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Analysis of Desktop-Based Interactive Learning Media Using Smart Apps Creator App For Computer Recognition In SDN 006 Tempuling

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ABSTRACT

Computer recognition is very important and needs to be taught to students. Especially among learners in primary level se Kolah, in reality there is still a great lack of computer recognition and a delay among students in getting to know computers. The results of the observations made by the students were very difficult and confusing in using computers to complete computer-based national assessment questions, so in this activity the accompanying teacher asked the questions. This research aims to assist students in learning about the community for conducting computer-based national assessment activities for conducting computer-based national assessment activities using a learning medium. The research method used is the research and development (R&D) method and the development model using the ADDIE model which has five phases, namely analysis, design, development, implementation and evaluation. Data is collected using a questionnaire (Likert scale). The results of the evaluation of the desktop-based learning media for computer recognition were tested by media experts. The materials expert received a score of 88% in the 'very decent' category and the media expert received a score of 84% in the 'sanguine' category, while the student respondent test received a score of 80 in the 'excellent' category. Based on the research findings, it was concluded that interactive learning media for computer recognition is highly applicable to SDN 006 Tempuling.

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1. Introduction

Technology is now an integral part of various aspects of human life. Technology is used in almost all human activities. Technology is developing very fast and in education the teaching and learning process is really necessary IT learning [9]. Nowadays, the introduction of computers to students in primary school is very important so that they become familiar with technology. As we know, nowadays learning is done with the help of technology such as computers, laptops and androids. With the advancement of technology in schools, they must be able to use and apply computers appropriately as a learning medium for students. Schools need to teach students how to use computers because nowadays the learning process needs to be effective and students need to get information quickly and easily. Computer technology offers many benefits, especially in the world of education when it is introduced to students in schools [1]. Teachers have a role and task in schools to familiarise students with computers. Especially schools that are far behind in technology

must be required to teach and introduce students to computers in schools so that students can keep up with technological developments, because Indonesia's progress in the future depends heavily on schools. It is imperative to develop interactive learning media because the development of learning media helps educators to conduct learning activities that should be varied and interactive [19]. One of the applications for developing interactive learning media is Smart Apps Creator, a desktop-based application [15]. Smart Apps Creator is software that can be used to create a learning media product and make it easy for educators to use it.

Based on direct observations in SDN 006 Tempuling schools, there is still a lack of computer literacy and delays in the introduction of computers by students. The introduction of computers should have started in class III but at this time the introduction of computers is done in class IV. In conducting computer based national assessment activities (ANBK), the students of class IV are selected and asked to participate in these activities. According to the observations of the students, it is very difficult and confusing to use a computer to answer the Computer Assisted National Assessment (ANBK) questions on a computer screen, so in this activity the accompanying teacher asks these questions.

Learning media are able to overcome the limits of students' knowledge, they allow students to interact with each other and are able to teach the right basic concepts. In the Law of the Republic of Indonesia No. 20 of 2003 on National Education, Article 3 states that: "National education has the task of developing skills and forming a dignified mentality and civilisation of the nation in order to educate the life of the nation, with the aim of developing the potential of students to become people who have faith and piety in the Almighty, possess noble character,are healthy, competent, capable, creative and independent, and become responsible citizens. The Law of the Republic of Indonesia No. 20 of 2003 on National Education states in Article 3 that: "National education has the task of developing skills and forming a dignified mentality and civilisation of the nation to educate the life of the nation, with the aim of developing the potential of students to become people who have faith and piety in the Almighty, possess noble character,are healthy, knowledgeable, capable, creative and independent, and become responsible citizens".

In addition, relevant research is also very necessary in this study, therefore researchers use relevant research from several researchers in question:

1. In the first research conducted by Syahputra & Prismana (2020), with the title "Development of android-based interactive learning media using smart apps creator (sac) for class XI 2d & 3d animation subjects at SMK 1 driyorejo gresik". Showing that the results of the study, (1) Android-based interactive learning media using smart apps creator (sac) for 2d & 3d animation subjects. (2) getting satisfactory response results and positive quality with a percentage of 86% is categorized as excellent media. (3) For the validity test, the media is categorized as valid with a percentage of 76%. (4) For the validity test of the learning implementation plan (RPP) and questionnaire, students get a percentage of 80% and 75% with valid categories.
2. In the second study, it was carried out by Asykur (2021), with the title "Development of learning media using smart apps creators in the subject of the Qur'an Hadith to improve student learning outcomes in MTs Negeri 2 Lamongan". The results of the study are (1) Development of learning media that uses and adjusts ADDIE procedures. (2) This interesting and user-friendly learning media product is indicated by the validation results of material experts in good categories with a percentage conversion result of 80%. (3) For media validation results are included in the good category with a percentage of 70%. (4) For the results of the analysis of the response of the subject teachers included in the excellent qualifications with a percentage of 83.2%. (5) For the analysis of student responses, it is included in the excellent category with a percentage of 86%. The accumulation of validation results shows that learning media is categorized as very good.
3. In the third study conducted by Priyadi (2021), with the title "Development of smartphone application-based learning media using smart apps creator (sac) on basic competencies identifying class XI SMK negeri lembang". The results of the study are (1) Developing learning media using smart apps creators is declared very appropriate by expert validators of media and materials. (2) For the results of the assessment of the questions contained in the learning media application, it is appropriate by expert validators. (3) For the analysis of student responses are declared appropriate for use and development.
4. In the fourth study conducted by Khasanah & Rusman (2021), with the title "Development of learning media based on smart apps creator". The results of research and development that have been carried out are (1) Producing physical models of learning media products based on android sac (smart apps creator). (2) one-on-one trial of three students and small group trial of three people. (3) The validator validation

results state that the media has an eligibility rate of 85% and 83%, respectively, used in class XI SMK. (4) For the results of the 58% pre-test effectiveness test and 86% post-test.

2. Research Method

The research was conducted at the State Elementary School 006 Tempuling which is located at Parit Sekacau Kecil Tempuling, Tempuling District, Inhil Regency 29261, which began on August 02, 2021. The type of research used in this research is using research and development methodsResearch And Development (R&D). Research and development methods are research methods used to produce a particular product and test the feasibility of that product [20]. The learning media development model used in this study is the ADDIE (Analysis, Design, Develop, Implementation, Evaluate) model. Because it is one of the models that has advantages in basic stages such as simple and easy-to-learn design and describes a systematic approach to product development produced in the form of desktop-based interactive learning media using Smart Apps Creator software

The phases of development are described as follows:

2.1 *Analysis*

At the analysis phase, researchers made direct observations and observations on computer-based national assessment activities (ANBK) carried out by students of SDN 006 Tempuling. Observations were made in October 2021 and analyzed the problems and needs of educators and students, especially in introducing computers for ANBK activities. The following are the results of observations that have been made from ANBK activities by SDN 006 Tempuling:

a. There is no availability of interactive learning media that can be used to overcome these problems.
b. Interactive learning media is needed to assist students in introducing computers for computer-based national assessment activities (ANBK).

2.2 *Design*

In the design phase, what is done is to create a storyboard from interactive learning media introduction to computers for computer-based national assessment activities (ANBK), this aims to design an interactive learning media flow.

Figure 1. Media Overview

2.3 *Development*

At this phase, all components that have been prepared in advance at the design stage will be unified into interactive learning media using the Smart Apps Creator software. In this phase of development, it must be in accordance with the flowchart and storyboard flow that has been created.

Figure 2 Menu Page View

As shown in Figure 2, the menu page is used to select the appearance of the available menus

Figure 3 Material Page View

As shown in Figure 3,The material page view describes the computer device used during ANBK.

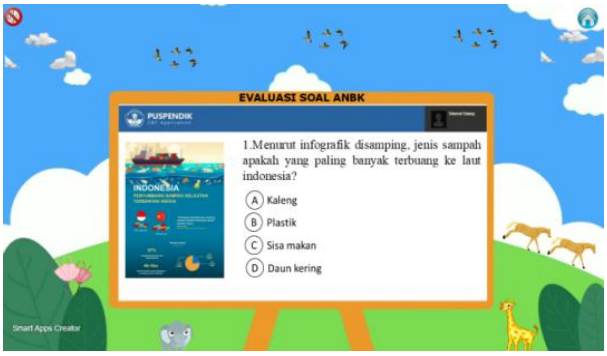

Figure 4 Question Page View

As shown in Figure 4, the question page display explains the ANBK Problem Evaluation.

2.4 *Implemention*

The implementation phase of learning media is the phase that is carried out after the media has been declared eligible of trial by media experts and material experts. In addition, a trial of interactive learning media for computer introduction for computer-based national assessment activities (ANBK) using Smart Apps Creator was conducted for students in grade IV at State Primary School 006 Tempuling. After the students used the interactive learning media, the researchers distributed questions on computer introduction

for computer-based national assessment activities (ANBK) for the students to complete. After all data has been collected, the researcher will revise the final phase of the learning media.

2.5 *Evaluation*

In this evaluation phase, it is to compare the results of trials that have been carried out such as the results obtained from media experts and material experts as well as respondents from students. This phase has also produced a desktop-based interactive learning media product for computer recognition using the Smart App Creator application which has been revised at the implementation stage. The results of the material expert validation trial before conducting the trial, a desktop-based interactive learning media developed, then validated first by the material expert.

In this research on the development of interactive learning media based on desktop, data obtained through material experts and media experts through questionnaires in the form of qualifier values that will be converted into quantitative then made with a likert scale with the following description:

Table 2.1 Data Analysis Score Rules

Information	Assesment	Score
Very Eligible	SS	5
Eligible	S	4
Eligible Enough	C	3
Less-eligible	KS	2
Non-eligible	TS	1

Source: Jogiyanto Hartono (2018)

The result of this calculation is obtained guidelines for converting validation scores of media experts and respondents.

Table 2.2 Score Conversion Guidelines

Formula	Score Range	Category
$X \geq Mi + 1{,}5Sbi$	$X \geq 3{,}25$	Excellent
$Mi \leq X < Mi + 1{,}5Sbi$	$2{,}5 \leq X < 3{,}25$	Better
$Mi - 1{,}5SBi \leq X < Mi$	$1{,}75 \leq X < 2{,}5$	Good
$X < Mi - 1{,}5Sbi$	$X < 1{,}75$	Worse

Source : S.Eko Putro Widoyoko (2019)

Information:

X = Score

Mi = (1/2) x (Highest score + Lowest score)

SBi = (1/3) x (1/2) x (Highest score + Lowest score)

Table 2.3 Eligibility Percentage Categories

Percentage	Criteria
81% - 100%	Very Eligible
61% - 80%	Eligible

41% - 60%	Eligible enough
21% - 40%	Non-Eligible
<21%	Very Non-Eligible

Sumber: Arikunto (2009)

Based on the interval distance obtained, then to find out the feasibility of the media based on the assessment in the form of percentages using the formula:

$$\textit{Eligibility percentage (\%)} = \frac{Skor\ \ hasil\ observasi}{skor\ yang\ diharapkan} \text{ x } 100$$

3. Result and Discussion

This research resulted in a product in the form of developing desktop-based interactive learning media using smart apps creator applications for computer recognition at SDN 006 tempuling. This desktop-based interactive learning media for computer recognition applied at SDN 006 Tempuling passed the testing stage by material experts, media experts as validators and students as respondents. The results of this validation are obtained from a questionnaire containing aspects of the assessment. Meanwhile, respondents were obtained from the results of questions done by students. The testing phase must also pass revisions from validators, this testing is carried out so that the dexterol-based interactive learning media developed can be truly feasible.

3.1. Material Expert Validation Trial Results

Before conducting the trial, the desktop-based interactive learning media developed, it was validated first by the material expert. The material experts on this desktop-based interactive learning media are educators of Vocational High School 1 Tembilahan who have backgrounds in accordance with the material developed.

Table 3.1 Data on Material Expert Validation Results of Material Aspects

	Rated items	Score
1	Accuracy of the material in the media	4
2	Clarity of material in the media	5
3	Ease of understanding the material	4
4	Depth of material provided	4
5	Coverage of material on media	4
6	Completeness of the presented material	4
7	Clarity of the language used in the material	5
8	Flexibility in learning	4
9	The collapse of the material on the media	4

10	The quality of evaluation questions in the media	5
	Sum	**43**
	Average	**4.3**

Table 3.2 Data on Material Expert Validation Results of Expediency Aspects

	Rated items	Score
11	Providing evaluation questions to help students' understanding	5
12	Providing learning opportunities for students	5
13	Attracting the interest and attention of students	4
14	Providing assistance in students learning	5
15	Increasing the learning motivation of students	4
Sum		**23**
Average		**4.6**

Table 3.3 Material Expert Validation Results

	Aspect	Average	Category
1	Material aspects	4.3	Excellent
2	Expediency aspect	4.6	Excellent
	Average	**4.45**	**Excellent**

Based on the results of the validation of the initial stage material, an eligibility score was obtained with an average of "4.45" with the category "Excellent". The feasibility of the overall assessment in the form of a percentage of the data of the initial material expert analysis is as follows:

Eligibility percentage = $\frac{43+23}{15x5}$ x 100

= $\frac{66}{75}$ x 100

= 88%

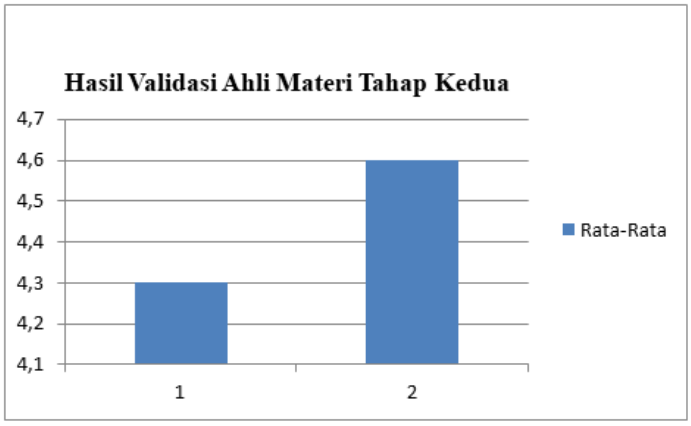

Figure 5 Diagram of Material Expert Validation Results

3.2 Media Expert Validation Trial Results

Before conducting the trial, a desktop-based interactive learning media was developed, it was validated first by media experts. Media experts on this desktop-based interactive learning media are lecturers of the informatics education study program from the Faculty of Teacher Training and Education, University of Muhammadiyah Riau.

Table 3.4 Media Expert Validation Results Data Media Display Aspects

NO	Rated Item	Score
1	Background color selection on media	4
2	Background color compatibility with text	4
3	Animated display on media	5
4	Font type used on media	5
5	Font size used on media	5
6	Font color used on media Font color used on media	4
7	Display of images on media	4
8	Readability of text on media	4
9	Ease of selecting menus on media	4
10	Video display on media	4
11	Selection of accompaniment music on the media	3
12	Use of language in media	4

13	Ease of using media	4
	Sum	**54**
	Average	**4.1**

Table 3.5 Media Expert Validation Data Layout Aspects

No	Rated Item	Score
14	Availability of navigation buttons in media	5
15	Accuracy in the use of buttons on media	4
	Sum	**9**
	Average	**4.5**

Table 3.6 Media Assessment Data from Media Display Aspects

No	Aspect	Average	Category
1	Media Display Aspects	4.1	Excellent
2	Layout Aspects	4.5	Excellent
Average		**4.3**	**Excellent**

Based on the results of media validation, an eligibility score was obtained with an average of "4.3" with the category "Excellent". The overall feasibility of the assessment in the form of percentages of the data of the initial media expert analysis is as follows: Based on the results of media validation, an eligibility score was obtained with an average of "4.3" with the category "Excellent". The overall feasibility of the assessment in the form of percentages of the data of the initial media expert analysis is as follows:

$$\text{Eligibility percentage} = \frac{54+9}{15x5} \text{ x } 100$$

$$= \frac{63}{75} \text{ x } 100$$

$$= 84\%$$

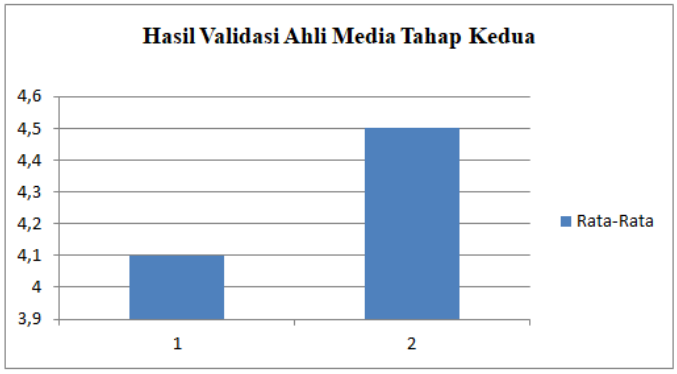

Figure 6 Diagram of Media Expert Validation Results

Table 3.7 Data on Respondents' Assessment Results on Computer Introduction for computer-based national assessments (ANBK)

No	Name of student	Mark
1	Andini Putri	80
2	Aisyah Zafira	90
3	Davina Larasati	80
4	Dinda Putri	80
5	Diandra Saputra	70
6	M. Novaliando	80
7	M. Farhan	80
8	M. Firdaus	90
9	Naila Azzahro	80
10	Nur Azizah	90
11	Nabila Auliana	80
12	Naya widya	80
13	Rayka Al Kalifi	70
14	Rifky Dwiyaputra	90
15	Rika suci. H	80
16	Safira Azzahra	70
17	Sulistia Utari	80
18	Siti Nurfauziah	80
19	Safa Khairunisa	70
20	Putri Utamasari	80
4.	**Jumlah**	**1.600**
	Rata-Rata	**80**

Conclusions

The results of the design of computer-based learning media for the computer-based national assessment (ANBK) at SDN 006 Tempuling are as follows:

1) The research conducted to develop this medium uses the research and development (R&D) method and model used by ADDIE, such as the ADDIE model, which has 5 phases, namely: analysis, design, development, implementation, evaluation..
2) Desktop-based interactive learning media can facilitate students' adoption of computers for computer-based national assessment (ANBK) at SDN 006 Tempuling, and these media can also be used properly.
3) The implementation of desktop-based learning media for the computer-based national assessment (ANBK) was tested by materials experts and media experts, with materials experts receiving a score of 88% in the "vExcellentery decent" category and media experts receiving a score of 84% in the "Excellent" category. Meanwhile, test takers received an average score of 80 on the student questions at SDN 006 Tempuling with the category of "Excellent".

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Referensi

[1] Anshori, Sodiq. 2018. "Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran." *Civic-Culture: Jurnal Ilmu Pendidikan PKn dan Sosial Budaya* 2(1).
[2] Anufia, Budur, and Thalha Alhamid. 2019. "Instrumen Pengumpulan Data."
[3] Arikunto, Suharsimi. 2009. "Dasar-Dasar Evaluasi Pendidikan (Edisi Revisi)."
[4] Arpan, Muhamad, and Sadikin Sadikin. 2020. "Media Pembelajaran Interaktif Perangkat Keras Komputer." *INVOTEK: Jurnal Inovasi Vokasional dan Teknologi* 20(2): 43–50.
[5] Asykur, Asykur. 2021. "Pengembangan Media Pembelajaran Menggunakan Smart Apps Creator Pada Mata Pelajaran Al-Qur'an Hadist Untuk Meningkatkan Hasil Belajar Siswadi Mts Negeri 2 Lamongan."
[6] Akhmad, Ekk Pujo Ariesanto.2019. Pengenalan Komputer. Hang Tuah University Press.
[7] Arda, Arda, Sahrul Saehana, and Darsikin Darsikin. 2015. "Pengembangan Media Pembelajaran Interaktif Berbasis Komputer Untuk Siswa SMP Kelas VIII." *Mitra Sains* 3(1): 69–77.
[8] Falahudin, Iwan. 2014. "Pemanfaatan Media Dalam Pembelajaran." *Jurnal Lingkar Widyaiswara* 1(4): 104–17.
[9] Huda, Irkham Abdaul. 2020. "Perkembangan Teknologi Informasi Dan Komunikasi (TIK) Terhadap Kualitas Pembelajaran Di Sekolah Dasar." *Jurnal Pendidikan dan Konseling (JPDK)* 2(1): 121–25.
[10] Hamid, Nuryati Hasni, R M Aditya Andriyanto, and Tuti Tarwiyah Adi. 2021. "PEMANFAATAN SMART APPS CREATOR (SAC) SEBAGAI SOFTWARE DALAM MEMBUAT APLIKASI MEDIA PEMBELAJARAN MUSIK." *Jurnal Penelitian Musik* 2(2): 154–72.
[11] Jogiyanto Hartono, M. 2018. *Metoda Pengumpulan Dan Teknik Analisis Data*. Penerbit Andi.
[12] Khasanah, Khasanah, and Rusman Rusman. 2021. "Development of Learning Media Based on Smart Apps Creator." *AL-ISHLAH: Jurnal Pendidikan* 13(2): 1006–16.
[13] Lestari, Isnania, and Meko Hendwi Pratama. 2020. "Pemanfaatan TIK Sebagai Media Pembelajaran Dan Sumber Belajar Oleh Guru TIK." *Edumatic: Jurnal Pendidikan Informatika* 4(2): 95–102.
[14] Nofitasari, Dian, Kartono Kartono, and Suparjan Suparjan. 2021. "Pengembangan Media Pembelajaran Interaktif Berbasis SAC Sekolah Dasar." *Jurnal DIDIKA: Wahana Ilmiah Pendidikan Dasar* 7(2): 250–67.
[15] Prakoso, Rangga Hasian, Andi Suhandi, and Silvi Noviyanti. 2020. "PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS APLIKASI MENGGUNAKAN SMART APP CREATOR PADA SUBTEMA JENIS JENIS PEKERJAAN KELAS IV SEKOLAH DASAR."
[16] Priyadi, Ardi. 2021. "PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS APLIKASI SMARTPHONE MENGGUNAKAN SMART APP CREATOR (SAC) PADA KOMPETENSI DASAR MENGIDENTIFIKASI UMBI–UMBIAN UNTUK SATUAN PRODUKSI KELAS XI APHP SMK PP NEGERI LEMBANG."
[17] Romi satria, Wahono (2006). 2006. "Kisi Kisi Angket Penilaian Kelayakan Media Pembelajaran." *Jurnal Ilmiah SINUS* 20(1): 1–10.
[18] Sadiman, Arief S. 2011. "Dkk, Media Pendidikan." *Jakarta: PT Raja Grafindo Persada*.

[19] Savitri, Estry Hutami Savitri Hutami. 2019. "Pengembangan Media Interaktif Berbasis APP Desktop Materi Luas Dan Keliling Bangun Datar Siswa Kelas IV SDN Wunut 1 Kecamatan Porong Kabupaten Sidoarjo." In *Prosiding Seminar Nasional PGSD UNIKAMA*, , 467–76.

[20] Setyosari, H Punaji. 2016. *Metode Penelitian Pendidikan & Pengembangan*Prenada Media.

[21] Sugiyono. 2015. "KERANGKA BERPIKIR PENELITIAN." *Potret Pemikiran* 19(1).

[22] Susanti, Susanti, and Affrida Zulfiana. 2018. "Jenis–Jenis Media Dalam Pembelajaran." *Jenis–Jenis Media Dalam Pembelajaran*: 1–16.

[23] Syahputra, Fariz Krisna, and I Gusti Lanang Putra Eka Prismana. 2020. "PENGEMBANGAN MEDIA PEMBELAJARAN INTERAKTIF BERBASIS ANDROID MENGGUNAKAN SMART APPS CREATOR (SAC) UNTUK MATA PELAJARAN ANIMASI 2D & 3D KELAS XI DI SMKN 1 DRIYOREJO GRESIK." *IT-Edu: Jurnal Information Technology and Education* 5(2): 763–68.

[24] Zulhelmi, Z, Adlim Adlim, and Mahidin Mahidin. 2017. "Pengaruh Media Pembelajaran Interaktif Terhadap Peningkatkan Keterampilan Berpikir Kritis Siswa." *Jurnal Pendidikan Sains Indonesia* 5(1): 72–80.