Development of Quizizz-based Learning Media on Basic Computer and Network Subjects

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Abstract

Dampak Virus covid-19 mempengaruhi berbagai sektor kehidupan, termasuk dalam penyediaan layanan pendidikan. Untuk kelangsungan pendidikan dan turut serta memutus mata rantai penyebaran virus covid-19 maka pelaksanaan pembelajaran yang disesuaikan dengan kebijakan social distancing. Kegiatan belajar mengajar dilaksanakan di rumah masing-masing siswa dan dilaksanakan melalui media yang berani (online). Dalam proses pembelajaran, guru yang berperan sebagai Teacher Center dengan menggunakan metode yang menyebabkan siswa kurang memperhatikan guru, dan terkadang siswa mengalami kejenuhan dalam pembelajaran. Penelitian ini bertujuan untuk mengembangkan Quizizz pada mata pelajaran komputer dasar dan jaringan sebagai media pembelajaran dan untuk melihat validitas, kepraktisan, dan keefektifan Quizizz sebagai media pembelajaran pada mata pelajaran Komputer Dasar dan Jaringan. Penelitian ini menggunakan metode Research and Development (R&D) dengan prosedur pengembangan ADDIE yang meliputi Analisis, Desain, Pengembangan, Implementasi dan Evaluasi. Teknik analisis data menggunakan teknik analisis deskriptif untuk mendeskripsikan nilai validitas. Hasil media pembelajaran berbasis Quizizz pada penelitian pengembangan ini adalah: validitas media pembelajaran berbasis Quizizz dinyatakan valid dengan kategori nilai 0,87, media kepraktisan pembelajaran Quizizz berdasarkan tanggapan dua orang guru dengan rata-rata skor 89,4 pada kategori sangat praktis dan respon siswa dengan skor rata-rata 85,57 pada kategori sangat praktis. Keefektifan media pembelajaran berbasis Quizizz dinyatakan efektif dalam meningkatkan hasil belajar. Berdasarkan hasil penelitian dapat disangkal bahwa media pembelajaran berbasis Quizizz valid, praktis, dan efektif untuk digunakan sebagai media pembelajaran pada mata pelajaran Komputer Dasar dan Jaringan.

Keywords: Media pembelajaran, Quizizz, Komputer dan Jaringan Dasar

Abstract

The impact of the Covid-19 virus affects various sectors of life, including the provision of educational services. For the continuity of education and participating in breaking the chain of spread of the covid-19 virus, the implementation of learning is adjusted to social distancing policies. Teaching and learning activities are carried out at each student's home and carried out through bold media (online). In the learning process, the teacher who acts as the Teacher Center uses a method that causes students to pay less attention to the teacher, and sometimes students experience boredom in learning. This study aims to develop Quizizz in basic computer and network subjects as a learning medium and to see the validity, practicality, and effectiveness of Quizizz as a learning medium in Basic Computer and Network subjects. This study uses the Research and Development (R&D) method with ADDIE development procedures which include Analysis, Design, Development, Implementation and Evaluation. The data analysis technique uses descriptive analysis techniques to describe the value of validity. The results of Quizizz-based learning media in this development research are: the validity of Quizizz-based learning media is declared valid with a value category of 0.87, Quizizz learning practical media based on the responses of two teachers with an average score of 89.4 in the very practical category and student responses with an average score of 85.57 in the very practical category. The effectiveness of Quizizz-based learning media is stated to be effective in improving learning outcomes. Based on the research results, it can be denied that Quizizz-based learning media are valid, practical, and effective to be used as learning media in Basic Computer and Network subjects.

Keywords: Learning Media, Quizizz, Computer and Basic Network

Introduction

The Covid-19 pandemic is one of the problems facing countries in the world. Covid-19, one of the viruses that attacks the acute respiratory system, causes the death of 100,000 people within one week (Remuzzi & Remuzzi, 2020) causing various changes in various orders of human life (Dong et al., 2020a; Wong et al., 2020). One area that must undergo change is the field of education, the government issued a policy to carry out all learning activities at home to prevent the spread of the virus more widely. Learning that is carried out face-to-face, turns into online learning which requires students to learn independently (Oktafia & Wulandari, 2020). Online learning provides opportunities for students to exchange information independently (Hwang et al., 2020). To simplify online learning, tools such as WA, email, Google classroom, google meet, google zoom are used, and even use social media and YouTube (Mishra et al., 2020). Online learning is a learning activity that requires an internet network with connectivity, accessibility, flexibility, and the ability to generate various types of learning interactions (Patricia, 2020). However, problems have started to emerge with online learning, where students have difficulty even not being able to experience stress due to ongoing assignments and lack of understanding of the material provided (Patricia, 2020), online learning also keeps children away from the collaboration process or reduces their abilities social children (Abe, 2020). Parents are not ready to face online learning, online learning does not have a formal atmosphere like traditional learning, online learning does not occur social interaction among students (Dong et al., 2020b). Many children do not do online learning, do other activities besides learning such as playing games, social media and watching more YouTube and other activities that indicate addiction to "gawe" (Liu et al., 2020; Rahmawati & Latifah, 2020; Samaha & Hawi, 2016). This is supported by the results of observations made on basic computer and network subjects.

Basic Computers and Networks are basic compulsory subjects in the field of Computer and Information Engineering (TKI) expertise that students must undertake. Based on the curriculum structure for Basic Computer and Network subjects delivered in class X semester 1 and semester 2 each 3 hours of lessons, one basic competency to be studied is occupational health and safety (K3LH), computer assembly, computer assembly testing, BIOS configuration, operating system installation, driver installation, application software installation, computer hardware maintenance, basic computer networking and computer troubleshooting. In this basic competency, there are theoretical and practical materials that students need to master, so this competency requires models and media that can help students understand learning. Problems experienced during the learning process of Computer and Basic Networks such as student motivation and activeness in the learning process are still lacking, the basic competencies that students must achieve are quite dense, but the time available for face-to-face classes is limited (Fausih & Danang, 2015; Saputra et al., 2019). Based on the results of observations and interviews conducted by researchers at SMK Negeri 5 Padang to teachers of the Computer and Network Engineering expertise program, it was found that students experienced difficulties in Computer and Basic Network subjects. However, there are still obstacles during the learning process, especially in Computer and Basic Network subjects. These problems are: students are less active in learning computers and basic networks; the delivery of subject matter still uses conventional media. It is the teacher's job to be able to convey the material optimally even in the midst of a pandemic like this. The use of various online applications was introduced to educators. All educators are expected to be able to do online learning. Together with parents or guardians of students, teachers work together so that the learning process continues to run optimally, so digital-

based learning is needed that is more innovative, effective, and efficient, so digital-based learning media is needed to be used in an effort to improve student learning outcomes.

Instructional media is needed by teachers as a means of delivering subject matter. The role of learning media in the teaching and learning process is very important to be carried out by educators at this time, because the role of learning media can be used to channel the sender's message to the recipient and through learning media can also help students to explain something that is conveyed by educators (Tafonao, 2018). Learning media is an intermediary that is functioned by the sender as a channel for sending messages to the recipient, so that it can invite the same attention, thoughts, feelings and desires so that the learning process occurs (Kasdi & Wijayanti, 2017; Setiawan et al., 2020). Learning media can be used as learning aids that can enable children to be active, creative, and fun in their learning activities (Agustini et al., 2016; Sumanto, 2018). There are many media that can be applied by teachers, one of which is game-based learning media which can also be used as evaluation material to measure student understanding during the period when students get the material that has been taught is quiz game-based learning (Citra & Rosy, 2020). Media Quizizz is a game-based educational application that can be used as a learning evaluation medium (Pusparani, 2020). Quizizz also allows students to compete with each other and motivate them to learn so that learning outcomes can increase (Mulyati & Evendi, 2020).

Based on the description of the problem above, the researcher wants to create a learning media that can motivate student learning, namely "Development of Quizizz-Based Learning Media on Computer and Basic Network Subjects". Which aims to produce valid, practical, and effective Quizizz-based learning media. The design of this learning media is expected to be used as an alternative learning media for basic computer and network subjects. This media can be used by students during the learning process in class and outside the learning process, so that its application is not limited.

Materials and Methods

This research is a research and development research and development (R&D). R&D research plays an important role in the development of science and technology because it can contribute to educational innovation. The development of Quizizz-based learning media in this study refers to the ADDIE development model. ADDIE stands for Analysis, Design, Development or Production, Implementation or Delivery and Evaluations. The first stage in this model is analysis in the form of analysis of the background of the problem, identification of problems and developing conditions. The next design stage is the planning stage and the initial product conceptualization. Development as the third stage that realizes product design. The fourth stage is implementation that implements the media that has been developed in real situations, namely in learning activities. The last stage is Evaluations as a stage in evaluating products and finding needs that have not been met by the media or methods. There are several stages in the process of creating Quizizz-based learning media. Starting from the analysis stage, it is carried out the first time to get a picture of the conditions that occur in school, the selection of Quizizz-based learning media, the design of Quizizz-based learning media must be done first before validating. The validator was then tested, developed to obtain valid, practical, and effective Quizizz-based learning media obtained from the comments of subject teachers and students in using Quizizz-based learning media, and evaluation of the learning media itself. The data collection instruments used in this study were: (1) validity questionnaire instrument, (2) practicality questionnaire instrument, (3) question instrument effectiveness. The data analysis technique is descriptive in nature by describing the validity, practicality and effectiveness of using Quizizz-based learning media on basic computer and network subjects. The validity analysis used the V Aiken formula.

Results and Discussion

The process of making Quizizz-based learning media goes through several stages. The analysis stage is carried out for the first time in order to get a picture of the conditions that occur at school. First, needs analysis to determine the making of Quizizz-based learning media in Basic Computer and Network subjects starting from needs analysis, curriculum analysis, material analysis and student characteristic analysis. Second, the design stage contains the design process for making learning media needed in accordance with the results of the first stage, namely the analysis stage. After that, make a flow chart that describes the sequence and structure of the learning media. Then the storyboard design is used as a planning template design and learning materials.

Third, development is carried out by utilizing the results of analysis that has been done previously to determine the media used and the media format to be developed so that Quizizz was chosen because quizzes are a more creative and innovative learning medium and are able to present presentation slides and can also include polls, if there are questions. . courses in lessons and interactive quiz games that can be used in learning. It is very suitable for use in making learning media, apart from presenting learning material, this media is also equipped with quizzes in the form of multiple choice questions and opinion questions so that students can use them both with teachers and independently. The appearance of the media is complemented by sound effects that make learning media more attractive for students to use.

Fourth, this implementation stage is carried out to obtain valid, practical, and effective Quizizz-based learning media. This stage consists of a validity test obtained from the validator's assessment, and a practicality test obtained from the comments of subject teachers and students in using Quizizz-based learning media. The process of the development stage of Quizizz-based learning media starts from (1) validation of the validity test which is carried out by providing a validation questionnaire to two material expert validators and two media expert validators and the assessment given by the validator according to the questionnaire given obtained results from the media validator 0.87 categorized as valid and the validator results of the material 0.83 are categorized as valid (2) the practicality of learning media is related to the ease of use of the developed learning media so that the practice results are obtained from practitioners' responses through filling out questionnaires, namely teachers of Computer and Basic Network subjects totaling 89.4 categorized as very practical and from class X TKJ in Computer and Basic Network subjects as many as 85.57 which are categorized as very practical (3) at this stage of testing the effectiveness of this Quizizz-based learning m Media, test subjects are first given a prete test. st before using learning media and the final test after posttest learning after using learning media. After obtaining the student completeness data individually, then the number of students who achieved the completeness was determined. Based on the results of the classical completeness score, it is known that students who complete with a percentage of 82.61% concluded that the Quizizz-based learning media is said to be effective from the study of classical values. Finally, this evaluation aims to improve the product at each stage carried out so that the product developed is suitable for use in the learning process. Based on the results of the research on the development of Quizizz-based learning media that has been carried out, it is concluded that development research produces Quizizz-based learning media in Basic Computer and Network subjects that are valid, practical and effective in Computer and Network Engineering Network

The effectiveness of developing this model is certainly inseparable from how this media is developed and adjusted to the material characteristics and characteristics of students. Learning media is very important at this time in the midst of the current covid-19 wave, with the help of Quizizz-based learning media learning will be more fun because learning is done by playing. The role of learning media in the teaching and learning process is very important

to be carried out by educators at this time, because the role of learning media can be used to channel the sender's message to the recipient and through learning media can also help students to explain something that is conveyed by educators (Tafonao, 2018). Learning media is an intermediary that is functioned by the sender as a channel for sending messages to the recipient, so that it can invite the same attention, thoughts, feelings and desires so that the learning process occurs (Kasdi & Wijayanti, 2017; Setiawan et al., 2020). Learning media can be used as learning aids that can enable children to be active, creative, and fun in their learning activities (Agustini et al., 2016; Sumanto, 2018). There are many media that can be applied by teachers, one of which is game-based learning media which can also be used as evaluation material to measure student understanding during the period when students get the material that has been taught is quiz game-based learning (Citra & Rosy, 2020). Media Quizizz is a game-based educational application that can be used as a learning evaluation medium (Pusparani, 2020). Quizizz also allows students to compete with each other and motivate them to learn so that learning outcomes can increase (Mulyati & Evendi, 2020). Quizizz can produce creative, innovative and fun learning media so it needs to be used as a learning medium (Aini, 2019). QUIZIZZ is attractively designed and not monotonous, and based on games. QUIZIZZ as an online application that makes it easy and summarizes for teachers in effective learning assessments (Wahyudi et al., 2020). The existence of Quizizz-based learning media will have an impact on learning because, (1) the attention of students in using cellphones in the learning process, (2) Students understand the questions independently (3) Activeness, both asking questions about the material and evaluating and recording the material. (4) Students' accuracy to questions and time management. (5) Calmness in working on questions or quizzes (Salsabila et al., 2020). As well as the advantages of based learning media are the characteristics of the games such as memes, avatars, themes and entertaining music in the learning process (Sudihartono, 2020).

Conclusion

Based on the results of research on the development of Quizizz-based learning media that has been carried out, it is concluded that development research produces Quizizz-based learning media in Basic Computer and Network subjects that are valid, practical and effective in Computer and Network subjects. Network Engineering at SMK 5 Padang.

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