AN APPLICATION OF RESEARCH AND DEVELOPMENT METHODS IN MANAGEMENT OF DIGITAL MEDIA TO IMPROVE THE LEARNING MINDSET STUDENTS

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ARTICLE INFO	ABSTRACT
Keywords: Teaching Materials, Digital Media, Research and Development (R&D), English	This study aims to develop and produce digital media-based teaching materials in English lessons that are validated and describe their validity, practicality and effectiveness. This study applied the Research and Development method with five stages (ADDIE), namely Analysis, Design, Development, Implementation and Evaluation. The development model used is the Luther-Sutopo version of the multimedia development model which consists of six stages, namely drafting, designing, gathering material, manufacturing, testing and distribution. Digital media-based teaching materials are expected to present interesting and interactive English learning materials, so that it will be easier for teachers to carry out learning and can improve student achievement in the field of education.
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1. INTRODUCTION

Teaching materials are an important part of implementing school education. With the teacher's teaching materials it will be easier to carry out learning and students will be more helpful and easy to understand in learning. One of the learning events that can influence learning activities is to include learning materials in these activities. Completely designed learning materials, in the sense that adequate media elements and learning resources will affect the learning atmosphere so that the learning process that occurs in students becomes more optimal (Ianah and Raharjo 2014).

To increase students' learning motivation and mindset, of course, it needs to be supported by adequate facilities and infrastructure. Directly or indirectly will increase student achievement in the field of education. One of the facilities that must be available to improve the quality of learning is learning media. Educators must be able to present innovative learning media that are in line with technological developments. Practical and innovative learning media is one of the main factors in achieving the success of learning objectives. The combination of several existing media, such as text, images, video, audio presented in one form of learning is usually called multimedia (Okra and Nodera, 2019).

Based on field observations at the IT AL Fatih Elementary School, in general teachers have not shown maximum ability to use teaching materials based on syllabus and lesson plans. So far, teachers only teach learning materials without the support of complete equipment and media. In delivering the material, it is only lectured, and the use of teaching materials is in the form of textbooks.

Thus English teaching materials must be adapted to the 2013 curriculum standards in an effort to lead students to develop their intelligence. Management Standards and Educational Assessment Standards) all of which are regulated by the National Education Standards Agency (BSNP).).

Macromedia Flash Professional 8 is software that can be used as a medium for learning. Because in addition to animation capabilities, Flash is also able to handle interactive aspects between Flash movies and users. Macromedia Flash 8 can be used to create learning media in the form of interactive and interesting videos (Nurdyansyah and Mutala'liah, 2015).

This research is important to be carried out knowing the importance of digital media-based English teaching materials for Grade 1 Elementary School students. So that it is easier for students to understand all the material in the lesson. In this study, computer technology aids are needed in learning so as to increase learning motivation and student mindset. This digital media-based teaching material is expected to be an alternative in English learning methods that are not taught in their schools.

2. LITERATURE REVIEW

Management Teach

Management teaching materials is a general term used to describe the learning resources that teachers use to convey learning. Teaching materials can support the learning process and increase student success (Farhana, Suryadi, and Wicaksono 2021).

Teaching materials are all materials, both in the form of information, tools and texts that are arranged systematically, and display a complete figure of competencies that will be mastered by students and used in the learning process with the aim of planning and studying the implementation of learning (Prastowo, 2013: 17).

Teaching materials are all forms of materials used to assist teachers or instructors in carrying out teaching and learning activities in the classroom. The material in question can be either written or unwritten material (Soeyono 2014).

Macromedia Flash 8.0

Macromedia Flash Professional 8 is a software that can be used to add dynamic aspects to a web or create interactive animated films. Flash can also be used as a medium for learning. Because in addition to animation capabilities, Flash is also able to handle interactive aspects between Flash films and users (Nurdyansyah and Mutala'liah 2015).

Macromedia Flash 8 is a professional standard authoring tool application program that is used to create amazing vector and bitmap animations to create interactive, attractive and dynamic websites (Fitri, J., Sarmidin, & Mailani 2019)

Macromedia flash is a program for creating professional animations and web applications. Not only that, Macromedia Flash is also widely used to create games, animated cartoons, and interactive multimedia applications such as product demos. (Handayani, Putra, and Yetri 2018)

Macromedia flash is a blend of learning concepts with audio-visual technology that is capable of producing new features that can be utilized in education. (Rifatullah et al., n.d.)

RnD (Research and Development) Method

The research and development method is one of the research methods from Borg and Gall which was introduced as a method that is systematic and can be applied in the field of education which aims to design new products or procedures to improve the quality of education through a field test process to find effectiveness and standardization that has been applied systematically. academic and empirical. (Rabiah, 2018)

Research and Development (R&D) or often called "development" is a research strategy or method that is powerful enough to improve learning practices (Tegeh and Kirna, 2013). In the research & development method, several steps can be classified, namely examining potential, data collection, product design, validation, revision, trial, revision II, trial use and product procurement.

3. METHOD

The research approach is the steps that will be taken in order to solve the problems that will be discussed in this study. The research approach can be in the form of a framework. In the research approach, several stages were carried out, namely problem analysis, literature study, data analysis, Luther Sutopo method, system design, system implementation and system testing.

1. Problem Analysis

In this study, the authors analyzed the problems found in SD IT AL-Fatih. At this school the learning method implemented has not implemented digital media-based learning media, especially for Grade 1 Elementary School students with English subjects.

2. Literature Study

In the literature study stage, the writer studies studies and journals previously related to Research and Development methods and multimedia-based learning using Macromedia Flash 8.0.

3. Data analysis

At the data analysis stage, the type of research used is qualitative research. In this case, the data source used is teaching materials in the form of English books for grade 1 elementary school.

4. Research and Development Methods

The Research and Development method is a method used in making multimedia-based teaching materials, in which there are five stages in this method, namely Analysis, Design, Development, Implementation and Evaluation.

5. System Design

At the system design stage, the tools used are UML (Unified Modeling Language) which includes use case diagrams, activity diagrams, sequence diagrams and class diagrams.

6. System Implementation

At the system implementation stage, Macromedia Flash 8 is software used to create digital media-based teaching materials.

7. System Testing

At the system testing stage, a thorough application test is carried out. Black box testing is testing the software used in this study.

The location of the research was carried out at the IT AL-Fatih Elementary School which is located at Jl. 185 Bandar Setia Village, Kec. Percut Sei Tuan, Kab. Deli Serdang Prov. North Sumatra. The research time is planned for 6 months, starting from October to March 2023. The population used in this study were grade 1 students of SD IT AL Fatih, while the samples used were English books for grade 1 elementary school which contained subject matter in the form of numbers, colors, foods, vegetables and animals.

The data collection techniques used in this research are literature study and observation which can be described as follows:

1. Literature Study, namely collecting and studying previous studies and journals related to multimedia-based learning using Macromedia Flash 8.0.

2. Observation, namely direct observation to the research location. In this case, the researcher visited the school directly to obtain information about the teaching methods used by teachers in the field of English studies for grade 1 students at SD IT AL Fatih.

3. Interview, which is conducting a question and answer session directly to the English teacher in class 1 at SD IT AL Fatih to get information about the materials taught by the subject teacher, especially for English lessons.

In conducting data analysis, the type of research used is qualitative research. Qualitative research is research where the main data is data in the form of non-numbers. In this case, the data source used is teaching materials in the form of English books for grade 1 elementary school.
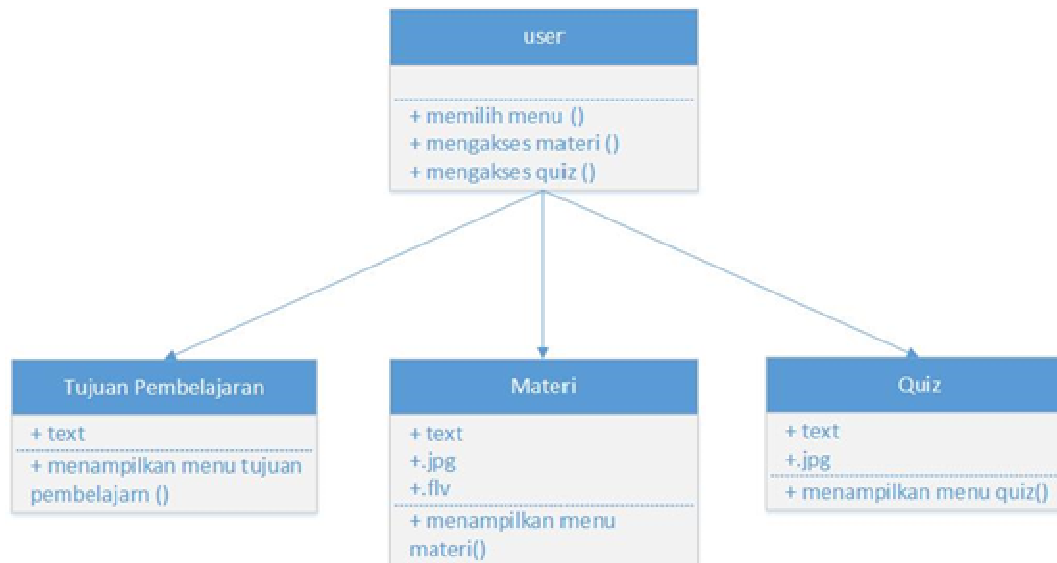

Figure 1. Manages Diagram

4. RESULT AND DISCUSSION

Research results from digital media-based teaching materials that have been designed and made according to their functions in each display are as follows.

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Intro Loading Page Display

The intro loading page display is the first page display when entering the application. When the application is run, the loading intro will move and go to the main page. The intro loading page display can be seen in Figure 2.

Figure 2. Intro Loading Page Display

Main Page Display

The main page display is the first page view when entering the application. The main page consists of 3 menus, namely the learning objectives menu, the material menu and the quiz menu. The main page display can be seen in Figure 3.

Figure 3. Main Screen

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5. CONCLUSION

This digital media-based teaching material can improve the learning mindset for grade 1 elementary school students for English lessons. This digital media-based teaching material produces interactive modules for English lessons which include numbers lesson, colors lesson, foods lesson, vegetables lesson and animals lesson. This digital media-based teaching material was built using the research and development method and the Macromedia Flash 8 application. This digital media-based teaching material can make it easier for the teacher to deliver English material to grade 1 elementary school students.

REFERENCES

[1]   Farhana, Fitri, Ahmad Suryadi, and Dirgantara Wicaksono. 2021. "Pengembangan Bahan Ajar Berbasis Digital Pada Mata Pelajaran Bahasa Inggris Di Smk Atlantis Plus Depok." *Instruksional* 3 (1): 1. https://doi.org/10.24853/instruksional.3.1.1-17.
[2]   Fitri, J., Sarmidin, & Mailani, I. 2019. "Pengembangan Media Pembelajaran Macromedia Flash 8 Pada Mata Pelajaran PAI Kelas XI IPS 1 SMA Negeri 1 Gunung Toar Kabupaten Kuantan Singingi." *Jom Ftk Uniks* 1 ((1)): 23–32.
[3]   Handayani, Hilda, Fredi Ganda Putra, and Yetri Yetri. 2018. "Pengembangan Media Pembelajaran Berbasis Macromedia Flash." *Jurnal Tatsqif* 16 (2): 186–203. https://doi.org/10.20414/jtq.v16i2.160.
[4]   Ianah, Ianah, and Hendri Raharjo. 2014. "Pengembangan Bahan Ajar Berbasis Komputer Dalam Pembelajaran Matematika Pada Pokok Bahasan Kubus Dan Balok." *Eduma : Mathematics Education Learning and Teaching* 3 (2). https://doi.org/10.24235/eduma.v3i2.59.
[5]   Nurdyansyah, and Nahdliyah Mutala'liah. 2015. "Pengembangan Bahan Ajar Modul Ilmu Pengetahuan Alambagi Siswa Kelas IV Sekolah Dasar." *Program Studi Pendidikan Guru Madrasa Ibtida'iyah Fakultas Agama Islam Universitas Muhammadiyah Sidoarjo* 41 (20): 1–15.
[6]   Okra, Riri, and Yulia Novera. 2019. "Pengembangan Media Pembelajaran Digital IPA Di SMP N 3 Kecamatan Pangkalan." *Journal Educative : Journal of Educational Studies* 4 (2): 121. https://doi.org/10.30983/educative.v4i2.2340.
[7]   Rabiah, Sitti. 2018. "Penggunaan Metode Research and Development Dalam Penelitian Bahasa Indonesia Di Perguruan Tinggi," no. April 2015: 1–7. https://doi.org/10.31227/osf.io/bzfsj.
[8]   Rifatullah, Ma ', Joko Jurusan, Teknik Elektro, Fakultas Teknik, Jurusan Teknik Elektro, and Mahendra Widyartono. n.d. "PENGEMBANGAN MEDIA INTERAKTIF INSTALASI PENERANGAN LISTRIK BERBASIS MACROMEDIA FLASH UNTUK SISWA SMK RAJASA SURABAYA Euis Ismayati," 165–75.
[9]   Soeyono, Yandri. 2014. "Pengembangan Bahan Ajar Matematika Dengan Pendekatan Open-Ended Untuk Meningkatkan Kemampuan Berpikir Kritis Dan Kreatif Siswa SMA Developing Mathematics Teaching Materials Using Open-Ended Approach to Improve Critical and Creative Thinking Skills of SMA." *Phytagoras: Jurnal Pendidikan Matematika* 9 (2): 205–18.
[10]   Tegeh, I Made, and I Made Kirna. 2013. "Pengembangan Bahan Ajar Metode Penelitian Pendidikan Dengan ADDIE Model." *Jurnal IKA* 11 (1): 16. https://ejournal.undiksha.ac.id/index.php/IKA/article/view/1145.
[11]   Umam, Khoerul. 2016. "Pengaruh Menggunakan Software Macromedia Flash 8 Terhadap Hasil Belajar Matematika Siswa Kelas Viii." *KALAMATIKA Jurnal Pendidikan Matematika* 1 (1): 84. https://doi.org/10.22236/kalamatika.vol1no1.2016pp84-92.