



## Development of Integrated Physics Learning Media for Al-Quran Verses Based on Macromedia Flash

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### Abstract

This study aims to determine the feasibility of learning media based on Macromedia flash-integrated Al-Qur'an verses developed by MAN 1 Konawe students. This research is a type of research and development (research and development) with a development design, according to Borg & Gall. The trial participants were 21 students of class X MAN 1 Konawe; the data collection instrument used a questionnaire, interviews, test questions, and observation sheets. Data analysis and product development trials consist of qualitative analysis and quantitative analysis. The results of this study indicate that Integrated Flash Macromedia-Based Physics Learning Media with Qur'anic Verses at the developed MAN 1 Konawe school can be declared to meet the aspects of validity reliability that are good and feasible to use.

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## INTRODUCTION

One of the functions of education is to develop the nation's abilities, character, and civilization to make the nation's life more intelligent, as stated in the mandate of the law [1]. In the mandate of the National Education System Law Number 20 of 2003, it is said that education should be able to function as a medium and facility in developing the potential of students to become human beings who have faith and devotion to God Almighty and have noble morals, knowledge, skills, High creativity in constructing knowledge, independent and responsible.

The goals of national education signal that it is not only scientific potential that is developed, but spiritual aspects must also be included in it. Therefore, education must be used as a basis for instilling spiritual values contained in the Al-Qur'an, which are connected and integrated into various scientific disciplines studied, including physics [2]. It is hoped that this will shape the character of students who not only have academic understanding and intelligence but must be spiritually intelligent so that national education goals can be realized.

Physics learning carried out in class should be meaningful [3]. Meaningful learning is obtained from the process. Meaningful learning is learning that is more student-centered. Students are given more opportunities to construct their knowledge independently. Physics is a science that studies the symptoms that occur and phenomena that exist in nature, so this branch of science is vital to the survival of life in this universe. Therefore, learning demands are expected to be student-centered and contextual. Apart from that, because it is related to nature, physics learning not only aims to equip students with general knowledge but also requires students to collaborate and interpret their

knowledge with events of the majesty and greatness of Allah SWT [4]. Therefore, in learning, there must be Islamic educational values incorporated into it [5].

By integrating religious knowledge into science, especially physics, it is hoped that students will be able to unite the meaning of life in this world and the afterlife [6][7]. The concepts studied in physics are sunnatullah about the universe, and to increase faith and devotion to the Creator, it is necessary to provide meaning to physics concepts based on religious values relevant to the material presented during the learning process [8]. Physics learning in class will be more meaningful if the teaching of physics materials includes the values of Islamic education [9]. Through integrated learning between physics and Islamic education, students will gain various learning experiences and various knowledge domains.

One of the efforts to form academically intelligent students and instill a spiritual attitude is that teaching materials or media are needed to support and stimulate students' learning activities in developing their potential, skills, academic abilities, and spiritual attitudes. It develops students' intellectual abilities; it is necessary to have media created in such a way with interesting, unique content that is easy to understand so that students have a learning experience that will leave an impression on their minds. The learning implemented in this research is Physics learning integrated with Al-Quran verses using Macromedia Flash [10].

One form of media development is carried out by implementing multimedia-based learning. In this case, multimedia was developed using Macromedia Flash software, which contains content from Al-Quran verses recommendations made by [10]. The results showed that the learning tools developed in modules integrated with Al-Quran verses were considered very interesting, based on the assessment of material experts, graphics experts, and integration-interconnection experts. Research conducted [11] revealed that the overall quality of physics learning tools based on evaluating material experts, Islamic science integration experts and madrasa teachers is outstanding, so the learning tools developed are suitable for use. Meanwhile, [6] concluded that the interactive multimedia learning light material containing the Al-Qur'an that has been designed is ideal for use as a m.

## **RESEARCH METHODS**

This research is development research aiming to produce a physics learning media product integrated with verses from the Al-Qur'an at Madrasah Aliyah Negeri 1 Konawe. This media development seeks to perfect the previous media by adding Al-Qur'an content according to school needs. Integrated Physics learning media development design model refers to the 4D development model proposed by Thiagarajan & Semmel, which consists of four stages, namely Define, Design, Develop, and Disseminate [12]

The product developed was tested in two stages: expert validation consisting of Media Experts, Material Experts, Integration Experts, Practitioners, and Peers. Meanwhile, field trials were carried out by class X MA students in Konawe Regency.

The instrument uses validation sheets, questionnaires, and interviews. A validation sheet assesses the suitability of media products, materials, and integration. Questionnaire sheets were used during trials with students and teachers in evaluating media use.

Data processing uses qualitative analysis and quantitative analysis. The qualitative data in question is input, criticism, and suggestions for revising the product to see the strengths and weaknesses of the media being developed. Media eligibility is based on eligibility criteria if it obtains a score of 75% following reliability requirements, which shows that the media being developed is in the valid, reliable, and usable category [13]

## **RESULTS AND DISCUSSION**

### **1. Learning Media Product Description**

The product produced is Macromedia Flash physics learning media, which is integrated with Al-Qur'an values with the following appearance:

#### **Initial display**

Opening display during the entry process into the initial menu of the developed media.

### Main Menu Display

This display contains menus that can be selected consisting of learning objectives, learning materials, and physics integration with verses from the Quran. When you click on the learning objectives navigation, students will be directed to the learning objectives slide. This slide will tell students what goals they must achieve in their learning. Next, students click the home button to return to the main menu and will be directed to enter the learning material section.

### Material View

The presentation of this material is explained by an explanation of the kinematics material, including the meaning of motion, position, distance, displacement, speed, speed, and acceleration of an object, complete with animation, while being explained in an audio recording regarding the material. When students click the "play" button, an audio recording will automatically present the material created. This slide is also equipped with animation. Next, when the material has been completed, students click on the home icon again to be directed to the main menu and select the Al-Quran values icon.

### Display of Material Integration with Al-Qur'an verses

This integration display directs students to a slide regarding the relationship between physics material and verses from the Quran.

### Display closing menu

This closing menu display ends the Macromedia application's operation process activities by pressing the exit navigation and selecting the "yes" notification, which will automatically exit the media.

## 2. Product validation results

The main criteria for determining whether or not a learning media device is used is through expert validation results. The results of the expert assessment are based on appearance, program, display, learning content, and integration aspects. The following is an assessment of the expert validation results outlined in table form.

**Table 1.** Results of expert validation assessments of media products

Rated aspect	Validator Assessment (%)		Average (%)
	I	II	
Average	85	83,33	84,17
Program	89,58	87,5	88,54
Program	85,42	83,33	84,38
Contents	86,54	82,69	84,62
Integration	90	85	87,5

The table above results from expert assessment validation of the media products being developed. The average validator assessment for the display aspect was 84.17% with the valid and reliable category; the programming aspect was 88.54%, the learning aspect was 84.38, and the learning aspect was 84.38%. The content obtained was 84.62%, and the integration aspect got an average of 87.50%. If you look at the average gain for each element, which is above 75%, it can be stated that the media is valid, reliable, and suitable for use according to reliable requirements [13]. Apart from the validator assessing the suitability of the product, the validator provides suggestions and input, including from the display aspect, namely (1) Adding essential competencies and competency standards because, in the 2013 curriculum, a teacher must display or write down essential competencies so that students can know the benefits of what is being learned; (2) Add instructions for using interactive learning multimedia to make it easier for students to use. Apart from that, from the appearance aspect, the validator provides input that adding notifications for freedom of choice of material would be better.

Furthermore, the validator also gave suggestions from the learning aspect, namely the explanation of conceptual material, which was not explained in detail in the media. Meanwhile, for

the content and integration aspects, the validator notes that it is excellent and suitable for use and does not need to be revised again. Suggestions, input, and notes from validators are then used as material for improving and perfecting the media being developed.

### **3. Product revision**

Based on suggestions, input, and notes from validators, the developer made revisions with several refinements and improvements, including appearance. Suggest (1) changing the type of letters in the learning multimedia being developed because it is less attractive with the characteristics of the theme or interactive media, (2) changing the type or function of the multiple choice question buttons for the material on a straight and irregular motion that is being developed because it is less accessible for students to choose answer. The following is the realization of product revisions according to media expert suggestions in the first consultation stage.

### **4. Discussion**

This development research is to produce a product in the form of physics learning media integrated with verses from the Koran using Macromedia Flash for Islamic-based school students, especially in Konawe Regency. Product feasibility is assessed using a validation instrument in which comments, suggestions, and criticism are recorded.

Product feasibility testing in this development research was carried out through several trial stages to obtain suggestions so that the learning multimedia developed was suitable for physics learning. The stages in this research include 1) the material expert validation stage, 2) media expert validation, 3) initial field trials [14].

In validation, media experts for the display aspect concluded that the media developed from the display aspect could be used with minor revisions. There are suggestions given by the validator, namely (1) adding notifications for instructions, (2) changing the type of letters in the learning multimedia being developed because they are less attractive with the characteristics of the theme or interactive media, (3) changing the type or function of the multiple choice question buttons for motion material. Straight turns irregular, which was developed because it was less easy for students to choose an answer.

Apart from media experts validating the display aspect, the validator also validates the programming aspect, which shows his assessment that the media developed from the programming aspect is valid and reliable and can be used with minor revisions. It also provides suggestions that add notifications for freedom of choice of material. However, several parts need to be improved, including (1) Selecting the notification background option. Improvements were made by changing the notification background from blue to red. Accurate selection of images and colors in the media is significant to attract students' attention.

Azhar Arsyad (2014) suggests that color is used to give the impression of separation or emphasis or to build unity. Additionally, color can increase the realism of the object or situation, show similarities or differences, and create specific emotional responses. (2) Improve the program menu's information structure/message design. Improvements are made by tidying up sentences, according to EYD. (3) The image of the simulation part is clarified and explained. As stated by [15], the benefits of visual/image media are helpful in channeling messages from the source to the recipient of the message, which involves the sense of sight. The message must be understood correctly to make the delivery process successful and efficient. Apart from that, the use of images is also included in the principle of using attention-focusing tools proposed by [16], namely that images are used to illustrate and clarify material so that the use of exciting images can also attract students' interest in learning. Based on the theory of Harold Spears in his book Agus Suprijono, according to this definition, learning is observing, reading, imitating, trying something, listening, and following a particular direction [17]. (4) Use semi-formal language for the material. Improvements were made by changing the language style from formal to semi-formal so that the delivery of the material was more interactive. (5) Adjust the button size to the screen.

In validation, material experts for the learning aspect concluded that the media developed from this aspect could be used with minor revisions. The validator suggested that accuracy in explaining the conceptual material was also not described in detail in the generated media, so this media had to

be implemented. Apart from that, according to the validator, the content aspect states that it is reasonable and appropriate and does not need to be revised further.

The media developed also matches the excellent quality of computer-assisted learning in the material aspect [18]. The material in this learning media follows the applicable curriculum; it is also accurate because it comes from textbooks used by schools that have been assessed and declared to meet the eligibility requirements for use in the learning process.

The material in this multimedia is also easy to understand; this was stated by students through questionnaires and interviews that were conducted. Presentation using text, video, and animation makes it easier for students to understand concepts and concretize the material; this is one of the reasons why multimedia learning is being developed in high schools [19].

Material experts have also validated the material in this multimedia learning; this proves that this learning aspect is good and that the material must be validated by a subject-matter expert so that the concept's correctness can be accounted for [14].

## CONCLUSIONS

Based on the results of the research that has been carried out, it is concluded that Macromedia flash-based physics learning media integrated with Al-Quran verses has gone through stages based on expert validation assessments, revisions, suggestions, validator comments, and based on empirical data analysis of trial results, the physics-based learning media is Flash Macromedia integrated with Koranic verses at Madrasah Aliyah schools that was developed can be declared to meet the aspects of validity, good reliability and is suitable for use in limited outreach. This research provides implications, especially for teachers, to utilize this learning media to make it easier to convey lesson material to students.

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