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Development of Learning Media Using Canva in Systems Application Subject Radio and Television

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***Abstract* - This research was driven by the low learning outcomes of students, as the teacher's instructional approach primarily relied on printed book media, with interactive learning media not being utilized, and conventional teaching models still in place. The aim of this study is to assess the validity and practicality of interactive learning media developed using Canva for the class XI course on Application of Radio and Television Systems at SMK Negeri 1 Batipuh. The study employs a 4-D development model, which includes the stages of Define, Design, Development, and Disseminate. Validation results from material experts yielded an average score of 0.9375, indicating it is "valid." Validation from media experts resulted in an average score of 0.86875, also classified as "valid." Additionally, the practicality evaluation of the learning media for the Application of Radio and Television Systems in class XI shows its effectiveness in the educational process, with an average percentage of 92% from respondents, categorizing it as "Very Practical".**

Keywords* — *Canva, Interactive Media, Radio, Television Systems; 4-D Model.

I. INTRODUCTION

The subject Application of Radio and Television Systems (PSRTV) is one of the compulsory subjects at Vocational High Schools (SMK) which focuses on the study of radio and television technology, both theoretically and practically[1]. This subject is generally taught in classes XI and XII for the Electronics Engineering skills program, especially the Audio Video Engineering (TAV) skills competency.

Learning to implement Radio and Television Systems necessitates the incorporation of technology into the educational process. Technology, as a product of scientific advancement, has been integrated into education. Consequently, education relies on technology to enhance the learning experience. The integration of technology in learning aids students in grasping the material more effectively and boosts their motivation to learn, as the content presented becomes more engaging for them[2].

Observations at SMK Negeri 1 Batipuh revealed several issues in class XI of the Audio Video Engineering program. A significant problem identified is that the learning media is primarily restricted to textbooks and traditional methods, such as lectures that center solely on the teacher. This is evident from the results of the students' daily assessments (UH) presented in Table 1.

TABLE I
Daily Test Scores (UH)

No	Student Score	Number of Students
1	< 75	10
2	75 – 83	5
3	84 – 92	3
4	93 – 100	2
Number of Students		20

The learning process is still largely reliant on print media, with no implementation of interactive learning media, and the teaching methods remain conventional. In light of these challenges, it is essential to integrate interactive learning media into the educational process. Learning media refers to all the tools that can convey messages through different channels, thereby engaging students' thoughts, feelings, and interests. This is anticipated to foster an effective learning environment, provide students with new information, and help achieve learning objectives successfully[3].

Interactive learning media consists of various components, including images, videos, audio, animations, simulations, and interactive activities. Utilizing this type of media offers several advantages in education. It has the potential to enhance students' interest and motivation to learn. By incorporating engaging and interactive elements, students are likely to be more enthusiastic and engaged in the learning experience. With these interactive features, students can actively participate, perform experiments, respond to questions, and tackle problems. This approach aids in the development of critical, creative, and problem-solving skills that are essential for their future[4].

By using Canva, teachers have the opportunity to design presentations and learning videos according to their innovations[5]. Canva has many advantages, including Canva having diverse and attractive designs, and having features that will be very useful for courses in Radio and Television System Applications[6].

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Designing with Canva will increase students' interest in learning activities and increase their motivation by presenting textbooks and materials in an interesting way[7]. Therefore, interactive media is needed that can improve the quality of student learning, such as interactive media using the Canva application.

II. METHODS

The research conducted falls under the category of R&D (Research and Development), known in Indonesian as Research and Development. R&D is a research approach that centers on the development and assessment of products meant for application in the educational field[8]. The subsequent steps in the development research process.

A. Define Stage

This stage is intended to identify and assess the needs within the learning process while also gathering pertinent information about the products to be developed in line with those learning needs. The product is intended for class XI TAV at SMK Negeri 1 Batipuh, the analysis conducted is as follows:

1. Needs Analysis

The creation of learning media is crucial in the educational process. Its goal is to allow teachers to present lesson content in a more engaging, efficient, and effective way, which in turn boosts student interest and improves their comprehension of the material.

2. Curriculum Analysis

It shows that each Learning Objective encompasses a wide range. Consequently, it is advisable to restrict the Learning Objectives incorporated in the interactive learning materials to a single semester, with only one element needed for users. According to the analysis, the development of this learning media is intended for one semester only, concentrating on element 4 of the Radio and Television System.

3. Student Personality Analysis

Class XI Audio Video Engineering students in the Radio and Television System Applications subject, especially in element 4, obtained an average UH score that was still below the KKTP. The learning carried out to date is still conventional and focused on textbooks and explanations via PowerPoint, without utilizing interactive learning media, so it is less interesting.

4. Analysis Of Facilities And Infrastructure

At SMKN 1 Batipuh, regulations have been established that allow students to use cellphones during the learning process to facilitate access to learning material and prevent boredom.

B. Design Stage

Design aims to create an initial design of a media that will be developed. Produce media from product designs. Researchers determine media elements by collecting supporting materials such as images, animation, sound and even video and this collection can be done by searching on the internet or by creating your own media if you master it.

C. *Develop Stage*

This stage involves bringing the created design to life, resulting in a tangible product. To ensure the product's validity, a validation test is conducted by a validator. In this research, the validators are categorized into media experts and material experts.

D. Disemination Stage

This stage involves distributing the completed product, which consists of the developed media, and subsequently conducting practicality tests. The testing was conducted on a small scale, specifically targeting class XI Audio Video Engineering students at SMKN 1 Batipuh.

E. Validation Stage

The created learning media can undergo validation by a validator to evaluate its design. In this study, a questionnaire was administered to media experts, material experts, and students. The media experts comprised one lecturer and one teacher, while the material experts included one lecturer and one teacher specializing in Radio and Television System Applications. The questionnaire for media experts was created to evaluate the suitability of the media design for the learning process, whereas the questionnaire for material experts focused on assessing the alignment of the content with the learning objectives and indicators. Furthermore, questionnaires were administered to ten students from class XI TAV at SMK Negeri 1 Batipuh to measure the practicality of the learning media in the application of Radio and Television Systems using Canva.

III. RESULTS AND DISCUSSION

A. Result

1) Define Stage

Observations indicate that both teachers and students require supplementary media to enhance the efficiency and engagement of the learning process, as the current methods remain conventional. An analysis of the curriculum reveals that SMK Negeri 1 Batipuh has adopted an independent curriculum. According to the regulations at SMK Negeri 1 Batipuh, students are allowed to use smartphones for learning, and the department is equipped with several computers to aid the educational process.

2) Design Stage

This stage focuses on designing the learning media to be developed. The media was created using the Canva application along with several other supportive platforms and applications, including Quizizz, Google Drive, and YouTube. Quizizz is employed to develop Student Worksheets (LKPD), which consist of PTS and PAS. While developing this learning media, the learning modules and resources were uploaded to Google Drive. Additionally, for the learning videos, the researchers used existing YouTube videos, downloading and importing them into the Canva application.

a. Initial View

This section includes the title, the UNP logo, the SMK logo, class XI Audio Video Engineering, the Radio and Television System Application subjects, and a "START" button. Clicking the "START" button will take the user to the next menu, which is the main menu. The initial display of the learning media is illustrated in Figure 1.

b. Main Menu Display

This main menu section features various options available on the learning media, including Learning Outcomes (CP) and Learning Objectives Flow (ATP), Materials, Modules,

Evaluation, Instructions, and Profiles. Users can choose which menu they wish to access. Once a menu is clicked, the corresponding media will appear on one of the slides. The layout of the main menu is illustrated in Figure 2.

Fig 1. Initial View

Fig 2. Main Menu Display

c. Instruction Menu Display

This instructions menu provides the functions of various buttons on the learning media. With these usage guidelines, both teachers and students will have an easier time using the learning media throughout the educational process. The instructions for utilizing this media are illustrated in Figure 3.

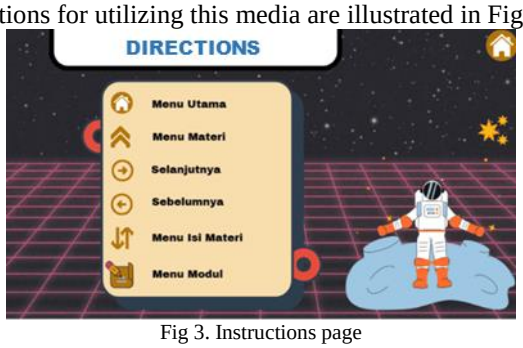

Fig 3. Instructions page

d. Presentation of Learning Outcomes and Learning Objectives Flow

Learning Outcomes and Learning Objectives outline the material to be addressed. In this section, users can explore the learning outcomes and the order of learning objectives presented in the developed media. Figure 4 below illustrates the display of CP and ATP:

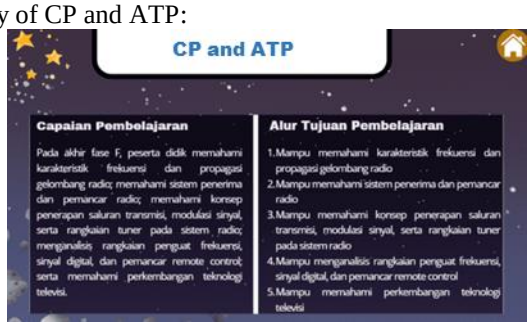

Fig 4. CP and ATP page

e. Material Menu Display

The selected material content for this learning media corresponds with the CP and ATP specified in the syllabus for the Implementation of Radio and Television Systems course at SMK Negeri 1 Batipuh, as illustrated in Figure 5.

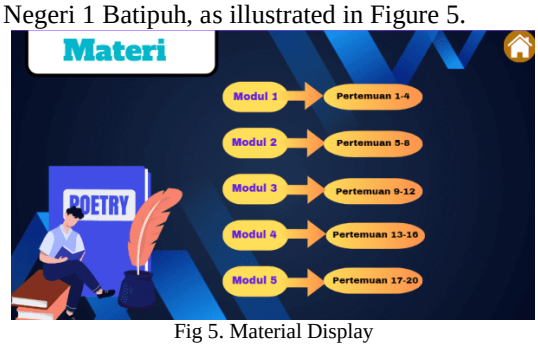

Fig 5. Material Display

f. Video

The video section contains learning videos for several materials on the Application of Radio and Television Systems. For learning videos, researchers use videos that are available on YouTube by downloading videos from YouTube in Figure 6.

Fig 6. Video

g. Module

The module section contains modules from element 4 and also learning tools which, if clicked, will immediately connect to the drive link, as shown in Figure 7.

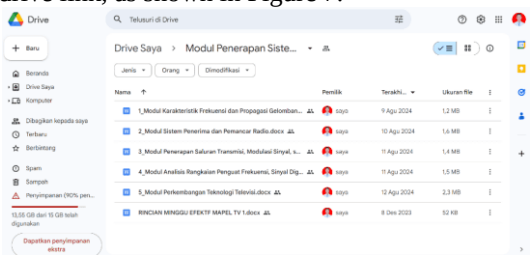

Fig 7. Module view

h. Evaluation

The evaluation menu comprises Quizzes, PTS and PAS as depicted in Figure 8.

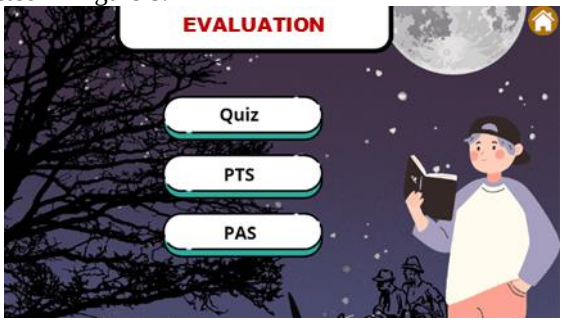

Fig 8. Evaluation View

i. Profile

The profile menu contains student and supervisor profiles which function to provide information to users about the creator of this learning media. The complete profile view can be seen in Figure 9.

Fig 9. Developer Profile

3) Development Stage

The development stage involves the creation of learning media followed by testing to evaluate its validity. Once the product development process is finished, a validation phase is conducted by both media and material experts.

a. Material Expert Validation

The validation testing of the material was conducted using an evaluation questionnaire with 20 indicators. The findings from the validation of the learning media were gathered by distributing questionnaires to material experts. The calculated V values, using the Aiken formula, revealed an average verification value of 0.9375 for learning support, indicating that all items are valid. Consequently, this data suggests a high coefficient, and the validation falls under the "valid" category.

b. Media Validation

The material validation test was conducted using an assessment questionnaire with 20 media indicators, and the data was processed using the Aiken V formula. The combined validity score from the two validators was 0.90313, categorizing it as "Valid".

4) Disemination Stage

The objective of this stage is to apply the developed learning media that has been tested by 10 students from class XI Audio Video Engineering at SMKN 1 Batipuh. The analysis of the practicality data revealed a Final Value (NA) of 92%, which is classified as "Very Practical." Thus, it can be concluded that the created media is indeed very practical.

B. Discussion

This study aims to develop learning media titled "Development of Learning Media Using Canva in the Subject of Radio and Television System Applications for Class XI at SMK Negeri 1 Batipuh." The motivation behind this research stems from the reliance of teachers on textbooks for learning media, which does not incorporate interactive elements, resulting in a lack of engagement and unsatisfactory student outcomes. The hope is that the integration of interactive media will boost students' motivation and enthusiasm for learning. Students are generally more attracted to learning materials that offer an interactive combination of text, images, videos, sound, and animations.

The outcomes of the validity and practicality assessments conducted indicate that this media is both suitable and practical for application in the learning process. Employing this learning media can aid teachers in assessing students' comprehension of the material related to Radio and Television System Applications. Furthermore, the developed learning media can also serve as a resource for educators in crafting more engaging instructional materials for other subjects. The following section will discuss the validity and practicality of the interactive media:

The validity of the research was assessed based on the percentage of validation results from two experts, namely the material expert and the learning media expert. This percentage meets valid qualifications which indicate that the application of Interactive Media in the Radio and Television System Applications subject is worthy of being tested.

The dissemination stage was conducted to evaluate the practicality of the learning media products with the participation of 10 students from class XI Audio Video Engineering. The assessment results indicated that the media received a score of 92%, placing it in the "Very Practical" category. Considering the validation and practicality results, along with the successful development of valid and practical learning media, this resource can be an effective tool for promoting a learning process that positively impacts students.

IV. Conclusions

A. Conclusions

The creation of learning media using Canva for the subject of Application of Radio and Television Systems in Class XI at SMK Negeri 1 Batipuh adheres to the 4D development model, which encompasses the stages of Define, Design, Development, and Disseminate. The validation assessment of the interactive learning media created with the Canva application for the Application of Radio and Television Systems course has been recognized as valid for implementation in the learning process, based on the following factors.

Validation from Material Expert 1 yielded a score of 95, while Material Expert 2 also received a score of 95, resulting in an average score of 0.9375, which is categorized as "Valid". Validation from Media Expert 1 produced a score of 83, whereas Media Expert 2 achieved a score of 96, leading to an average score of 0.86875, which is classified as "Valid". The practicality assessment of the interactive learning media created with the Canva application for the Application of Radio and Television Systems course has been found practical for use in the educational process. This conclusion is drawn from an average percentage of 92% obtained from respondents, categorizing it as "Very Practical".

Teachers are encouraged to use the learning media for the Application of Radio and Television Systems created with the Canva application as a fresh approach to capture students' interest during the teaching and learning process, fostering a more interactive and enjoyable learning environment. Students are anticipated to utilize this learning media both in and out of the classroom to enhance their understanding of the material and develop the skills necessary for the real world. Future researchers are advised to extend this learning media to other subjects and to rectify the shortcomings found in the current media, with the goal of improving its effectiveness and relevance in a wider educational context.

REFERENCE

[1] H. Sudjendro, "Perekayasaan Sistem Radio dan Televisi," p. 329, 2013.

[2] A. Manongga, "Pentingnya teknologi informasi dalam mendukung proses belajar mengajar di sekolah dasar," *Pascasarj. Univearsitas Negeri Gorontalo Pros. Semin. Nas. Pendidik. Dasar*, vol. 978-623–98, no. November, pp. 1–7, 2021.

[3] Ani Daniyati, Ismy Bulqis Saputri, Ricken Wijaya, Siti Aqila Septiyani, and Usep Setiawan, "Konsep Dasar Media Pembelajaran," *J. Student Res.*, vol. 1, no. 1, pp. 282–294, 2023, doi: 10.55606/jsr.v1i1.993.

[4] Rohani, "Media Pembelajaran," *Repository.Uinsu*, p. 234, 2020, [Online]. Available: https://books.google.com/books?hl=en&lr=&id=npLzDwAAQBAJ&oi=fnd&pg=PA1&dq=media+pembelajaran&ots=Nr8w9uLXRR&sig=dO9nzuMdeU76Gwa7wE2-xLcBB7I

[5] F. Amri, "Pengembangan Multimedia Interaktif Berbasis Aplikasi Canva Pada Mata Pelajaran Perawatan Tangan, Kaki, Dan Nail Art Kelas XII KC 2 DI SMK Negeri 6 Padang," *Angew. Chemie Int. Ed. 6(11), 951–952.*, vol. 1, no. April, 2015.

[6] A. Fitri, "Pengembangan Media Pembelajaran Interaktif Berbasis Canva Pada Materi Titrasi Asam Basa Di SMA Negeri 7 Banda Aceh," 2024, [Online]. Available: https://repository.ar-raniry.ac.id/id/eprint/35755/%0Ahttps://repository.ar-raniry.ac.id/id/eprint/35755/1/Amalia Fitri%2C 190208052%2C FTK%2C PKM.pdf

[7] D. V. F. T. Hudayanti, "Pemanfaatan Canva Sebagai Modul Digital Interaktif Matematika Untuk Mengoptimalkan Pembelajaran Jarak Jauh," *J. Ilm. Multi Disiplin Indones.*, vol. 2, no. 1, pp. 163–173, 2022, [Online]. Available: https://katadata.co.id/berita/2020/01/06/baru-83-peserta-bpjs-kesehatan-per-akhir-2019-

[8] U. Hasdiana, *bgbgujhmjk*, vol. 11, no. 1. 2018. [Online]. Available: http://link.springer.com/10.1007/978-3-319-59379-1%0Ahttp://dx.doi.org/10.1016/B978-0-12-420070-8.00002-7%0Ahttp://dx.doi.org/10.1016/j.ab.2015.03.024%0Ahttps://doi.org/10.1080/07352689.2018.1441103%0Ahttp://www.chile.bmw-motorrad.cl/sync/showroom/lam/es/

[9] I. M. Tegeh, A. H. Simamora, and K. Dwipayana, "Pengembangan Media Video Pembelajaran Dengan Model Pengembangan 4D Pada Mata Pelajaran Agama Hindu," *Mimb. Ilmu*, vol. 24, no. 2, p. 158, 2019, doi: 10.23887/mi.v24i2.21262.