

Development of *e-comic* based learning media in civics subjects to develop the character of student at Public Junior High School 3 Magetan, Indonesia



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ABSTRACT

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Pancasila and citizenship education is one of the subjects that can grow the character of students. Pancasila and civic education teachers have an important role in educating students in the midst of the influence of this technological age. The problem that occurs is that Pancasila and civic education learning is not liked and in demand by students because the available material is quite boring, because teachers only apply the lecture method and the media used is still in the form of school package books. The researcher developed e-comic-based digital learning media in Pancasila and civic education learning. The purpose of this study is to test the feasibility of media as a means to grow the character of students at Public Junior High School 3 Magetan. The type of research used is *Research and Development (RnD)* with the ADDIE (*Analalys, Design, Development, Implementation, Evaluation*) research model. The data analysis technique used is quantitative to calculate the results of media feasibility from learning experts and the results of practicality of student responses. Qualitative data to analyze problems and analyze quantitative results. The result of this research and development is that the researcher succeeded in obtaining media feasibility from learning experts by 75% with the feasible category and obtaining media practicality by 75.35% with the very practical category. Thus, based on the results obtained, after reading the stories in *the e-comic*, students can cultivate the character of mutual cooperation and tolerance towards students.



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1. Introduction

Pancasila and Citizenship Education is one of the subject objects that has a strong potential to form a good citizen and a smart *citizen*. Pancasila and civic education subjects have elements of teaching materials that are very important for students to understand such as Pancasila, the 1945 Constitution, human rights, norms, politics, and social. Each of these material elements can shape the personality of a student so that they have the competence of *knowledge, attitude, and action* in living the life of society, nation and state. Pancasila and Citizenship education can also strengthen the resilience of Indonesian citizens against the bad influences of globalization that have the power to weaken a nation. Therefore, it is necessary to strengthen the character values of students through Pancasila and Citizenship Education. The biggest challenge in instilling character is technological advancement. This progress can provide positive and negative consequences for the nation's generation, one of which is that excessive use of gadgets can damage the mindset and morale of students. Challenges arising from technological advances

for students such as addiction to online games, as well as acts of *bullying*. Excessive use of gadgets can also reduce relationships or social interactions, so that they can make themselves more individual, just like addiction to online games where children feel they own their own world. The internet network can also trigger students to be able to access websites that should not be seen by children their age. Therefore, character cultivation is very important for educators in the 4.0 era to form the character of the nation's generation with morals and morals. The role of Pancasila and civic education in overcoming this is to provide learning content in the form of three components, namely knowledge, citizenship, citizenship skills, and citizenship character.

Character is not only obtained from school but also formed from the family and community environment through good habits carried out in their lives. Many students commit character abuse at school such as cheating during exams, stealing, bullying fellow friends, violating school rules, skipping school or brawls between students [1]. The role of the school environment is to create a program that can cultivate good character cultivation in students so that it can become a good habit in behaving, such as through routine activities held by the school [2]. In an era like today, the role of Pancasila and civic education teachers also intervenes in overcoming the influence of globalization, one of which is in fostering good character in students. The way a Pancasila and civic education teacher grows character includes becoming a figure who is considered a role model for his students and combining the learning process with behaviors that describe character cultivation [3]. The role of Pancasila and civic education teachers has a great responsibility in instilling the character of students because teachers not only teach intellectually but also educate their students to become an intelligent and critical young generation in responding to all global issues and challenges of the 21st century [4]. The duties of Pancasila and civic education teachers are also strengthened through strengthening the character of Pancasila students in the independent curriculum which emphasizes the duties of teachers in strengthening the character of students such as the character of faith and devotion to God Almighty, mutual cooperation, diversity of *Tunggal ika*, independence, critical and creative [5]. The character strengthening program according to the P5 program is not only carried out in learning, but can also be carried out outside of learning in the classroom [6].

Pancasila and civic education teachers in instilling character, not only through learning, can also through an interesting and innovative learning media. Teachers must be able to take advantage of technological advances positively by changing technological tools as an educational medium that has life values so that they can be instilled in the hearts of students [7]. One of them is that Pancasila and civic education teachers can develop digital learning media that are interesting and impressive to students because Pancasila and civic education subjects are one of the subjects that students do not like and are bored because they memorize, read and take notes a lot. However, if you remember, Pancasila and civic education subjects are important subjects for students to understand because in their learning there are aspects of behavior, aspects of the nation and aspects of the state. Pancasila and civic education learning needs to be combined with interesting learning media that can create a sense of desire for students to learn Pancasila and civic education, so that the goals of Pancasila and civic education learning can be achieved [8]. Media is very important to use in the learning process because the existence of learning media can increase the effectiveness of students' learning. The following are the functions of learning media according to [9] is to improve student learning outcomes, foster student learning motivation, increase student learning activities, create an impressive learning atmosphere, media can foster learning values in life, and the last is that the existence of learning media can help teachers to form creative and varied teaching patterns.

The learning media that is suitable to be applied in Pancasila and civic education lessons is comics because comics present educational stories to increase students' understanding of character cultivation. Comics in general are a compilation of images with a combination of stories played by several story characters by providing learning and entertainment meanings to readers. Comics are also a reading medium that is in demand by children and adults with their interesting stories [10]. The meaning of stories in comics varies greatly based on the age of the reader, so in this case the story that is suitable for the age of the reader is a story that can educate students as a learning of his life. Characters in comic stories can play a role or action that can describe the values of the character, one of which is the character of mutual cooperation and tolerance. These two characters are very important to be instilled in students in carrying out

community life. The character of mutual cooperation and tolerance is one of the prominent characters in the school environment such as class picketing, group work, joint prayer, and not discriminating in choosing friends. So that comic learning media can be an effort made by teachers to instill the character of students.

Based on the sophistication of current technology, teachers can use it to develop media that was originally physical can be transformed into electronic learning media and has practical value for students to access. Comics can be converted into electronic forms so that students can take advantage of technological media such as *mobile phones*, to access these digital comics for learning resources. Digital comics are non-text books that can be a supporting learning medium in addition to the use of textbooks. Students not only use textbooks as the main source of learning, but outside of learning participants can read comics as a source of learning in the classroom and outside the classroom. This digital comic is flexible, can be accessed anywhere and anytime and does not require a fee. Based on the background formulation, the research was conducted at Public Junior High School 3 Magetan. The reason for the research at Public Junior High School 3 Magetan is that Pancasila and civic education teachers at Public Junior High School 3 Magetan still use learning media sourced from books and use projectors to display PPTs, so that students feel less satisfied after participating in Pancasila and civic education learning. Teachers have not used a variety of learning models when teaching. In addition, teachers also experience difficulties in instilling the character of mutual cooperation and tolerance in students. Therefore, the researcher developed an *e-comic-based* digital learning media to grow the character of Public Junior High School 3 Magetan students. After developing *this e-comic*, Public Junior High School 3 Magetan students can take the character values in the *e-comic* stories that have been developed and are expected to be able to instill these characters in daily life. The effectiveness of this development, researchers can provide updates to digital-based learning media in Pancasila and civic education learning. Thus, after the implementation of *this e-comic* media, it can help the role of Pancasila and civic education teachers in instilling character in students as a good citizen. The *e-comic* media that has been developed is also quite effective as a medium to improve student learning outcomes.

2. Method

The research method used is research and development or *research and development*. According to [11] method *research & development* is a method used to produce a new product and then tested for its feasibility in learning. This research method is suitable for use in developing or making a new product that functions to support the success of a decent learning. Pancasila and civic education learning requires interesting learning media to grow the character of students such as digital learning media based on *e-comic*. The research model used was ADDIE (*analyze, design, develop, implement, evaluate*). ADDIE is used as stages in the research and development process.

- The first step, *analyze*, is to analyze the learning process, Pancasila and civic education teaching modules, and character problems at Public Junior High School 3 Magetan.
- The second step, *design*, is to compile a learning expert validation questionnaire instrument and a student response questionnaire, compile a teaching module, compile a GBIM (outline of media content), and a flowchart.
- The third step is *develop* which includes the processes of developing *e-comic* learning media, validating learning experts, and revising *e-comic learning media*.
- The fourth step, *implement*, is the trial of *e-comic* products into Pancasila and civic education learning involving students.
- The fifth step is *to evaluate* to find out the quality and impact of the product being developed.

Data collection techniques use interviews, observations, questionnaires and documentation. The data analysis techniques used are qualitative and quantitative. Qualitative data is used to analyze problems based on the results of interviews, observations, documentation, and analyzing the results of validation questionnaires and student responses. Quantitative data was used to calculate validation questionnaire scores from learning experts and student response questionnaires. The questionnaire assessment in this study uses a likert scale to calculate the

percentage of media feasibility developed based on the results of validation of learning experts, and calculate the percentage of media practicality based on student responses, see Table 1.

Table 1. Scale Likert

Criterion	Score
Very Not Good	1
Bad	2
Nervous	3
Good	4
Excellent	5

Table 2 is media eligibility category. The next step is to calculate the percentage score of the questionnaire using the following formula:

$$\text{Percentage of Questionnaire} = \frac{\text{Total scores obtained}}{\text{maximum score}} \times 100\% \quad (1)$$

Table 2. Media Eligibility Category

Percentage Score	Category
0% - 20%	Very Unworthy
21% - 40%	Not Eligible
41% - 60%	Quite Decent
61% - 80%	Proper
81% - 100%	Highly Worthy

Table 3 is categories media practicality. The data analysis technique to determine the practicality of *e-comic* media is to use a questionnaire from student responses with the following formula:

$$\text{Validity of practicality} = \frac{\text{Total empirical score of practicality}}{\text{Maximum expected score}} \times 100\% \quad (2)$$

Table 3. Categories Media Practicality

Percentage Score	Practicality Level
0% - 25%	Impractical
25% - 50%	Less Practical
50% - 75%	Practical
75% - 100%	Very Practical

3. Result and Discussion

In this analysis stage, the researcher found problems in growing the character and learning process of Pancasila and civic education and those at Public Junior High School 3 Magetan through interviews, observations and documentation. Based on the results of the interviews, the researcher obtained that teachers still have difficulties in instilling the character of students caused by the influence of technological advances such as the use of cellphones that have dominated, by opening websites that should not be viewed according to their age. Living in this age of technology, it has a negative and positive impact on students. The existence of technology can affect the life pattern of students to be very passive by spending time playing mobile phones instead of socializing [12]. Effective efforts that need to be made to cultivate character must be exemplified through the media. This shows that there is a positive impact of technology as an educational medium to grow the character of students. Internet media can be used as a forum to grow the character of students by cultivating literacy through electronic educational media made by teachers such as *Blog* And *website* [13]. Public Junior High School 3 Magetan has also held a school activity program to cultivate the character of mutual cooperation and tolerance in its students such as the implementation of class pickets, group assignments, routine activities of *dhuha*, *dhuhur* and Friday prayers, the implementation of *infaq*, and for non-Muslims, the school also brings in non-Muslim religious teachers to carry out prayers. However, from the many routine activities carried out by the school, the majority of students have implemented it although not all students have applied it. Thus, it is important for schools to familiarize their students with good behavior through school routine programs, so that it becomes a school culture to grow the character of students [2].

Based on the school's routine program, it shows that Public Junior High School 3 Magetan has applied the character of mutual cooperation and tolerance to its students. The character of mutual cooperation and tolerance is very important to be grown in students with the aim of having good character such as respecting differences, caring for others, establishing togetherness, and forming a sense of wanting to help others. In other words, that the two characters have a close relationship. Attitude of tolerance between students can grow well if the attitude of mutual cooperation in students can be implemented optimally. In the school community, students can carry out mutual cooperation voluntarily regardless of religious or ethnic differences and do not discriminate in making friends [14]. This is very suitable to be accustomed to at Public Junior High School 3 Magetan with the condition of its students who have religious differences. Based on the results of observations in Pancasila and civic education learning at Public Junior High School 3 Magetan, the researcher found that students still seem to be less satisfied and not focused when participating in Pancasila and civic education learning in class. The condition of students' learning spirit is influenced by time, which is marked by the more noon the lesson begins, the more tired, tired, and sleepy the students feel, so that when compared to the learning conditions in the morning, the condition of students is more *fresh* and *good mood* to follow the learning [15]. The method used by teachers when teaching is the lecture and discussion method. Teachers use more makeshift learning media such as LCD to display PPTs or learning videos, while learning reference sources use school books and Student worksheet. The cause of students' inactivity in a learning process is because teachers use more lecture methods, so they require students to concentrate learning resources only from the teacher's explanations. In addition, in the lecture method, students only listen so that students feel bored quickly [16]. Teachers can overcome student boredom by utilizing learning media such as books, worksheets, maps, pictures, and various other media available in the classroom [17].

However, students prefer interesting learning media such as electronic-based learning media by utilizing technology as a learning resource in addition to books [18]. Therefore, teachers need to develop new learning media for Pancasila and civic education learning by utilizing digital learning media. The researcher also found that Pancasila and civic education teachers at Public Junior High School 3 Magetan have also never implemented interesting digital learning media such as learning media *e-comic* and only utilizes LCD to display *power point* or other videos. These limitations also result in the learning process not being carried out optimally, so that students are less participatory such as lazy to go to class, not doing assignments, and copying friends' answers [19]. Pancasila and civic education teachers at Public Junior High School 3 Magetan have also never implemented a varied learning model. With the existence of interesting learning media, it can support interesting and effective learning model ideas [10]. Thus, researchers feel suitable to develop new digital-based learning media, namely *e-comic* into Pancasila and civic education learning at Public Junior High School 3 Magetan with the learning theme "Maintaining the Integrity of the Republic of Indonesia." In the next stage, the researcher carried out the process of developing *e-comic* learning media which began by compiling stories, making sketches, *e-comic* illustrations, and the final *e-comic*. The Fig 1 is a look at the process of making an *e-comic*:

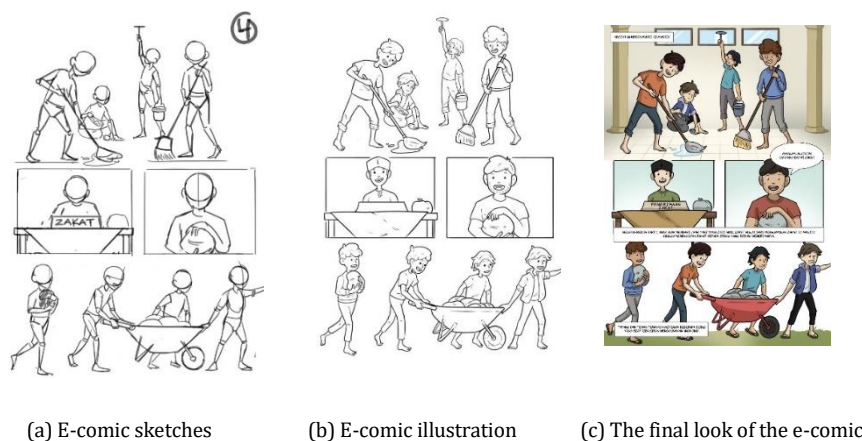


Fig. 1. The process of making an e-comic

The story raised by the researcher in *the e-comic* broadly tells about the atmosphere of the month of Ramadan carried out by four friends named Tatang, Marco, Aling, and Yono by doing good deeds in the month of Ramadan starting from activities to help clean the mosque, help serve *zakat* payments, distribute *zakat*, to carry out free *takjil* sharing activities. The purpose of the researcher choosing the story is to grow character in students that an educator not only exemplifies through actions and words, but also needs media support to exemplify characters to students, one of which is this *e-comic* media. After the development process, the researcher validated *the e-comic* learning media to learning experts through a questionnaire. Validation of *e-comic* learning media includes assessment of *e-comic material*, presentation of material, design and illustration of *e-comic*. The validation results from the learning experts obtained a score of 75% with a category suitable for use. Learning Experts also provide suggestions and inputs related to the development of *e-comic learning media*, namely comics can choose subjects according to the age of students, comics can be used but need a combination of media and teaching materials that are cognitive, and it will be better if comics are longer. Based on the advice from the learning expert, the researcher makes revisions or actions based on input from the validator. The revision made by the researcher to *the e-comic media* is to change the comic storyline in the initial prologue of the story and change the initial dialogue in the comic. The next stage after the validation of learning experts, the researcher conducted a product trial, namely implementing *e-comic* media into Pancasila and civic education learning, see Fig. 2.



Fig. 2. Implementation of e-comic media in Pancasila and citizenship education learning

The researcher conducted a trial on students as a reinforcement in this research and development. Test data in the form of student response questionnaires regarding the assessment *e-comic* to find out the criteria for media practicality. The researcher obtained a student response score of 75.35% with the category of very practical. Thus, it can be interpreted that the media *e-comic* have a feasibility and practicality value to be used as a learning support. Learning media is used as a tool for teachers to facilitate students' understanding and concentration [10]. Learning media is an important component needed by a teacher to support the implementation of the learning process, such as media or technological tools to balance the teaching process [20]. Comics can be used as an educational medium used by teachers as teaching materials or as a reading source that has the meaning of life values. Comic learning media can be used as an alternative source for learning that previously considered a difficult and boring material to be more fun and effective to improve student learning outcomes [21]. According to [22] Comics are flexible and can be used during learning in the classroom or outside the classroom. Comics can be a good solution to create an impressive learning for students. As a result of the sophistication of today's technology, it can change the form of comics into electronic or *e-comic* [23]. *E-comics* is the latest comic model in electronic form that can be accessed through *smartphone* personal so that it has practical, effective, and attractive value [24]. The same is true for the development of learning media *e-comic* belongs to this researcher, which was developed through the application *Adobe Photoshop* which can issue digital comic products in the form of *softfile* with PDF type to facilitate students' reading access. The

statement is similar to the statement [25] that media overload *e-comic* is does not require access fees, just send via *whatsApp* and students can download *e-comic* through their respective mobile phones.

4. Conclusion

Based on the results of the development of *e-comic-based* digital learning media to grow the character of Public Junior High School 3 Magetan students, there are five steps, namely *analyze, design, develop, implement, and evaluate*. The results of the validation of *e-comic* digital learning media by learning experts obtained a score of 75% in the feasible category, while after conducting product trials, the researcher obtained a student response of 75.35% in the very parocious category. So the *e-comic-based* digital learning media that has been developed by this researcher has been tested to be suitable for use and has practical value for students to use. Thus, *e-comic* digital learning media can be used in Pancasila and civic education learning as a medium to grow students' character.

Acknowledgment

This suggestion is intended for future researchers to be more creative in developing a learning media in Pancasila and civic education subjects because Pancasila and civic education learning has monotonous discussions. The second suggestion is shown to teachers to be able to develop interesting and educational learning media by utilizing technology media because interesting learning media can increase students' understanding of the teaching being given. The third suggestion given to schools is to create training or workshops for teachers in developing an attractive digital-based learning media.

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References

- [1] F. Lestari, I. R. Chalimi, and E. Mirzachaerulsyah, "Efektivitas Model Role Playing terhadap Penguatan Nilai Karakter pada Pembelajaran Sejarah Bagi Peserta Didik Kelas XI SMA Negeri 1 Seponti Kayong Utara," *JiIP - J. Ilm. Ilmu Pendidik.*, vol. 7, no. 1, pp. 34–40, 2024, doi: [10.54371/jiip.v7i1.3086](https://doi.org/10.54371/jiip.v7i1.3086).
- [2] M. Supriadi, Achmadi, and T. S. Atmaja, "Implementasi Pendidikan Karakter Gotong Royong Melalui Budaya Sekolah di SMP Negeri 22 Pontianak," *J. Pendidik. dan Pembelajaran Khatulistiwa*, vol. 13, no. 1, pp. 55–62, 2024.
- [3] K. Cahyani and D. A. Dewi, "Peran Guru Pendidikan Kewarganegaraan Dalam Membentuk Karakter Peserta Didik Agar Menciptakan Siswa Yang Berkualitas," *J. Pendidik. Kewarganegaraan Undiksha*, vol. 9, no. 2, pp. 268–281, 2021.
- [4] H. Sugara and F. Mutmainnah, "Peran Guru Pancasila and civic education Dalam Membangun Karakter Bangsa Sebagai Respon Dan Tantangan Abad Ke-21," *Buana Pendidik. J. FKIP Unipa Surabaya*, vol. 16, no. 29, pp. 16–30, 2020, doi: [10.36456/bp.vol16.no29.a2266](https://doi.org/10.36456/bp.vol16.no29.a2266).
- [5] S. Ismail, S. Suhana, and Q. Y. Zakiah, "Analisis kebijakan penguatan pendidikan karakter dalam mewujudkan pelajar pancasila di sekolah," *J. Manaj. Pendidik. Dan Ilmu Sos.*, vol. 2, no. 1, pp. 76–84, 2020. doi: [10.38035/jmpis.v2i1.388](https://doi.org/10.38035/jmpis.v2i1.388)
- [6] M. R. Hamzah, Y. Mujiwati, I. M. Khamdi, M. I. Usman, and M. Z. Abidin, "Proyek Profil Pelajar Pancasila sebagai Penguatan Pendidikan Karakter pada Peserta Didik," *J. Jendela Pendidik.*, vol. 2, no. 4, pp. 553–559, 2022, doi: [10.57008/jjp.v2i04.309](https://doi.org/10.57008/jjp.v2i04.309).
- [7] M. Hendayani, "Problematika Pengembangan Karakter Peserta Didik di Era 4.0," *J. Penelit. Pendidik. Islam*, vol. 7, no. 2, pp. 183–198, 2019, doi: [10.36667/jppi.v7i2.368](https://doi.org/10.36667/jppi.v7i2.368).

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- [8] S. A. S. Solihah, Suherman, and Fadlullah, "Pengembangan Media Komik Digital Bermuatan Pendidikan Karakter Materi Membangun Persatuan dan Kesatuan pada Mata Pelajaran Pancasila and civic education di Sekolah Dasar," *EDUKASI J. Ilmu Pendidik.*, vol. 4, no. 4, pp. 5186–5195, 2022. doi: [10.31004/edukatif.v4i4.3156](https://doi.org/10.31004/edukatif.v4i4.3156)
- [9] Isnarto, Abdurrahman, and Sugianto, "Pengembangan Laboratorium Media Pembelajaran Berbasis Kebutuhan Sekolah," *J. Profesi Kegur.*, vol. 3, no. 2, pp. 244–252, 2017.
- [10] A. Najwa, R. S. Dewi, and R. Y. Lestari, "Pengembangan Media Pembelajaran Komik Digital Pada Pelajaran Pendidikan Pancasila Dan Kewarganegaraan Di SMA Negeri 3 Kota Serang," *J. Kewarganegaraan*, vol. 6, no. 1, pp. 1637–1646, 2022.
- [11] Sugiyono, *Metode Penelitian dan Pengembangan (Research and Development)*, Cetakan ke. Bandung: Bandung: Alfabeta, 2019.
- [12] P. N. Kezia, "Pendidikan Karakter Pada Anak Sekolah Dasar di Era Digital Dini," *J. Pendidik. Tambusai*, vol. 5, no. 2, pp. 2941 – 2946, 2021, doi: [10.36728/semnasutp.v1i01.13](https://doi.org/10.36728/semnasutp.v1i01.13).
- [13] Y. Sugiarti, "Peranan Teknologi Internet dalam Membangun Pendidikan Karakter Anak," *J. Teknodik*, vol. 15, no. 2, pp. 145–154, 2011. doi: [10.32550/teknodik.v0i0.97](https://doi.org/10.32550/teknodik.v0i0.97)
- [14] M. Azmi, "Pengalaman Nilai-Nilai Toleransi Siswa SMA Negeri 3 Palangka Raya Sebagai Bentuk Moderasi Beragama," *J. Keislam. dan Ilmu Pendidik.*, vol. 4, no. 1, pp. 37–46, 2022. doi: [10.36088/islamika.v4i1.1594](https://doi.org/10.36088/islamika.v4i1.1594)
- [15] A. Ardiansyah, "Pengaruh Penerapan Jam Pembelajaran Terhadap Hasil Belajar Siswa pada Mata Pelajaran Akidah Akhlak Kelas X MA An-nur Bululawang," *VicratinaJurnal Pendidik. Islam*, vol. 6, no. 1, pp. 357–353, 2021.
- [16] Sulandari, "Analisi Terhadap Metoda Pembelajaran Klasikal dan Metoda Pembelajaran E-learning di Lingkungan Badiklat Kemhan," *J. Pendidik. Indones.*, vol. 1, no. 2, pp. 176–187, 2020. doi: [10.36418/japendi.v1i2.16](https://doi.org/10.36418/japendi.v1i2.16)
- [17] Y. Sihombing, B. Haloho, and U. Napitu, "Problematika Guru dalam Pemanfaatan Media Pembelajaran," *J. Pendidik. Mandala*, vol. 8, no. 2, pp. 725–733, 2023. doi: [10.58258/jupe.v8i2.5611](https://doi.org/10.58258/jupe.v8i2.5611)
- [18] S. Yuliza, "Pemanfaatan Media Pembelajaran Berbasis Teknologi Informasi dalam Meningkatkan Minat Belajar Peserta Didik di MTS Negeri Kota Bengkulu," *J. Ilmu Pendidik.*, vol. 2, no. 1, pp. 33–48, 2023. doi: [10.58222/jurip.v2i1.249](https://doi.org/10.58222/jurip.v2i1.249)
- [19] Asmita *et al.*, "Analisis Permasalahan Guru dalam Menerapkan Media Pembelajaran pada Mata Pelajaran Fisika di MAN 1 Tanjung Jabung Barat," *J. Pendidik. MIPA*, vol. 12, no. 2, pp. 170–177, 2022. doi: [10.37630/jpm.v12i2.556](https://doi.org/10.37630/jpm.v12i2.556)
- [20] A. Maritsa, U. H. Salsabila, M. Wafiq, P. R. Anindya, and M. A. Ma'shum, "Pengaruh Teknologi dalam Dunia Pendidikan," *Al-Mutharahah J. Penelit. dan Kaji. Sos. Keagamaan*, vol. 18, no. 2, pp. 91–100, 2021. doi: [10.46781/al-mutharahah.v18i2.303](https://doi.org/10.46781/al-mutharahah.v18i2.303)
- [21] E. N. Subroto, A. Qohar, and Dwiwana, "Efektivitas Pemanfaatan Komik sebagai Media Pembelajaran Matematika," *J. Pendidik.*, vol. 5, no. 2, pp. 135–141, 2020. doi: [10.17977/jptpp.v5i2.13156](https://doi.org/10.17977/jptpp.v5i2.13156)
- [22] M. Guntur, S. Sahronih, and Z. Ismuwardani, "Pengembangan Komik Sebagai Media Belajar Matematika Di Sekolah Dasar," *JKPD (Jurnal Kaji. Pendidik. Dasar)*, vol. 8, no. 1, pp. 34–44, 2023, doi: [10.26618/jkpd.v8i1.9685](https://doi.org/10.26618/jkpd.v8i1.9685).
- [23] D. C. D. A. K. Wardhani and Kuswono, "Pengembangan Media Komik Digital pada Materi Proklamasi Kemerdekaan Indonesia di SMK," *J. Swarnadwipa*, vol. 6, no. 2, pp. 54–61, 2022, doi: [10.24127/sd.v6i2.2733](https://doi.org/10.24127/sd.v6i2.2733).
- [24] N. Khotimah, T. Ratnawuri, and M. Pritandhari, "Pengembangan E-comic Berbasis Android Sebagai Media Pembelajaran Kelas XI SMA Paramarta 1 Seputih Banyak Lampung Tengah," *EDUNOMIA J. Ilm. Pendidik. Ekon.*, vol. 2, no. 1, pp. 49–58, 2021, doi: [10.24127/edunomia.v2i1.1630](https://doi.org/10.24127/edunomia.v2i1.1630).
- [25] E. Maharani, N. A. F.S, and Rusmayani, "Pengaruh Penggunaan Media Komik Digital Terhadap Peningkatan Aktivitas Belajar PAI di SMP Negeri 10 Denpasar Tahun Ajaran 2020/2021," *Faidatuna*, vol. 2, no. 3, pp. 172–180, 2021.
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