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Modul Cetak Teks Eksplanasi Berbantuan Kode Cepat Tanggap (QR Code) Untuk SMA/SMK

Quick Response Code Assisted Explanation Text Printing Module (QR Code) for SMA/SMK

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Abstract: The purpose of this study was to obtain the design of the explanatory text printing module assisted by a quick response code (QR code) for SMA/SMK, the feasibility of the explanatory text printing module assisted by a quick response code (QR code) for SMA/SMK, and the results of the implementation of the explanatory text printing module assisted by a code. quick response (QR code) for SMA/SMK. This study uses a development model (research and development, R&D). The product of this research development is a print module assisted by a quick response code (QR code), which is suitable for use based on the results validated by material experts and media experts, namely material experts with an average score of 3.5 (good) and media experts with an average score of 3. .5 (good). The results showed that the design of explanatory text printing modules assisted by quick response codes (QR codes) was feasible to use based on the results of responses from educators and students. Educators obtained an average value of 3.7 with the "good" criteria. While the responses of students were 46.23% of students who answered very well, 49.00% of students answered well, 4.77% of students answered less. The results of the implementation of the print module assisted by the quick response code (QR code) show that there is a difference in the pretest and posttest results, namely the pretest obtained an average score of 60 and the posttest results obtained an average value of 75, with an increase in score of 15 and a difference in pretest and posttest results of 14. This shows that there is an influence from the implementation of the explanatory text printing module assisted by quick response codes (QR codes) on student learning outcomes.

Keywords: Module, quick response code (QR code), explanatory text

A. Introduction

Technological developments in the era of globalization, which are developing so fast, demand that all sectors must improve and keep up with it. Every sector must continue to prepare itself and improve its quality so that it does not erode and become a victim of the current developments of globalization. The education sector, which is a strategic sector in determining the future and direction of the nation's progress as well as being the main tool in producing a quality generation that is expected to be able to compete with the international community, must also improve in every line. Educational infrastructure must continue to be improved, educator competencies must be developed, curricula must always keep up with the times, community needs and student needs, improved school and classroom management, learning media that are more complete and in accordance with technological developments and learning methods that are must always be improved so that the effectiveness and efficiency of achieving learning objectives can be achieved optimally.

Education and learning are something that cannot be separated. Learning is an important part of the educational process. In order to have good quality education, a good learning concept is also needed where learning activities are organized to shape character, build knowledge, attitudes and habits to improve the quality of life of students. Students are expected to experience changes in themselves, these changes are obtained from learning experiences not from body or character development from birth (Trianto, 2014: 18). Education is a process of improving, strengthening, perfecting all human capabilities and potential. In the learning process educators need teaching materials, teaching materials are used by educators and students as learning resources. Thus, it can be interpreted that teaching materials are guidelines or learning objectives which are embodiments of the curriculum which have a very important role in learning. Teaching materials can not only be used as learning tools, but can also be used as a process of changing behavior. In addition, the use of teaching materials can also improve the learning process more effectively and interactively. Teaching materials are one of the components in learning planning that must exist in learning. According to Rozak (2018) teaching materials

prepared by educators must consider learning methods, technological developments as teaching media, age, and child development as well as the social culture of the surrounding environment.

The learning module is a set of teaching materials which consist of learning objectives, learning instructions, materials, material summaries, evaluations, indexes, and feedback as follow-ups, which are arranged systematically in easy-to-understand language. This is in accordance with the opinion of Prastowo (2012: 106) that modules are teaching materials that are systematically arranged in language that is easily understood by students according to their age and level of knowledge so that they can learn independently with guidance from educators. Modules designed and created as a means of independent learning. Meanwhile, according to Sukiman (2011: 131) which states that the module is a unit of planned learning activities, to assist students individually in achieving their learning goals. Along with the times with the characteristics of science and technology progress, modules are designed, developed and connected via electronic media. Electronic modules or so-called electronic modules that can be accessed via smartphones, laptops, tablets and computers using barcodesmodule identifier. In today's modern era, technology and communication-based media can be used as interesting learning media and have a positive impact on improving student learning outcomes (Yektyastuti, 2016). The use of technology in media is usually in the form of educational games, e-learning, internet or m-learning which are deliberately made to support the learning process. In addition, the use of the barcode system in education has begun to be implemented.

The teaching material that the researcher will develop is a printed module teaching material assisted by a quick response code (QR code) in explanatory text learning. A quick response code (QR code) is a two-dimensional matrix code which is capable of storing information of up to thousands of alphanumeric characters and can be read vertically and horizontally (Rouillard, J., 2008). The use of a barcode system with the type of quick response code (QR code) can be applied in the entertainment and education fields. As civilization advances, barcodes undergo evolution which is marked by the emergence of a two-dimensional barcode system such as quick response code (QR code). The difference between the two can be seen from the shape and reading of the code in the related system, where the barcode can only be read in one direction so that when a part of it is damaged the system cannot read it. Unlike the quick response code (QR code), which has the advantage of being read from all directions and still readable by the system even though the parts are damaged/dirty (Widayati, 2017). Quick response codes (QR codes) in the world of education can be used for attendance or recording student attendance (Setyorini, 2018). Quick response codes (QR codes) can be used for labeling school inventory items (Agustina, 2017). Quick response codes (QR codes) can also be used to determine study plan cards (Firmansyah, 2019). Based on this explanation, the quick response code (QR code) in the learning process will be of particular interest to students because apart from being easy the quick response code (QR code) has a modern impression when used in the learning process so that it will become something new for students. The use of quick response codes (QR-codes) in learning, in this case, is the print module assisted by quick response codes (QR codes) in explanatory text lessons in class XI SMK.

Problems obtained in learning explanatory texts, researchers found a problem in the process of teaching and learning activities in educational units. In this case learning mostly uses teaching materials only in the form of textbooks, therefore creative and innovative teaching materials are needed so that students don't feel bored and are motivated to be enthusiastic about learning.

Teaching materials assisted by quick response codes (QR codes) are still very rarely used in the learning process by educators. In the current era of globalization, educators should play an active role in terms of carrying out innovations and learning variations in order to create new learning conditions and atmosphere so as to be able to provide enthusiasm and high learning motivation for students to achieve maximum learning results. In this case the researcher wants innovative teaching materials that present pictures, videos from various sources and links that can be accessed through the use of information in the form of quick response codes (QR codes).

Previous similar research was conducted, among others, Yuswanti in the scientific journal nosi volume 8, number 1 of 2020 with the article title Development of Electronic Modules Using Sigil Explanatory Text Material for Class XI Students inBrantas Karangkates Vocational High School. This research shows the results that e-modules can be used as teaching materials. This reason can be seen from the average value of all aspects, namely the display aspect is 86%, the presentation aspect is 82%. So that the average accuracy of explanatory text e-module teaching materials for class XI students of SMK Brantas Karangkates using Sigil is 82%, which means it is very feasible to use.

In addition, Ade Ina Rismayati and Jaja Vol. 7, No.2, November 2018 with the title of the article Development of Explanatory Text Teaching Materials Based on Print Mass Media News. This research is based on how the elements and linguistic rules are contained in the explanation text in printed mass media news, how is the design of explanatory text teaching materials based on printed mass media and their implementation in learning explanatory text, what are the results of the implementation from the use of explanatory text teaching

materials based on printed mass media in learning explanatory text. The results of this study are that explanatory text learning media can be used in the learning process because it meets the eligibility criteria.

Then the next research was conducted by Nurwahyuni, Sukmawati (2016) Development of Complex Explanatory Text Flip Books for Class XI SMA/MA Semester 2 Students. The difference in this study was to produce learning multimedia with flip books containing complex explanatory text teaching materials. While the author's research develops a quick response code (QR code) which contains explanatory text material relating to structure, linguistic rules and producing explanatory texts. Based on this relevant research, there are differences and updates in this study which lie in the use of a quick response code (QR code) as a tool for making modules. The purpose of this study is to explain the design of printed teaching materials using the help of quick response codes (QR codes) and find out how the results of the implementation of the development of teaching materials for printed explanatory text modules are assisted by quick response codes (QR codes).

Based on this background, it is necessary to develop teaching material modules for learning explanatory texts that use technology so that it can make it easier for class XI SMK students in this case the use of quick response codes (QR codes) in print modules. The title of this research is explanatory text printing module assisted by quick response code (QR code). Through the development of teaching materials, it is hoped that it can help students and educators in the process of learning explanatory texts

B. Methodology

The development model used in this study is the R&D development model from Borg and Gall which has been modified by Sugiyono in 10 development steps. The steps for developing these teaching materials are potential problems, data collection, product design, product validation, product revision, product trials in small groups, product revisions, trial use in large groups, product revisions, and mass production. The product of developing teaching materials for printed explanatory text modules assisted by quick response codes (QR codes) is then implemented in educational units with research subjects, namely educators and students.

At the potential and problem stage, the researcher conducted a preliminary study and found the problem that in the learning process, textbooks were still used as the only source of learning. Therefore, the learning process is lackinginteresting, does not respond to students' learning interests, so that learning outcomes are less than optimal. The potential in this study is the use of quick response codes (QR codes) on printed modules as a means of digitizing which can be used as a source of companion books or textbooks that function as assistants for students during independent learning, because the content contained in the quick response code (QR code) contains additional explanation about explanatory text material.

At the data collection stage, the researcher conducted an analysis of the needs of teaching materials according to the problems found in the preliminary study. Based on these problems, it is necessary to develop teaching materials that collaborate with technology that can motivate and facilitate the development of students, so as to create an interesting learning atmosphere. According to the revised 2013 curriculum, Indonesian language learning is text-based, such as KD 3.4 and 4.4 explanatory text learning, where learning requires innovative and creative teaching materials that can improve learning outcomes.

Product design stage, at this stage the researcher designed the initial product design by paying attention to the needs of developing teaching materials in learning KD 3.4 explanatory text analyzing the structure, language of explanatory texts and KD 4.4 producing explanatory texts. The design for the presentation of this teaching material is arranged sequentially consisting of front cover, table of contents, identity and instructions for using teaching materials, brief material descriptions, sub-chapter titles which contain learning based on basic competencies equipped with practice questions and quick response codes (QR codes). .

The product validation stage is the process of assessing whether the new explanatory text printed module teaching material product is rationally better and more effective than the old printed module product, by asking for the assessment of experienced material experts and media experts. .

The product revision stage is an activity to improve the design of explanatory text printing modules assisted by quick response codes (QR codes) in accordance with suggestions and input from material experts and media experts.

Product trial stage in small groups, at this stage the researcher tested the explanatory text printing module assisted by a quick response code (QR code) in small groups in class XI with a total of 10 students.

Product revision stage, at this stage the explanatory text printing module assisted by a quick response code (QR code) is revised based on the results of product trials in small groups.

The testing phase for use in large groups, the explanatory text printing module trial with the help of quick response codes (QR codes) under actual conditions was tested more broadly on class XI students heterogeneously in the amount of 36 students.

In the product revision stage, if there are deficiencies in actual use conditions, then the explanatory text printing module assisted by quick response codes (QR codes) is corrected. Based on the results of evaluation

and reflection on extensive trials or actual use, the explanatory text printing module assisted by quick response codes (QR codes) was revised.

The mass production stage, after repairs have been made, the end result is a printed explanatory text module assisted by a quick response code (QR code) ready to be reproduced.

In this study the data collection techniques used were validation sheet questionnaires, observation sheets, and tests. Questionnaire is used as a data collection technique which is given in written form. Sudjana, Ibrahim (2014: 102) explains the questionnaireor a questionnaire is a data collection technique in the form of questions submitted by researchers given in writing and the form of answers given by respondents in written form. Observation is the activity of observing the learning process in class to get an overview of educator activities before and after applying printed module teaching materials assisted by quick response codes while learning. Tests are generally used to measure the results of student learning, especially learning outcomes related to mastery of teaching materials and teaching objectives. This test was carried out by researchers to obtain data and information about student achievement in learning outcomes on certain subjects in teaching and learning activities. According to Sugiyono (2015: 174) tests are instruments for measuring learning achievement. In this case, the test is used as a medium or data collection tool to measure students' abilities in learning explanatory texts.

C. Results and Discussion

1. Research Results

The main result of this study is the design of explanatory text printing modules with the help of quick response codes (QR codes) for SMA/SMK. This explanatory text printing module with the help of a quick response code (QR code) is a companion teaching material to support the main book that students can usefor independent study. The contents of the teaching materials for the explanatory text printing module assisted by the quick response code (QR code) are in accordance with the module design, the design of the explanatory text printing module assisted by the quick response code (QR code) is as follows.

1.1 Design of the Explanation Text Printing Module with the help of Quick Response Code (QR code)

The development design of the explanatory text printing module assisted by a quick response code (QR code) is presented sequentially with the following structure.

(a). Front cover (The front cover consists of the module title, class and author's name.)
(b). Table of contents (The table of contents is designed as a medium to make it easier for readers to find pages in the module, the form of the table of contents consists of the title of the material and the page number)
(c). Identity and instructions for using teaching materials (Module identity contains the name of the subject, for what grade, and Competency Standards and Basic Competency. The instructions for using module teaching materials contain ways to use the module properly and correctly, containing commands or activities that must be done by students in studying the module)
(d). Brief material description as supporting information (Brush description of the material contains a brief explanation of explanatory text material)
(e). Sub-chapter title which contains basic competency-based learning supplemented by practice questions and quick response code (QR code) (Learning sub-chapter will present a detailed discussion of material based on Basic Competence and at the end of the discussion a quick response code (QR code) and evaluation will be given)
(f). Bibliography (Library list contains all reading sources used as reference material for writing teaching materials (modules) which contains the author's name, book title, publisher, identity of the publisher and year of publication)

These sections are in accordance with Prastowo's opinion (2015:28-30) that a module must have components such as study guides, competencies to be achieved, supporting information, exercises, work instructions or worksheets, and evaluation. An example of using a quick response code (QR code) in a print module.

The quick response code (QR code) contained in the module functions as a medium or tool that can help students understand the material being studied independently. The quick response code (QR code) can be scanned using a scanner application. The scanner application can be downloaded from the play store, then installed on the smartphone. Through the scanner application students can scan content contained in the quick response code (QR code) contained in the print module.

1.2 Design Validation of Explanation Text Printing Module assisted by Quick Response Code (QR code)

Product validation for the development of teaching materials for printed explanatory text modules assisted by quick response codes (QR codes) was tested by material experts and media experts. The results of the validation of material experts and media experts are as follows. The results of the validation by material experts with an average value of 3.5 with the criteria of "good" with notes that it is better to use their own content in the quick response code (QR code) and the results of validation by media experts with an average value of 3.5 with the criteria of "good" with note that in the instructions for using the module a recommendation is given to download a scanner application or a special link is provided, because not all smartphones have a scanner application and it is necessary to add a quick response code (QR code) in practice.

2. Discussion

2.1 Feasibility of the Explanatory Text Printing Module assisted by Quick Response Code (QR code)

To find out whether the explanatory text printing module with the help of a quick response code (QR code) is feasible or not, the product must be validated by experts and solicit responses from module users, namely educators and students. The results of the validation and response to the explanatory text printing module assisted by a quick response code (QR code) are as follows:

Validation of experts on the design of explanatory text printing modules assisted by quick response codes (QR code), material experts obtained validation results with an average value of 3.5 with the criteria of "good" while media experts obtained validation results with an average value of 3.5 with the criteria "good" So the development design of the printed explanatory text module with the help of a quick response code (QR code) can be used as a learning resource.

Educators and students' responses to the design of explanatory text printing modules assisted by quick response codes (QR codes). The results of educators' responses to the product design are an average value of 3.7 with the "good" criterion. This value is obtained through the distribution of questionnaires. While the results of student responses with a total of 36 obtained results 46.23% of students answered very well, 49.00% of students answered good, 4.77% of students answered less and 0% of students answered very less, the value was obtained by questionnaire distribution. Based on the validation results of experts as wellthe responses of educators and students can be concluded that the design of the printed explanatory text module with the help of quick response codes (QR codes) is suitable for use as a learning resource in explanatory text learning.

2.2 Implementation of the Explanation Text Printing Module with the help of Quick Response Code (QR code)

Student responses to learning applied by educators are very necessary for educators as evaluation material. This evaluation activity can be used as a basis by educators to create good and quality learning. In this case the researcher wanted to know the implementation of the explanatory text printed module teaching materials that had been developed with a quick response code (QR code) and had been used by 36 class XI students as respondents as an experimental class. Implementation is carried out by providing pre-test and post-test assessments. The results of the implementation of the pretest obtained an average score of 60 and the results of the posttest obtained an average value of 75, with an increase in score of 15 and a difference between the pretest and posttest of 14. This shows the implementation of teaching materials for printed explanatory text modules assisted by quick response codes (QR codes). developed by researchers is effective and can be used as a source of accompanying material for printed books in teaching explanatory texts

D. Conclusion

Based on the results of data analysis that has been carried out by researchers in the previous discussion. Researchers get various conclusions that can be conveyed as follows:

1. Design teaching materials

The design of the quick response code (QR code) on printed module teaching materials provides attractiveness and usefulness. Print module teaching materials equipped with quick response codes (QR codes) provide a solution to the problem of developing teaching materials which can make it easier for students to understand material about explanatory texts. The use of the quick response code (QR code) in the print module can be used as a companion to printed books for students during independent study.

This statement is based on the results of distributing questionnaires to educators and students. The results of distributing questionnaires to educators obtained an average score of 3.7 because the design of the explanatory text printed module teaching materials assisted by quick response codes (QR codes) is interesting and effective and facilitates students to build understanding based on prior knowledge, explore information that is needed to solve problems, and encourage students to collaborate and discuss.

The results of the questionnaire given to students related to the design of printed module teaching materials assisted by quick response codes (QR codes) can be presented, namely 46.23% of students answered very well, 49.00% of students answered well, 4.77% of participants students answered less than 0%. Statements of suggestions and comments written by students in the questionnaires distributed conveyed that the teaching materials for the printed explanatory text module assisted by quick response codes (QR codes) were very interesting and creative so that they could be used as independent learning resources for students.

2. Implementation of Teaching Materials

Teaching materials for printed explanatory text modules assisted by quick response codes (QR codes) can help students in the learning process. This can be seen from the results of the implementation of pretest and posttest assessments on students. The results of the implementation of the pretest obtained an average score of 60 and the results of the posttest obtained an average value of 75, with an increase in score of 15 and a difference between the pretest and posttest of 14, this shows the implementation of teaching materials for printed explanatory text modules assisted by quick response codes (QR codes). developed by researchers can be used as a source of companion material for printed books in learning explanatory texts.

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