

Development of Online-Based Digital Learning Media for Geography Subjects at Madrasah**Aliyah Negeri I Wonosobo**Farida Ariani¹, G.A Ghansyam²faridaarian66@gmail.com¹

Abstract: Nowadays, learning media is growing in line with the rapid development of information technology. Learning media that can be used anywhere and anytime without any limitation of place and time. This study aims to develop online learning media products for geography learning. The research method used was the Research and Development (R&D) method. The research subjects were students of class X. Data collection techniques used the methods of observation, interviews, questionnaires, and documentation. Questionnaires were employed to determine the feasibility of online-based learning media, whereas data analysis techniques utilized percentage techniques. From the study results, it can be concluded that the online-based learning media developed can be said to be good by experts. It can be seen from the testing results on students to determine the level of media feasibility based on predetermined criteria/indicators. Thus, this learning media deserves to be used as an alternative learning media with a good category (88%), namely with details on educational criteria with good results (93%), appearance criteria with good results (85%), and technical criteria with good results (89%). Hence, online-based learning media for geography class X is feasible to use as a choice of digital learning media.

Keywords: Development, Online-Based Learning Media, Geography Subjects.

Abstrak: Dewasa ini media pembelajaran semakin berkembang seiring dengan pesatnya perkembangan teknologi informasi. Penelitian ini bertujuan untuk mengembangkan produk media pembelajaran online untuk pembelajaran geografi. Metode penelitian yang digunakan adalah metode Research and Development (R&D). Subjek penelitian ini adalah siswa kelas X Madrasah Aliyah Negeri 1 Wonosobo. Teknik pengumpulan data menggunakan metode observasi, wawancara, angket, dan dokumentasi. Kuesioner digunakan untuk mengetahui kelayakan media, sedangkan teknik analisis data menggunakan teknik persentase. Dari hasil penelitian dapat disimpulkan bahwa media pembelajaran berbasis online yang dikembangkan dapat dikatakan baik oleh para ahli. Hal ini terlihat dari hasil pengujian pada siswa untuk menentukan tingkat kelayakan media. Dengan demikian media pembelajaran ini layak dijadikan sebagai alternatif media pembelajaran dengan kategori baik (88%), yaitu dengan rincian kriteria pendidikan dengan hasil baik (93%), kriteria penampilan dengan hasil baik (85%), dan kriteria teknis dengan hasil yang baik (89%). Oleh karena itu, media pembelajaran geografi kelas X berbasis online layak untuk digunakan sebagai pilihan media pembelajaran digital.

Kata Kunci: Pengembangan, Media Pembelajaran Berbasis Online, Mata Pelajaran Geografi

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INTRODUCTION

Education is a conscious and planned effort to realize the learning atmosphere and process so that learners actively develop their potential to have spiritual, religious, self-control, personality, intelligence, noble morals, and the skills needed for themselves, society, nation, and state (Miftah, 2013).

Formal education is done in school activities. However, actually, education can be done anywhere and anytime. Education in school is often related to the teaching and learning process. Teaching and learning are two concepts that cannot be separated from each other. Learning refers to what a person should do as a subject receiving a lesson, whereas teaching refers to what the teacher should do (Sanaky, 2013). Learning is also a process characterized by changes in a person. Changes resulting from the learning process can be determined in various ways, such as changes in knowledge, understanding, attitude and behavior, skills and abilities, reaction power, power of acceptance, and other aspects of the individual (Tafonao, 2018).

Specifically, geography subjects aim that students can master the concepts of geography and its interrelationships and use scientific methods based on scientific attitudes to solve the problems they face to be more aware of the majesty of God Almighty (Artini & Astawa, 2019). The word master here indicates that geography education should make students not only know and memorize about ten concepts, including the concepts of location, distance, morphology, scope, pattern, agglomeration, usability value, interaction and interdependence, area differentiation, and room linkages but also understand these concepts and connect the relationship of one concept with other concepts (Mukharomah et al., 2020; Sugandi, 2015).

Through social science learning, especially geography, learners can gain hands-on experience to add strength to receive, store, and apply the concepts that have been learned. Thus, how the learning experience package designed by teachers is influential on the meaning of the experience for learners (Trianto, 2010). Observations were made on class X at Madrasah Aliyah State 1 Wonosobo, revealing that students felt bored and less interested in geography lessons because teachers still taught with a teaching system that tended to be conventional. The lectures and memorization methods made students become bored and easily forget. In fact, learning will be more effective if students play an active role in learning activities. For example, students not only get information from teachers but also utilize various learning resources around them. In addition, the teachers could not optimize existing technology, including the mastery of computers as a medium of learning to create interactive learning. Teachers also rarely utilized learning media in explaining the subject matter.

Moreover, the results of an interview on September 6, 2021, with geography teachers uncovered many obstacles faced when carrying out learning. These obstacles included the amount of material that should be conveyed to students, affecting students to have difficulty understanding the material. The time for two semesters was used by the teacher to convey all the material. Very much material with unbalanced time caused the teacher to rush in delivering the material. Another obstacle was the number of scientific terms in geography that made teachers have to understand and explain them to students. Teachers admitted that sometimes, students felt bored if they had to understand the number of scientific terms in geography lessons.

The number of obstacles above was still coupled with technology illiterate teachers. Teachers never used IT in the learning process. The teacher only utilized graphic media, namely images shared with students, to explain the picture's captions. If not, the teacher drew on a whiteboard to explain to the students. It was certainly very time-consuming, while the material should still be taught thoroughly to

students. Further, the efforts that many teachers have done do not necessarily make all students able to understand the material taught. Hence, teachers must innovate in the learning process in the classroom or the laboratory so that students can feel a new and not boring learning atmosphere. Teachers can also discuss or ask students what kind of learning students are most interested in to help the learning process become fun and help students obtain satisfactory grades (Linden & OECD, 2016).

For the various reasons above, the researchers examined that there needs to be an intersection of teaching methods in a learning process. Teachers should not only apply lecture methods in learning but also apply media in learning. Learning media can make it easier for teachers to explain the subject matter in terms of time, material, and energy (Roemintoyo & Budiarto, 2021). Students will also be more excited and do not seem bored in learning if teachers apply many methods in learning (ROY, 2019; Roemintoyo et al., 2022; Thaariq, 2020).

In addition, teachers are required to use media in the teaching and learning process and apply experimental methods. With this method, students are given the opportunity to experience or do it themselves, follow the process, and observe an object, circumstance, or process. In this regard, the role of teachers in experimental methods is essential, related to thoroughness and accuracy in interpreting experimental activities. Thus, in the learning process, teachers should not only apply lecture methods but also apply learning media and experiments. Therefore, with the variety of learning models, it is expected that learning goals can be achieved (Piriyasurawong, 2019). On the other hand, in the era of globalization, teachers are required to master technology, including the mastery of computers, especially as a medium of learning to create interactive learning. Using media, in this case, the Adobe Dreamweaver CS3 program is expected for students to be able to receive material well. Students not only listen to explanations from teachers but can also see the material delivered in the form of websites made as interesting as possible. With the media, students are also expected to be happy to take lessons and more excited to study geography subjects.

Multimedia development with Adobe Dreamweaver CS3 can convey information and science with a high level of realism. With the high level of realism in the learning media using Adobe Dreamweaver CS3, students can understand all the material in the learning media. In other words, Adobe Dreamweaver CS3 can clearly provide understanding to students and even replace the teacher's role if the teacher is not present. The creation of Adobe Dreamweaver CS3 requires imagination and creativity to get maximum results. Such abilities can be trained and developed integrated into various subjects that allow for the development of thinking. Adobe Dreamweaver CS3 is also easy to learn because there is no need to use complicated code, making it easy to create learning media.

Based on the explanation above, it can be seen that education always brings up new ideas, both in terms of means (procurement of tools/media) and knowledge (content), so the increase in knowledge must be balanced with commensurate learning facilities. Thus, learning media is always experiencing development because each media has weaknesses. Based on its use, it is necessary to find new media (Dewi, 2020). The delivery of increasingly complex materials also certainly requires sophisticated communication media. In this case, a wide range of technologies is applied to produce quality output.

Media in teaching also plays an important role as a tool to create an effective teaching and learning process (Budiarto et al., 2021). Each teaching and learning process is characterized by the presence of several elements, including goals, materials, methods, media, and evaluation. Elements of methods and media cannot be separated from other elements that serve as a way or technique to deliver the subject matter to reach the destination (Misir, 2018). In addition, teachers and educational media should stand shoulder to shoulder in providing ease of learning for students. Attention and

guidance individually can be implemented by teachers well, while information can also be presented clearly, interestingly, and thoroughly by the educational media.

Various disciplines have taken advantage of technological advances. The development of computer technology with a variety of software is available, ranging from Microsoft PowerPoint for the simplest slide presentation animations to Macromedia, both Flash and Authorware for web and video animation (Guo & Jia, 2016). Presentation of presentation materials in multimedia will greatly help students understand the material delivered by the teacher in the learning process. Learning that is abstract/verbal and difficult for students to understand can be overcome with the help of multimedia programs (Pujawan, 2019). The development of computer technology with multimedia capabilities also causes the creation of learning media easier and cheaper. Another researcher also stated that various software is available, ranging from Microsoft PowerPoint to slide presentation animations, Microsoft Flash, Dreamweaver, and video (Mayer, 2017). In addition, the existence of learning media made is expected to be used independently by students interactively and by teachers through computer networks, both LAN (Local Area Network) and the internet. In this case, Adobe Dreamweaver CS3 is one of the programs that can be used in multimedia development.

Online-based alternative learning media using Adobe Dreamweaver CS3 has many advantages that other media do not have. In addition, the appearance of the media is also relatively interesting compared to other media, both in terms of shape and layout. Through such a setting, users can freely explore the contents of the program. Because the program has been designed in such a way, it is flexible to be used for student learning. Many learning media can be used; in this study, the researchers raised one type of learning media, namely the Adobe Dreamweaver CS3 program, because there were not many teachers at Madrasah Aliyah State 1 Wonosobo who taught using the Adobe Dreamweaver CS3 program. It was chosen since Adobe Dreamweaver CS3 has many benefits, especially for learning activities, as one of the media that can help teachers and students in teaching and learning activities. Adobe Dreamweaver CS3 is also easy to learn because there is no need to use complicated code, making it easy to create learning media. Both teachers and students can also learn to create media for other subjects so that they can help in the learning process.

Moreover, to achieve the learning objectives of social science subjects, it needs to be supported by good learning media, namely media that can attract students in accordance with the times and do not deviate from the curriculum, creating an active, creative, and fun learning process. If learning is carried out using only one medium, the stimulation required for learning is limited. Learning should use multimedia so that the stimuli needed to learn become complete because it includes stimuli caused by the combination of audio and visual. Therefore, the authors are interested in further reviewing the development of online-based learning media using the Adobe Dreamweaver CS3 program for class X at Madrasah Aliyah State 1 Wonosobo in the geography subjects. Based on this background, the issues raised in this study are: *First*, how are the specifications for developing online-based learning media products using the Adobe Dreamweaver CS3 program for geography subjects in class X at the Madrasah Aliyah State 1 Wonosobo? *Second*, is the learning media feasible as an alternative medium for learning geography in class X at Madrasah Aliyah State 1 Wonosobo?

Based on the above problems, this study aims to 1) develop feasible learning media applied to geography subjects in class X at Madrasah Aliyah State 1 Wonosobo and 2) test the feasibility of online-based learning media products using the Adobe Dreamweaver CS3 program for geography subjects in class X at Madrasah Aliyah State 1 Wonosobo. Theoretically, the benefit of this research is expected to enrich insights and hone knowledge in geography subjects related to online-based learning

media using the Adobe Dreamweaver CS3 program in class X for geography subjects at Madrasah Aliyah State 1 Wonosobo.

RESEARCH METHODS

The researchers applied research and development type, aimed to develop a product in the form of software for learning media that can be utilized by teachers and students in the learning process (Sugiyono, 2018). Departing from this goal, it is expected that teachers and students can use online-based learning media using the Adobe Dreamweaver CS3 program well as one of the alternative learning media in the learning process.

A development model is a form or example used in product development. In this study, the authors used the development model presented by Haryono (1987):

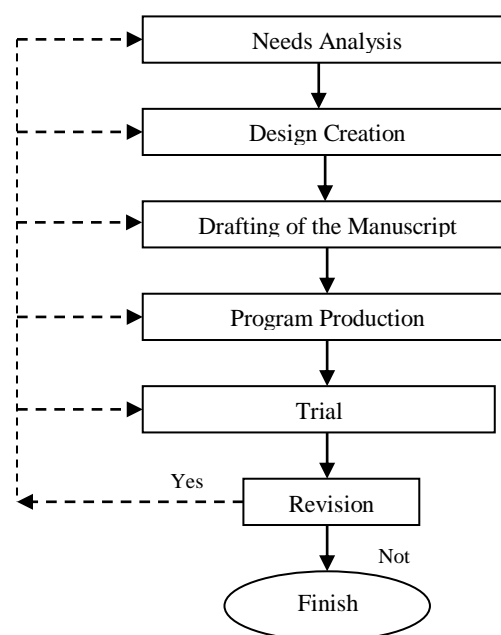


Figure 1. Development Model According to Haryono

RESULTS AND DISCUSSION

Online learning media development for geography subjects utilized Adobe Dreamweaver CS3 and Xampp 1.6.7 software. This learning media was made online so that users can access the website address either through Mozilla Firefox or other search engines. Starting with the installation process of Xampp 1.6.7 on a computer that serves as a local server, the installation of Adobe Dreamweaver CS3 was done. The process continued at the production stage, namely the display design process; it was sketching, aimed to divide the site's appearance into several parts. After the layout view was complete, it continued with creating menus with the suitability of the material. Next was to input the subject matter of geography class X. The last stage was in the form of uploading a website online to the internet using the hosting and domain/paid. After the product was tested by design validation by media experts, this process was carried out.

Then, the questionnaire was given to 72 students at Madrasah Aliyah State 1 Wonosobo. The questionnaire score for each indicator studied could be analyzed. Based on the questionnaire analysis results, the online-based learning media using the Adobe Dreamweaver CS3 program was said to be qualified to be used as an alternative learning medium for teachers and students. It can be seen from the ability of program indicators on the questionnaire results filled by students by 88% (good), with details of display criteria included in the good category (88%), and technical quality criteria included in the good category (88%).

Things that have not been achieved in developing online-based learning media using the Adobe Dreamweaver CS3 program are the existence of video and animation. It is a challenge for the researchers in the future how to incorporate video and animation on online-based learning media using the Adobe Dreamweaver CS3 program, keeping in mind that uploading websites online to the internet using hosting and domains alone causes power in access for a long time.

Moreover, the questionnaire revealed that online-based learning media using the Adobe Dreamweaver CS3 program could be used as a learning reference (100%) and an additional learning resource (100%). The material's content in m-learning software was quite complete (80%), consisting of eleven materials. In general, the material's content was a fairly complete summary, accompanied by examples and images. However, in the online-based learning media using the Adobe Dreamweaver CS3 program, there was a problem with the practice, consisting of problem practice 1 for semester 1. This problem should be practiced to evaluate the extent to which students master the material. This problem practice is also a counter to the input given by students. The return given in working on the exercise problem was 91%, and the message given to the user from the input given was 87%. It did not reduce the spirit of students to return to work on existing practice problems.

In addition, the color selection that did not mess with the content of online-based learning media using the Adobe Dreamweaver CS3 program made users comfortable browsing every menu (90% and 91%). Online-based learning media using the Adobe Dreamweaver CS3 program was easy to understand so that users did not feel confused reading existing material (80% and 85%). Users also could browse online-based learning media using the Adobe Dreamweaver CS3 program without finishing on one of the menus, so they could exit the program whenever the user wanted (89%). Besides, the command buttons in online-based learning media using the Adobe Dreamweaver CS3 program were simple and easy to operate, making users feel no difficulty browsing the program (80% and 87%).

Nevertheless, access was the problem in creating and implementing online-based learning media using the Adobe Dreamweaver CS3 program. Most users felt confused when it came to accessing hosting addresses because the user's habit of searching for addresses through search engines, in this case, is Google. However, this website address is new and has not been detected by search engines. In terms of accessing it, the user can go directly to the new page/new tab and write the address of this website (belajarGeografi.co.nr). Speed of access was also one of the obstacles when users jointly accessed this website page. In addition to the influence of the network, it is also because this hosting address was a free hosting address or not paid, so there are user restrictions in accessing this website page. It can be used as a researcher for future research so that when creating online-based learning media using the Adobe Dreamweaver CS3 program, it can be uploaded by using hosting addresses and paid domains. It aims to make access faster, and there are no restrictions on users accessing and can be detected by search engines. In terms of implementation, the researchers can give a brief and clear direction on accessing this website address.

The online-based learning media display using the Adobe Dreamweaver CS3 program was quite simple and interesting to make users happy and interested in always accessing it (80% and 89%). Access was quite easy, and users could not only access it through a computer but also a mobile phone (88%). When using online-based learning media using the Adobe Dreamweaver CS3 program, users felt happy to use it because of its simple and unique appearance (83%). Users also felt the need to create learning media like this for other subjects in addition to experience and spirit of learning (100% and 93%). Using online-based learning media using the Adobe Dreamweaver CS3 program, the learning process became easier (90% and 90%) and required more effective and efficient time in learning (80% and 89%).

One of the main objectives of online-based learning media development using the Adobe Dreamweaver CS3 program is an alternative learning medium and one of the learning resources. Therefore, this learning media is uploaded online to be accessed by anyone, anytime, and anywhere. It is because online learning media has characteristics in accordance to create and develop online-based learning media using the Adobe Dreamweaver CS3 program, namely as one of the alternatives learning media and one source of learning. Today, in line with technology development, learning does not always have to be face to face and in the classroom. Learning can also be done remotely, one of which is by accessing various learning resources through the internet.

Further, learning using online-based learning media using the Adobe Dreamweaver CS3 program motivated users to explore geography materials (82%). Using online-based learning media using the Adobe Dreamweaver CS3 program, user knowledge increased because it could be used as an additional learning resource (90%). However, accessing online-based learning media using the Adobe Dreamweaver CS3 program could only be done by those skilled at accessing the internet, so users needed to learn and often access various learning resources (76%).

In general, online-based learning media development using the Adobe Dreamweaver CS3 program consists of four main menus, namely home, materials, practice questions, and downloads. There is a preface from the author on the homepage, links related to kemdiknas.go.id, e-dukasi.net, rumahbelajar.net, jardiknas.go.id, and bse.net; there are also visitor statistics that show the number of visitors who access this website. In the material menu, there is an introduction and eleven materials that can be read well. In the menu about practice, there is a question on exercises 1 and 2, in which each exercise problem contains 20 questions. In the download menu, users can download eleven materials in the form of .pdf. However, the development of online-based learning media using the Adobe Dreamweaver CS3 program was not yet equipped with video and animation. Therefore, another form of software model is needed so that it can accommodate video and animation in its implementation.

Online-based learning media development using adobe Dreamweaver CS3 program uploaded online aims as an alternative learning medium, one of the learning resources, and accommodating learning anywhere and anytime. Overall, developing online-based learning media using the Adobe Dreamweaver CS3 program was feasible as an alternative learning medium for good, effective, and efficient teaching and learning in class X for geography subjects.

The results of the research obtained to give an idea that online-based learning media development research using the Adobe Dreamweaver CS3 program is needed because of the positive response from users and the development of technology in learning that encourages changes in the learning process itself.

CONCLUSIONS AND RECOMMENDATIONS

From the research results and discussions, it can be concluded as follows. 1) Specifications of online-based learning media product development using adobe Dreamweaver CS3 program for geography subjects in class X in Madrasah Aliyah State 1 Wonosobo began with the installation process of Xampp 1.6.7 as a local server and Adobe Dreamweaver CS3. The continued production process was designing the display, sketching, and dividing the display into several parts, namely headers, fills, and footers. After the layout was complete, it continued with creating menus consisting of practice questions. Next was to input material consisting of eleven chapters and question practices. The last stage was to upload the website online on the internet. 2) Online-based learning media using Adobe Dreamweaver CS3 program for geography subjects in class X was feasible as an alternative learning medium with a good qualification.

Further research is needed in developing online-based learning media using the Adobe Dreamweaver CS3 program for other subjects as an alternative learning medium and additional learning resources so that it is expected to help teachers and students learn effectively and efficiently.

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