

## Pengembangan Media Pembelajaran Online Berbasis Scratch

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### ABSTRACT

Problems that are commonly found during the online learning process are uneven internet network access, high quota fees, uneven mastery of science and technology among teachers, and difficulties for parents in assisting children in the online learning process. The development of interactive Visual Media is expected to help students improve their learning outcomes through the use of multimedia. The developed interactive multimedia has the advantage of being easy to operate, students can choose the desired material, using systematic control in learning (Munir, 2008). In addition to the government which does not stop providing solutions to today's educational problems, researchers are also present to assist the government in solving problems regarding limited facilities, infrastructure to support science and technology in schools, namely the use of interactive visual media for online learning based on scratch as a learning solution. In the midst of Covid 19. This research is a research and development (R&D). This development research aims to develop English learning media. The development of learning media in question is scratch-based interactive visual media for learning English at SMK Bina Bersaudara Medan. Scratch product design stage, data analysis stage, and report writing stage. The instrument used in the study was a test. As an exception, scientific research is published in unaccredited national journal.

**Keyword:** *Online Learning Media, Scratch*

### I. Introduction

Implementation of Online Learning is an educational policy in the era of emergency during the Covid 19 Pandemic. The impact of the spread of the Covid 19 virus resulted in the learning process is carried out from home online at the education unit by using learning resources through communication, information and media technology support conceptually has a good purpose. Online learning is done by the teacher through online media such as whatsapp, Google Meet, Google form and the like. However, this learning system needs to be specially designed so that its application is appropriate use. Based on the results of the researchers' observations, it was obtained that online learning considered not effective and maximal when applied to schools whose infrastructure is inadequate. This is because technology-based online learning is carried out by teachers and students requires careful planning, implementation and evaluation.

The implementation of online learning for students requires special attention, especially the infrastructure used, a stable internet network and also self-motivation high during

the independent learning process. Common problems found during the online learning process, namely the uneven access to the internet network, the high cost of quotas, the unequal mastery of science and technology among teachers, and the difficulties of parents in accompanying children in the learning process study online. Several solutions have been provided by the government, one of which is flexibility use of BOS funds to subsidize teacher and student quotas. Besides the government which unceasingly providing solutions to today's educational problems, researchers also present to assist the government in efforts to solve problems regarding limited facilities, science and technology supporting infrastructure in schools, namely the use of Using Scratch-Based Online Learning Interactive Visual Media as a Solution Learning Amid Covid 19.

The development of interactive Visual Media is expected to help students improve learning outcomes through the use of multimedia. The interactive multimedia developed has the advantage of being easy to operate, students can choose desired, using



systematic control in learning (Munir, 2008). according to Azhar (2002) explains that learning media can clarify the presentation messages/information/materials so as to improve the process and learning outcomes as well as facilitate student learning.

## Review of the Literature

### Definition of Scratch

Scratch is a visual programming language developed by the Lifelong Kindergarten research group at the MIT Media Lab. The development of Scratch was supported by funding from the National Science Foundation, Microsoft, Intel Foundation, Nokia, and the MIT Media Lab research consortia (Hansun, 2014: 40). Scratch can be used to create interactive stories, interactive games, and animations, and can be shared with others via the internet. Everyone can join the online community for free via the link (Hansun, 2014).

Sumarno (in Toheri, 2013) states that Scratch has the following advantages:

- a. Scratch has a small size compared to other programming languages.
- b. The interface is very simple and easy to use for children.
- c. It is easier for children to learn programming logic without having to complicate writing
- d. Syntax in programming languages in general.
- e. Scratch helps children create interactive stories, animations and games
- f. Scratch allows anyone to easily combine images, sounds and videos
- g. Without having to have special skills in the field of programming.
- h. Animations can be created, executed and controlled.
- i. Scratch can run on Windows, Linux operating systems

## II. Research Methodology

This research is a research and development (R&D). This development research aims to develop language learning media English. The development of learning media in question is visual media Scratch-based interactive for learning English at SMK Bina Bersaudara Medan.

### 1. Approach

This research uses a quantitative approach method

### 2. Variables and Indicators

The variables that exist in this study are as follows: Independent Variable: Learning Using Scratch on English material Bound Variable: Student's cognitive ability (Improvement of learning outcomes), Ability Psychomotor students (student activities in learning)

### 3. Data Collection and Data Analysis

#### Techniques

##### a. Questionnaire

This study uses an open questionnaire, which is a questionnaire given to students and the English teacher aims to provide opportunities for them to answer in his own words (description).

##### b. Interview

Researchers also use interview techniques. Some things that become focus in the interview, among others, about expectations about a media learning, difficulties in learning English, and other things that related to the advantages and disadvantages of existing media.

##### c. Test

The test is given to class XI who is the subject of research both pretest (before using learning media) and post-test (after using learning media). The form of the test used is in the form of a written test (multiple choice test) and performance test. By using this test, it is hoped that the effect of potential student learning outcomes. The test uses the formula

$$\text{Skor} = \frac{\text{JumlahSkoryangdidapat}}{\text{SkorMaksimal (25)}} \times 100\%$$

The performance test is divided into 2 parts. First, the test performance for academic writing, namely writing essays. Second, the speaking performance test is speaking test in presentation With Classification of Learning Media Validity:

## III. Research Subject

The research subjects in this study were students of Class XI Bina Brothers Vocational High School. The selection of Bina Bersaudara Vocational School as a place of research is due to the support of facilities computer-based that already owned by the SMK. Based on the results of observations researchers to the Bina Bersaudara Vocational school, namely, this school already has adequate facilities support



learning using computer-based media and the teacher's wishes Biology subjects to learn the use of the Scratch program in the process the learning. LCD Projector is available. The sample is part or representative of the population selected (Arikunto, 2006), however, because class XI SMK students only consist of one class, then sampling technique using the census method. The census method is to take the entire population as a sample, which consists of 12 students.

#### 5. Research Procedure

The research procedure includes: Pre-Field Stage, Scratch Product Design Stage, Stagedata analysis, and report writing stage.

#### IV. Result and Discussions

This research activity program has been carried out well at Bina Bersaudara Vocational School. This activity went smoothly as expected with 12 participants from the Medan Brothers Vocational School participated. The participants of the training and development of scratch-based online learning media in learning English for X1 students of Bina Bersaudara Vocational School participated in this activity very actively and showed positive interactions. This can be proven from the results of the training in the form of animated media drafts made by students. The data shows that there are 9 (75%) students who do not understand the development of animation and 3 (25%) students state that they do not know, supported by the fact that 12 (100%) partner students have never received material regarding the development of scratch-based online learning media. So as a result, most of the 10 (83.4%) people have never used scratch-based online learning media, while (8.3%) students have used it very rarely, while 1 (8.3%) students who stated they did not know. This is exacerbated by not supporting school facilities used in developing scratch-based online learning media. It is known from student statements where 5 (41.6%) students stated that there were no supporting facilities, then 5 (41.6) students stated they did not know while 2 (16.8%) stated they had. From the pre test results, it was found that students did not have adequate knowledge and understanding regarding the use and development of scratch-based online learning media. This is motivated by the lack or absence of a forum for students to gain knowledge of learning media

development so that students are less motivated in developing scratch-based online learning media. Based on the results of the questionnaire, it can be concluded that the training and development of scratch-based online learning media for students of Bina Bersaudara vocational school is very useful and motivates students to use technology in the learning process.

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