DEVELOPMENT OF THE USE OF EDUCATIONAL TECHNOLOGY BASED ON THE QUIZIZZ APPLICATION IN INCREASING STUDENTS' INTEREST IN LEARNING AT SMK NEGERI 1 SITOLU ORI

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DEVELOPMENT OF THE USE OF EDUCATIONAL TECHNOLOGY BASED ON THE QUIZIZZ APPLICATION IN INCREASING STUDENTS' INTEREST IN LEARNING AT SMK NEGERI 1 SITOLU ORI

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CHAPTER I

INTRODUCTION

1.1 Background of the Problem

Today, technology plays a crucial role in enhancing students' interest in learning. According to McGinn (2015:7), technology is a human activity of significant value influenced by socio-cultural and environmental factors in its conceptualization. Solomon (2015:8) describes technology as the systematic application of various forms of knowledge, including literature, science, and art, highlighting the contributions of both art and science to technological applications. The Association for Educational Communications and Technology (AECT) (2015:10) defines it as a field or scientific discipline focused on facilitating human learning through the identification, development, organization, and systematic use of all learning resources, as well as the management of these processes. This overview underscores the essential role of technology in implementing effective teaching and learning processes in schools.

The term technology comes from "texter" (Latin) which means "to weave or construct". According to Sattlet (2014:2) that technology does not always have to use machines as imagined in our minds so far, but refers to every practical activity that uses certain science or knowledge. It is even stated that technology is an attempt to solve human problems (Salisbury 2014:3). In relation to this, (Romiszowski 2014:3) states that technology is related to products and processes. Meanwhile (Rogers 2014:3) has the view that technology usually involves hardware aspects (consisting of materials or physical objects), and software aspects (consisting of information contained in hardware). Based on these understandings, it is clear (Salisbury 2014:3) that technology is the application of science or knowledge that is systematically organized for the practical completion of tasks. So, just as in the world of education, the use of educational technology plays a very active role in increasing students'

interest in learning at school and also to support the process of teaching and learning activities in the classroom.

In the realm of education, educational technology is defined as the field dedicated to facilitating human learning through the identification, development, organization, and systematic use of all learning resources, along with managing these processes. According to Donald P. Ely (2022:7), educational technology involves a systematic approach to optimizing learning resources, organizing, and developing various educational tools. The Webster Dictionary describes educational technology as a component within the educational subsystem that addresses problem-solving within the field of education. Meanwhile, the Association for Educational Communication and Technology (AECT 2022:7) views educational technology as a complex and integrated process that encompasses ideas, procedures, equipment, personnel, and groups in analyzing problems, finding solutions, implementing, managing, and evaluating all aspects related to human learning. This field is supported by a range of theories, models, concepts, and principles from various disciplines, such as behavioral science, communication science, engineering, and systems theory, which collectively contribute to the development of educational technology. The systematic integration of these theories and concepts aims to create a cohesive and synergistic approach to educational technology.

The development of learning activities in the current era of information and communication technology (ICT) has quite complex challenges to face. These challenges can come from educators and students, so educators must be creative and innovative and always develop according to developments in learning activities. To face these challenges, educators must be able to design creative and innovative learning media so as not to be left behind in facing these developments. The development of learning media must adapt to the development of the information technology century by getting used to designing quality learning media so that it has a good impact on students. Therefore, it is important to understand the nature of learning media so that the designed learning media approaches product perfection.

Educational technology also develops according to developments science and technology, so that it can help humans in realizing better quality learning as a discipline. Even though it is still new, educational technology always tries to develop scientific concepts and theories. Educational technology always aims to ensure that humans have optimal learning opportunities by using various processes and various learning resources. This can create a learning society and a knowledge society. Educational technology has given birth to various learning models and patterns, so that human learning opportunities are wider and more equitable with better quality. Educational technology is always looking for and making improvements and innovations so that the learning process carried out by humans can be more effective rather than more efficient. So, with the existence of the field of educational technology, various theoretical concepts continue to be developed to find the best way in education.

With the development of technology in the world of education, especially electronic technology, according to Ashby (2015: 8), it has triggered a fourth revolution in the field of education. The prominent electronic technologies are radio, television, recorders and players, and these technologies have managed to penetrate geographical, social and political boundaries more intensively than the print media that characterized the third revolution. Perhaps it could be said that currently the development of information technology has given birth to the fifth revolution, namely information technology which then synergizes with communication technology to become ICT (ICT Information and Communication Technology) or telematics.

So, it can be concluded that Educational Technology is very important to apply in schools, especially in the learning process in class. Apart from increasing students' interest in learning, technology can also become a new culture in the classroom during the learning process. However, in reality there are still many schools that have not utilized technology optimally in carrying out the teaching and learning process. Teachers need to always improve their skills in using technology so that they can more easily convey learning material.

Based on the explanation above, the researcher wants to develop the use of educational technology based on the Quizizz application to increase students' interest in learning at SMK N 1 Sitolu Ori, Sitolu Ori subdistrict, North Nias district. The aim is to understand, reveal, explain in detail how phenomena exist in the field.

1.2 Formulation of the Problem

1. How does the development of Quizizz Application at SMK N 1 Sitolu Ori?
2. How does the strategies in using Quizizz Application to increase students' interest in learning at SMK N 1 Sitolu Ori ?
3. How does students respond when the teachers use Quizizz Application?

1.3 Objective the Research

The aim of this research is to obtain the following things as follow:

1. To develop Quizizz Application at SMK N 1 Sitolu Ori
2. To find out the strategies in using Quizizz Application to increase students' interest in learning at SMK N 1 Sitolu Ori
3. To find out the students respond when the teachers use Quizizz Application in learning at SMK N 1 Sitolu Ori

1.4 Product Specification

This research focuses on product development: educational technology based on the Quizzizz application. The quizzes that will be given to students are taken based on what they have learned in class during the learning and teaching process. The material taught in class is taken based on the RPP that has been prepared by the teacher. The criteria included in this development aim to provide information on how to use the Quizizz application in the classroom which can generally influence student learning progress, motivation and interest in participating in the learning process in the classroom. Teachers can be helped by this quizizz application because it can maximize the use of time in the learning process, especially when holding tests or exams which aim to find out the extent of a student's ability to understand the material that has been taught and can find out whether the student has an interest in learning. Quizizz is a learning platform that

allows teachers to create interactive quizzes that are easy and fun for students. One of the goals of Quizizz is that it is designed to help teachers create interactive quizzes, tests or exercises in the form of interesting games. This can increase student involvement and student interest in the learning process. Teachers can create multiple choice questions, multiple choice questions with pictures, short answers, and several other types of questions. Each question can be followed up with customizable feedback. The design for developing the quizizz application is:

1. Products developed using the quizizz application which contains images, text, sound effects and animations which are combined into a learning medium
2. The quizizz application can be run on a smartphone or laptop and can be accessed anywhere, which means it can not only be used in the classroom
3. This product is equipped with practice questions accompanied by feedback that will appear when students enter answers that can evaluate the material studied
4. This product is also equipped with a review question display to review the answers we choose

CHAPTER II
LITERATURE REVIEW

2.1 Theoritical Framework

2.1.1 The Concept of Technology

Basically, technology has been implemented and applied by humans since ancient times. If humans in ancient times broke candlenuts with stones and picked fruit with poles, they actually used technology, namely simple technology. Therefore, technology is related to systems or ways to solve certain problems faced by humans, even in a simple form (Haryanto 20215:5).

2.1.1.1 Development Technology

Haryanto (2015:6) The development of technology is so massive and capable of changing human life drastically and radically, even to the point of being able to erode the humanist side of humans and turning them into technocratic ones. Because it is new, the use of technology in the world of education is not yet evenly distributed across all levels of society and school institutions, especially those in rural areas. This is what then provides the difference between schools in cities which usually absorb technology more quickly and schools in rural areas which are far from using technology. However, with the existence of equality in the world of education and also with the very rapid and massive development of technology, of course along with the development of time, the use of technology can be equalized in every school institution to remote areas.

In another sense, technology is science that studies and develops engineering capabilities with certain steps and techniques in a field. Another definition states that technology is a process, system, management and control mechanism, whether involving humans or

not, and more than that technology is a way of looking at problems from the perspective of difficulty, technical feasibility of the solution and economic value.

2.1.1.2 Definition of Technology

Technicians, technocrats, and engineers define technology as a material construction process based on systematic engineering knowledge about how to design various artifacts. This concept of technology is more inclined towards the use of machines or physical systems of various types of things. Social scientists view technology in a broader sense, not only in terms of the construction of building materials but also related to considerations of social significance. According to Social Scientists (2015:7), there are several definitions of technology. First, social scientists define technology with reference to the construction of building materials and also in social and intellectual contexts. It refers to the organization of knowledge to achieve practical goals and also as a tool or technique for doing or making something, with which a person's capabilities can be increased. Second, social scientists view technology as something that is always intertwined with social values.

From the several definitions of technology above, it means that there is a connection between technology and the world of science and socio-cultural values. According to McGinn (2015: 8), there are indeed fundamental aspects of technology that have value and are wrapped in the socio-cultural realm. Characteristics like these are fundamental in the field of educational technology. Even Januszewski (2015: 8) states that there are three factors that underlie and sharpen educational technology as a study, namely engineering, science, and the development of the audiovisual education movement. According to him, these three things are related to educational technology.

2.1.1.3 Benefits of Technology in Education

In the modern era of globalization, advancements in technology can be applied to the educational field, enhancing the learning process with increasingly sophisticated tools. The significance of staying updated with technological developments is evident, as technology has been shown to boost students' interest in learning by making presentations more engaging and preventing boredom. However, in countries like Indonesia, many schools have yet to integrate technology into their educational practices.

The integration of technology into education offers several advantages. One key benefit is the expansion of information access. Technology enables students and educators to explore a wider range of resources beyond traditional books and print media. Additionally, technology can enhance students' learning capabilities by providing up-to-date information available online, which can be accessed under the guidance of teachers. It also simplifies the learning process: for instance, teachers can send learning materials or assignments via email, allowing students to complete and submit their work promptly. Furthermore, technology can make learning more engaging and less monotonous, as it presents information in a varied and modern format. Access to comprehensive and current information through advanced technology can increase students' interest in learning.

2.1.2 Educational Technology

Educational Technology as an independent field of science is still relatively new and is always developing in accordance with developments in science, technology and art in overcoming educational and learning problems faced by humans. Educational technology according to AECT (2018:2) translation by Miarso, et al. "It is a complex and integrated process involving people, procedures, ideas,

equipment and organizations to analyze problems, find solutions, implement, evaluate and manage solutions to problems involving all aspects of human learning."

Educational technology is basically born and developed from the thoughts and desires of society (especially educators) so that education and learning (knowledge, skills, as well as values and attitudes) can be provided easily and effectively to students in particular and humans in general. For this reason, various efforts have been made to find alternative possibilities that can be done to facilitate and accelerate the success of education and learning. Initially, people thought about how to get the next generation of children to do what their parents did. However, nowadays it is not enough for people to just think about how so that children can live like their parents, but parents think about how to ensure that children can develop as optimally as possible to be able to face life's increasingly difficult challenges. Learning is no longer just passing on knowledge, skills, values and attitudes to students, but how to provide various knowledge and skills that can be developed to face these challenges. Educational technology is required to develop and look for new alternatives so that it becomes easier and more effective for everyone to carry out learning activities, so that children are able to face various possibilities and changes that will occur.

So what exactly is educational technology? To understand this, of course we have to be aware of the pattern of growth and development of technology itself which is becoming more and more advanced and developing rapidly. Likewise, the understanding of educational technology has undergone changes over time.

According to Haryanto (2015:9), the initial year for defining educational technology, which evolved through five iterations, was marked by significant developments. The first definition emerged from the Technological Development Project led by Prof. Dr. Donald P. Ely under the National Education Association in 2015. This definition describes audiovisual communication as a specialized branch of educational theory and practice focused on designing and utilizing messages that direct the learning process. It encompasses activities such as planning, production,

selection, management, and use of system components within the instructional system. The practical aim is to optimize the use of communication methods and media to enhance learning potential. This definition led to the renaming of the Department of Audio Visual Instruction (DAVI) to the Association for Educational Communication and Technology (AECT).

The Commission on Instructional Technology (CIT) (2015:9) also provided a definition of educational technology, emphasizing the aspect of learning technology, which pertains specifically to the practical applications within educational technology. Learning technology is described as media resulting from the communication revolution, designed for educational purposes in addition to traditional tools like teachers, textbooks, and blackboards. Components of learning technology include television, film, overhead projectors, computers, and various hardware and software.

Moreover, learning technology is defined as a systematic approach to designing, implementing, and evaluating the entire teaching and learning process for specific objectives. It is grounded in research on human learning and communication processes, utilizing both human and non-human communication resources to facilitate effective learning.

AECT in (2015:10) defined educational technology as a disciplinary field that seeks to facilitate human learning through the identification, development, organization and systematic use of all learning resources and through the management of all these processes. Through a definition and terminology commission, AECT (2015:10) defined educational technology as a complex and integrated process involving equipment, ideas, procedures, people and organizations to analyze problems, find problem solving, carry out evaluations and manage problem solving. relating to all aspects of learning. With this understanding, AECT seeks to define educational technology as a theory, field and profession. The previous definition does not emphasize educational technology as a theory.

Barbara B. Seels and Rita C. Richey (2015:11) defined educational technology as a theory and practice in the design, development, utilization, management and evaluation of processes and resources for learning. Even though it is simple and short, basically this definition is a very important definition in the development of educational technology, because it makes educational technology a field of endeavor and profession that needs to be supported by theoretical and practical foundations. In addition, this definition refines the area of learning technology activities through theoretical and research studies and seeks to emphasize the existence of processes and products in the application of educational technology. This definition will be used as a benchmark in expanding understanding of educational technology later.

Another definition of educational technology was also stated by AECT in (2015:11). AECT defines educational technology as the study and ethical practice of facilitating learning and improving performance by creating, using/utilizing, and managing appropriate technological processes and sources. From this understanding, it is clear that the main goal is still to facilitate learning so that it can be effective, efficient and interesting and able to improve performance. Apart from that, there is a touch of ethics in using technology in educational practice in an effort to facilitate the educational process and improve educational performance.

Apart from that, from the definition of educational technology according to AECT (2015:12) above, there are several very important elements of this definition. First, the study elements, namely research and reflective practice. Second, there are elements of ethical practice in it so that in practice there is a certain code of ethics that must be implemented. Third, the facilitation element, namely how to make the learning process easier. Fourth, the learning element which means that the formal object is the main problem that must be solved through educational technology. Fifth, performance improvement which means that there must be useful things that can be offered, there must be the best ways to achieve goals, and there must be an improvement process that leads to predictable quality results/products. Sixth, the

performance element which means that performance is the learner's ability to use and apply the new abilities they have acquired, and not only increase knowledge but also increase abilities that can be applied in the real world. Seventh, elements to create (to create) which relate to research, theory and practice in creating learning environments in different settings. Eighth, the element of use is related to theory and practice to bring students into contact with learning conditions and learning resources. Ninth, management which regulates and plans and evaluates as well as controls and guarantees the quality of the implementation of each learning program.

According to the National Center for Programmed Learning United Kingdom (2015:13), as quoted by Munir, educational technology is the application of scientific knowledge about learning and learning conditions to improve the effectiveness and efficiency of teaching and training. Educational technology implements empirical testing techniques to improve learning situations.

In another definition given by educational technology institutions in India, the National Council of Educational Research and Training (2015: 14), educational technology is an efficient arrangement of several learning systems that adapt or adopt various methods, processes and products to serve various educational goals. which have been identified. This includes the systematic identification of educational objectives, recognition of the diversity of learning needs, the context in which learning will take place, and the scope of clauses required for each of these.

From the various definitions above, it can be stated that educational technology is a field of study, theory, tools, disciplines and ethical practices to facilitate and simplify the educational process and also as an integral process in analyzing problems, finding solutions, evaluating and managing solving problems related to all aspects of human learning using various learning resources and equipment that support aspects of learning and education. Thus, in the world of education, technology is used as a process, product and system that is developed to overcome educational problems, namely problems of quality, equity, relevance,

efficiency and productivity, so that to overcome this a special scientific discipline is developed, namely, "Educational Technology".

Educational technology is not just the application of technology in education (the application of various sophisticated equipment in educational activities), but educational technology must examine and examine various aspects, both from the human aspect and from the social and societal aspects, as well as examining the impact of the application of educational technology itself. . Educational technology works systemically and systematically in analyzing problems, looking for alternative solutions, as well as implementing and managing solutions to these problems. In this regard, Miarso (2018:4) provides connotations related to educational technology, as follows:

1. Educational technology is a specialized field of educational science;
2. Educational technology operates in all areas of formal, non-formal and informal education;
3. There are relationships and relationships with other professions or fields that are equal and cooperative;
4. Educational technology moves in the context of society as a whole, because it is interested in utilizing technology to support efforts towards a prosperous life;
5. Educational technology has a unique approach in the form of systematically integrating all development and management functions to find new ways of solving learning problems;
6. Educational technology has a direct influence on curriculum development strategies, instructional patterns and the form of educational institutions, so that it can change the techniques of people who implement it, the content of messages, design and production, as well as the use of learning materials, and evaluation of learning
7. Educational technology does not mean only the use of technological products in the educational sector;

8. Educational technology is a theory about how human learning problems can be identified and solved; And
9. Educational technology is a profession that requires organized efforts from those who develop and apply theories, unique techniques, and practical applications of educational technology.

So, educational technology is a field of science that recommends various alternative solutions to learning and educational problems, both in formal, non-formal and informal education. Educational technology as a field of science cannot stand alone without support from other fields of science to maximize the function of educational technology itself.

2.1.3 Student Learning Interest/Motivation

Teaching and learning is the main activity in schools. A teacher's never-ending hope is that his students succeed in learning. This success is always accompanied by efforts from both teachers and students themselves. A teacher tries various methods in conveying knowledge. The aim of using various methods is so that students do not feel bored and have an interest in the learning process (Benar Sembiring, 2019). Apart from that, teachers also always provide various motivations to arouse students' enthusiasm for learning. Learning activities carried out both at school and at home must be based on desires that arise from within them. If a student has an inner desire to learn, then the student will have a sense of interest in learning. (Sunadi, 2010) The interest in question is interest. Students who have an interest in something, namely learning, will try as hard as possible to achieve the goals of their learning activities. Interest is a feeling of preference and interest in a thing or activity, without anyone telling you to. An interest can be expressed through a statement that shows that students prefer one thing to another (Purwanti, 2012).

Student interest in learning is something that really needs to be considered in the learning process. Because without students' interest in learning, the learning process will not be able to take place optimally. Interest is the initial capital to achieve success in the learning process. With interest, motivation arises from students

to take part in the learning process seriously from start to finish so that good learning outcomes are achieved. According to Slameto (2003), students who are interested in learning are as follows: 1) Have a constant tendency to pay attention to and remember something they have learned continuously; 2) there is a feeling of liking and enjoyment for something that interests him; 3) gain pride and satisfaction in something that is of interest; 4) prefer things that interest him more than other things; and 5) manifested through participation in activities and events. From the opinion above, it can be concluded that the characteristics of interest in learning are having a constant tendency to pay attention to and remembering things continuously, gaining pride and satisfaction in things of interest, participating in learning, and interest in learning is influenced by culture. When students have an interest in learning, students will always actively participate in learning and will provide good achievements in learning achievement. Interests are closely related to goals. Someone who has a high interest will really try to achieve the goals they want. Student interest in learning is a force that will encourage students to learn. Students' learning interests differ from one another (Flora Siagian, 2015).

For teenagers attending high school, interest in learning is a factor that needs special attention. Moreover, there are many things that are considered more interesting than learning activities, many factors influence students' interest in learning. Students who have an interest in learning should show enthusiasm when participating in learning by listening to the teacher's explanation and taking notes on the material provided, focusing on learning and not thinking about things that are not related to learning, having a feeling of enjoyment towards certain lessons so that there is no feeling of boredom. and forced to learn, always showing high enthusiasm, such as during discussions, always actively asking and answering questions from the teacher and not delaying the tasks given by the teacher. (Slameto, 2010). Students' interest in learning can also be influenced by the use of information technology. The use of information technology in schools has many benefits in the learning process, because with information technology, students can see the latest information and

phenomena that are occurring at the moment which are then connected to the subject matter, students can also use information technology as a medium in learning. convey information so that students become motivated to learn and the teaching and learning process is not monotonous. The use of information technology referred to in this research is gadgets. The development of information technology, especially gadgets, has had a positive impact on students in increasing students' interest in learning. The positive impact of using gadgets is that it makes it easier to search for information and communication and makes students less technologically illiterate.

Interest in learning is an acceptance of a relationship between oneself and something outside oneself. Someone who has an interest in a particular subject tends to pay greater attention to that particular subject (Djamarah Syaiful, 2008). Interest in learning can form certain academic attitudes that are very personal in each student. Therefore, interest in learning must be developed by each student themselves. Other parties only strengthen and grow interests or to maintain interests that someone already has (Leokmono, 1994). Interest in learning is also a driving force that is believed to be effective in the learning process. Therefore, teaching should provide greater opportunities for the development of a student's interests. Interest is closely related to feelings of likes and dislikes, interested or not interested.

According to Slameto (2010), several indicators of interest in learning are: feelings of joy, interest, acceptance and student involvement. From the several definitions put forward regarding the indicators of learning interest mentioned above, this research uses interest indicators, namely: feelings of joy, student involvement, interest, student attention.

In a simple sense, interest is the desire for something without any compulsion. In terms of interest in learning, a student has different factors that influence interest in learning (Mulusi & Wardiyanto, 2013). according to Syah (2003) distinguishes them into three types, namely: a) internal factors are factors from within the student which include two aspects, namely: physiological aspects of physical condition and muscle

tension (tonus) which marks the student's level of physical fitness, this can influence students' enthusiasm and intensity in learning; psychological aspect psychological aspect is an aspect of the student's self which consists of intelligence, student talent, student attitude, student interest, student motivation. b) student external factors. External factors consist of two types, namely social environmental factors and non-social environmental factors.

2.1.4 Quizizz

Technological developments that have developed at this time have given birth to many new innovations so that many educational games have emerged. One educational game that attracts attention is Quizizz. The Quizizz application was discovered by Ankit and Deepak in 2015 when they were teaching remedial mathematics subjects at a school in the city of Bangalore, India. Quizizz app has its headquarters in the cities of Bangalore and Santa Monica California. To date, the Quizizz application has been accessed by more than 10 million in 100 countries, 500 million questions are answered every month, and several schools in America have used this application in their learning activities (Quizizz.com).

Quizizz is familiarly known as an application that can create assessments in the form of online quizzes. As time goes by, Quizizz application managers always develop the various features provided in the application. This is proven by the addition of the main feature, namely Lessons. Thus, now the Quizizz application provides two main features, namely Lessons and Quiz. The Quizizz application is an application that is classified as a game-shaped application which is used for educational purposes, one of which is (Wahyudi & Syahputra Pasaribu, 2015).

Learning using the Quizizz application allows teachers to create interactive presentations. Interactive presentations can be done by collaborating on the two features in the Quizizz application simultaneously. An interactive presentation is a presentation slide display that attracts students' attention so that two-way interaction occurs and students are actively involved in learning. The difference between a regular percentage and an interactive percentage is that a regular percentage only

displays material slides without involving interaction between the teacher and students, but an interactive percentage involves interaction and involvement of the teacher with students in it so that direct feedback occurs (Prasetya, et al, 2021).

Sitorus and Santoso (2022) explained that Quizizz is a game-based learning media that can integrate instruction, discussion and evaluation in one place. Apart from that, the Quizizz platform can be accessed by all teachers throughout the world without being limited by space and time. This means that teachers do not run out of ideas in developing their creative abilities as educators in creating learning that is in line with the goals to be achieved.

Quizizz according to Suhartatik (2020: 6) is an interactive quiz used in classroom learning which can be used for daily assessments, mid-semester assessments and final semester assessments. Another explanation is reinforced by Purba in Marunung & Nurhairani (2020: 298), that the quizizz application is an educational application to make exercises in a class active and fun.

2.1.4.1 Quizziz Learning Media Objectives

According to Pujiasih, the aim of quizizz learning media is to make learning varied, not monotonous, not boring, create new experiences, be fun and make students experiment, discover and interact with their environment, quizizz is used to determine the achievements and evaluate students' abilities in understanding the material that has been taught. delivered by the teacher.

One of the purposes of interesting and interactive learning media that prioritizes cooperation, communication and can create interaction between students is through games which have the characteristics of creating motivation in learning, namely imagination, challenge and curiosity.

2.1.4.2 The Benefits of Quizziz Learning Media

It is hoped that the use of the Quizizz application can become an alternative learning media which prioritizes creativity, time management, and student self-evaluation. Using the Quizizz application as an effective learning

medium can be achieved if teachers pay attention to students' needs, weaknesses and differences. Apart from that, it is also used as an evaluation to measure student understanding as long as students receive material that has been taught by learning media that uses the educational game-based Quizizz. use it as a learning evaluation medium. Learning activities in class can become boring activities for students if learning evaluation is carried out with text and also read by the teacher. Teachers can use evaluation media by utilizing varied learning media to make it more interesting for students.

2.1.4.3 Quizziz Learning Media Function

The function of learning media Levie & Lentz in Arsyad stated that learning media consists of four functions, namely:

a. Attention Function The function of visual media is core, namely attracting and directing students' attention to concentrate on lesson content related to the visual meaning displayed or accompanying the text of the lesson material. Often at the beginning of the lesson students are not interested in the subject matter or the subject is one of the subjects they don't like so they don't pay attention.

b. Affective Function The affective function of visual media can be seen from students' level of enjoyment when learning (or reading) text with images. Visual images or symbols can arouse students' emotions and attitudes, for example information regarding social or racial issues.

c. Cognitive Function The cognitive function of visual media can be seen from research findings which reveal that visual symbols or images facilitate the achievement of goals to understand and remember the information or messages contained in the images.

d. Compensatory Function The compensatory function of learning media can be seen from the research results that visual media which provide context for understanding texts helps students who are weak in reading to organize information in the text and recall it. In other words, learning media functions to accommodate students who are weak and slow to accept and understand lesson content presented with text or presented verbally.

2.2 Relevan Research

Hartati (2021) in her research entitled :"Pengembangan aplikasi quizziz terhadap motivasi belajar siswa kelas XII IPA MAN TanjungPinang". This study aims to see the effect of using the Quizizz application on students' motivation . This research was an experimental study with a pre-experimental design. The population in this study were all students of class XI IPA MAN Tanjungpinang. The sampling technique used a total sampling technique where the entire population was sampled so that the research sample amounted to 56 students who were grouped into control and experimental groups. The research instruments used in this study were questionnaire instruments, to obtain data on student responses to motivation after using quizizz and learning implementation observation sheet using quizizz, to obtain learning implementation data. Based on the results of the comparative analysis, it is known There is a significant effect on the use of the Quizizz application on students' learning motivation as indicated by the sig value. (2-tailed) 0.002 < 0.05. Quizizz can be an alternative learning media to support the learning process that can generate interest, activity, motivation and student learning outcomes.

Jong and Agnes (2023) in their research entitled: "Pengembangan aplikasi quizziz untuk meningkatkan motivasi belajar siswa". This study aims to develop and determine the utilization of the Quizizz application in learning and see what things increase student learning motivation. Through observations and interviews with class VIIIA students at SMP Negeri 8 Salatiga, the benefits of using the Quizizz

application and what things increase student motivation have been found. The results show that the use of Quizizz increases student engagement in learning through engaging interactive quizzes. The diverse features provided by Quizizz enrich students' learning experience with the use of images, videos and audio. In addition, the time limit in answering quiz questions encourages students to think fast and make decisions in a short period of time. Instant feedback after completing the quiz allows students to evaluate their understanding and correct weaknesses. The use of Quizizz increases students' learning motivation through success in quizzes and rewards in learning. Overall, the use of the Quizizz app creates a conducive learning environment and fulfills students' learning motivation factors, both intrinsic and extrinsic. This research confirms that Quizizz can be an effective learning tool in improving students' overall motivation and learning outcomes.

Nur Zamidar (2022) in her research entitled: "Pengembangan media pembelajaran quizziz terhadap minat belajar siswa di SMA N. 4 Banda Aceh". Based of the research that has been carried out, It can be concluded that several things include the following:

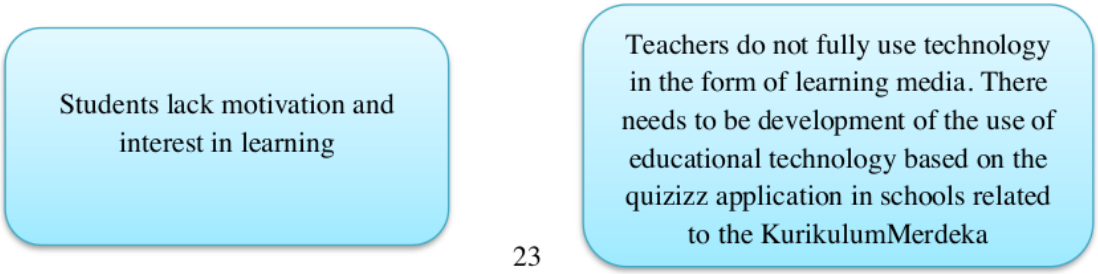
1. In general, Media Quizizz provides deep benefits Economics learning.
2. Quizizz media is used as learning media, because of its use Quizizz in the teaching and learning process can arouse desire and energy student competitiveness, motivation and stimulating teaching and learning activities, besides that Quizizz can also help students to make understanding easier lesson material and can help teachers in evaluating results student learning
3. The advantages of Media Quizizz as a learning medium can be said superior because with this media application learning becomes more effective and efficient, making the learning process better interesting, the student learning process becomes more interactive, saves time, motivates Student learning can be improved, and the learning process can occur anywhere and anytime and can improve the quality of learning by Good.

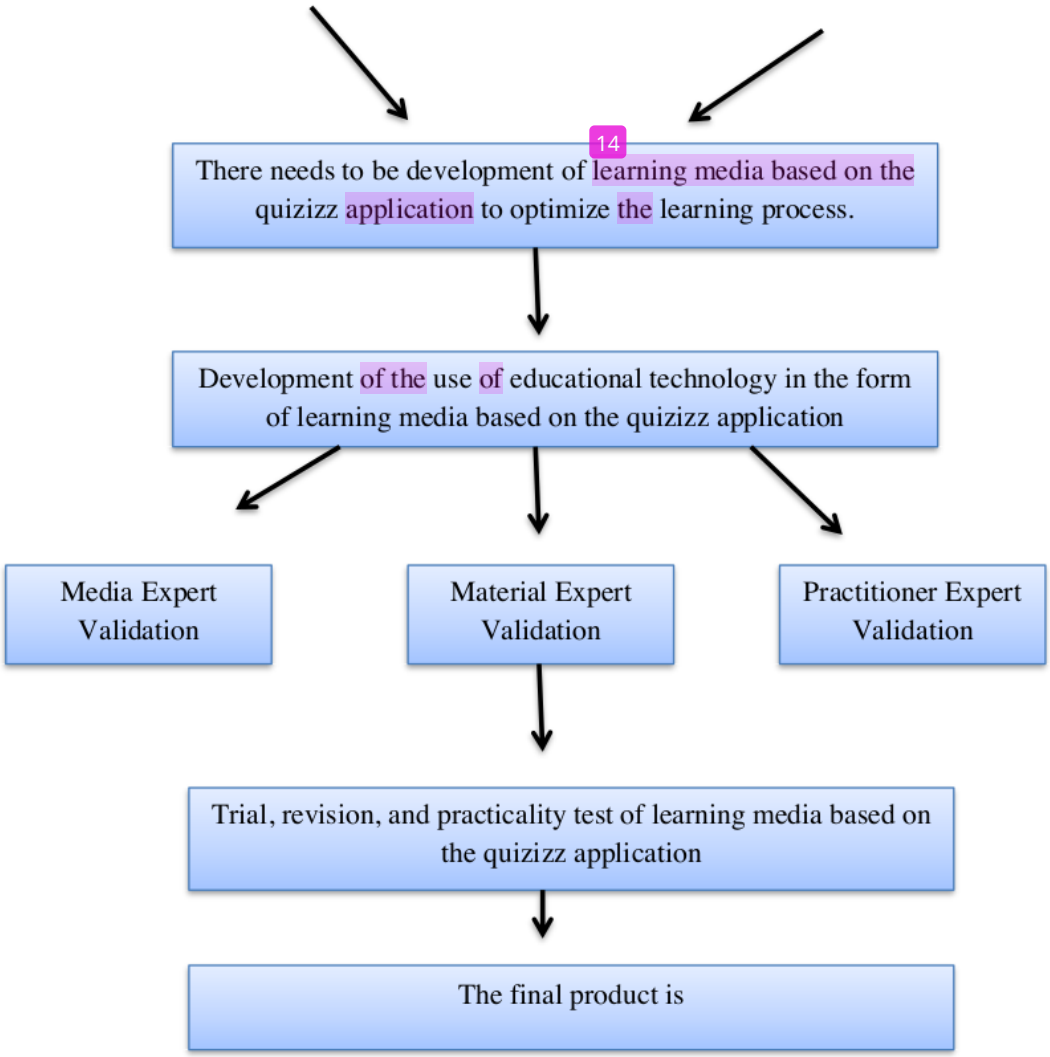
2.3 Conceptual Framework

World developments are increasing day by day, causing drastic changes, both in human lifestyles and daily lifestyles. This is caused by technological developments that are very widespread among society. Technological progress is something that we can avoid, because this progress follows the path of progress in the field of science (Zakiyah, 2018). Many technological innovations have been created, this aims to make it easier for humans to carry out various forms of activities and work. One technology that many people have benefited from is information technology. One technology that is classified as information technology is mobile phones. Wherever we are, ninety-eight of the population of a country already has this tool. We can use this as proof that technology is embedded in various aspects of life, and has even become a necessity today. After studying the influence of technology on human life in general, researchers will now try to look at the influence of technology in a narrow scope or more specifically in one area. In this case, researchers put education in the spotlight, whether in education technology has a good influence or even the opposite.

One of the learning media that utilizes computer performance, or more precisely, technology-based, is a learning application that has currently succeeded in attracting the hearts of students, namely the Quizizz application. The advantages of the Quizizz application for making tests are that there is interesting music which makes students more relaxed and relaxed when taking the exam, there are bonuses given to questions, questions that are answered incorrectly are given the opportunity to repeat the answer again, and the Quizizz application does not need to be downloaded and You can just log in via Google. Behind these advantages, there are disadvantages to this application, including that the opportunities provided cannot be limited so it is difficult to determine the initial results obtained by students, then answer keys are also provided, making it possible for cheating to occur. Based on the background above, researchers are interested in raising the title Development of the Use of Educational Technology Based on the Quizizz Application in in Increasing Student Interest in Learning.

Conceptual framework





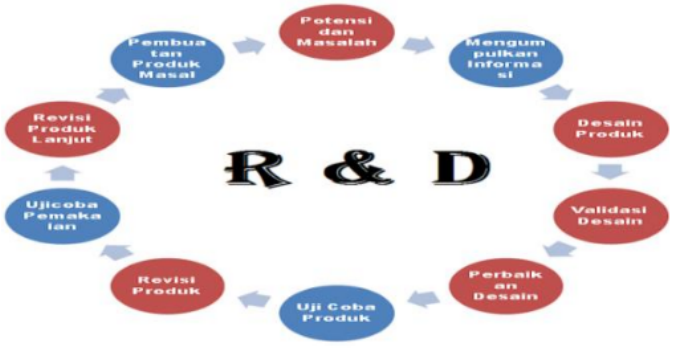
CHAPTER III
RESEARCH METHOD

3.1 Research and Development Method

This study employs a research and development approach, as defined by Sugiyono (2019: 297), which involves creating and evaluating products to assess their effectiveness. The primary objective of this research is to enhance student engagement in learning through the application of Quizziz educational technology. According to Borg and Gall, as cited in Sugiyono (2019), "

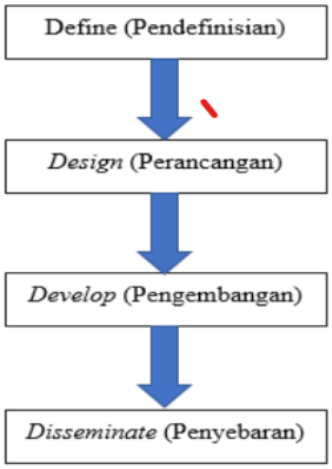
> *"Research and development (R&D) is a process aimed at creating and validating educational products. This process, often called the R&D cycle, involves reviewing relevant research, designing products based on these insights, testing them in their intended environments, and making revisions to address any issues identified during testing. In more thorough R&D programs, this cycle is repeated until the product successfully achieves its specific goals based on the field-test results."*"

From the above text, it can be inferred that research and development is a research approach focused on creating a specific product. Generally, the process involves stages such as product design, development, and evaluation.



Picture 3.1 Rnd steps in general

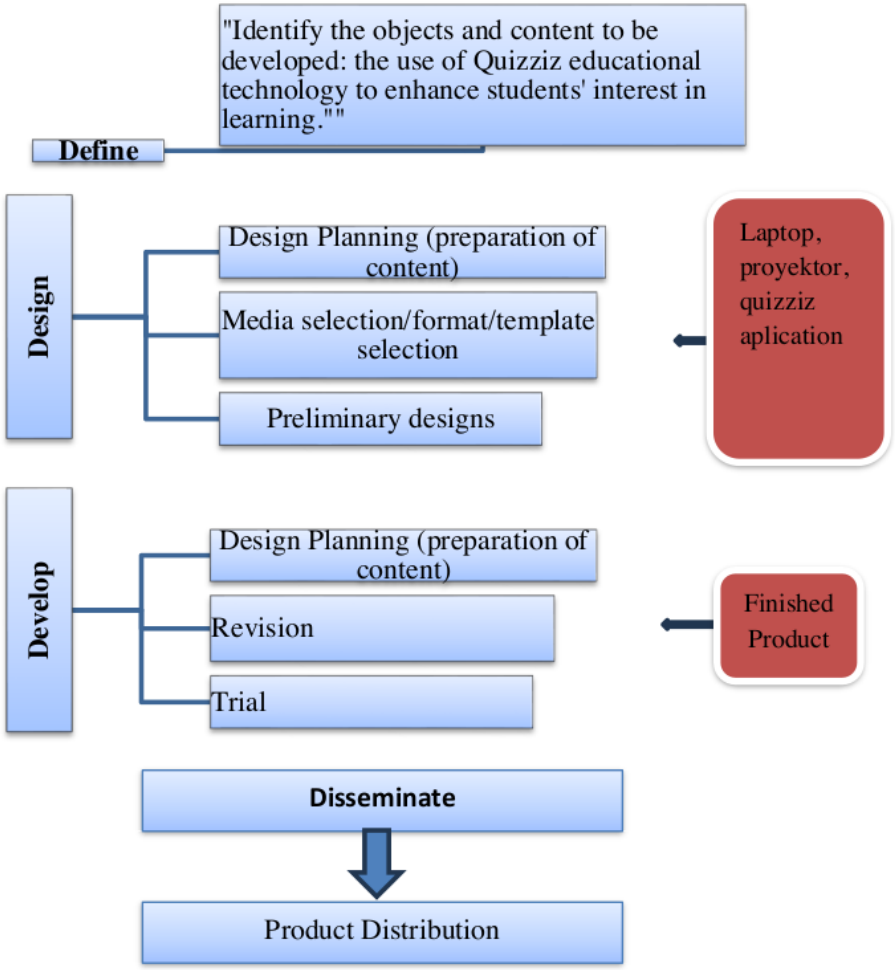
"This research employs a 4D (four-D) development model, which includes four stages: define, design, develop, and disseminate. This model was introduced by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel (1974: 5). The main advantage of the 4D model is its simplicity, which allows for relatively quick implementation. However, a limitation of the 4D model is that it only covers up to the dissemination stage and lacks an evaluation phase.".



Picture 3.1 4D Model development steps

3.2 Procedure of Development

Before beginning research and development, researchers need to establish the procedures or steps for the development process. In this case, the research on using the Quizziz educational technology employs a 4D model. This model involves four key stages: defining, designing, developing, and disseminating. The following outlines how the researchers applied the 4D model:



"According to the image above, the process for creating a 4D model (four-dimensional) as outlined by Thiagarajan can be summarized as follows:":

1. **Define**

At this stage, issues, shortcomings, obstacles, or conditions are identified, which will serve as the basis for product development. This process includes observing and interviewing English teachers in schools. Researchers are also expected to collect detailed information about students and materials to refine

initial ideas and assist in the creation of the product. The steps involved in this defining stage are as follows :

1. **Needs analysis:**
   a. Determining the particular needs and preferences of students and technology Identifying the specific needs and preferences of students and technology
   b. Achieving a thorough understanding of students' language proficiency levels
   c. Acquiring a comprehensive understanding of students' language proficiency levels
   d. Identifying students' interests
   e. Establishing clear learning goals and objectives

Following the preliminary research, researchers identified issues within the Class XII curriculum at SMK Negeri 1 Sitolu Ori. Students faced difficulties with certain materials, especially Descriptive text, due to a lack of motivation and interest, which was further exacerbated by the minimal use of technology in the learning process. Consequently, students frequently experienced boredom and disengagement. To address these challenges, it is expected that integrating technology through the Quizizz application could offer a potential solution.

2. **Design**

At this stage, the design and planning of the product development will be carried out. This phase encompasses four essential steps.

1. The first step in developing the product is preparing the content material.
2. Media selection entails choosing resources that align with the objectives of learning English. In this study, laptops and

projectors were selected to boost interest, motivation, character development, and overall effectiveness in the learning process.

3. Format selection involves choosing a format that suits the content material. This process ensures that the presentation style is compatible with the selected media. The goal is to design content effectively, including the creation of materials, images, videos, and text, while incorporating educational technology through the Quizizz application.
4. Initial design involves preparing the content and media before conducting trials. According to Thiagarajan (1974:7), "initial design refers to presenting key instructions using suitable media and in the correct sequence."

Here is the initial product planning.:

1. Preliminary screen display
2. Material content
3. Activities and quiz in the final section

3. Develop

This stage encompasses the product development process, which involves several steps: (a) expert validation and subsequent revisions, and (b) developmental testing.

a. Expert Validation

Expert validation is a technique used to evaluate the effectiveness of a product design during its development. This assessment is carried out by specialists in their respective fields, who offer recommendations for improving the design and use of the Quizizz application. The validation team consists of media experts, material

experts, and practitioners. Their feedback is utilized to refine the module to better address user needs.

b. Development Testing

Development testing involves assessing the product design with the intended target audience. During this phase of the learning media development process, both the content and readability of the media are tested with input from qualified experts involved in the design validation. Students then interact with one of the learning media tools. Feedback from these tests is used to make necessary adjustments to ensure the media effectively meets user needs. To evaluate the impact of the media on learning outcomes, this process may also include administering practice questions related to the material covered.

a. Small Group Trial

This stage is intended to enable students to assess the relevance of the product. It evaluates whether the educational technology based on the Quizizz application meets quality standards. Ten students from the target group participate in this evaluation. The purpose of this activity is to provide training for the students.

b. Product Relevance

This development process involves feedback from educators and students who assess the Quizizz application learning media as both useful and engaging for instructional purposes. If the product does not meet expectations, it will need additional refinement and evaluation to ensure it effectively supports classroom learning.

c. Large Group Trial

This step is carried out after evaluating the product to observe student reactions to the learning media. The research was conducted with a class of 20 students. Testing with larger groups involves having students complete assessments to evaluate the final phase of product development.

4. Disseminate

After all trials are completed and the instruments have been revised, the final stage is dissemination. At this point, the Quizizz application-based learning media will be produced or made available for use by students in teaching and learning activities. Dissemination includes introducing the use of the learning media through classroom instruction. The goal is to collect responses and feedback on the developed learning media. If the feedback from users is positive, the media will be further refined for use in future educational processes.

3.3 Setting and schedule of the Research

The research took place from July 22 to August 22, 2024. The research was conducted at SMK Negeri 1 Sitolu Ori, located in Hili Salo'o Village, Sitolu Ori sub-district, North Nias Regency, North Sumatra, Indonesia. The study was carried out from July 22 to August 22, 2024.

3.4 Test Subject

The subjects of this research were students from SMA Negeri 1 Sitolu Ori. Testing took place during classroom instruction, involving a total of 20 students. Additionally, testing was conducted in smaller groups of 10 students as well as larger groups of 20 students. The tests were administered directly during class sessions, with the variable being the students' responses.

3.5 Data Types and Data Sources

In research and development, both quantitative and qualitative data are utilized. Qualitative data were gathered from recommendations and evaluations provided by media experts, language experts, material experts, teachers, and students at SMK Negeri 1 Sitolu Ori. Conversely, quantitative data were derived from the analysis of completed questionnaires. The data sources for this development research include lecturers serving as media experts, English teachers as material and practitioner experts, and students at SMK Negeri 1 Sitolu Ori as subjects for practical testing.

3.6 Instrument of the Research

Research instruments are tools employed to measure and collect data during a research activity. As noted by Muslihin et al. (2022), these instruments are used to gather data, evaluate variables for description and integration, or test hypotheses. In this study, the instruments comprised observations through interviews, questionnaires for expert validation and practicality testing, and documentation of activities.

According to Monday (2019), an interview is a method used to gather information and facts from individuals. Thus, interviews function as a tool for data collection. Additionally, the interview sheets, which include questions prepared by the researcher, are used to interview the English teacher at SMK Negeri 1 Sitolu Ori. This process assists the researcher in collecting data.

According to Arikunto, as cited in Muna (2019: 31), a survey consists of a series of questions on a specific topic administered to individuals or groups to gather information. This survey uses various types of primary data, media, materials, language, and practitioners. The content within the Quizizz application learning media is carefully adapted from multiple sources and assessed using a Likert scale. Respondents complete the local wisdom questionnaire by marking (✔) their selected answer choices. The four response options are: 1) Not Eligible, 2) Less Eligible, 3) Eligible, and 4) Very Eligible (for respondent validation). For assessing practicality and student comprehension, the four options are: 1) Not Eligible, 2) Quite Eligible, 3) Eligible, and 4) Very Eligible.

1. Material Expert Instrument Grid

The material measurement grid is crucial for evaluating the content progress within the Quizizz application. Below is the grid used for assessing the material.

Table 3.1 Material Expert Instrument Grid

No	Aspect	Indicator	No. Item
1	Material	a. Clarity of the educational materials	1
		b. alignment of learning materials with educational objectives	2
		c. The material in the learning media is presented in a cohesive manner.	3
		d. alignment of the material with core competencies	4
		e. Completeness of the content included in the learning media	5
2	Language	a. Conformity of language with Indonesian language rules	6
		b. The sentences used are easy to understand and comprehend.	7
		c. The communicative nature of the language used	8
		d. Language level with students' cognitive	9
		e. The effectiveness of the sentences used	10

2. Media Expert Instrument Grid

The media validation instrument is used to assess the relevance and effectiveness of the media for English learning materials based on the Quizizz application. Below is the grid for analyzing the media.:

Table 3.2 Media Expert Instrument Grid

No	Aspek	Indicator	No. Item
1	Design	a. According to student characteristics	1
		b. have an attraction	2
		c. The appearance of the features on the learning media makes it easier for users	3
2	Visual	a. The selected image can represent the material	4
		b. Suitability of question selection	5
		c. The attractiveness of background colors, images and animations	6
		d. Time speed for each question	7
3	Audio	a. Sound rhythm	8
		b. Background sound compatibility	9
4	Typography	a. Text type selection	10
		b. Accuracy of text size	11
5	Using	a. Learning media can be used as independent teaching materials	12
		b. Number of questions given	13
		c. Ease of using media on various devices	14
		d. Media makes it easier for teachers to teach	15

3. Practition Instrument Validation Grid

A practitioner validation instrument is used to assess the effectiveness of the Quizizz app in increasing student interest in learning. Below is the grid for the practitioner expert evaluation:

Table 3.3 Practition Instrument Validation Grid

No	Aspect	Indicator	No. Item
1	Material	Suitability of materials to learning objectives	1
		Accuracy of material in learning media	2
		Suitability of images to learning materials	3
2	Language	Suitability of language to the level of	4

		development of students' thinking	
3	Appearance	Suitability of learning media to student characteristics	5
		The level of difficulty of questions with the development of students' thinking	6
		Ease of use of learning media	7
		Letters/fonts in learning media are easy to read	8
		Instructions for using learning media	9
		Display of questions and answers on learning media	10

4. Student Response Instrument Grid

The student practicality questionnaire was utilized to assess whether the developed Quizizz application technology was considered practical for students to use during classroom learning. Below is the grid for the student practicality assessment instrument:

Table 3.4 Student Response Instrument Grid

No	Indicator	No. butir
1	Ease of understanding learning media	1
2	Ease of understanding Descriptive Text material in learning media	2
3	Suitability of images/illustration photos in learning media	3
4	The attraction of learning media	4
5	Learning media for students' curiosity	5
6	Learning media for student motivation	6
7	Ease of understanding the material if the media is used in other lesson materials	7
8	A sense of enthusiasm for the use of learning media	8
9	Feeling bored with using learning media	9
10	Sound and images to the material being studied	10

3.7 Data Collection Technique

Data collection techniques are essential for gathering data and information. In this research, the methods employed included interviews with the English teacher, validation by a team of media, material, and language experts, and documentation of activities. Additionally, a practicality questionnaire was administered to practitioners (English teachers and students). According to Arikunto, as cited in Muna (2019: 31), a questionnaire consists of a series of questions on a specific topic distributed to individuals or groups to collect information. The researchers used the following data collection techniques for this study:

1. **Interview Activity**

   Interviews with English teachers were conducted initially to identify the issues encountered by students and teachers regarding the teaching materials used in the learning process. This provided the preliminary research data.

2. **Media Validation**

   Media validation is used to assess the validity of the learning media utilized for English teaching materials by presenting a media validation sheet to a validator (media expert).

3. **Material Validation**

   Material validation was employed to evaluate the validity of the content based on the Quizizz application by providing a material validation sheet to a validator (material expert).

4. **Practition Validation**

   Practitioner validation is employed to evaluate whether the

practices in the Quizizz application-based learning media are suitable by providing a validation sheet to practitioner experts.

Validation was conducted by field experts to assess the appropriateness of the Quizizz application-based learning media for teaching descriptive texts. Each validator provided feedback on the effectiveness of the Quizizz application in this context.

5. Students Practically

The student practicality questionnaire is designed to assess whether the Quizizz application-based learning media has been effectively utilized in the classroom. This is achieved by administering the practicality questionnaire to the students.

3.8 Data Analysis Technique

According to Muhadjir Rijali (2018), data analysis is crucial for researchers to systematically examine and organize information from observations, intelligence, and other sources, ensuring that the findings are free from personal bias. In this study, both qualitative and quantitative data were gathered and analyzed. Qualitative data consisted of suggestions, criticisms, comments, and written evaluations, offering detailed descriptions. Quantitative data was processed using various formulas to ensure clarity in presentation. This analytical approach involves four main steps: data collection, data reduction, data display, and drawing conclusions, followed by interpretation.

a. Data Collection

Data collection involves several stages. Initially, information is obtained through field observations. Field notes are categorized into two types: descriptive and reflective. Descriptive notes provide objective

records of what the researcher observes, hears, and sees, without personal interpretation or opinion. In contrast, reflective notes include the researcher's opinions, comments, and insights about the findings. These notes form the basis for the data collection plan for subsequent steps. Additionally, data collection involves expert validation forms. This data is gathered by evaluating aspects of language, content, and validation forms, with scores assigned based on observations and analyses..

b. Data Reduction

After data collection, data reduction is used to identify the most relevant and detailed information, concentrating on data that aids in problem-solving, discovery, and addressing research questions. This process includes clarifying, summarizing, and systematically explaining the key aspects and significance of the findings. Additionally, data that is unrelated to the research issue is discarded, which helps streamline the process and allows the researcher to draw clear and focused conclusions.

c. Data Display

Data display involves presenting data through text, images, tables, and graphs. Its purpose is to organize and present the data in a way that provides an overview of the current situation.

1. Data Analysis of Validation Results of Teaching Materials

According to Anggia, Roza, & Siregar (2020), the validation of the Quizizz application was assessed based on four aspects: content suitability, presentation, language, and graphics. Data analysis techniques, adapted from Akbar (2017), were used to analyze the validation data as follows.

a. **Calculate the average score of each aspect assessed by equality:**

$$\bar{X} = \frac{\Sigma}{N} \quad (3.1)$$

Information: $\bar{X}$: Average score of assessments by experts

Σ X : Number of scores obtained by experts

N : Number of questions

b. **Validation Questionnaire Data Analysis**

The average value obtained is converted into a criterion-based value to evaluate the suitability of the developed learning media. This conversion process translates the initial qualitative data into scores using the following formula:

$$\boldsymbol{Va} = \frac{\boldsymbol{TSa}}{\boldsymbol{TSh}} \boldsymbol{X}\ \mathbf{100\%} \quad (3.2)$$

$\boldsymbol{Va}$ = Validation score percentage

$\boldsymbol{TSa}$= Total score obtained

$\boldsymbol{TSh}$= Total overall score

This process established categories for assessing the learning media based on the Quizizz application, which aid in determining the validity level and serve as revision material for the developers. The details are outlined in the following table:

Table 3.5 Quality Criteria for Teaching Materials

No	Value	Criteria	Decision
1	81,25 < × = 100	Very Worthy	If all the items in the assessed elements are considered highly suitable and there are no deficiencies in the learning, then they can be utilized as learning media for students.
2	62,25 < × = 81,25	Worthy	If all items are deemed suitable, even if there are minor shortcomings that need to be addressed, the learning media product can still be used with students.
3	43,75 < × = 62,50	Less Worthy	If all the items in the elements are considered inappropriate and there are several or many deficiencies in the product, it requires revision before it can be used as learning media.
4	25,00 < × = 43,75	Unworthy	If each item in the elements is considered inappropriate and the product has deficiencies, it requires justification before it can be used as learning media.

Source: Akbar, 2017

2. Practicality Questionnaire Data Analysis

Arifin (2016: 264) stated that practicality is a criterion for standardization testing. The practicality of learning media employing the Problem-Based Learning (PBL) model can be evaluated through the analysis of feedback from students and teachers. The practicality assessments from both students and teachers are collected in the following manner:

1) Student and teacher response questionnaires are rated as follows: strongly agree (4), agree (3), disagree (2), and strongly disagree (1).
2) Compute the average score for each aspect evaluated by category:

$$\bar{X} = \frac{\Sigma}{N} \qquad (3.3)$$

Information: X: Average score of assessments by practitioner

Σ x : Number of scores obtained by practitioner

N : Number of questions

3) Giving practicality value using the following formula:

$$Practicality\ Level = \frac{Total\ score\ obtained}{Total\ score}\ x\ 100\% \qquad (3.4)$$

Hidayat (2017:56).

4) Match the practicality average with the material practicality criteria teach.

Table 3.6 Practicality Criteria for Learning Media

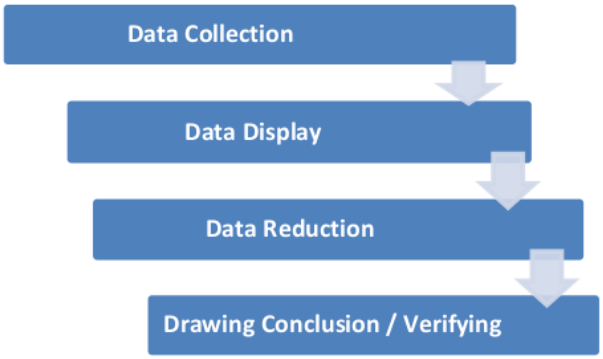
Average Score Interval	Clarification
81% - 100%	Very Practical
61% - 80%	Practical
41% - 60%	Quite Practical

21% - 40%	less practical
0% - 20%	Not Practical

Source: Riduan in Hidayat (2017:56)

d. Conclusion Drawing/Verifying

Drawing conclusions after the data reduction process is the final step. Preliminary conclusions can be drawn once sufficient data has been collected, and final conclusions can be reached once all data has been gathered. In summary, the data analysis process is depicted in the figure below:



Picture 3.4 Miles and Huberman's Model (1992)

To understand the data analysis techniques outlined, researchers have developed a clear and structured procedure, as follows:

1) Applying research instruments
2) Develop learning materials using the Quizizz application.
3) Analyzing the data gathered from the validation process by researchers

4) Determine the feasibility of the learning media by applying a formula to present data numerically, as suggested by Akbar et al., 2017.
5) Applying an evaluation formula based on the feasibility criteria outlined by Akbar (2017).
6) Analyzing data that has already been described in detail.

CHAPTER IV

RESULT AND DISCUSSIONS

4.1 Description of Research Result

This research aims to create a product, specifically learning media based on the Quizizz application. The learning media developed in this study has been deemed highly suitable for use, according to validation results from material experts, media experts, and practitioner experts. The stages involved in designing learning media based on the Quizizz application can be outlined as follows:

4.1.1 Define Results

At this stage, the researcher initially identifies issues related to student needs. Data analysis is conducted to gather information about learning media based on the Quizizz application in relation to students' prior knowledge. Teacher analysis involves observing students and evaluating the expertise of English teachers at SMK Negeri 1 Sitolu Ori. Observations and assessments revealed that the current learning media did not integrate the Quizizz application into students' lives. Additionally, teachers relied solely on textbooks, which led to student boredom and difficulty in understanding the material, thereby hindering the learning process. The findings can be summarized as follows:

1. The specific needs and preferences of students, as well as the context of educational technology—specifically, learning media based on the Quizizz application—within their environment and its relevance to the current curriculum.
2. Developing a thorough understanding of students' language proficiency levels, based on initial assessments, to gauge

their grasp of descriptive texts and the examples they encounter in their surroundings.

3. Gaining insight into students' interests and aspects of learning media involves interviewing students and teachers at school. Based on their feedback, they hope for more engaging learning media with better visualization and material that is genuinely connected to the Quizizz application in their environment.
4. Specific objectives and learning targets indicate that students should be able to identify contexts, communicate simple ideas and opinions, and write texts that align with their material, such as descriptive texts.

Based on these issues, researchers created learning media utilizing the Quizizz application. This learning media addresses classroom learning needs, focusing on descriptive text, and aims to engage students with its appealing features. It includes examples of material and various learning quizzes, integrating language use and development within the Quizizz application to enhance student interest.

4.1.2 Design Results

The design stage follows the delineation stage. During this phase, researchers initiate the product design process, which includes several steps: selecting media, choosing formats, creating initial designs, and preparing validation sheets.

a. Media Selection

Media selection is conducted to enhance its effectiveness in the classroom learning process. For this development, the researcher has chosen laptops and projectors.

The Quizizz application-based learning media will utilize these tools during classroom instruction.

b. Format Selection

During format selection, researchers gather learning materials relevant to the topic of descriptive text to be included in the learning media. They also collect images related to the material from books, information sources, and various other references.

c. Preliminary Design

The initial design of the Quizizz application-based learning media is structured as an application. It consists of several components: the introductory component, which includes the presentation; the core component, which covers the study and discussion of the learning material; and the final component, which features quizzes or final assignments to assess students' understanding of the material. The design of the learning field images in the Quizizz-based learning media can be directly implemented through the application. The subsequent steps for integrating the Quizizz application into the learning process are as follows:

Table 4.1 Stages of Placing the Use of the Quizizz Application in Learning Media

No	Stages	Process
1	Quiz Preparation	Develop Relevant Quizzes: Design quizzes that align with the subject matter and learning objectives. Incorporate a variety of question types (such as multiple choice, fill-in-the-blank, and true/false) to evaluate student comprehension. Utilize Multimedia Features: Include images, videos, or audio to enhance the quiz content and facilitate a clearer explanation of concepts.
2	Implementation in the Classroom	Live Quizzes (Live Games): Engage students in real-time quizzes during class sessions. These can be used as introductory activities, concluding activities, or as a method for immediately assessing their understanding. Assigned Quizzes: Provide quizzes as individual assignments for students to complete at home within a specified time frame. This approach is beneficial for extra practice or formative assessment.
3	Using Quizzes for Review	Review Material: Utilize quizzes to recap material before exams or after covering new topics. These quizzes can assist students in pinpointing areas that require further improvement. Continuous Learning Quizzes: Incorporate quizzes into the continuous learning process by administering regular quizzes to reinforce and consolidate learning.
4	Analysis and Feedback	Review Quiz Results: Analyze the reports from quiz results to evaluate student comprehension and recognize common patterns of mistakes. Provide Feedback: Review the quiz outcomes with students, offer constructive feedback, and use the insights gained to plan subsequent learning activities.
5	Collaboration and Competition	Encourage Healthy Competition: Utilize leaderboards to introduce a competitive aspect that motivates students, while

		emphasizing that the primary objective is learning, not merely competing. Foster Collaboration: Promote group projects where students create their own quizzes. This approach can enhance their grasp of the material and refine their skills in developing relevant questions.
6	Customization and Development	Tailor Quizzes to Specific Needs: Modify the difficulty level and question types to address the diverse needs of students. Refresh and Expand Content: Regularly update quizzes with current information and create new quizzes based on feedback and analysis.

By adhering to these steps, you can effectively utilize the Quizizz application in educational media with well-prepared learning materials, thereby enhancing students' engagement and interest in learning.

d. Preparation of Validation Sheet

Once the Quizizz application-based learning media product was developed, a review and creation of assessment instruments for teaching materials were conducted. The media expert evaluation includes five aspects: design quality, visual elements, audio quality, and typography. The material expert evaluation encompasses two aspects: content and language. The practitioner expert evaluation covers three aspects: content, language, and presentation. The material assessment for the Quizizz application-based learning media utilizes a Likert scale with four criteria: very feasible, feasible, less feasible, and not feasible.

4.1.3 Develop Result

a. Validation Result

At this stage, development is carried out by testing the feasibility of learning media based on the quizizz application that has been verified and validated through validation assessment instruments. The purpose of this stage is to obtain the final results of learning media after going through revisions obtained from the validator according to input and suggestions. If the learning media is not suitable for use, then the teaching material will be validated.

1. Media Validation Result

Media validation by Mr. Arisman Telaumbanua, S.Pd., M.Pd.T as validator in Stage 1. Validation was carried out on August 13 2024, the validator evaluated as the display of learning media. The media validator assessment is as follows:

Table 4.2 Media Validation Result

No	Assessment Aspect	Assessment Indicator	Validation Result
1	Design	d. According to student characteristics	1
		e. have an attraction	2
		f. The appearance of the features on the learning media makes it easier for users	3
2	Visual	e. The selected image can represent the material	4
		f. Suitability of question selection	5
		g. The attractiveness of background colors, images and animations	6
		h. Time speed for each question	7
3	Audio	c. Sound rhythm	8

		d. Background sound compatibility	9
4	Typography	c. Text type selection	10
		d. Accuracy of text size	11
5	Using	e. Learning media can be used as independent teaching materials	12
		f. Number of questions given	13
		g. Ease of using media on various devices	14
		h. Media makes it easier for teachers to teach	15
Total number			
Average			
Percentace			
Category			

2. Material validation result

Material validation takes place in one stage, where the validator is Mrs. Veny Purnama Sari Zai, S.Pd. Validation was carried out on August 15 2024, the validator evaluated Learning media based quizizz aplication. The material validator assessment is as follows:

Table 4.3 Material Validation Result

No	Assessment Aspect	Assessment Indicator	Validation result
1	Material	f. Clarity of learning materials	1
		g. Suitability of learning materials with learning objectives	2
		h. The material in the learning media is packaged in a coherent manner	3
		i. Suitability of material with basic competencies	4
		j. Completeness of the material contained in the learning media	5
2	Language	f. Conformity of language with	6

		Indonesian language rules	
		g. The sentences used are easy to understand and comprehend.	7
		h. The communicative nature of the language used	8
		i. Language level with students' cognitive	9
		j. The effectiveness of the sentences used	10
Total number			
Average			
Percentace			
Category			

3. Practitioner Validation

Language validation is carried out in 1 stage by a validator, namely Mrs. Titian Nidam Hulu, S.Pd. Validation was carried out on August 15 2024

Table 4.4 Practitioner validation result

No	Assessment Aspect	Assessment Indicator	Validation Result
1	Material	Suitability of materials to learning objectives	1
		Accuracy of material in learning media	2
		Suitability of images to learning materials	3
2	Language	Suitability of language to the level of development of students' thinking	4
3	Appearance	Suitability of learning media to student characteristics	5
		The level of difficulty of questions with the development of students' thinking	6
		Ease of use of learning media	7

		Letters/fonts in learning media are easy to read	8
		Instructions for using learning media	9
		Display of questions and answers on learning media	10
Total number			
Average			
Percentace			
Category			

b. Product Revision

Based on the validation results from media experts, material experts and practitioner experts, revisions and improvements are needed in some data that need to be improved in the learning media that has been developed according to the input and suggestions of the validators. The following are revisions and suggestions from each validator:

1) Revision from media experts

After conducting an assessment of the quizizz application-based learning media, the media validator provided suggestions and input, namely that the appearance and design of the quizizz application be made as attractive as possible to attract students' attention, so that students' attention is focused on the material that will be taught using the learning media.

2) Revision from Material Expert

Based on the assessment results obtained from material experts, there are several inputs and suggestions regarding the learning media that have been developed, namely the material contained in the quizizz application learning media must be made in a

larger size so that the writing is clearer for students to see and can improve the bibliography in writing class words.

3) Revison from Practitioner Expert

Input and suggestions from expert practitioner validators regarding learning media based on the quizizz application, namely the use of media is good enough to be used in the learning process so that the media is able to increase interest in learning and students have motivation in participating in learning activities in class.

c. Developmental

1. Small group trials

The first trial of the teaching materials was carried out in class XII-1 on July 26, 2024. A small group trial was carried out on 10 students with the aim of determining the relevance of learning media based on the quizizz application developed by the researcher. Based on the testing of the learning media, the researcher found several obstacles in using the product. The researcher found these obstacles based on student comments and complaints in using the learning media. The researcher found these obstacles in the table below :

the use of the application is less understood how to use it

In the small group trial in class XII-1, totaling 10 students, there were 1 obstacles felt by the students. After knowing the shortcomings of the small group trial, improvements were needed to carry out the trial in large groups.

2. Large Group Trials (Students Practicality)

A large group trial was conducted in class XII-2 of SMK Negeri 1 Sitolu Ori on August 4, 2024. A large group trial involving 20 students used independent learning materials to test students' practicality of the quizizz application-based learning media that had been developed. The large group trial was conducted after completing the product according to the validator's instructions and after a small group trial. The learning materials in the quizizz application-based learning media were used well for the large group trial. This activity was carried out in teaching in class using teaching and learning media that had been developed by the researcher. After carrying out the learning training in class, the researcher created practice questions about the material that had been studied using the quizizz application and was immediately answered and worked on in class. after that the researcher distributed other practice questions by sharing them with students via a link and working on the quiz questions at home using their respective smartphones. The questions contain 10 aspects that must be answered by students, including: ease of using quizizz, ease of understanding material using the quizizz application, suitability of images, interestingness of quizizz, student curiosity, student motivation, ease of understanding other material using the quizizz application, student enthusiasm, boredom, and sound and images in the quizizz application.

After being implemented, the researcher assessed how students responded to the development of learning media based on the quizizz application. Responses were measured using a

questionnaire provided by the researcher. The results of the study for the related questionnaire are as follows:

Based on the results of the practicality test in table 4.6 above, by looking at the student responses in the large group test, it is known that the quizizz application-based learning media is classified as very practical with a score of 93.99%. A score of 1.128 was obtained from 20 students from a maximum score of 1.200. A score of 1.128 has an average of 3.76 and an overall practicality level of 93.99% with a very appropriate category so that the quizizz application-based learning media is very practical to use and learn by students in the learning process. It can be seen that the application of quizizz application-based learning media in class XII-2 of SMK Negeri 1 Sitolu Ori is included in the very good category. This can be seen from the data on the number of students who have filled out the questionnaire containing several questions that have been processed and produced by the researcher.

4.2 Disscussion

This section presents a discussion based on research findings. The descriptive results of this content are related to answering the focus of the research problem which aims to develop and test the feasibility of a product in the form of English learning media based on the quizizz application whether the learning media is feasible or not to be used in the learning process. Data were collected using validation sheets and practicality questionnaires.

4.2.1 Descriptive Results of Development and Feasibility Testing of Quizizz Application-Based Learning Media

a. Developing result

This research has succeeded in developing a product, namely a quizizz application-based learning media in the form of a link for class XII students at SMK Negeri 1 Sitolu Ori. The development of this quizizz application-based learning media uses a 4D development model consisting of the stages of formulation, design, development and dissemination. The stages of this 4D model are very easy to understand, easy to arrange and easy to develop. According to Deterding et al. (2011), gamification can increase student motivation and engagement by making learning more interesting. Quizizz uses game elements such as points, leaderboards, and time challenges to increase student participation. Several experiences show the functionality of quizizz application-based learning media, the suitability of the materials and their presentation, the practicality of the language components, the practicality of the media, and the practicality of the teaching materials.

a) *Define*, This stage analyzes problems related to the student's environment. Researchers conduct environmental analysis to obtain information related to learning media in the student's environment, namely learning media based on the quizizz application.

b) *Design*, This stage is the second stage and is a continuation of the define stage. At this stage, the initial product design process has been carried out, starting from selecting media, format, initial design and preparation of proposed validation tests.

c) *Develop*, At this stage, a feasibility test has been carried out on the product that has been designed and validated by media experts, material experts, and practitioner experts and a revision has been made to the product based on input and suggestions from the validator to improve the product. The results of the validation of the learning media by the students are very suitable for use by teachers and students in the learning process in the classroom. The practicality test of the learning media has also been carried out by distributing questionnaires to English teachers at SMK Negeri 1 Sitolu Ori who teach in the class. The practicality test of the learning media by students was carried out in two groups, namely a small group consisting of 10 people and a large group consisting of 20 people. The results of the practicality test of the learning media by teachers and students are very practical to use.

d) *Disseminate,* This is the final stage of this development research. Products that have been developed and have passed validation and practicality tests have been given to the schools concerned as a form of distribution of learning media products for them to use in the classroom learning process.

b. Feasibility Test Result

The development of the use of learning media based on the quizizz application was carried out by collecting quantitative and qualitative data. Qualitative data were obtained from the results of interviews with sources, both teachers, students, and the results of evaluations and recommendations of validators. Quantitative data

were obtained from the results of validation studies and surveys of teacher and student responses. This learning media has advantages when used in learning, Keller (2010) argues that interesting technology such as the Quizizz application can increase students' intrinsic motivation by providing an interactive and enjoyable learning experience. Gamification features in Quizizz such as points, leaderboards, and time-based challenges create a competitive learning environment and motivate students to participate more actively. Students as recipients of information respond to the delivery of information by teachers, especially when trying learning media that are appropriate to the student's environment. The learning media developed by researchers has been validated by practitioners, material and media validators.

1. **Media Validation Result**

   Media expert validation was carried out by Mr. Arisman Telaumbanua, S.Pd., M.Pd.T. He said that the quizizz application learning media must use an attractive design, use animated images to make it look attractive and the writing in the media used must be large so that it can be read more clearly. Learning media functions in learning to increase student stimulation in the learning process (Nurrita, 2018:172). According to Elkayani (2017:3) learning media can cause stimulation, which means that learning media has advantages over other media. The learning process in class feels easier when using learning media. Furthermore, the quizizz application-based learning media that is developed must be able to be used practically. Based on the trial results obtained from the media questionnaire validator regarding the quizizz application-based learning media that can be used for the learning process, the learning media obtained

was 100% in terms of the size of the learning media, 95.83% in terms of the form of the learning media cover, 92.85% in terms of the content of the learning media, so that overall the learning media obtained was 95% with a very feasible category.

2. Validation Material Result

Validation by material experts was carried out by Mrs. Veny Purnama Sari Zai, S.Pd. According to her, the developed learning media is suitable for use or ready to be used by teachers and students. The learning media checked by the validator is the suitability of the content with the learning objectives. The content of the learning media includes learning activities, material descriptions, question formats, assignments, exercises and quizzes related to the quizizz application-based learning media that are effectively used as learning outcomes. This is in accordance with Griffin & Nix (2006) who stated that learning media is considered valid if it effectively supports the learning objectives that have been set. In the context of Quizizz, this means that the quizzes created must be in accordance with the competencies and learning objectives to be achieved. The quiz content must be relevant to the applicable curriculum and education standards. Based on the percentage results obtained from the material expert validator regarding the quizizz application-based learning media that can be used for the learning process. As for the aspect of material suitability with KD, the measurement results obtained were 100%, in the aspect of material accuracy, the measurement results obtained were 91.66%, in the aspect of material recency, the measurement results obtained were 93.75%, in the aspect of pre-research

techniques, the measurement results obtained were 100%, in the aspect of pre-research support, the measurement results obtained were 100%, and in the aspect of pre-learning research, the measurement results obtained were 100%. So overall the percentage of fat solubility obtained was 96.66% with a very feasible category.

3. **Practitioner Validation Result**

   Kakaks

Based on the validation results from the three experts above, it can be concluded that the use of learning media based on the quizizz application that has been developed by researchers is very suitable for use in the learning process in schools.

c. Practically Test Result

A small group trial was conducted on 10 students to determine the readability of the quizizz application-based learning media developed by the researcher. Based on the testing of the learning media, the researcher found several obstacles in using the product. The researcher found his own obstacles based on comments and complaints from students in using the learning media, such as several words that were mistyped so that students did not understand the meaning of the words, the writing was unclear, and the images were unclear, inappropriate and unattractive. It would be better if replaced with appropriate ones.

The researcher conducted a large group test on 20 students. The trial was conducted to assess student responses to the quizizz application-based learning media. Student responses to the application of learning media were classified as very practical with a value of 1.128, an average value of 3.74 and an achievement

value of 93.99%. This means that the quizizz application-based learning media is considered very interesting so that students are enthusiastic about learning in class. In accordance with Trinova's opinion (2012:210) enjoyable learning comes from learning that is not boring and in accordance with the environment in which they live. The application of teaching materials based on the quizizz application can increase student enthusiasm for learning.

4.2.2 The Research Finding versus to the Lates Related Research

In line with the previous research above, the results of this study also have similarities regarding the development of the use of educational technology based on the quizizz application. Although the subjects, years, locations, validators, informants, and instruments used are different, the results of the development of learning media based on the quizizz application have similarities, namely that it is very suitable for use as a learning resource for the learning process in schools and of course very practical for use by students and teachers. This is evidenced by the results of the validation of the development of learning media in each of the studies above. The same results also show that learning media based on the quizizz application is very influential in increasing student motivation, character, and intelligence in learning. This study is entitled: "*Development of the Use of Educational Technology Based on the Quizizz Application in Increasing Student Learning Interest at SMK Negeri 1 Sitolu Ori*"

The use of educational technology developed by researchers is considered very appropriate based on the results of validation and practicality tests, and is considered superior compared to the use of previous educational technology. This increase is due to the use of previous media not integrating the quizizz application which should be in line with the current "Independent Curriculum". The use of previous learning media was less varied or rarely used in the classroom, causing students to feel bored in following the learning process. With presentation and visualization, including images and colors also vedios, which are interesting in the learning process, it can motivate students in their learning process. The learning media developed by researchers improves, complements, and develops learning media into more advanced media.

Based on the validation results of experts and educators, this media was developed get very worthy criteria. Linguists give a score of 36 with a score maximum 36, and percentage yield of 100%. The material expert gave a score of 58 with a maximum score of 60, and the percentage value is 96,66%. Media experts provide a score of 57 with a maximum score of 60, and a percentage score of 95%. Educator gives a score of 59 with a maximum score of 65, and a percentage value of 90.8%. Based on small-scale trials, a total score was obtained from 6 respondents amounting to 270 with a maximum score of 330 and a percentage of 81.8%, with very good criteria interesting. Furthermore, the results of large group trials obtained a total score of 16 respondents were 785 with a percentage of 89.20% and entered the very attractive criteria. These data shows that the development of the use of

educational technology based on the quizizz application is very appropriate/worthy of use as a learning medium in the learning process.

4.2.3 The Research Finding Versus Theories

Based on the research finding, it can be concluded that the use of learning media that has been developed based on the quizizz application can increase students' interest in learning in the learning process. Schaffhauser (2016) emphasized that educational technology provides flexibility in accessing learning materials. Quizizz allows students to access quizzes and exercises anytime and anywhere, which supports flexible learning and is in accordance with students' schedules. This learning media helps improve student understanding because it is contextual and relevant to everyday learning, in line with Constructivism and Cognitive theories. Constructivism emphasizes learning by building on previous knowledge and learning, which is facilitated by connecting learning media with the student's environment and culture. Likewise, Cognitive theory supports that learning is more meaningful when new information is meaningful and relevant, attributes found in quizizz application-based learning media.

To effectively integrate the use of learning media into the classroom and beyond, teachers need training tailored to the principles of adult learning outlined in the theory of andragogy. This theory emphasizes that adults, including teachers, learn best when lessons are directly applicable to their work context. Therefore, providing relevant training will enable teachers to effectively adopt and implement teaching materials based on the use of learning media. Challenges such as identifying and collecting valid sources of materials and overcoming traditional teaching methods may arise, highlighting the need for educational reform that is sensitive to social and cultural dynamics. Successful integration of learning media must consider the

social and cultural context of the school, as well as be aligned with the applicable curriculum.

This research shows that the development of learning media based on the quizizz application has many benefits that are in line with modern educational theory. The application of this learning media can improve understanding, critical thinking skills, motivation, and student engagement. However, to achieve optimal results, there needs to be adequate adaptation and training for teachers, as well as support in overcoming the challenges of resource collection and resistance to change.

4.2.4 The Research Finding Implication

The research findings implications of the develloping learning media based quizizz apllication using 4D devellopment modell can be seen from various aspects, including their impact on the learning process, student engagement, teacher professional devellopment, and education policy. Here are some important things:

1. **Implications for the English Learning Process**
   a. **Increased Relevance and Learning Context**
      - Contextualization of Material: Integrating using quizizz application in English teaching materials makes the material more relevant and interesting for students. This helps students relate language learning to their real life.
      - Meaningful Learning: Students understand and remember English vocabulary and structures more easily when the material is taught in a context they are familiar with.

   b. **Innovative Teaching Methods**
      - Communicative Approach: Using learning media based quizizz application encourages the use of a communicative

approach, where students practice English through situations and stories that are rellevant to their environment.

- Locally Based Projects: Teachers can design learning projects that involve research and presentations on aspects of the material in English, which devellop language skills and knowledge.

2. Implication for Student Engagement

a. Increase Motivation and Interest in Learning

- Intrinsic Motivation: Students are more motivated to learn English because the material taught is directly related to their environment and experiences.
- Active Involvement: The use of educational technology based quizizz application increases student participation in class activities because they feel more connected to the material being taught.

3. Implications for Teacher Professional Development

a. Teacher Competency Training and Development

- Special Training: Training programs are needed for English teachers to effectivelly integrate using quizizz application in language learning.
- Competency Devellopment: Teachers get the opportunity to devellop competence and innovative teaching methodologies.

4.2.5 The Research Finding Limitation

In conducting and getting the data in the research, there was some limitation of the research findings. The research findings limitation namelly:

a. In conducting the research, the subject used by researchers were tenth grade students at XII SMK Negeri 1 Sitolu Ori. The different result may be found if the researcher used different subject in the different grade.
b. The learning media devellopeld in this research focus on quizizz application. The different result may be found if the researcher used different learning media that exists in their own place.
c. The devellopment modell used by researchers in this research is the 4D devellopment modell which only consists of 4 stages, namelly define, design, devellop, and disseminate. The differences results may be found when researchers use different devellopment modells due to differences in stages, time management, finances, and others.
d. This research focuses on devellopeng using learning media which is one of the subjects at school. It is hoped that other researchers can devellop learning media for other subject in the future.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Based on the results of the devellopment of the use of educational technology based on quizizz application on descriptive text topics, it can be concluded that:

1. The devellopment of learning media products is carried out using a 4D modell which consists of the define, design, devellop and disseminate stages. The stages in this research have reached the product distribution stage.
2. The validity level of learning media based on quizizz application in class 12 with the theme descriptive text topic was declared very feasible based on the results of material validation,media validation and practitioner validation. The results of the material expert validation obtained results in the very appropriatel category with an averagel of 96.66%. The results from media expert validators were obtained in the very feasible category with an average of 95%. Then the validation results from the practitioner validator were obtained in the very feasible category with an average of 100%.
3. Product trials were carried out in small groups and large groups in class XII of SMK Negeri 1 SitoluOri, North Nias Regency. After carrying out small group trials, continue with large group trials to see the students' responses. The results show a very good category. These product trials are known as practicality tests. The practicality test by teachers and students was declared very practical for use in classroom learning.

5.2 Recommendation

Based on the research results and conclusions, researchers provide several recommendations, namelly as follows:

1. For educators, this learning media based on quizizz application can be used as one of the learning media, that can improve the learning process in the classroom.
2. For students, the use of learning media based on the quizizz application will help students know how to utilize, use learning media properly and correctly. Can be a learning media that suits the needs of students and can be used as a source of independent learning. Can be a learning media that can increase students' interest and motivation in learning.
3. For readers, this thesis will hopefully increase knowedge and learning rellated to the devellopment of using learning media based on quizizz application
4. For future researchers, they can devellop using learning media based on quizizz application with other objects that are more perfect and as interesting as possible so that it can be implemented in learning.

DEVELOPMENT OF THE USE OF EDUCATIONAL TECHNOLOGY BASED ON THE QUIZIZZ APPLICATION IN INCREASING STUDENTS' INTEREST IN LEARNING AT SMK NEGERI 1 SITOLU ORI

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