

VALIDITY AND PRACTICALITY OF E-COMIC BASED ON CHARACTER EDUCATION TO PREVENT JUVENILE DELINQUENCY IN STUDENTS

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ABSTRACT

One of method For prevent mischief teenager is with give education Character . Education character help student understand principles character in a way comprehensive And increase awareness they about danger mischief Study This is study Research and Development which aims develop E-COMIC Media Based Education Character For Prevent Delinquency in Pekanbaru . Research This using the ADDIE model, which was developed by Dick Walter and Lou Carey. On stage analysis , there are 8 lecturers , 5 teachers who are certified as e-comic media validators, 97 students , and 77 students participated as respondents . Based on results study development that has been done Product development in the form of E-Comic based Education Character has fulfil criteria validity by 91% with “ Very Valid” criteria . practicality by 83% with “ Practical ” category and effective. This study aligns with the findings of Oktaviana et al. (2024), who used the ADDIE model for developing e-comic media focused on global diversity character education. Similarly, Suwanda et al. (2024) found that digital comics based on character education achieved high validation scores from both material and media experts, reinforcing the suitability of the ADDIE framework..

Keywords: : E-Comic, Education Character , Learning Media , Mischief Teenager.

ABSTRAK

Salah satu metode untuk mencegah kenakalan remaja adalah dengan memberikan pendidikan karakter. Pendidikan karakter membantu peserta didik memahami prinsip-prinsip karakter secara komprehensif dan meningkatkan kesadaran mereka tentang bahaya kenakalan. Penelitian ini merupakan penelitian Research and Development (R&D) yang bertujuan untuk mengembangkan media E-Komik berbasis pendidikan karakter guna mencegah kenakalan remaja di Pekanbaru. Penelitian ini menggunakan model ADDIE yang dikembangkan oleh Dick Walter dan Lou Carey. Pada tahap analisis, terdapat 8 dosen dan 5 guru yang berperan sebagai validator media e-komik, serta 97 siswa dan 77 siswa yang berpartisipasi sebagai responden. Berdasarkan hasil penelitian dan pengembangan yang telah

dilakukan, produk berupa E-Komik berbasis pendidikan karakter telah memenuhi kriteria validitas sebesar 91% dengan kategori “Sangat Valid”, kepraktisan sebesar 83% dengan kategori “Praktis”, serta dinyatakan efektif

Kata Kunci: *E-Komik, Pendidikan Karakter, Media Pembelajaran, Kenakalan Remaja*

A. Introduction

Teenagers are considered as assets owned by every country, and their participation in various organizations, including school and college students, is considered as one of their contributions. However, lately cases involving teenagers often occur such as violence, brawls, fights, drugs, sexual harassment, drug use, mugging, and other behaviors often carried out by underage teenagers. (Sumara, D., Humaedi, S., & Santoso, 2021).

However, the problem of student character that has the potential to cause juvenile delinquency has not yet been fully resolved. Factors such as arrogance, student brawls, illegal racing, door-to-door or COD pickpocketing, vandalism, and smoking are still challenges. (Faradiba & Budiningsih, 2020) stated that the failure of character education in schools can be caused by external factors such as teacher quality, facilities and

infrastructure, learning methods, and learning media that are still conventional.

This study aligns with the findings of (Oktaviana, N., Suprayekti, & Utomo, 2024), who used the ADDIE model for developing e-comic media focused on global diversity character education. Similarly, (Suwanda, N. A., Ulfa, S. W., & Adlini, 2024) found that digital comics based on character education achieved high validation scores from both material and media experts, reinforcing the suitability of the ADDIE framework.

Recent studies in Indonesia have also highlighted the effectiveness of e-comic media in strengthening students' character. For instance, (Harmawati et al., 2024) developed e-comic media for civic education to enhance students' moral values, while (Ayu Nafira & Lhutfia Wahyu Safutri, 2024) applied e-comics to teach honesty character in elementary schools. Furthermore, (Weda Angga, P. M., Sudarma, I. K.,

& Suartama, 2024) emphasized the role of e-comics in improving both character and learning outcomes in language education.

The solution to overcome this problem is to create interesting and effective learning media that suits student characteristics. One of the media developed is a comic based on character education. Comics are not only entertainment, but can also be an educational tool to teach knowledge, character, and morals. (Saputro & Soeharto, 2015) stated that comic media is effective in improving students' character, such as discipline and responsibility.

Based on the data and facts above, the researcher proposes the development of E-COMIC based on character education as a solution to prevent juvenile delinquency in students. Which aims to improve students' understanding of character values, develop students' skills in applying character values in everyday life and increase students' awareness of the dangers of juvenile delinquency. The urgency of developing E-comics is in line with the increasing social problems in Indonesia, so that character education is one of the efforts to prevent juvenile delinquency.

Which is a real contribution in helping students understand character values comprehensively, as well as increasing students' awareness of the dangers of delinquency. So the benefits of developing E-Comic are to improve the quality of character in schools , help realize a young generation with character and noble morals and build a dignified national civilization.

B. Methods

This research is a Research and Development study that aims to develop E-COMIC Media Based on Character Education to Prevent Delinquency in Pekanbaru. The development method used in this research is the ADDIE model (Analysis, Design, Develop, Implementation, Evaluation) developed by Dick Walter and Lou Carey (Endang Widi Winarni, 2021). The research was conducted in an elementary school environment according to the attached schedule. The subjects involved in this study involved teachers and students, with the involvement of a lecturer as an expert in developing comic media.

E-COMIC Media Design Based on Character Education to Prevent Juvenile Delinquency is implemented

through the stages of Analysis, Design, and Development (ADDIE). The ADDIE development flow in Figure 1 in the proposal can be explained as follows:

a. Analysis

The analysis stage involves the process of evaluating the content structure, concepts, information processing learning theories, and the formulation of learner needs. These arguments are the basis for selecting materials for E-COMIC.

b. Design

In the design stage, researchers design the initial roadmap or blueprint of E-COMIC Based on Character Education to Prevent Juvenile Delinquency according to the needs of students. The design involves preparation, tools, materials, and product design, including the design of the E-COMIC to be produced.

c. Development

The development stage involves the creation of an E-COMIC prototype, accompanied by the preparation of assessment instruments to measure the validity and quality of the product. Validation is carried out by

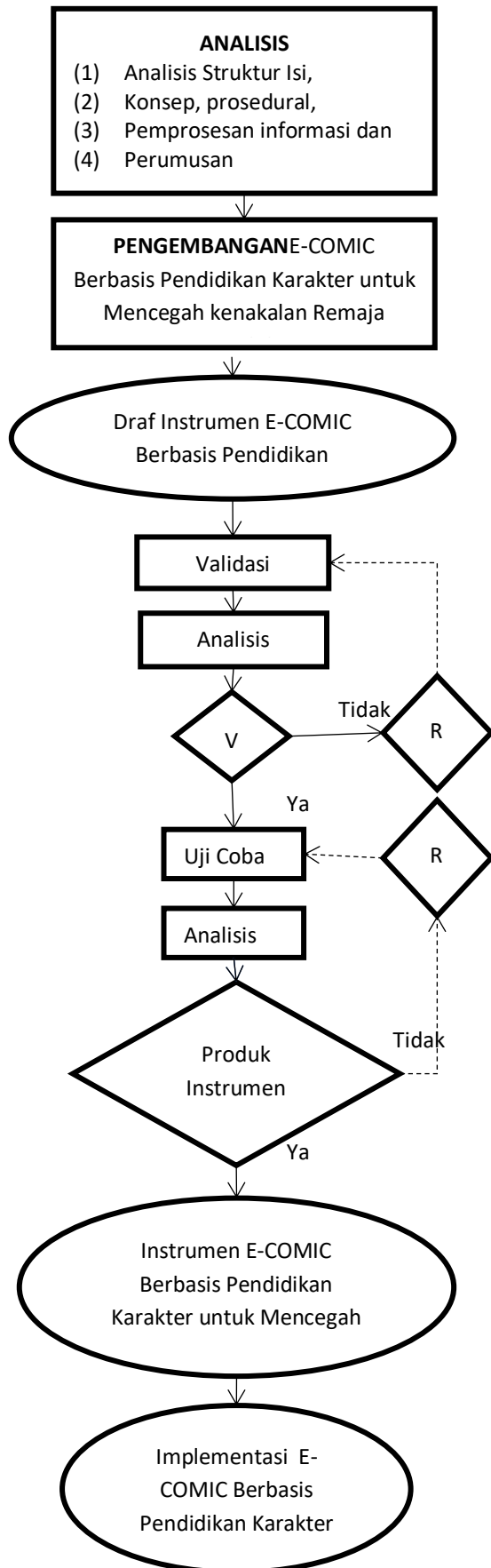
experts, both on the media and the instruments used. Once the E-COMIC and instruments have been validated, the product is ready to be implemented on a small scale.

d. Implementation

The implementation stage involves a plot project to evaluate the practicability and effectiveness of E-COMIC by Teachers and Students. The evaluation results provide input and suggestions for product improvement, which are then revised according to the suggestions given.

e. Evaluation

At the evaluation stage, the results of the project plot become prototype material that has been created in stages. This ensures effective and efficient results in producing products.



Picture 1. Development flow E-

COMIC Based on Character Education to Prevent Juvenile Delinquency

In this research, an instrument in the form of a questionnaire will be used to measure the validity, effectiveness, and practicality of the Character Education-Based E-COMIC media produced in preventing juvenile delinquency. Previously, a needs analysis instrument has been prepared to understand the development needs and to assess the ability of teachers in creating media, especially related to Character Education-Based E-COMIC as an initial step. Validity will be assessed by experts, including lecturers and accredited teachers. Effectiveness will be measured through the MGMP of subject teachers, while practicality will be evaluated by users, namely students, as well as student attitude questionnaires. In addition to using questionnaires, this study will also involve interviews in the form of deep interviews to obtain comprehensive, complete, and in-depth data.

The needs analysis conducted involved document, structural, procedural, and technological analysis for the development of E-COMIC based on character education in the

context of preventing juvenile delinquency in drug prevention learning. The process of developing research instruments included validation and trials using Kuder Richardson 20 and 21 analysis using Anates V4, as well as questionnaire analysis with Alpha Cronbach analysis using SPSS 25 and SEM.

The results of the data analysis obtained became the basis for the development of an E-COMIC design based on character education which aims to prevent juvenile delinquency. The results of this analysis serve as the basis for revising the resulting product prototype, which is evaluated based on effectiveness and practicality through field simulations. In addition, the distribution of attitude questionnaires was conducted to understand the changes that occurred due to the use of the E-COMIC development program.

C.Result and Discussion

Respondents in this study were students or beginners who had never used E-COMIC teaching materials based on Character Education. in order to prevent juvenile delinquency , it is necessary to make efforts to design such media. According to research, the industrial revolution 4.0

is a combination of digital and internet technology with conventional industries with the aim of increasing productivity, efficiency, and consumer services (Sundari, 2019) . Therefore, beginners need the latest media learning and development approaches. The government supports creative businesses by providing funds, training, and mentoring for beginners. Media can help students learn well if used in the learning process. Among them, it can foster new interests, increase motivation, foster creativity, increase stimulation in learning activities, and can even have a psychological impact (Yuliarni et al., 2023) . Basically, comics and stories are the same , because there are pictures, and they are packaged attractively. Learning comics that contain content to prevent juvenile delinquency are expected to solve several problems related to juvenile delinquency. For example, information about smoking can be conveyed in an effective way.

At this analysis stage, consisting of 8 Lecturers, 5 Certified Teachers as E-comic media validators, 9 7 Students and 77 students as respondents in the development of e-comic based on character education to

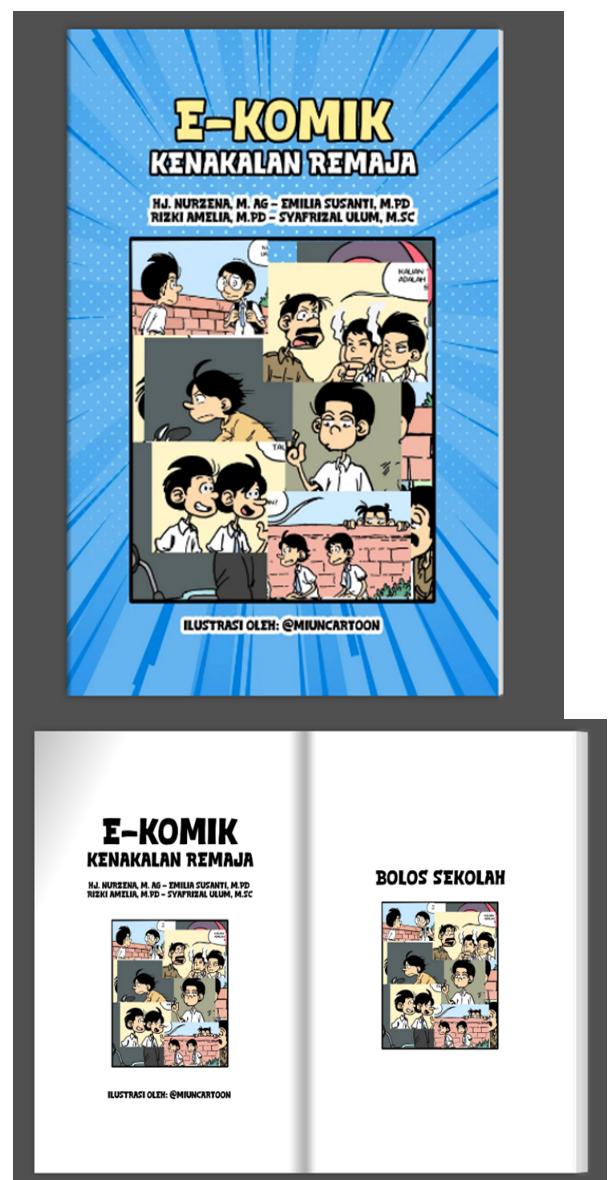
prevent juvenile delinquency. The discussion of the research results is based on the factors observed in this study . These factors include E-Comic Based on Character Education to Prevent Juvenile Delinquency meets the criteria of valid, practical and effective. These findings are consistent with (Harmawati et al., 2024) and (Weda Angga, P. M., Sudarma, I. K., & Suartama, 2024), who also reported that character-based e-comics were valid, practical, and effective for moral learning. However, as noted by (Ayu Nafira & Lhutfia Wahyu Safutri, 2024), challenges remain in teacher readiness and digital infrastructure to maximize the pedagogical potential of e-comic media.

Design And Development

Described the features of E-Comic Based on Character Education created by researchers. The design was validated by 8 expert lecturers in their fields and 5 certified teachers . It is expected that the quality of the design and products created can increase the use of media before being tested and distributed.

a. Page Beginning

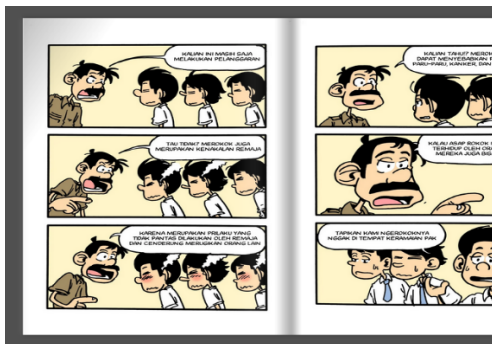
The home page presents the title of the E-Module End Point Assessments (EPAs). Figure 2 shows the design of the home page for the development of Character Education-Based E-Comic.



Picture 2. Page Front E-Comic

b. Material E-Comic

Contains presentations of teaching materials that are equipped with interesting pictures and storylines about juvenile delinquency. Design material Which served on book teaching can be seen on Figure 3.



Picture 3. Appearance E-Comic Based on Character Education

Development of E-Comics based on character education obtained were given to experts or experts for assessment including 8 people Lecturers and 5 Certified Teachers, has been served in the picture 4.

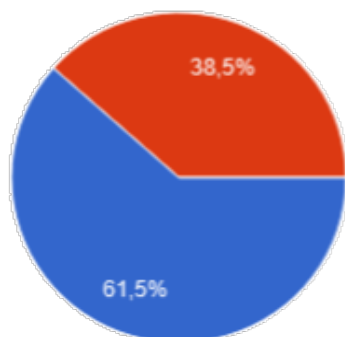
As for the aspects that observed in E-Comics based on character education are the appearance aspects, teaching material aspects and learning aspects. Results validation for didactic aspect can seen on Table 1.

Table 1. Results E-Comic Validation on Display Aspect by Expert

	Display Aspect	Average	Category
1	Design cover e-comic interesting	92%	Very Valid
2	Illustration served in a way clear	91%	Very Valid
3	Illustration interesting	92%	Very Valid
4	Illustration served in a way guided	89%	Very Valid
5	Election illustration in accordance with theme	91%	Very Valid
6	Consistent background	91%	Very Valid
7	Proportion color in accordance	89%	Very Valid
8	Layout location text and picture balanced	91%	Very Valid
9	Election type letter in accordance	91%	Very Valid

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13 jawaban



Picture 4. Compliance Media And Material by Team Validators

According to Table 1, the evaluation of each indicator for the appearance aspect shows an average value of 89–92% with the Very Valid category.

Item 1 shows that the e-comic cover design is very attractive. Items 2-5 show that the illustrations used in the E-comic presented are in accordance with the ideas conveyed and Items 6-9 show that the use of colors and letters in the E-comic is appropriate or can be said to be valid. The average number of averages for each indicator is 91%. As part of print media, comics can be used as an alternative learning material. Comics have advantages as a learning medium because they contain strong visual and story elements. The expressions conveyed make readers feel emotionally involved, making them continue reading until the end. Thus, comic media not only succeeded in increasing students' interest in reading, but was also very effective in disseminating knowledge through comic stories (Asnawi et al., 2023) . Furthermore, Table 2 presents the validation results for teaching material elements by experts.

Table 2. Results of E-Comic Validation on the Teaching Materials Aspect by Experts

	Teaching Materials Aspects	Average	Category
10	Media easy e-comic And safe when operated	92%	Very valid
11	Simple And easy brought everywhere	91%	Very valid
12	Election picture Which used already appropriate For support material	91%	Very Valid

The value for each indicator in the teaching material aspect ranges from 91% to 92% percent with a very valid category, and the average value for this category is 91% percent. The average of 91% in items 11 and 12 shows that the media used provides an understanding that is easy to access anywhere and anytime. The effectiveness of presenting teaching materials is not determined by their price or the frequency of use of the media

	Learning Aspects	Average	Category
1 3	E-comics according to development level cognitive student	92%	Very Valid
1 4	Media e-comic can Motivate students in activity learning especially preventing juvenile delinquency	92%	Very Valid
1 5	E-Comics can improve the noble character of the nation	91%	Very Valid

Table 3. Results of E-Comic Validation on Learning Aspects by Experts

The indicator values in the learning aspect, as shown in Table 3, range from 91% - 92% with the Very valid category. The average validity value of E-Comic is 92% with the Very valid category, indicating that the learning aspect is fully feasible to use without any invalid information. Items 13 and 14 have higher average values because E-Comic is considered to be able to meet the needs of digital literacy and student motivation in preventing juvenile delinquency . Digital literacy is considered important for successful learning. Students who have digital literacy skills will try to find and select important information, as well as understand, communicate, and convey ideas in a digital environment. They will also have the opportunity to think, communicate, and work creatively, which in turn will lead

(Asnawi et al., 2023) . Instead, teaching materials must be in accordance with the material presented and in accordance with the child's developmental stage. Comics are teaching materials that can be used according to these requirements. Referring to the Research of Sastromiharjo & Sumiyadi (2023) emphasizes that visualized expressions make readers emotionally involved, making them want to read until the end. This can attract students' interest in learning, especially reading and viewing narrative texts in learning Indonesian . Furthermore, table 3 presents the validation value on the learning aspect in E-comic.

to better learning outcomes (Fatwa, 2024) . Then, to increase student motivation, teachers must be able to adjust teaching materials that are appropriate to student characteristics and learning materials. This article explains how teachers can use teaching materials to increase student learning motivation (N. Setiawan, 2023) . Table 4 shows the overall validity of the E-Module End Point Assessment based on the validity categories in the aspects of appearance, teaching materials, and learning that have been described previously.

Table 4. Overall E-Comic Validation Results by Experts / Expert

No	Aspect	Average	Category
1	Appearance	91%	Very Valid
2	Teaching materials	91%	Very Valid
3	Learning	92%	Very Valid
Average		91%	Very Valid

Experts have concluded that E-Comic Based on Character

Education is Very valid with an average value of 91%, as shown in Table 4, so it can be continued to the assessment stage. The data obtained in each aspect becomes the basis for reflection for researchers, referring to the expected role capacity, beginner digital literacy can be improved. Thus, interest, motivation, willingness, and thinking towards preventing juvenile delinquency can be driven through improving digital literacy skills through E-Comic Based on Character Education.

Next, after the media is in accordance with the assessment aspect components by experts, namely implementation and evaluation, the assessment is carried out. Character Education Based E-Comic Calculation is reviewed based on the ease of use and efficiency of E-Comic.

Implementation And Evaluation

An assessment was carried out by the validator, then a group trial was carried out. small, namely to 97 students as served on picture 5 below.

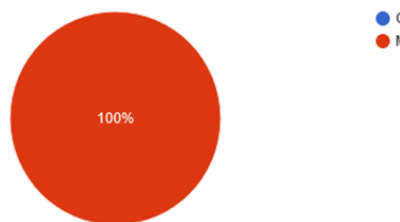
	Ease of Use	Average	Category
1	Clear theme delivery	84%	Practical
2	Ease of use of e-comic media via mobile phone or laptop	82%	Practical
3	Compliance information Which served in e-comic with need student	82%	Practical
4	Clarity information in e-comic	82%	Practical
5	Compliance material Which served in media with characteristics student	85%	Practical
6	Character attraction	83%	Practical
7	Appearance which is presented attractively	85%	Practical
8	The problem Which served related with life daily	84%	Practical
9	Availability illustration, graphic, picture, And the photo that interesting	84%	Practical

Based on the analysis, character education is the main objective of the assessment, in this case the respondents consist of students as shown in Figure 4. The purpose of this assessment is focused on the ease and efficiency of E-Comics, as shown in Table 5.

Table 5. Results of E-Comic Practicality in the Aspect of Ease by Students

Table 5 shows that the highest ease indicators shown by students, namely the delivery of the theme, the problems presented, the availability of illustrations, graphics and the suitability of the material presented were 84%-85%. The suitability of the information and ease of access offered by E-Comics based on Character Education is also practical according to respondents, this is indicated by an average value of 82% in the practical category. The existence of this technology also makes independent learning based on character education easier for beginners so that it can open their minds to prevent juvenile delinquency. To prevent juvenile delinquency, character education can

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97 responses



Picture 5. Respondents of E-Comic Practicality Test

be integrated with formal, non-formal, and informal education. Character education aims to build ethical, moral, and responsible attitudes that are needed by adolescents to live their social lives without disturbing their environment with actions that deviate from community values and norms (Shidiq & Raharjo, 2018).

Next, the researcher conducted an analysis on the efficiency aspect which can be seen in table 6 below.

Table 6. Results of EPAs Practicality on Efficiency Aspects by Students

	Efficiency of EPAs	Average	Category
10	Media e-comic safe to use	83%	Practical
11	This e-Comic media is comfortable to use	83%	Practical
12	E-Comics can make me more motivated For Study	81%	Practical
13	E-comic juvenile delinquency facilitate to do character building	82%	Practical

activities			
E-comic juvenile delinquency facilitate the prevention of juvenile delinquency	84%	Practical	

Based on Table 6, the aspect of student efficiency shows the highest value in the item of learning interest using e-comics in facilitating the prevention of juvenile delinquency which is presented at 84%. Thus, character-based education to prevent juvenile delinquency through e-comics and digital literacy skills will increase.

The student practicality response questionnaire contains several aspects, namely Ease and Efficiency. The overall results of the student response questionnaire can be seen in Table 7 below.

Table 7. Results of the Practicality Questionnaire by UT Students and Non-UT Students Overall

No	Rated aspect	Practicality value (%)
1	Ease of Use	83%
2	Efficiency	82%

Avera ge	83%	E. Concl Practical
<p>Table 7 shows that the assessment of the practicality of each aspect with a value of ease of use of 83% and Efficiency of 82% in the Practical category. Practical E-comic media can make learning more interesting and more meaningful. (Yuniastuti & Khoiron, 2021) said that learning methods that emphasize media are the best because they can provide clearer information and allow for repeated learning without spending a lot of time simultaneously. Since digital methods are more effective than conventional learning methods, teaching must use technology despite some barriers. This study aligns with the findings of Oktaviana et al. (2024), who used the ADDIE model for developing e-comic media focused on global diversity character education. Similarly, Suwanda et al. (2024) found that digital comics based on character education achieved high validation scores from both material and media experts, reinforcing the suitability of the ADDIE framework.</p>	<p>The results of the development research that has been carried out provide conclusions, The process of developing E-Comics based on Character Education consists of <i>the analysis, design, development, implementation and evaluation stages</i> . On product This presenting facility material teach based on information And technology with fusion text And picture. Product development in the form of E-Comic based on Character Education has fulfilled validity criteria of 91% with the criteria "Very Valid". Product development in the form of E-Comics based on Character Education has fulfil criteria practicality as big as 83% with "Practical" category for student</p>	<p>DAFTAR PUSTAKA</p> <p>Asnawi, A., Mulyahati, B., & Fransyaigu, R. (2023). Penguatan kompetensi guru dalam pelatihan pembuatan bahan ajar "e-komik" di sekolah dasar. <i>Community Development Journal: Jurnal Pengabdian Masyarakat</i>, 4(1), 407–412.</p> <p>Ayu Nafira & Lhutfia Wahyu Safutri. (2024). The Application of E-Comic Media in Honesty Character Education in Citizenship Education Subjects at</p>

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