastered.

**Table 5 Core Competencies that students must mastered**

Core Competencies	Materials	Learning Objective
Analyze social functions, text structure, and linguistic elements of recount text about experiences, events, and events, simply, according to the context of its use.	Simple Past tense	<ol style="list-style-type: none"><li>1. Identify social functions, text structures, and linguistic elements of Simple Past Tense materials.</li><li>2. Explain the Simple Past Tense material's social function, text structure, and linguistic elements.</li><li>3. Using social functions, text structure, and</li></ol>

		<p>linguistic elements of Simple Past Tense materials.</p> <p>4. Summarize the Simple Past Tense material's social function, text structure, and linguistic elements.</p>
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### b. Wireframe design process



**Figure 1 Wireframe result**

The first step in designing a web-based product is wireframing. Wireframing is a process where designers draw overviews of interactive products to establish the structure and flow of possible design solutions. In designing web-based applications, the researcher draws sketch designs of interfaces for each page.

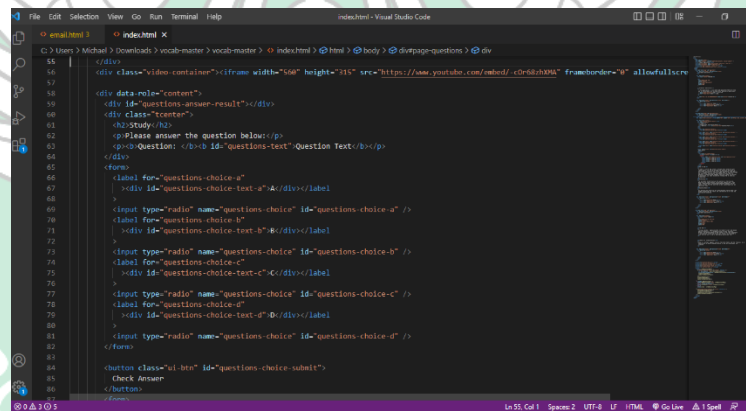
Figure 1 is a high-fidelity wireframe that illustrates in more detail without creating too many graphical elements. In this case, there are three menus home, study, and about, allowing visitors to quickly access the most useful pages. The researcher provides information related to web-based



application grammar in the home menu. It is illustrated that users can download relevant materials they will learn in class. Navigation menu, there is about menu which provides complete information about this application and who is involved in making this application. In addition, in the exercise menu, there is an explanation of the exercise procedure; this design will display questions that users must answer.

### 3. Development.

The researcher began to develop the material by a web-based application. Since this was a web-based, the researcher used an online website that users could access via mobile phones and computers. The researcher created an online mobile-friendly website that used Hypertext markup language and Javascript recode Giveedu Vocab on the open source platform GitHub from Joshua W.



```
55 | </div>
56 | <div class="video-container"><iframe width="560" height="315" src="https://www.youtube.com/embed/c0rd8ib3M4" frameborder="0" allowfullscr
57 |
58 | <div data-role="content">
59 | <div id="questions-answer-result"></div>
60 | <div class="center">
61 | <h3>Study</h3>
62 | <p>Please answer the question below</p>
63 | <p><b>Question</b>: <b><div id="questions-text">Question Text</div></b></p>
64 | </div>
65 | <form>
66 | <label for="questions-choice-a">
67 | <div id="questions-choice-text-a">A</div></label>
68 |
69 | <input type="radio" name="questions-choice" id="questions-choice-a" />
70 | <label for="questions-choice-b">
71 | <div id="questions-choice-text-b">B</div></label>
72 |
73 | <input type="radio" name="questions-choice" id="questions-choice-b" />
74 | <label for="questions-choice-c">
75 | <div id="questions-choice-text-c">C</div></label>
76 |
77 | <input type="radio" name="questions-choice" id="questions-choice-c" />
78 | <label for="questions-choice-d">
79 | <div id="questions-choice-text-d">D</div></label>
80 |
81 | <input type="radio" name="questions-choice" id="questions-choice-d" />
82 | </form>
83 |
84 | <button class="ui btn" id="questions-choice-submit">
85 | <input type="button" value="Check Answer" />
86 | </button>
```

Figure 2.1 Coding with Visual Studio

This web application will allow users to learn and practice new vocabulary grammar with multiple choice questions. It can help the students practice many exercises using mobile phones and computer web browsers. These grammar questions have different difficulty levels, which can be found on the study page.

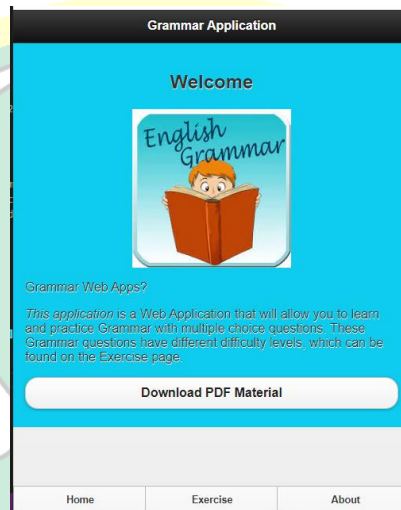
Planning website modules and the website user interface is crucial to developing a web-based application for learning grammar before conducting

further stages. Website modules are website components used to create pages, including images, text, buttons, etc. In addition, the user interface is the visual appearance of a website that bridges the system with the user in shape, colour, and writing or how the user sees the appearance of a website. The website interface provides an overview of what the visitor will see. There are several aspects of the user interface: layout, logo image, colour selection, typography, and other aspects. The user interface in this web design is designed with some criteria, including clear, concise, responsive structured, consistent, and attractive. A Web-based application must structure the learning content to avoid overlapping information displayed, making it easier for students to explore the web. The table below illustrates the plans for teaching English grammar websites.

**Table 6 Features Website**

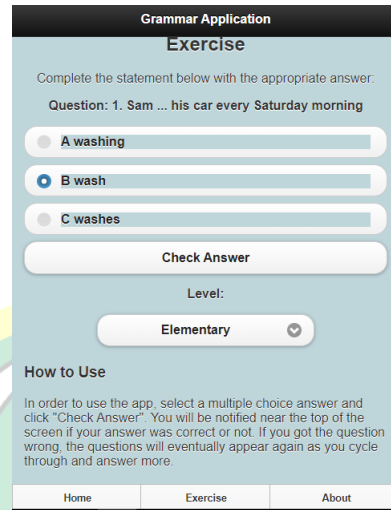
Content/Modules	Features	Layouts	Design
Title of the website		Header	Header with black background
Main page	Description about the website	Home menu	
Study Menu	<ol style="list-style-type: none"> <li>1. Tasks (Multiple Choice)</li> <li>2. Relavant Materials</li> </ol>	Study menu	Default font with white background
Additional Modules	About	Button Menu	Default font with white background

The website uses black as the header. This website uses standard typography designs, using the default font. The detailed design of the website will be conducted on the home page. When accessing the website, the users do not need to register because this website is designed to be accessible by anyone. The following figure describes the web interface



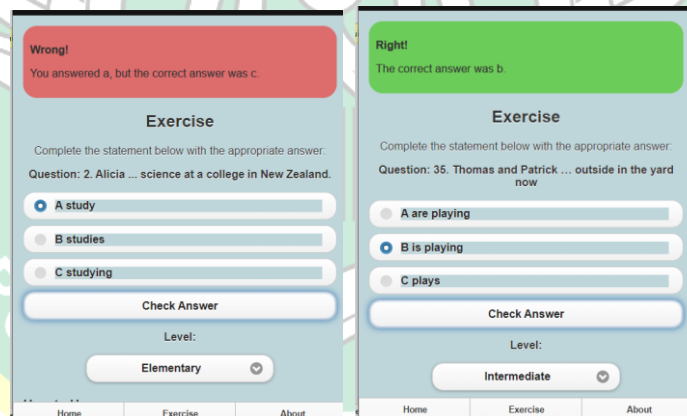
**Figure 2.2 home page**

The website's main page has a menu explaining the application. A navigation menu on a website is an organized list of links to other web pages, usually internal pages. There are three menus home, study, and about, allowing visitors to access the most useful pages quickly. This app provides a highly available environment to learn and improve English grammar. It is designed to work on almost any mobile browser, with minimal amounts of web content to load. Users only need to visit the site once to load it and study as much as users like.



**Figure 2.3 study page**

Learners are given grammatical exercises along with error examples. Learners are required to read the handbook teachers gave to find an answer to each practice exercise; that is, they are required to gather and analyze contextual information relevant to their grammatical or textual solution.



**Figure 2.4 correct answer result**

**Figure 2.5 wrong answer result**

Users will be shown several multiple-choice questions. When a wrong answer is given by the student, the web system show "correct answer." With the correct answer, a concise discussion of the exercise is presented on the screen and followed by another exercise. This web-based application makes it seem like a game while students tackle their own goal of error treatment.

**a. The feedback from IT Expert.**

The IT expert for this application is Gafar Bagas Habibi, S.Kom, a programmer from PT Cyber Indonesia. The researcher used questionnaires to analyze the web-based application to meet the validity of the standards by IT Expert. The questionnaire is adapted from Belinda Hana Dwiaji's thesis titled "Easy English Learning Android Application (EEL) : An M-Learning Model To Learn Speaking Skill For Grade XI Students."

Number	Statements	Frequency Degree of Agreement			
		1	2	3	4
1.	The interface of the designed test is clear.				√
2.	The instructions of the designed test are clear.			√	
3.	The web-based application has consistency in color, use icons, symbols, and buttons			√	
4.	The web-based application is practical because it can be accessed both of android and computer.				√
5.	The web-based application grammar is full responsive design.				√
6.	The designed test is easy to use.			√	
7.	The procedure of the designed test is easy to follow.			√	

8.	<i>Generally, the designed test is well developed.</i>				√
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Statement number 1 was the interface of the designed test. The mean of the degree of agreement in this statement was 4.0. Based on the standard scoring criteria, the results could conclude that the test interface was acceptable. The interface has elements that are easy to access. It gives users a way out when they find themselves somewhere they should not go.

Statement number 2 was the instructions. For this statement, IT agreed that the instruction in this application is clear. The mean was 3. Based on the standard scoring criteria, the instructions of the designed test were good or clear enough. The language used on the website helps the users in a good learning process.

Statement number 3 was the font size and color used in this application. IT Expert agreed that the font size and color used in this application areas appropriate. The mean in this statement was 3. It could be concluded that, the font size and color used in this application easy to read on a browser computer and mobile phone.

Statement number 4, IT Expert strongly agreed that the web-based application is practical because users can access it on android and computers. This website is practical because users can access it on Android web browsers and computers. The website is designed responsively according to the mobile phone and computer screen size.

Statement number 5, IT Expert strongly agreed that the web-based application grammar is fully responsive design. The web-based application is responsive because the flow of content freely across all screen resolutions and sizes renders it looks great on all devices. It also makes it unnecessary to maintain different versions of the website for mobile and desktop, saving users time, resources and effort.

Statement number 6 was the web-based application is easy to use. IT Expert agreed that the web-based application test is easy to use. According to experts, this application is easy to use. This application also makes it easier to learn grammar materials for 10th-grade students without having to bring a modules book.

Statement number 7 was the procedure of the web-based application. IT Expert agreed that the web-based application design procedure is easy to follow. According to experts, all procedures on the website are clear and easy to understand by users

Statement number 8 was the design of the web-based application is well developed. IT Expert agreed that the design of the web-based application is well developed. According to experts, Several factors such as consistency, colors, typography, and simplicity are good in this web-based application.

**b. The feedback from TEFL Expert**

Number	Statements	Frequency Degree of Agreement			
		1	2	3	4
1.	The language used is suitable for 10th-grade students at Senior High School.			√	
2.	The instructions of the designed test are clear.				√
3.	The questions are relevant to assess the understanding of simple past tense, simple present, and present continuous.			√	
4.	The questions are well-arranged.			√	

5.	The designed test helps the students to improve their understanding of simple past tense, simple present, and present continuous.			√	
6.	The material asked is in accordance with the measured competence			√	
7.	The procedure of the design is easy to follow.			√	
8.	<i>Generally</i> , The meaning of the questions is clear				√

Statement number 1 was the language used is suitable for 10th-grade students at Senior High School. TEFL Expert agreed that the language used suits 10th-grade students at Senior High School. Based on the standard scoring criteria, it could be concluded the suitability of the material was acceptable or good. Statement number 2 was the instructions. For this statement, TEFL Expert stated that they strongly agreed with the statement that the instructions of the designed test were clear. Based on the standard scoring criteria, the instructions of the designed materials were very good or clear enough. The instructions covered some information such as numbers of the question and numbers of questions per page; the questions will eventually appear again as the cycle through and answer more.

Statement number 3 was the relevance of the questions. TEFL Expert agreed that the questions were relevant to assess the materials. Since the questions were listed considering the suggestions from Based K13 (Curriculum 2013), the questions' relevance was acceptable or relevant. Statement number 4 was the arrangement of the questions. TEFL Expert agreed that the questions were well arranged. It means that the performance of the questions was exemplary. Statement number 5 was the test's success in improving the student's understanding of the materials. TEFL Expert agreed that the designed



test helped the students to improve their understanding of simple past tense, simple present, and present continuous. The result from the questionnaire is the designed test was good in helping the students to improve their understanding of the materials.

Statement number 6, the materials asked is following the measured competence. TEFL Expert agreed that the materials asked are following the measured competence. The application is designed based on the student's needs and measured competence. Statement number 7 was the procedure of the test. TEFL Expert agreed that the procedures of the web-based application were easy to follow. The questioner's result concluded that the menu exercise guidelines were good and easy to follow. Statement number 8 was the general evaluation of the web-based application. TEFL Expert strongly agreed with the statement. In addition, the web-based application is well-developed.

#### **4. Implementation**

The following step is implementation. The researcher made observations in 10th students' classes. The researcher distributed the questionnaire to the different students. The researcher tested the product for 10th senior high school students from different classes and its supporting tools such as the place, computers or mobile phone, internet connection, and students. All participations were chosen randomly by the researcher to avoid any biases that could be happened during this research.

This implementation was carried out once on Wednesday, July 26th, 2022. The subjects of this research were 10th-grade students of MAN 1 Banyumas, consisting of 41 random respondents from 2 classes. First, the researcher explains the content of this application in general. Then, the students are asked to open the study icon on the menu website. In the web application, there is relevant material provided for the users to study. Afterwards, the researcher instructed the students to do the test.

After finishing the practice questions, they will know the value they get based on the correct score in answering each question. At the end of the implementation, the students were asked to fill out a questionnaire after trying several application features, such as material features and exercises. This questionnaire aims to collect general opinions from each student about this application. They are asked to fill in ideas, criticisms, and suggestions for improving this application.

The implementation of web-based application grammar has a positive impact on students. The standards and indicators of students' independent learning are achieved through web-based application grammar. The students agree that the relaxed learning atmosphere and the interactive and resourceful materials allow them to be attracted and motivated to learn independently.

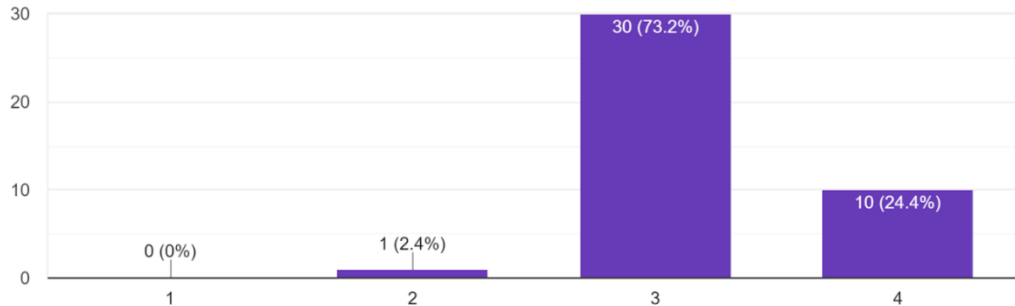
The fun learning atmosphere and the flexibility of the teacher's teaching method as the main feature of Web-based applications are very appropriate for students, particularly in helping them to be independent learners. The fact that users can access the materials with minimum training and do not depend on the presence of teachers proves to help students to be motivated to learn independently.

## **5. Evaluation**

To evaluate whether the designed test was well developed, the researcher distributed a questionnaire to 41 respondents who were 10th students grade. The questionnaire results were shown in the table below to measure the number of respondents and their degrees of agreement in each statement. The researcher used the central tendency formula to conclude the result.

In this evaluation, 41 students filled out a questionnaire on the Google Form. Users are given eight questions to develop this application even better. From the results of the existing questionnaires, In this study, data were collected through an online questionnaire conducted by class X students via Google Form. The results of the online questionnaire were as follows:

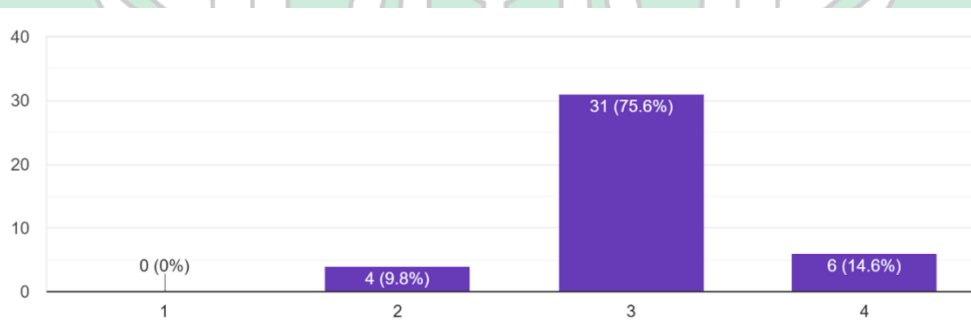
a. The material in the web application helps me improve my Grammar skills



**Diagram 1 result from questionnaire**

The result showed that 30 out of 41 students (73.2%) were agree and 10 students (24.4%) were strongly agree with this statement. It means that web-based application can help the students improving the Grammar skills.

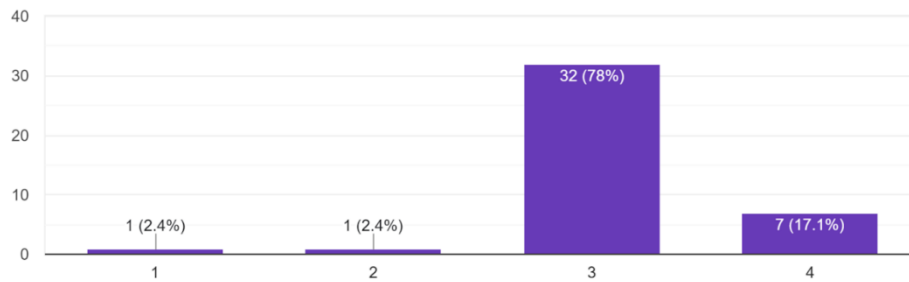
b. My Grammar skills are getting better after learning using web-based application



**Diagram 2 result from questionnaire**

The result showed that 31 out of 41 students (75.6%) were agree and 6 students (14.6%) were strongly agree with this statement. It means that the Grammar skills of students were getting better after taught Grammar using web-based application.

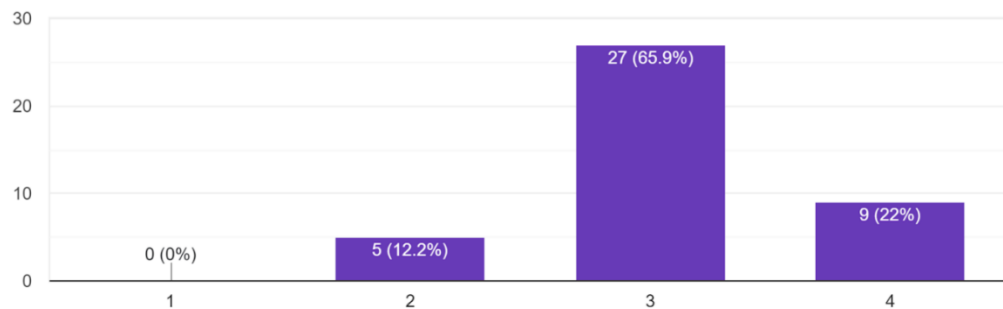
c. I am facilitated in the practice of learning Grammar



**Diagram 3 result from questionnaire**

The result showed that 32 out of 41 students (78.0%) were agree and 7 students (17.1%) were strongly agree with this statement. It means that students feel facilitated in the practice of learning Grammar using web-based application.

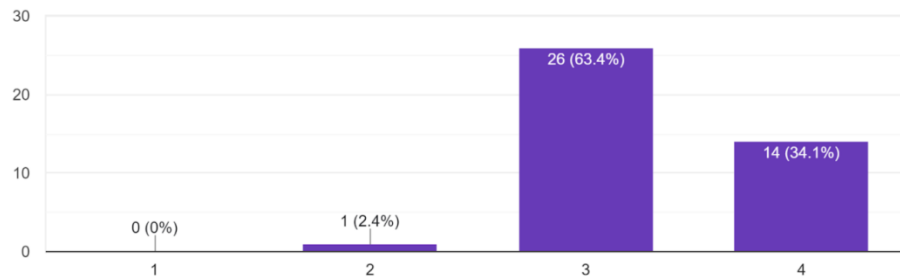
d. I understand more about Grammar than before



**Diagram 4 result from questionnaire**

The result showed that 27 out of 41 students (65.9%) were agree and 9 students (22.0%) were strongly agree with this statement. It means that web-based application can help students to understand Grammar compared with conventional study.

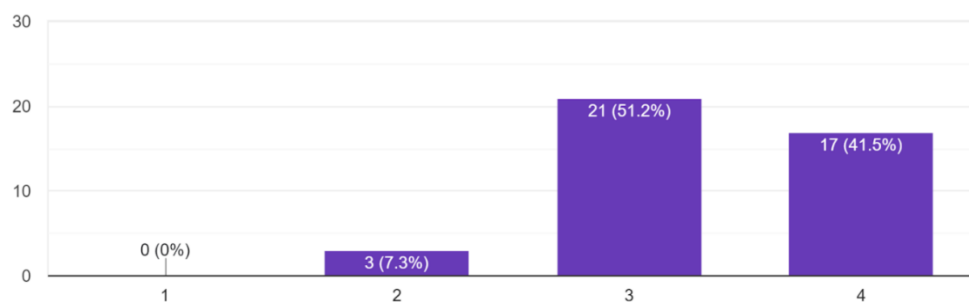
e. By using the web application, it becomes easier for me to learn on my own.



**Diagram 5 result from questionnaire**

The result showed that 26 out of 41 students (63.4%) were agree and 14 students (34.1%) were strongly agree with this statement. It means that web-based application make students learn Grammar easier.

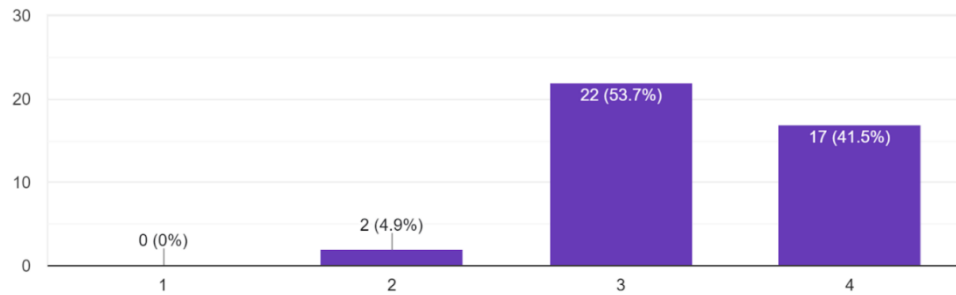
f. I can study anywhere and anytime using the grammar web application



**Diagram 6 result from questionnaire**

The result showed that 21 out of 41 students (51.2%) were agree and 17 students (41.5%) were strongly agree with this statement. It means that web-based application help students learn Grammar in any place at any time, because they can access the learning material using smartphone.

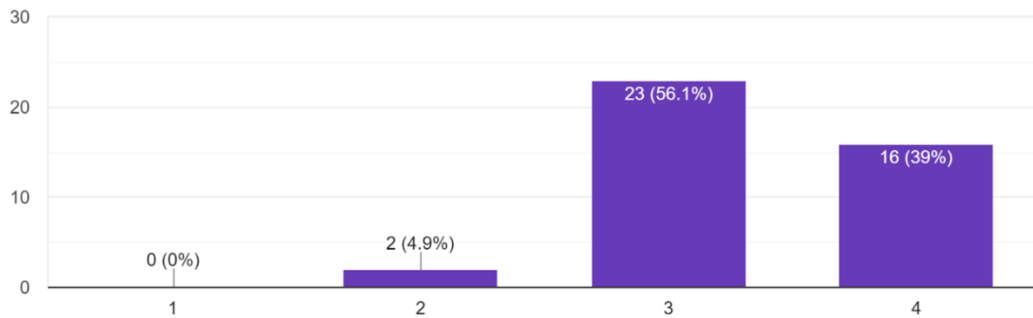
g. Grammar web application can be used on android mobile and browser on computer



**Diagram 7 result from questionnaire**

The result showed that 22 out of 41 students (53.7%) were agree and 17 students (41.5%) were strongly agree with this statement. It means that web-based application can be used on android mobile and browser on computer, and so makes the learning process convenient.

h. Grammar web application can be used as a medium of learning in the classroom



**Diagram 8 result from questionnaire**

The result showed that 23 out of 41 students (56.1%) were agree and 16 students (39.0%) were strongly agree with this statement. It means that web-based application can be used as a medium of learning in the classroom and useful outside the classroom.

## B. Discussion

The success of learning is largely determined by two main components, namely teaching methods and learning media. These two components are related to each other and cannot be separated. A suitable teaching method and proper learning media are the good combinations needed to support the success of learning. Learning media will increase students' learning motivation, this is in line with Sanaky that by using learning media, the learning process will be more interesting with elaborate learning materials and the learning process will become more varied.<sup>25</sup> Students will pay attention to the material presented by the teacher and do more learning activities. As a result, it can enhance the quality of education in several ways, by increasing learner motivation and engagement, facilitating the acquisition of basic skills, and enhancing teacher training<sup>26</sup>.

Based on the questionnaire results from the evaluation stage of this research, it can be inferred that, overall, web-based application learning designed by the researcher is proven to be able to help 10th-grade students in understanding grammar lessons.

Technology could not be separated from human life<sup>27</sup>. Realizing that, this application was designed for students to learn remotely or not in one classroom as well without being limited by time. In this case, the role of the teacher, usually in classroom learning as a material provider, will be helped by this web-based application that is ready with a simulation of the material to be studied. This allows students to re-learn the material that they have not mastered

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<sup>25</sup> Sanaky , Hujair AH. (2009). Media Pembelajaran. Yogyakarta: Safiria Insania Press

<sup>26</sup> Musdalifah. 2018. Using kahoot website in learning grammar at sma negeri 8 gowa (pre-experimental research). Universitas Muhammadiyah Makassar.

<sup>27</sup> Budiati. (2017). ICT (Information and Communication Technology) Use: Kahoot Program For English Students' Learning Booster.

yet. In addition, the practice questions and explanations provided that can be accessed easily using a smartphone can make the learning process easier.

This finding expanded the superiority of a web-based application. A previous study by Hong Minh and Thuy Linh stated that online platforms could improve students' grammatical learning scores and there is a significant relationship between online exercises and students' grammar scores. This study used grammar exercises in pre-intervention and post-intervention combined with questionnaires for students and teachers<sup>28</sup>. Therefore, the difference between those studies with the study being conducted by the researcher was this study does not focus on the simple present, past tense, and perfect continuous.

Second, a research conducted by RosyDAH used the downloadable Memrise Application, a course online that teaches students to learn irregular verbs and improve grammar skills. This application gives exercises for students to understand and remember irregular verbs. This study showed that Memrise Application could improve students' mastery of irregular verbs and have a significant difference between the control and experimental classes.<sup>29</sup> In line with this, this research complements the product limitation that the web-based application can be used on any device while operating a browser.

Third, Ichwan designed an interactive android application for future tense materials that can be used as the learning media for learning future tense. He developed a model based on Hanafin and Peck model, which includes need analysis, design, development and implementation, and evaluation. Based on the evaluation, this interactive android application for future tense materials was good and very good, the product was then claimed accepted as reflected to

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<sup>28</sup> Hong Minh, N.T. and Thuy Linh, T. (2021). Designing Online English Grammar Exercises 10<sup>th</sup> Graders via Learning Management System Chamilo. *Journal of English Language Teaching and Applied Linguistics*, 3(5): 55-63.

<sup>29</sup>Elly Cholifatur RosyDAH. "Improving Student's Mastery of Irregular Verb by Using Memrise Application at the Tenth Grade of MAN Sidoarjo." *Thesis*, 2018.



the students acceptability. However, this application only focuses on future tense and can only be installed on android device.<sup>30</sup>

In addition, Ima developed an instructional media weblog based. In developing and designing the weblog, she chose Dick and Carey models which consists of nine stages such as identifying goals and objective, conducting instructional analysis, determining entry behavior and learner characteristics, writing performance objective, developing criterion-referenced e-Learning assessments, developing the instructional eLearning strategy, Choosing learning materials and online activities, conducting formative evaluation, and conducting summative evaluation however, this research only measured the validity of the weblog.<sup>31</sup>

Besides, a research by Hastuti focused on improving the students' grammar by utilizing Learn English Grammar mobile application at SMP Negeri 14 Palopo. Classroom Action Research is used in this study (CAR). Learn English Grammar application as a media aid in learning improve the quality of student learning because they can learn grammar quickly and not easily bored to study anywhere without feeling difficult. The learn English grammar application is based on a mobile application accessed on an android phone or tablet. This makes students happier and motivated to learn more often and get good results. Thus, Learn English Grammar application is exact and effective for students according to their current learning conditions.<sup>32</sup>

Based on the explanation of the researcher above that using learning applications gave good effects on students' English learning process, the researcher believes that students need an interesting method to improve their

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<sup>30</sup> Ichwan, Muhammad RH. 2019. Designed an Interactive Android Application for Future Tense Materials. UIN Alauddin Makassar.

<sup>31</sup> Ima, Nur. 2017. "Developing instructional media of basic english grammar weblog for the first year students of senior high school 11 makassar". Thesis, UIN Alauddin Makassar.

<sup>32</sup> Hastuti. 2021. Utilizing learn english grammar mobile application in improving the students' grammar at smp negeri 14 palopo. Iain palopo.

motivation in learning grammar that most students are really bored with. Therefore, the researcher tried to design a new web-based application that can improve students' motivation and interest in learning grammar.

Presentation of this web-based learning can become a more interactive learning process, where information can be obtained in real-time. In addition, the web-based learning system is not limited in time, thus allowing learning to be carried out to the end. At any time students can access this system. Learning using web-based technology is included in a new paradigm, namely digital pedagogy. This paradigm has implications for changing the conventional learning culture towards e-learning-based learning through web applications. Therefore, based on the results, the advantages of the web-based learning process for Grade X students include:

- a. Reduce the cost of purchasing supporting books;
- b. Save on overall education costs;
- c. Cover a wider geographic area;
- d. Train learners to be more independent in gaining knowledge.
- e. The learning process can be done without being limited by the necessity of teachers and learners to be in the same space and time<sup>33</sup>

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<sup>33</sup> Gultom. "The role of the Internet in learning." Jurnal Unimed, 2019.

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

This is the last chapter of this study. This chapter presents the conclusion and the recommendation of this study. The conclusions -are intended to summarize the major finding of the research and elaborate on the answers to the research questions. Meanwhile, the recommendation provides suggestions for this study for teacher, students, and future researchers.

#### A. Conclusion

In order to answer the five research questions, the researcher applied ADDIE instructional design theory by Branch. Five steps of ADDIE were functioned by the researcher. They analyzed, designed, developed, implemented, and evaluated.

The researcher started this study with the analysis step. The researcher found that the 10th-grade students in MAN 1 Banyumas had difficulties. Students usually get confused when they want to make grammatically correct sentences. The researcher designed a learning application based on the syllabus's materials and the design research instruments, such as questionnaires and interview guides. The researcher began to develop the material by a web-based application. Since this was web-based, the researcher used an online website that users could access via mobile phones and computers. It was a mobile-friendly website that could be accessed by mobile phone and computer. After that, in the implementation step, the researcher tested the designed test on 10th-grade students. To determine whether the designed test was well-developed, the researcher distributed the questionnaires during the evaluation steps to the two experts and the users to evaluate the web-based application. The participants distributed the questionnaires after they had finished doing the grammar exercise.

The distributed questionnaires were a combination of open-ended and close-ended questions to keep the test's objectivity in assessing the materials. Based on the standard scoring criteria that the researcher had calculated, it was concluded that the designed test was well-developed, acceptable, or good. This application also makes it

easier to learn grammar materials for 10th-grade students. However, according to IT experts, this application needs some improvements to make it even better. Several aspects must be improved, and the application's display must be improved so that users will not feel too bored.

The instructions of the designed test were clear. In addition, the designed test helped the students to improve their understanding of simple past tense, simple present, and present continuous. The result from the questionnaire is the designed test was good in helping the students to improve their understanding of the materials.

Based on the research results obtained from the questionnaire, the web-based application grammar can make it easier for users to practice making sentences with correct grammar. In addition, the material can improve their grammar understanding. In this case, it is easier for users to learn grammar material at home using the grammar web application. This application is suitable for classroom learning, and overall they are helped by this application.

## **B. Recommendations**

### **1. Recommendations for teachers**

The researcher recommends the lecturers make good use of this mobile web-based because by applying this mobile web-based test, the usage of paper can be reduced.

### **2. Recommendations for School**

The researcher also recommends to schools to use this application as regular learning.

### **3. Recommendations for Future Researchers**

For researchers who will continue this research, to be able to improve the application based on the limitations of this product that the researcher wrote above

## **C. Limitation of the study**

The research product needs improvement and also needs a lot of additional features. In addition, Students need an internet connection to open the Web-based Application Grammar. On the other hand, the object of this research is only for 10th-grade students.

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**APPENDIX A (Interview Guideline)**





## **For Teacher.**

### **The Interview Guideline in Analyze Step**

The questionnaire is adapt of a questionnaire from Belinda Hana Dwiaji's thesis with the title "Easy English Learning Android Application (EEL) : An M-Learning Model To Learn Speaking Skill For Grade XI Students"

1. Bagaimana kemampuan Bahasa Inggris siswa kelas 10 secara umum?
2. Apa kesulitan siswa kelas 10 dalam mempelajari grammar
3. Dari silabus grammar yang ada, materi apa yang sangat dibutuhkan siswa siswa kelas 10?
4. Bagaimana pandangan Anda tentang penggunaan mobile web application- based test?
5. Apa Anda tertarik untuk mengaplikasikan mobile web application- based test saat mengujikan grammar?

### **Results of the Teacher in analyze step**

1. Kemampuan Bahasa Inggris siswa kelas 10 dalam mempelajari kurang bisa memahami grammar, hanya kurang lebih 50% paham mengenai grammar
2. Secara umum mereka kurang paham dalam hal struktur/grammar-nya sehingga harus di tingkatkan Kembali. Perlu ada media pembelajaran yang cocok dalam belajar grammar.
3. Mereka membutuhkan materi simple present, simple past tense, present continues.
4. Penggunaan aplikasi web menurut sya sangat bagus karena bisa diakses

dimana saja, jadi pembelajaran itu bisa sesuai dengan karakteristik siswa

5. Sangat memungkinkan untuk di implementasikan di kelas  
.Bisa jadi akan meningkatkan kemampuan grammar mereka





**Appendix B  
(Questionnaire)**

The feedbacks will be used to improve the application.

IT Expert

Name : Gafar Bagas Habibi

Please give check marks (√) in every statement based on your degree of agreement.

(1) Strongly disagree (2) Disagree (3) Agree (4) Strongly agree

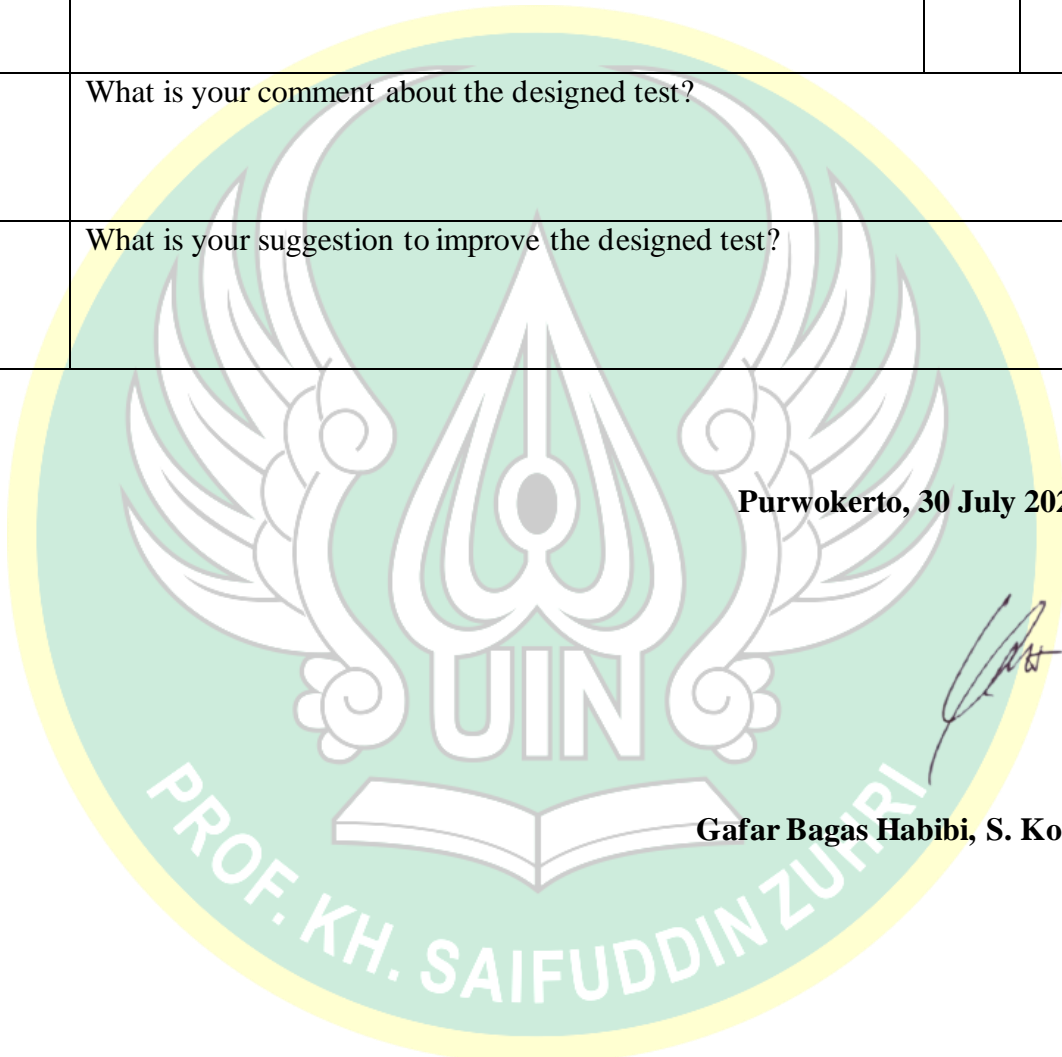
Number	Statements	Frequency Degree of Agreement			
		1	2	3	4
1.	The interface of the designed test is clear.				√
2.	The instructions of the designed test are clear.			√	
3.	The web-based application has consistency in color, use icons, symbols, and buttons			√	
4.	The web-based application is practical because it can be accessed both of android and computer.				√
5.	The web-based application grammar is full responsive design.				√

6.	The designed test is easy to use.			√	
7.	The procedure of the designed test is easy to follow.			√	
8.	<i>Generally, the designed test is well developed.</i>				√
9.	What is your comment about the designed test?				
10.	What is your suggestion to improve the designed test?				

Purwokerto, 30 July 2022



Gafar Bagas Habibi, S. Kom



The feedbacks will be used to improve the application.

**Users**

\* Cross the unnecessary option

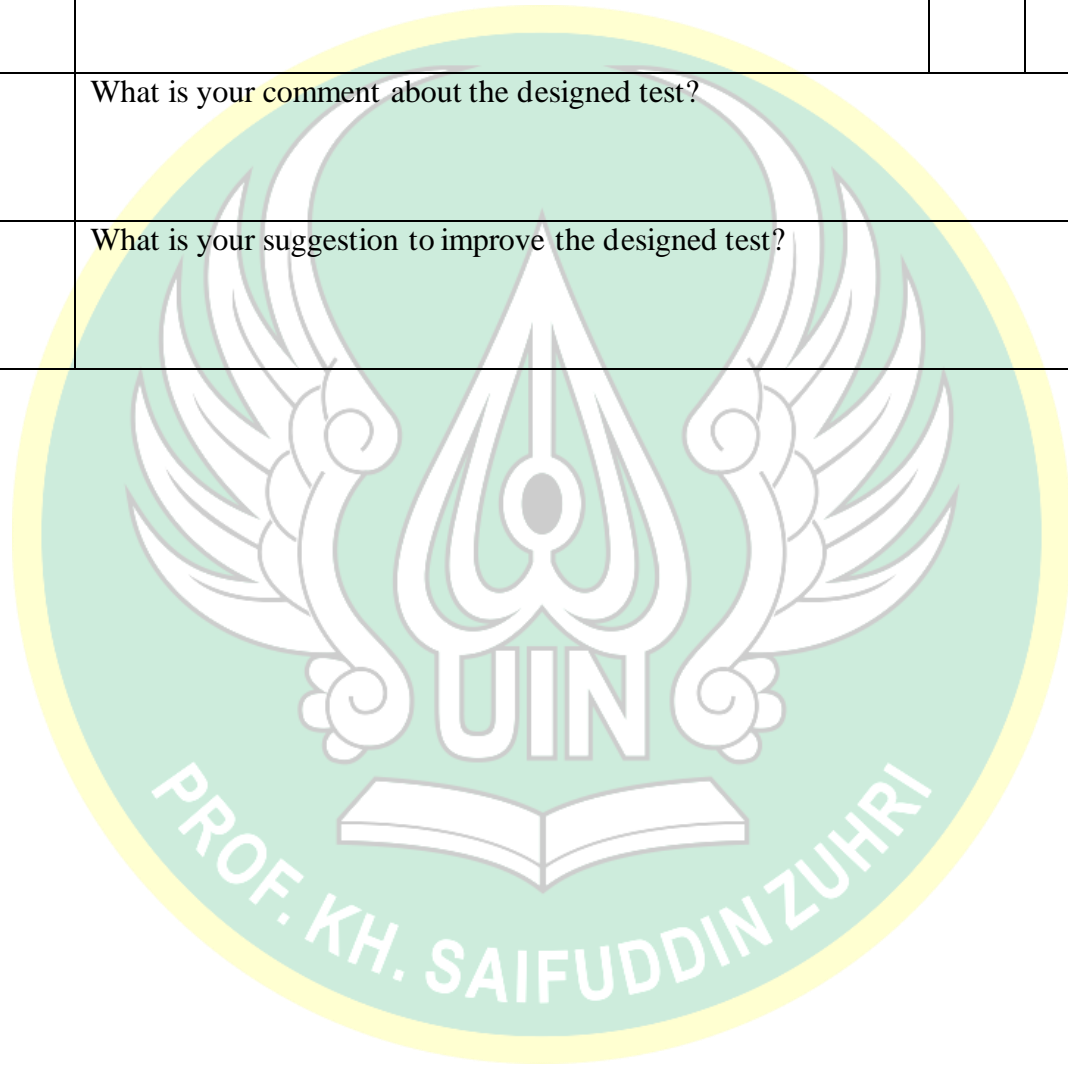
Name : \_\_\_\_\_

Please give check marks (√) in every statement based on your degree of agreement.

**(1) Strongly disagree (2) Disagree (3) Agree (4) Strongly agree**

Number	Statements	Frequency Degree of Agreement			
		1	2	3	4
1.	The web-based application grammar can make it easier for me to practice making sentences with correct grammar.				
2.	The web-based application grammar can make it easier for me to practice making sentence with correct grammar				
3.	Practice questions in web-based applications help me to learn grammar.				
4.	The web-based application is practical because users can access it on android and computers.				
5.	By using web-based application, i can learn grammar by myself				

6.	With web-based application i can learn grammar anytime and anywhere				
7.	The procedure of the designed test is easy to follow.				
8.	<i>Generally, web-based Application improve my grammar skills.</i>				
9.	What is your comment about the designed test?				
10.	What is your suggestion to improve the designed test?				



The feedbacks will be used to improve the application.

TEFL Expert

Name : Agus Husein As-sabiq, M.Pd

Educational Background : S2

Teaching Experience :

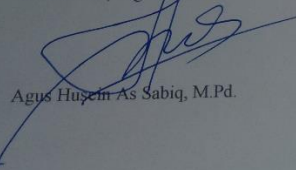
Please give check marks (✓) in every statement based on your degree of agreement.

(1) Strongly disagree (2) Disagree (3) Agree (4) Strongly agree

Number	Statements	Frequency Degree of Agreement			
		1	2	3	4
1.	The language used is suitable for 10th-grade students at Senior High School.			✓	
2.	The instructions of the designed test are clear.				✓
3.	The questions are relevant to assessing the understanding of the materials.			✓	
4.	The questions are well-arranged.			✓	
5.	The designed test helps the students to improve their understanding of the materials.			✓	
6.	The material asked is in accordance with the measured competence.			✓	
7.	The procedure of the design is easy to follow.			✓	

8.	Generally, The meaning of the questions is clear.					✓
9.	What is your comment about the content of web-based Application Grammar? - Consider the level of difficulty - The amount of Questions } and scoring					
10.	What is your suggestion to improve the web-based Application Grammar?					

Purwokerto, Agustus 2022



Agus Husein As Sabiq, M.Pd.





**Appendix C**  
**(Documentation)**





**Appendix D**  
**(Research Permission)**

**UIN**  
**PROF. KH. SAIFUDDIN ZUHRI**



KEMENTERIAN AGAMA REPUBLIK INDONESIA  
KANTOR KEMENTERIAN AGAMA KABUPATEN BANYUMAS  
MADRASAH ALIYAH NEGERI 1  
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Email: manpw1@yahoo.com

SURAT KETERANGAN  
NOMOR: 252 /Ma.11.04/TL.00/08/2022

Yang bertanda tangan di bawah ini:

Nama : Nurkholid, S.Ag., MA  
NIP : 197102062005011001  
Pangkat/Golongan : Pembina, IV/a  
Jabatan : Plt. Kepala MAN 1 Banyumas  
Satuan Kerja : MAN 1 Banyumas  
NPSN Madrasah : 20364923  
Nomor Statistik Madrasah : 131133020001

menerangkan bahwa:

Nama : AGUNG PAMILU  
NIM : 1817404003  
Jurusan / Perguruan Tinggi : Tadris Bahasa Inggris  
Fakultas Tarbiyah dan Ilmu Keguruan  
Universitas Islam Negeri Profesor Kiai Haji Saifudin Zuhri  
Purwokerto

nama tersebut benar-benar telah melaksanakan Observasi Pendahuluan di MAN 1 Banyumas pada tanggal 20 Juli s.d 20 Agustus 2022.

Judul Proposal Penelitian:

"DEVELOPING A WEB-BASED APPLICATION FOR TEACHING GRAMMAR FOR 10TH GRADE STUDENTS OF SENIOR HIGH SCHOOL"

Demikian surat keterangan ini dibuat, untuk dipergunakan sebagaimana mestinya.

Purwokerto, 25 Agustus 2022

