

ARTICULATE STORYLINE MEDIA DEVELOPMENT OF TARIKH ISLAM LESSON IN MODERN ISLAMIC BOARDING SCHOOL DARUSSALAM GONTOR FOR GIRL

Dian Silvia Rozza, Khozin, M. Nurul Humaidi

Universitas Muhammadiyah Malang
diansilviarozza25@gmail.com
khozin@umm.ac.id
mnhumaidi@umm.ac.id

ABSTRACT

The problem that usually occurs in the learning process is the appearance of boredom dan laziness because the learning model used by the teacher seems monotonous. Teachers can overcome problems related to learning conditions through the use of learning media. This study aims to describe the development procedure and determine the feasibility of Articulate Storyline media in learning Tarikh Islam in Modern Islamic Boarding School Darussalam Gontor 2 Campus For Girls. This study uses a research and development approach with the Borg & Gall model. Data collection techniques with observation, interviews, documentation, and validation. Interviews were conducted with the responsible teacher of Class 1 Intensive. Observations were made in the learning process of the Class 1 Intensive. Documentation in photographs taken as concrete evidence of the learning process. Validation activities are carried out in three steps: preliminary field testing, main field testing, and operational field testing. Preliminary field testing involved a materials expert and a media expert. Main field testing involved ten students of Class 1 Intensive. Operational field testing involved 21 students of Class 1 Intensive. The data analysis techniques used are qualitative descriptive analysis and quantitative descriptive analysis. The result of this study indicates that the media development procedure has been carried out in a detailed and systematic way regarding the ten steps of the Borg & Gall model. The result also shows that the product of Articulate Storyline media development is very feasible when used in the learning process

Keyword: Development, Learning Media, Articulate Storyline, Tarikh Islam.

1. INTRODUCTION

A life that was initially conventional has changed to become modern by involving technology in society, the nation, and the state. The field of education and learning must be connected to the influence of the rapid development of technology and information. As the spearhead of education, this situation requires that students continuously improve their skills through technology in learning. This effort is significant because today's learning can be accessed anytime and anywhere (Arwanda, Irianto, and Andriani 2020; Dewi, Sofya, and Huda 2021; Alqadri, Iriani, and Hamid 2021).

Education strives to give students personal skills that can affect their environment. These unique skills include spirituality, self-control, character-building, and intellectual and emotional skills formed through education. Education that is based on religious values and national culture is an effort that prepares students to be able to face the demands of the times (Triwiyanto, 2021).

Teachers must fulfill their duties and obligations as professional educators in the learning process. This leads to the importance of a teacher's professionalism in training students according to the characteristics, needs, and developments of the times. Teacher professionalism can be marked by an increase in teacher ability and insight, so ideas and innovations in learning are increasing (Basri et al. 2021; Fardila and Arief 2021). The use of technology can increase the potential for teachers to increase innovation and improve learning problems so that the needs of students can be met. However, the technology used must be by the students' teaching materials, conditions, and characteristics.

The use of technology can improve aspects of learning in terms of values, thinking skills, and interest in learning. Technology can facilitate the process of transforming knowledge from teachers to students. The use of technology, such as computer equipment, has an essential role in the learning process (Fatahillah and Mustamir 2021; Astriani and Alfahnum 2020; Wahyuningtyas and Sulasmono 2020). Using technology as a learning medium can create interactive learning and make learning more enjoyable.

The problem that usually occurs in the learning process is the appearance of laziness and boredom because the learning model used by the teacher seems monotonous. Issues related to learning conditions, in essence, can be overcome by teachers using learning media (Furoidah 2020; Sari and Harjono 2021).

The results of the interviews with the teacher of Class 1 Intensive showed that the teacher taught *Tarikh Islam* material using the reading method, questions, and answers (Interview, Mutiara, *Teaching Practice*, May 10, 2022). Results of observations related to

learning conditions show that students feel bored and sleepy when learning occurs (Observation, Rozza, *Student Learning Conditions*, May 10, 2022). Problems with learning conditions can be influenced by the teacher's teaching methods, which are relatively simple and less innovative. Therefore, efforts are needed to minimize the problems of using the media in *Tarikh Islam* lessons.

Tarikh Islam is lessons discussing Islamic history, civilization, and figures from the past. Substantially, the material on *Tarikh Islam* has contributed to students' knowledge, understanding, and proficiency with the *Tarikh Islam* material (Fitri Barokah, Rahminawati, and Mulyani 2021). If the students experience obstacles in learning, then the students cannot know, understand and appreciate the material of the *Tarikh Islam* lessons.

Based on previous research studies, it is known that *Articulate Storyline* is software in a computer program that can be used as a learning media. *Articulate Storyline* can make learning more exciting and can increase students' learning interest. This is because the *Articulate Storyline* feature can be combined with text, images, animation, video, and audio (Safira, Sarifah, and Sekaringtyas 2021; Solecha and Kurniawan 2021). The flash function of the *Articulate Storyline* tool can be used to produce learning animations. *Articulate Storyline* is a simple learning tool that looks as easy as PowerPoint (Darnawati *et al.*, 2019). Therefore, *Articulate Storyline* can be an innovative interactive learning media that is fun for students.

This research develops *Articulate Storyline* media in *Tarikh Islam* learning. This study describes the procedure for developing *Articulate Storyline* media in *Tarikh Islam* learning. Also, this research was conducted to determine whether *Articulate Storyline* development is feasible if it is used in the teaching and learning process. Interestingly, this research is manifested by developmental research that produces *Tarikh Islam* learning products.

2. THEORICAL STUDY

Development

Development means the process, method, and act of developing. Development is an effort to obtain specific products that have passed the testing and validation process. Development in education can be done by finding, developing, and validating a product that will be useful in the teaching and learning process (Samosir and Purwandari 2020; Setyosari 2016; Sugiyono 2017). The development of educational products can be in the form of hardware and software. Hardware products may be in books and modules, while software may be computer programs. However, hardware and software products as learning media must follow proper development procedures (Fransisca and Putri 2019; Hermawan 2019).

Thus, development is an effort to obtain specific products that include design, testing, and validation stages. This stage must be carried out so that the development product can be repaired until it is fit for use according to the expected objectives. Development can be done to obtain products in the form of hardware and software.

Development procedures can be adapted to develop models that experts and scientists have designed. Each model has advantages and disadvantages that must align with the product type to be developed (Setyosari 2016; Yaumi 2018). Therefore, the development procedure is described in the development model steps that have been defined in creating a product.

It can be said that the product being developed is feasible if a formative evaluation is carried out. Formative evaluation is carried out when teaching and learning activities occur to increase learning effectiveness. This activity can be known as a validation activity. Validation activities include the stages that must be passed to develop a product, work, or design that is made with a specific evaluation (Setyosari 2016)

Dick & Carey explained that the formative evaluation process is categorized into three stages. The following are three stages of formative evaluation:

1. Prototype testing involving 1-3 people to get an evaluation of the design product;
2. Small group trials involve 5-8 people to obtain data to be used as consideration for product design reviews;
3. Field trials are actual research conditions involving 15-30 people.

Thus, the feasibility of a product under development can be known after carrying out validation activities. The validation activity is an evaluation stage that must be passed to develop a product. Validation activities are carried out to evaluate a product and improve it to be suitable for learning.

Learning Media

Before talking about learning media, it is necessary to know the design of the media. Design is a framework of shapes, patterns, and motifs. Media design is the arrangement of patterns and designs that are determined in a planned way in a media. Media design can feature images, text, audio, or animation (Ninghardjanti, Dirgatama, and Wirawan 2020; Setyosari 2016; Yaumi 2018).

Thus, media design is an organized design and pattern in media that features illustrations in images, text, sound, and animation. The designs in the media must be well-defined so that the media becomes attractive and focuses on the specified material. It can be a media if the design has been prepared in its entirety and in detail.

Media means tools, media, connectors, and intermediaries. Media is a means of communicating material in print and non-print media. *Learning media* are a tool that facilitates the transformation of knowledge for students. In addition, the media can overcome problems related to interest in learning, learning styles, and learning obstacles (Ammarsyah, Yusran, and Basrul 2019; Fatahillah and Mustamir 2021).

The means will facilitate the learning activities and the knowledge acquisition process to be effective and efficient. The media are used to foster new learning experiences and more real learning experiences, motivating and increasing students' interest in learning (Muntaha Rahmi, Budiman, and Widyaningrum 2019; Pribadi 2017; Solecha and Kurniawan 2021).

The presence of learning media is an essential part of the teaching and learning process. The urgency of learning media is broadly based on four rational reasons (Yaumi 2018). Below are four rational reasons for the urgency of learning media:

1. Improve the quality of learning;
2. The demands of the new paradigm;
3. Market needs;
4. Global vision of education.

Leshin, Pollock, and Reigeluth divide media into five types, namely human-assisted, print, visual, audiovisual, and computer-assisted media (Arsyad 2006). Teachers can use the diversity of available media as an alternative and innovation in learning. Therefore, learning media is a tool that can be used to minimize obstacles in the teaching and learning process. Media that can be used in education, namely human-assisted media, print, visual, audiovisual, and computer equipment. The use of the media must be adapted to the characteristics and needs of the students. The presence of learning media can foster new learning experiences that are more real and interesting and can overcome barriers to learning.

Articulated Storyline

Articulate Storyline is an application in e-learning and software that can be used to produce learning media. Features in *Articulate Storyline* like those of Adobe Flash and Macromedia Flash in animation production. However, *Articulate Storyline* has a simple interface like PowerPoint (Alqadri, Iriani, and Hamid 2021; Dewi, Sofya, and Huda 2021; Oktaviani 2021; Triono 2021). The features of an *Articulate Storyline* can be said to be easy and enjoyable if used as a learning media.

The *Articulate Storyline* app has features like characters, images, movies, and a timeline. *Articulate Storyline* can be published offline or online. This allows users to be creative in the form of a learning management system (LMS), word processing, CD, or personal Web

(Fardila and Arief 2021; Octavia, Surjanti, and Suratman 2021; Sari and Harjono 2021; Yahya, Ummah, and Effendi 2020).

An *articulate Storyline* has several advantages over other media (Dewi, Sofya, and Huda 2021). The following are some of the benefits of the *Articulate Storyline* program:

1. The *Articulate Storyline* feature is similar to Microsoft PowerPoint;
2. Easy to learn if those who are proficient in Microsoft PowerPoint;
3. Support the game-based learning process;
4. An *Articulate Storyline* may contain video, animation, sound, images, and text;
5. Media can be published in the form of desktop computers, web browsers, smartphones, and LMS;
6. The size of the publication file is relatively small, so it is easy to use.

In addition to having advantages, *Articulate Storyline* has several drawbacks (Dewi, Sofya, and Huda 2021). The following are some of the drawbacks of the *Articulate Storyline* program.

1. The product display on the smartphone cannot be full screen, but the product content is still acceptable;
2. The use of background sound can only be executed on slides with narration or audio. However, this can be circumvented by adding narration or audio to be displayed below.

The *Articulate Storyline* menu tab includes: (1) Start Menu, which contains various ribbon tools that are directly related to worksheets; (2) Insert Menu, used to insert objects in the spreadsheet; (3) Slide menu, which has functions directly related to the slides; (4) Design of menus, has a function directly related to the design of slides; (5) Animation Menu, has functions directly related to animated objects; (6) Menu transitions, has functions directly related to object transitions; (7) View Menu, has functions directly related to screen configuration; (8) Help Menu, has facilities that can assist with problems encountered; (9) File menu, there are basic commands and sections to adjust the worksheet settings (Dewi, Sofya, and Huda 2021).

The *Articulate Storyline* is a computing device that can be used as a learning media. Slides in *Articulate Storyline* can be combined with video, animation, sound, images, text, and flash features. Therefore, *Articulate Storyline* is easy for teachers to learn and use as a variation and innovation of engaging and interactive learning media.

Tarikh Islam

The term *Tarikh Islam* comes from Arabic in the form of historical or period provisions. In terms of *Tarikh Islam*, it is defined as a condition that explains the condition of people that

occurred in the past. *Tarikh Islam* are a series of past events involving Islam and are used as a reference in the present (Mahmudi and Shofro 2020; Nugraheni 2020).

Tarikh Islam are lessons that explain the origins, the existence of Islam, the condition of Islam, and Islamic figures. Substantially, the *Tarikh Islam* material has an influencing role in the motivation of students so that they can recognize, understand and live the *Tarikh Islam* material. Learning the *Tarikh Islam* is to broaden horizons so students can understand the value of teaching materials and form better student attitudes (Fitri Barokah, Rahminawati, and Mulyani 2021).

Badri proposed four goals for studying *Tarikh Islam* in Modern Islamic Boarding School Darussalam Gontor (Mahmudi and Shofro 2020). The following are the four objectives of studying *Tarikh Islam* in Modern Islamic Boarding School Darussalam Gontor:

1. So that the students know the causes of the glory and the backwardness of a nation that adheres to Islam;
2. For students to know the figures involved in the spread of Islamic teachings;
3. For the students to know the condition of the society in the time of the Prophet, the companions of him and the age of Islamic sovereignty;
4. For students to gain wisdom for the glory and underdevelopment that occurred in the past as a provision of knowledge in the future.

Therefore, the *Tarikh Islam* is a series of events in the past involving Islam and is used as a reference point for Islam in the present. *Tarikh Islam* explain Islamic civilization and figures in depth. The lesson aims to build a sense of love for Islam. The feeling of love grows by knowing the magnitude of the struggle of the Islamic leaders who must be used as role models and form better student personalities.

3. METHOD

Approach and Type of Research

This study uses a research and development approach. Research and development is used to obtain certain products. R&D implementation has several methods that need to be implemented, namely descriptive, evaluative, and experimental (Nugraheni 2020; Sugiyono 2017). Development in education can be done by finding, developing, and validating a product that will be useful in the teaching and learning process (Samosir and Purwandari 2020; Setyosari 2016; Sugiyono 2017).

Research and development lead to efforts to develop and validate products. Development efforts are carried out based on development procedures that experts and scientists have created. Validation efforts were made to determine the feasibility of the product

being developed. The development that is designed is obtained from the *Tarikh Islam* textbooks in Class 1 Intensive.

The research and development model was created by Borg & Gall. The Borg & Gall model was chosen because the development steps are detailed and easy to understand. Furthermore, there have been many previous studies using the Borg & Gall model for this model to be recognized for its validity (Setyosari 2016). The following is the development procedure with the Borg & Gall model:

1. Research and Information Collecting

The analysis of learning needs is the first stage that is carried out to design the development of the product. Initial research was carried out through observation, interviews, documentation, and a literature review. Observations, documentation, and interviews were carried out to obtain data according to the actual conditions of the field. The literature review becomes a support and basis for carrying out research for development.

2. Planning

The formulation of research for development objectives becomes part of the planning stage. It is necessary to establish research objectives so that development has a clear direction. Therefore, products can be developed and tested to achieve specific research objectives.

3. Develop Preliminary of Product

This stage is accomplished by preparing *Articulate Storyline* media layouts. The media design refers to material from the *Tarikh Islam* textbook in Class 1 Intensive. The media design is organized in such a way in the *Articulate Storyline* software to produce a product to be tested.

4. Preliminary Field Testing

The initial tests were conducted with the analysis of media and material experts. Trials were implemented to obtain initial evaluation data as a reference for product improvement.

5. Main Product Revision

Product reviews are done if there is expert information and instructions about the product. Revisions were made to make the development product suitable for field trials.

6. Main Field Testing

Field trials were carried out on a small scale. Field tests were applied to obtain data for consideration for product reviews.

7. Operational Product Revision

The revisions were carried out according to the results of the field trials. The product review is a reference for improvement to make the product under development suitable for use in field tests.

8. Operational Field Testing

Field tests are carried out on a large scale. The field test is an actual test condition of the developed product. Field tests were applied to obtain data for consideration for product reviews.

9. Final Product Revision

This stage is carried out from the acquisition of data from field tests. The final product review determines whether or not a product is viable if used in the learning process.

10. Dissemination and Implementation

This stage is carried out by delivering the results of the product to professionals through meeting forums. Forum meetings are held to convey and provide products for learning.

Population and Research Sample

The population of this study was Class 1 Intensive at Modern Islamic Boarding School Darussalam Gontor 2 Campus For Girls. The number of Class 1 Intensive for the 2022/2023 school year was 31, divided into two classrooms. Class 1 Intensive B has 16 students, while Class 1 Intensive C has 15 students.

Media experts and material experts conducted initial tests. The field test involved 10 students in Class 1 Intensive. The field test involved 21 students in Class 1 Intensive. Determination of the sample in the initial trial with purposive sampling because it requires experts who know the media and the material. The determination of the sample in the field trial and field test was carried out using purposive sampling.

Intensive 1st Class in this study was chosen because Intensive students had the same material load as Regular students; however, the time they had was less. Regular students use the Islamic agenda for a two-semester study period. Meanwhile, intensive students use the Islamic agenda in a one-semester study period. Therefore, learning media is more necessary for students in intensive classes than regular classes. Learning media is used for packaging learning to make it more hands-on and exciting.

Data Source

This study's data source was collected through an assessment checklist from media experts, materials experts, and student responses. The material in the development of means refers to the *Tarikh Islam* textbook in Class 1 Intensive. *Tarikh Islam* in Class 1 Intensive discuss in depth the condition of the Arab nation before the advent of Islam, the Arab nation when Islam came, the birth of the prophet Muhammad, the condition of Islam in the era of julafau-r-rashidin, the condition of Islam in the Umayyad to Abbasid daula (Litbang Kurikulum 2018).

Tarikh Islam material selected in the development media is about the Caliph of the Abbasid Daula. The material for the Abbasid Daula was chosen based on consideration of the needs of the students for more exciting and practical understanding. The Abbasid Daula material could have been more explicit because it discussed many things about the leaders and leadership of this period. The theme chosen was material by Harun Al-Rashid, Al-Amin and Al-Makmun, Al-Mu`tashim and Al-Watsiq.

Research Sites

The location of this research is Modern Islamic Boarding School Darussalam Gontor 2 Campus For Girls, Sambirejo, Mantingan, Ngawi, East Java. The choice of location has been adjusted based on observations showing low student interest in learning due to the lack of variety in teaching methods of Islamic date teachers. In addition, there are computer equipment facilities that teachers have not used as a means of learning. So computer-based media development is interesting as an innovation that facilitates the teaching and learning process.

Data Collection Technique

The data collection techniques used were observation, interviews, documentation, and validation (Setyosari 2016; Sugiyono 2017). The observations are used to examine the students' learning conditions before and after using the development media. Interviews were conducted with the person in charge of the Class 1 Intensive to obtain preliminary information on the teaching model of the *Tarikh Islam* teacher. Documentation is done by taking photographs of students' conditions when learning takes place. The validation activity includes three steps, namely an initial test with material and media experts, a field test with 10 students, and a field test with 21 of Class 1 Intensive.

Data Analysis Technique

Data analysis is a systematic collection of data obtained after conducting interviews, observations, documentation, and other materials that facilitate understanding (Setyosari 2016; Sugiyono 2017). Data analysis techniques were used, namely qualitative descriptive analysis techniques and quantitative descriptive analysis.

1. Qualitative descriptive analysis

In the research process, a qualitative descriptive analysis was carried out in the form of an analysis of needs, adequacy, and literature analysis. This analysis was carried out so that the data presented contained concise, detailed, and meaningful explanations (Fallensky et al., 2021; Nugraheni 2020; Setyosari 2016).

Qualitative descriptive analysis was carried out after obtaining initial research data in the form of an analysis of students' learning needs, learning conditions, and literature review. Descriptive analysis related to the learning needs of the students and the learning situations obtained through interviews, observation and documentation. The bibliographic review was analyzed to obtain more in-depth information on the development of instructional media with computing devices. In addition, a qualitative descriptive analysis was carried out during the research, that is, observations related to the student's learning conditions. This observation was made to strengthen the product's feasibility assessment.

2. Quantitative descriptive analysis

Quantitative descriptive analysis was carried out on a series of running trials to see the feasibility of the resulting learning media. This analysis was carried out so that the data presented contained concise, detailed, and meaningful explanations (Fallensky et al., 2021; Nugraheni 2020).

Quantitative descriptive analysis in this study was conducted using checklist assessment results from media experts, materials experts, and intensive first-grade student responses. Quantitative descriptive analysis is carried out so that the data obtained during the research can provide an overview of whether the product's development is feasible. The following are the steps taken to determine the feasibility of developing the product:

- a. To determine the feasibility of learning media, calculations in the form of numbers or questions are used. Assessment score data obtained from media expert checklists, material expert checklists, and student responses were converted to interval data using a Likert Scale (Sugiyono 2017). The following is a Likert Scale table 1 used to determine media eligibility:

Table 1
Likert Scale

No	Description	Score
1	Very good	5
2	Good	4

3	Enough	3
4	Not good	2
5	Very not good	1

- b. The next procedure is to find the average score as a reference to review the product. Product reviews are made from the acquisition of test scores (Nugraheni 2020). The following is the average score formula for the design product:

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

x : Average score

$\sum x$: Total score

n : Total respondents

- c. Quantitative scores are converted to qualitative with a five-scale formula (Fallensky et al., 2021; Nugraheni 2020). The following table 2 converts quantitative data to qualitative data on a scale of five:

Table 2

Quantitative Data Conversion to Five-Scale Qualitative Data

No	Intervals	Score	Category
1	$X > X_i + 1,5 S_{Bi}$	$>4,05$	Very feasible
2	$X_i + S_{Bi} < X \leq X_i + 1,5 S_{Bi}$	$>3,7 - 4,05$	Feasible
3	$X_i - 0,5 S_{Bi} < X \leq X_i + S_{Bi}$	$>2,65 - 3,7$	Enough
4	$X_i - 1,5 S_{Bi}, X \leq X_i - 0,5 S_{Bi}$	$>1,95 - 2,65$	Not feasible
5	$X \leq X_i - 1,5 S_{Bi}$	$<1,95$	Very not feasible

The product evaluation in this study was determined with a minimum value of 3.7 in the corresponding category. Suppose the results of the expert validation and answer questionnaires are classified as appropriate. The product can be used in Islamic Dates Intensive Learning Class 1 at Modern Islamic Boarding School Darussalam Gontor 2 Campus For Girls.

4. RESULT & DISCUSSION

4.1 Result

1. Research and Information Collecting

This stage is carried out with class observations based on observations, interviews, documentation, and bibliographic review. Based on interviews with the person in charge

of Class 1 Intensive, it is known that the teacher teaches *Tarikh Islam* material using a simple method, namely, lectures and questions and answers (Interview, Mutiara, *Teaching Practice*, May 10, 2022). If the teacher's simple method is repeated without innovation, the learning becomes monotonous and boring. This condition is in line with observations showing that some students feel bored and sleepy when learning takes place (Observation, Rozza, *Student Learning Conditions*, May 10, 2022). The observation results are reinforced by the existence of learning documentation shows that students are sleepy when learning occurs.

Facts on the ground can be the background for the emergence of boredom among students when learning takes place. In a problem like this, you can cheat by visual media images until audiovisuals. The use of learning media can increase interest in learning in order to minimize learning problems.

Based on the conditions in the field, a bibliographic review is carried out to find solutions to the problems that arise. The literature review becomes a support and basis for carrying out research for development. In a review of the literature review, information was obtained that *Articulate Storyline* can be used as a learning medium. *Articulate Storyline* has the advantage of being a flash feature with an interface as simple as PowerPoint. This encourages the manifestation of development using *Articulate Storyline* in *Tarikh Islam* lessons.

The use of computer equipment in this development is supported by computerized facilities at the Darussalam Computer Center (DCC). This facility can be used for learning with computing devices. Therefore, this study seeks to use the existing potential to minimize obstacles during learning.

2. Planning

The planning stage includes the formulation of the research objectives. Establishing research objectives to provide reliable information related to the product being developed is necessary. The goals of *Articulate Storyline*-based learning media development are: (1) to Minimize student boredom when learning takes place; (2) to increase teacher awareness of the use of *Articulate Storyline* learning media; (3) For students to acquire new experiences; (4) Use existing computing facilities as a means of learning based on *Articulate Storyline*.

3. Develop Preliminary of Product

This stage describes the process of designing *Articulate Storyline* learning media. The material designed in the development media comes from *Tarikh Islam* textbook of Class 1 Intensive. The following are the steps to design the initial format of the product.

a. Initial design of learning media

Design slide layouts using elements within Canva. The capture of pictorial elements from Canva was done because researchers have limitations in image creation.

b. *Articulate Storyline* the media design

An *Articulate Storyline* is used as a container for developed media. The output of the *Articulate Storyline* results is in the form of a CD in desktop format so that learning via a computing device can be carried out as initially intended for media development. Before becoming a product, several stages must be carried out in media development.

c. The material in *Articulate Storyline*

The media used is *Articulate Storyline* to learn *Tarikh Islam*. This learning media is arranged in such a way and has been adapted to the needs of the students. The preparation material in the media is obtained from *Tarikh Islam* textbooks. This learning medium comprises three materials: Harun al-Rasjid, Al-Amin and Al-Makmun, and Al-Mu`tashim and Al-Watsiq.

The media project features cover art, submenus, and core material. The cover design and submenus. Harun Al-Rashid's material is presented in 11 slides made up of images, text, and audio related to the teaching materials. Al-Amin and Al-Makmun's material is presented in 7 slides that are made up of images, text, and audio related to teaching materials. The Mu`tashim and Watsiq material is presented in 8 slides that are made up of images, text and audio related to the teaching materials.

4. Preliminary Field Testing

This stage is carried out with a validation process by media experts and materials experts. The media expert holds a Ph.D. in the field of educational technology and works as the dean of the Tarbiyah Faculty at University of Darussalam Gontor. The media expert in this research is Agus Budiman. The materials expert is a teacher at Modern Islamic Boarding School Darussalam Gontor and the Tarbiyah Faculty at University of Darussalam Gontor. The material expert in this research is Ahmad Danis.

Initial testing was carried out through validation by media experts and material experts. The media expert validation was conducted on Monday, August 8, 2022, at the Gontor office of UNIDA Tarbiyah College. In addition, the expert validation of the

material was carried out on Monday, August 8, 2022, at the UNIDA Gontor Development Office. The acquisition of the media expert validation values can be seen in Table 4, while the material expert validation can be seen in Table 5.

Table 3
The Media Expert Validation

No	Descriptions	Score
1	Text	4,6
2	Illustration	4,5
3	Audios	4,7
4	Time	4,5
5	Usefulness	4,5

After getting the score from the media experts, move on to find the average score. The average score is used to improve the product in the initial test. The following is the formula to find the average score.

$$x = \frac{\sum x}{n} = \frac{22,8}{5} = 4,56$$

The value obtained is in the form of quantitative data that is converted to qualitative data on a scale of five. Obtaining a value of 4.56 indicates that the development of the product meets very feasible criteria. Therefore, the development process can be continued at a later stage.

Table 4
The Material Expert Validation

No	Descriptions	Score
1	Text	4,6
2	Illustration	5
3	Audios	5

After you get the value from the material expert, move on to finding the average score. The average score is used to improve the product in the initial test. The following is the formula to find the average score.

$$x = \frac{\sum x}{n} = \frac{14,6}{3} = 4,8$$

The value obtained is in the form of quantitative data that is converted to qualitative data on a scale of five. A value of 4.8 demonstrates that the product being developed meets

the highly feasible criteria. Therefore, the development process can be continued at a later stage.

5. Main Product Revision

The results of the acquisition of value of the initial tests have shown that the product's development reaches the very feasible category. The acquisition value of media experts is 4.56, while material experts are 4.8. Therefore, no product reviews are done because the product is fit for use.

6. Main Field Testing

The small-scale field test involved ten students from Class 1 Intensive. Field tests were conducted to obtain data as a reference for product improvement. Field tests were carried out on August 12 and 13, 2022, at the Darussalam Computer Center (DCC). After conducting field tests, the students received a response questionnaire that became the benchmark for a product review. The acquisition of the student response questionnaires can be seen in Table 6.

Table 5
Student response results

No	Initials	Class	Score
1	GS	1 Intensif B	4,3
2	NN	1 Intensif B	3,8
3	N	1 Intensif B	4,9
4	NZ	1 Intensif B	4,6
5	ZS	1 Intensif B	4,4
6	ZA	1 Intensif C	3,7
7	RP	1 Intensif C	3,2
8	AD	1 Intensif C	4,3
9	SM	1 Intensif C	3,4
10	DG	1 Intensif C	4,8

After getting the value of the student's respons, continue searching for the average score. The average score is used to improve the product in field tests. The following is the formula to find the average score.

$$x = \frac{\sum x}{n} = \frac{41,4}{10} = 4,14$$

The value obtained from quantitative data is converted to qualitative data on a scale of five. A value of 4.14 demonstrates that the product has met the feasible criteria. Therefore, the development process can be continued at a later stage.

7. Operational Product Revision

Data acquisition after small-scale field trials demonstrates that the product has reached feasibility status. Therefore, product reviews are not carried out because the product is suitable for use in the learning process. Therefore, the development process can be continued at a later stage.

8. Operational Field Testing

The field test is an actual condition in the testing of the product that is being developed. Large-scale field test in which 21 students from class 1 Intensive participated. The field test was carried out on August 14 and 15, 2022, at the Darussalam Computer Center (DCC). After conducting field tests, the students received a response questionnaire that became the benchmark for a product review. The acquisition of the student response questionnaires can be seen in Table 7.

Table 6
Student response results

No	Initials	Class	Score
1	AN	1 Intensif B	3,8
2	IH	1 Intensif B	5,0
3	KL	1 Intensif B	5,0
4	NS	1 Intensif B	4,9
5	N	1 Intensif B	4,9
6	AA	1 Intensif B	4,9
7	KA	1 Intensif B	4,8
8	UM	1 Intensif B	4,9
9	WA	1 Intensif B	4,7
10	VC	1 Intensif B	3,8
11	AAS	1 Intensif B	4,8
12	KT	1 Intensif C	4,2
13	CM	1 Intensif C	4,5
14	RK	1 Intensif C	4,4
15	SA	1 Intensif C	5,0

16	P	1 Intensif C	4,3
17	SO	1 Intensif C	4,5
18	NK	1 Intensif C	4,3
19	NS	1 Intensif C	4,2
20	NA	1 Intensif C	4,3
21	AN	1 Intensif C	4,4

After you get the value from the field test, move on to finding the average score. The average score is used to improve the product in the field test. The following is the formula to find the average score.

$$x = \frac{\sum x}{n} = \frac{95,6}{21} = 4,55$$

The value obtained from quantitative data is converted to qualitative data on a scale of five. A value of 4.55 demonstrates that the product has met the feasible criteria. Therefore, the development process can be continued at a later stage.

9. Final Product Revision

Acquisition of data from large-scale field trials demonstrates that the product has reached the feasibility category. Therefore, product reviews are not carried out because the product is suitable for use in the learning process. Thus, the developed product is declared feasible and can be continued at a later stage.

10. Dissemination and Implementation

This stage is accomplished by delivering and providing development products to staff through meeting forums. Staff are responsible for stocking development products and giving them to *Tarikh Islam* teachers. Distribution of products to staff was based on investigative procedures at Modern Islamic Boarding School Darussalam Gontor 2 Campus For Girls. Products provided to staff in the form of a CD in desktop format.

4.2 Discussions

Fitri Barokah et al. stated that the *Tarikh Islam* is a lesson on the origins, Islamic civilization, and figures of Islamic history. *Tarikh Islam* material contributes to knowing, observing, understanding, and living Islamic date material (Fitri Barokah et al, 2021). *Tarikh Islam* material is taught so students can recognize, observe and experience Islamic history. The efforts to know, observe and live will only be achieved if the students adequately follow the learning.

The field reality shows that intensive 1st-grade students feel bored and sleepy when learning occurs. The appearance of this problem can be influenced by the learning model chosen by the teacher. The observation results show that teachers still use simple methods when carrying out the learning process. The method used is limited to reading and question-and-answer methods. This can trigger low student engagement and interest in learning.

The efforts teachers can make to overcome the problems related to the student's learning interests are the use of learning media. This is in line with the presentation by Ammarsyah et al., Fatahillah & Mustamir that the media used in the learning process can overcome problems related to learning interests, styles, and obstacles that students may experience (Ammarsyah et al, 2019; Fatahillah and Mustamir 2021). Therefore, the use of educational media is expected to minimize barriers to student learning.

After reviewing previous research, media development efforts were made to minimize barriers to learning. The media used in the development is an *Articulate Storyline*. According to the presentation by Al-Qadri et al., Dewi et al., Oktaviani and Triono Articulate Storyline is an application on a computing device that is dedicated to software that has a simple interface like PowerPoint (Alqadri, Iriani, and Hamid 2021; Dewi, Sofya, and Huda 2021; Oktaviani 2021; Triono 2021). This is in line with practice in the field that the operation of *Articulate Storyline* is as simple as PowerPoint. Still, *Articulate Storyline* has advantages, namely the existence of flash functions for making animations easier than Macromedia Flash devices. The features of *Articulate Storyline* can be used according to the abilities of the users of the program.

Muhammad Yaumi explained the efforts to develop learning media must be adapted to the development models formulated by experts and scientists (Yaumi 2018). So, the researchers carried out the development with the model created by Borg & Gall. The Borg & Gall model was chosen because it has detailed steps, is easy to understand, and many studies have used this model so that its validity is recognized.

Punaji Setyosari explained the 10 stages of the development of the Borg & Gall model (Setyosari 2016). Based on practice in the field, this study followed 10 procedures to develop the Borg & Gall model. This procedure has been systematically described in the research results.

Development of the initial product format was accomplished by designing media that included images, text, sound, and audio in the form of narration of instructional materials. Images and text used in media layouts are developed using various colors. The use of color is expected to increase students' interest in designed designs. According to Cholilawati, each

color has characteristics that imply specific emotional responses. Warm colors lead to a cheerful, optimistic, and optimistic mood. Cool colors lead to a calming, classic, modern, and lively feeling. Dark colors give the impression of being heavy and strong. Vivid colors make a robust and lively impression and have a strong personality. Muted colors help reduce tension and meditate (Cholilawati 2021).

Cholilawati's views on the characteristics of color are in line with the purpose of using color in media design. The texts and images designed with a combination of colors are intended to attract the interest of the students so that the developed media does not turn out to be monotonous and boring. The use of images and colors is a form of innovation because the class 1 intensive Islamic agenda only includes black-and-white text without images.

The use of colors in the developed media is aimed at enabling students to gain positive affirmations when learning takes place. The expected positive affirmation is in the form of student interest and engagement in learning. The results of the observations during learning showed that there were no students who became sleepy when using the *Articulate Storyline* media. Students focused on running computing devices that presented material from Islamic dates with *Articulate Storylines*. Based on the reality of the field, the use of media can increase students' participation and interest in learning.

As Muntaka Rahmi et al., Pribadi, Solecha, and Kurniawan explain, the presence of the media can encourage the creation of new, more real, and motivating learning experiences, attract student requests and strengthen learning absorption (Muntaha Rahmi et al, 2019; Pribadi 2017; Solecha and Kurniawan 2021). This condition is in line with the reality on the ground that shows that the use of the media can promote the achievement of new learning experiences, attract interest in learning and produce positive affirmations for students.

According to Benny A. Pribadi, the use of learning technology with computing devices allows users to get a multisensory learning experience. Multisensory learning experiences allow computer users to obtain information and knowledge through their multiple senses (Pribadi 2017). This vision is in line with reality on the basis that learning with *Articulate Storyline* fosters multisensory learning experiences for students.

Multisensory learning experiences engage several of students' five senses, namely visual, auditory, and tactile. The participation of the senses of hearing and sight, it makes the process of entering knowledge that is cognitively processed more imprinted. The sense of sight works when students see images and text with a mixture of various colors. The sense of hearing works when the students listen to the narration of the *Tarikh Islam* material accompanied by background sound to minimize boredom. In addition, students' tactile skills in the form of

practicing using computing devices with their fingers can contribute to student learning experiences that are in step with the times.

According to Dick & Carey, a product feasibility assessment must perform due diligence on formative assessment. The stages of formative evaluation are prototype testing, small group testing, and field testing (Setyosari 2016). This feasibility assessment is in line with the research that has been done. However, the feasibility assessment was carried out using the terms defined by Borg & Gall, namely Preliminary Field Testing, Main Field Testing, Operational Field Testing. The value obtained from the feasibility test shows that the developed medium has reached the category of "very feasible." Therefore, the Articulate Storyline development product is feasible to be used in the Islamic data learning process.

E. CONCLUSION

The procedure for developing learning media for *Tarikh Islam* using *Articulate Storyline* refers to the Borg and Gall model consisting of 10 stages, namely: (1) research and information collecting; (2) planning; (3) develop preliminary of product; (4) preliminary field testing; (5) main product revision; (6) main field testing; (7) operational product revision; (8) operational field testing; (9) final product revision; (10) dissemination and implementation.

The Articulate Storyline learning medium that was developed scored very feasible in the validation activities. This is evidenced by the acquisition of scores through the calculation of the average score, which is then converted to a scale of five. The following is the acquisition of values that determine if the developed medium is very feasible: (1) Preliminary field testing by media experts with a score of 4.56. Preliminary field testing by material expert essay with a score of 4.8; (2) Main field testing with a score of 4.14; (3) Operational field testing with a score of 4.55. Therefore, *Articulate Storyline* learning media can be used in the process of learning Islamic data in Class 1 Intensive.

This study corroborates the research written by Alqadri, Iriani et al, 2021; Arwanda et al, 2020; Aulia and Devi 2021; Fardila and Arief 2021; Indasah et al, 2021; Mufidah and Khorri 2021; Octavia et al, 2021; Safira et al, 2021; Sari and Harjono 2021; Solecha and Kurniawan 2021; Triono 2021; Yahya et al, 2020. This study shows that *Articulate Storyline* is highly suitable for use as a learning media. Results showed that *Articulate Storyline* packaged lessons to make them more engaging, brought innovation to teachers, increased learning motivation, and added to the multi-sensory learning experience.

The benefits of this research will be more complete if the teacher uses the existing means of learning *Tarikh Islam*. If this media is used in learning, it will increase the motivation

of the students when the learning takes place. For further research, it is necessary to use animation and game features to make the development of learning media more interesting and interactive.

REFERENCE

- Alqadri, Sarifah Nabila Zahra, Rilia Iriani, and Abdul Hamid. 2021. "Pengembangan Multimedia Pembelajaran Interaktif Menggunakan Articulate Storyline Dengan Model Pembelajaran Auditory, Intellectually Dan Repetition (AIR) Pada Materi Larutan Penyangga." *Journal of Chemistry And Education* 4 (3): 108–15.
- Ammarsyah, Yusran, and Basrul. 2019. "Perancangan Modul Praktikum Komputer & Jaringan Dasar Berbasis Multimedia Interaktif Pada SMKN 1 Kota Jantho." *Cyberspace: Jurnal Pendidikan Teknologi Informasi* 3 (2): 115–21.
- Arsyad, Azhar. 2006. *Media Pembelajaran*. Jakarta: Rineka Cipta.
- Arwanda, Priankalia, Sony Irianto, and Ana Andriani. 2020. "Pengembangan Media Pembelajaran Articulate Storyline Kurikulum 2013 Berbasis Kompetensi Peserta Didik Abad 21 Tema 7 Kelas Iv Sekolah Dasar." *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah* 4 (2): 193. <https://doi.org/10.35931/am.v4i2.331>.
- Astriani, Maya Masitha, and Mal Alfahnum. 2020. "Peningkatan Kompetensi Guru PAUD Dalam Mengembangkan Media Pembelajaran Inovatif." *Jurnal PKM: Pengabdian Kepada Masyarakat* 03 (04): 366–71.
- Aulia, Anisa, and Masnila Devi. 2021. "Pengembangan Multimedia Interaktif Berbasis Articulate Storyline 3 Untuk Meningkatkan Minat Belajar Peserta Didik Pada Pembelajaran Tematik Terpadu Di Kelas III SD." *Jurnal Pendidikan Tambusai* 5: 6.
- Basri, Muhammad, Suparman Arif, Nur Indah Lestari, and Rinaldo Adi Pratama. 2021. "Pembuatan Video Pembelajaran Sejarah Untuk Mendukung E-Learning Di Masa Pandemi Bagi MGMP Sejarah Provinsi Lampung." *Resona: Jurnal Ilmiah Pengabdian Masyarakat* 5 (1): 33–47.
- Cholilawati. 2021. *Teori Warna*. Bandung: Panca Terra Firma.
- Darnawati, Darnawati, Jamiludin Jamiludin, La Batia, Irawaty Irawaty, and Salim Salim. 2019. "Pemberdayaan Guru Melalui Pengembangan Multimedia Pembelajaran Interaktif Dengan Aplikasi Articulate Storyline." *Amal Ilmiah: Jurnal Pengabdian Kepada Masyarakat* 1 (1): 8. <https://doi.org/10.36709/amalilmiah.v1i1.8780>.
- Dewi, Ika Parma, Rani Sofya, and Asrul Huda. 2021. *Membuat Media Pembelajaran Inovatif Dengan Aplikasi Articulate Storyline 3*. Padang: UNP Press.
- Fallensky, Maryam Sarah, Arif Yudianto, and Dadan Rahmat. 2021. "Pengembangan Media Pembelajaran Interaktif Berbasis Macromedia Flash Materi Kewargaan Digital Di SMK Pasim Plus Sukabumi." *Jurnal Utile* 04 (01): 42–49.
- Fardila, Susi, and Mohammad Arief. 2021. "Pengembangan Mobile Learning Berbasis Articulate Storyline 3 Pada Mata Pelajaran Kearsipan Untuk Meningkatkan Self Regulated Learning Dan Hasil Belajar Siswa (Studi Pada Kelas x OTKP Di SMK Cendika Bangsa Kepanjen)." *Jurnal Ekonomi, Bisnis Dan Pendidikan* 1 (4): 344–56. <https://doi.org/10.17977/um066v1i42021p344-356>.

- Fatahillah, Andi Muhammad, and Nurjannah Mustamir. 2021. "Keefektifan Aplikasi Macromedia Flash Terhadap Pembelajaran Pendidikan Agama Islam Pada Kelas X UPT SMKN 1 Sinjai." *Al-Qalam: Jurnal Kajian Islam & Pendidikan* 13 (1): 1–6.
- Fitri Barokah, Nan Rahminawati, and Dewi Mulyani. 2021. "Analisis Terhadap Partisipasi Belajar Siswa Pada Mata Pelajaran Sejarah Kebudayaan Islam Di MTsN 2 Garut." *Jurnal Riset Pendidikan Agama Islam* 1 (1): 15–20. <https://doi.org/10.29313/jrpai.v1i1.39>.
- Fransisca, Selly, and Ramalia Noratama Putri. 2019. "Pemanfaatan Teknologi RFID Untuk Pengelolaan Inventaris Sekolah Dengan Metode (R&D) Studi Kasus : SMK Global Pekanbaru." *Jurnal Mahasiswa Aplikasi Teknologi Komputer Dan Informasi* 1 (1): 72–75.
- Furoidah, Asni. 2020. "Media Pembelajaran Dan Peran Pentingnya Dalam Pengajaran Dan Pembelajaran Bahasa Arab." *Al-Fusha : Arabic Language Education Journal* 2 (2): 63–77. <https://doi.org/10.36835/alfusha.v2i2.358>.
- Hermawan, Iwan. 2019. *Metodologi Penelitian Pendidikan Kuantitatif, Kualitatif, Dan Mixed Methode*. Edisi Ke-1. Kuningan: Hidayatul Quran Kuningan.
- Indasah, Sri, Devita Sulistiana, and Mar'atus Sholihah. 2021. "Pengembangan Media Articulate Storyline Pada Materi Klasifikasi Makhluk Hidup Kelas X Sma." *BIOEDUKASI (Jurnal Pendidikan Biologi)* 12 (1): 70. <https://doi.org/10.24127/bioedukasi.v12i1.3756>.
- Kurikulum, Litbang. 2018. *Tarikh Islam Untuk Siswa Kelas 1 KMI*. Ponirogo.
- Mahmudi, Ihwan, and Martha Laily Shofro. 2020. "Peningkatan Hasil Belajar Tarikh Islam Melalui Strategi Pembelajaran Everyone Is a Teacher Here Pada Siswi Kelas 2 KMI Pondok Modern Darussalam Gontor Putri." *Jurnal Tatsqif* 17 (2): 171–86. <https://doi.org/10.20414/jtq.v17i2.1962>.
- Mufidah, Eli, and Nikmatul Khorri. 2021. "Pengembangan Media Pembelajaran Articulate Storyline Untuk Meningkatkan Hasil Belajar Siswa Sekolah Dasar Di Masa Pandemi Covid 19." *Ibtida' 2* (2): 124–32. <https://doi.org/10.37850/ibtida.v2i2.214>.
- Muntaha Rahmi, Mar'atush Sholichah, M. Arif Budiman, and Ari Widyaningrum. 2019. "Pengembangan Media Pembelajaran Interaktif Macromedia Flash 8 Pada Pembelajaran Tematik Tema Pengalamanku." *International Journal Of Elementary Education* 3 (2): 178–85.
- Ninghardjanti, Patni, Chairul Huda Atma Dirgatama, and Arif Wahyu Wirawan. 2020. *Pembelajaran Multimedia Berbasis Mobile Learning*. Banyumas: Pena Persada.
- Nugraheni, Yumidiana Tya. 2020. "Pengembangan Bahan Ajar Tarikh Isla, Untuk Siswa Kelas VIII SMP MUhammadiyah Boarding School Yogyakarta." *POTENSIA: Jurnal Kependidikan Islam* 6 (2): 155–84. <http://www.akrabjuara.com/index.php/akrabjuara/article/view/919>.
- Octavia, Ana Dwi, Jun Surjanti, and Bambang Suratman. 2021. "Pengembangan Media M-Learning Berbasis Aplikasi Articulate Storyline Untuk Meningkatkan Hasil Belajar Peserta Didik Sekolah Menengah Atas." *Edukatif: Jurnal Ilmu Pendidikan* 3 (5): 2380–91. <https://edukatif.org/index.php/edukatif/article/view/797>.
- Oktaviani, Dewi Ayu. 2021. "Penerapan PAUD Holistik Integratif Pada Masa" 5 (2): 1870–82. <https://doi.org/10.31004/obsesi.v5i2.995>.

- Pribadi, Benny A. 2017. *Media Dan Teknologi Dalam Pembelajaran*. Edisi Ke-1. Jakarta: Kencana.
- Safira, Arum Donna, Iva Sarifah, and Tunjungsari Sekaringtyas. 2021. "Pengembangan Media Pembelajaran Interaktif Berbasis Web Articulate Storyline Pada Pembelajaran Ipa Di Kelas V Sekolah Dasar." *Prima Magistra: Jurnal Ilmiah Kependidikan* 2 (2): 237–53. <https://doi.org/10.37478/jpm.v2i2.1109>.
- Samosir, Ridha Sefina, and Nuraini Purwandari. 2020. "Aplikasi Literasi Digital Berbasis Web Dengan Metode R&D Dan MDLC." *Techno. COM* 19 (2): 157–67.
- Sari, Rika Kurnia, and Nyoto Harjono. 2021. "Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Tematik Terhadap Minat Belajar Siswa Kelas 4 SD." *Jurnal Pedagogi Dan Pembelajaran* 4 (1): 122. <https://doi.org/10.23887/jp2.v4i1.33356>.
- Setyosari, Punaji. 2016. *Metode Penelitian Pendidikan & Pengembangan*. Edisi Ke-5. Jakarta: Prenamedia Group.
- Solecha, Adz Dzaria Nisa, and Ari Wibowo Kurniawan. 2021. "Pengembangan Media Pembelajaran Jujitsu Newaza Berbasis Aplikasi Articulate Storyline." *Sport Science and Health* 3 (10): 790–99. <https://doi.org/10.17977/um062v3i102021p790-799>.
- Sugiyono. 2017. *Metode Penelitian Kuantitatif, Kualitatif Dan R&D*. Edisi ke-2. Bandung: Alfabeta.
- Triono, Agung. 2021. "Media Pembelajaran Interaktif Artyculate Storyline Meningkatkan Motivasi Dan Kompetensi Belajar Peserta Didik Pada Saat Pembelajaran Jarak Jauh." *Ability: Journal of Education and Social Analysis* 2 (4): 31–41. <https://doi.org/10.51178/jesa.v2i4.277>.
- Triwiyanto Teguh. 2021. *Pengantar Pendidikan*. Edited by Yayat Sri Hayati. Bumi Aksara. Edisi Ke-4. Jakarta: Bumi Aksara. https://books.google.co.id/books?hl=en&lr=&id=grgmEAAQBAJ&oi=fnd&pg=PR1&dq=pendidikan&ots=49FDtRkC3c&sig=9TK0rE4ArP7yJItRQYBP2EVCWxo&redir_esc=y#v=onepage&q&f=false.
- Wahyuningtyas, Rizki, and Bambang Suteng Sulasmono. 2020. "Pentingnya Media Dalam Pembelajaran Guna Meningkatkan Hasil Belajar Di Sekolah Dasar." *Jurnal Basicedu* 2 (1): 23–27.
- Yahya, Rizky, Siti Khoiruli Ummah, and Moh Mahfud Effendi. 2020. "Pengembangan Perangkat Pembelajaran Flipped Classroom Bercirikan Mini Project." *SJME (Supremum Journal of Mathematics Education)* 4 (1): 78–91.
- Yaumi, Muhammad. 2018. *Media & Teknologi Pembelajaran*. Edisi Ke-1. Jakarta: Prenamedia Group.