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The Fusion of Technology and Tradition: Development Comics on Singhasari's History

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Abstrak: Globalization has a significant impact on changes in global values that can marginalize local values that are rich in wisdom. This can have implications for the weakening of one's national identity. Efforts to increase public awareness can be through learning History by making digital comic development products of Singhasari culture. The development aims to produce digital comics of local history based on Singhasari cultural heritage for History learning of MA class X students. Research and Development method of ADDIE model is applied in this research. The results showed that: 1) The analysis stage identifies the need for contextual and interesting digital-based learning media and the gap in students' understanding of local history material 2) The design stage produces storyboards, characters and visual content tailored to learning the history and cultural heritage of Raja Singhasari 3) The Development stage involves validation from material and media experts. The media expert test obtained a score of 86 and the material expert test obtained a score of 85 which indicated that the product was suitable for implementation 4) The implementation stage of 30 class X students obtained a percentage of 88.33 which showed a positive response to the aspects of content, appearance and usefulness of digital commils as learning media. 5) The Evaluation Stage provides user feedback based on the results of the digital comic trial which results in the feasibility of the product being used as a History learning media in class X at the SMA / MA level. Recommendations and follow-up to this research are to conduct experiments aimed at testing the effectiveness of the product.

Keywords: *digital comics; cultural heritage; singhasari kingdom*

INTRODUCTION

Globalization has a direct impact on the nation's culture. Local values are increasingly being pushed out and can even be said to be starting to fade, no longer recognized by their own people (Rachman, 2017). Culture is starting to fade, many teenagers do not like or even recognize their own culture, often imitate foreign cultures and are not proud of their own culture. This can be caused by a lack of public awareness of local values. Efforts to increase public awareness can be through education. Education plays an important role in determining the development of nations and countries. Learning about cultural awareness can be done through history learning. Given the importance of learning history that cannot be taken lightly because learning

history contains the process of progress of a nation is not just a transfer of ideas, but there is a maturation process for students to be able to understand the identity, identity and personality of the nation (Susanto, 2014).

The purpose of learning history is to instill a spirit of love for the country and nation, know the process of the formation of the Indonesian state, and increase students' sense of unity (Jumaisa, 2021). History learning also functions as a reinforcement of national identity as the purpose of education to educate the nation's life through its efforts in providing cultural awareness to students (Amalina, 2022). So, it is necessary to develop history learning that can integrate local wisdom values, either through the development of learning models or learning media that are tailored to the problems in the field. Because value functions as an accommodation to create positive behaviors in each individual or group through common sense with the aim of achieving an ideal life (Mareta & Sutimin, 2019)

History learning is often found to lack student interest in learning, low historical awareness and lack of teacher creativity in developing learning media. Field studies were conducted involving the History subject teacher at MA Al Ittihad Poncokusumo, Malang Regency. The results of the interview showed that students' interest in learning History was still lacking. The media that is often used is still limited to simple media such as projectors, power points, props, blackboards as well as several online learning platforms such as google classroom and so on. History materials that are usually used in learning still lack integration with local history in the Malang area. This is also reinforced by research conducted by Santoso regarding history learning, there are problems such as 1) learning tends to be rigid and one-way, 2) history teachers lack an understanding of the philosophy of history education. 3) Teachers lack understanding of the position and standing of history education (Santosa, 2017). In addition, there are also problems in learning history, especially local history, which has challenges regarding sources, time allocations and lack of innovation in learning (Amalina, 2020).

The problems that exist in learning history can be overcome by paying attention to the needs in the field. History learning that tends to be rigid can be overcome by making new innovations in learning, for example, adjusting to the current digital era. Technological developments occur very rapidly, both developments in information and communication technology, therefore as an alternative technology such as computers or others can be utilized as a medium to convey material to students (Bakhri, 2019). Given that the digital era makes the current generation close to technology, technology-based learning will be able to have a big impact. Technological innovation in learning history can be done one of them by developing digital-based learning media.

The digital technology-based History learning media can be in the form of Digital Comics. Comics are one of the interesting learning media. Comics are basically images that are arranged sequentially and in accordance with the purpose and philosophy of their creation so that the meaning of the story can be conveyed, in the comics themselves there is lettering that is needed to be adjusted to the needs (Gumelar, 2004). Meanwhile, digital comics are a form of story presented in the form of images that are not printed and can be accessed directly via electronic devices or tools (Azmi, 2016). Digital comics themselves can also increase students' interest in reading because of their attractive appearance. In Indonesia, interest in reading is still relatively low, even though reading is a positive action (Murobby & Azharotunnafi, 2023).

Comics themselves have popularity among the general public as well as by teenage students, so comics as learning media have their own charm. Comics contain

visual elements and strong stories that are very suitable for use in learning history, especially local history. In addition, local history itself requires special media to raise regional themes because in reality local history is less understood by the community even by those in their own neighborhood. Santoso also revealed that educators should be able to develop the potential of local history as a learning resource that contains a lot of evidence of historical heritage in the surrounding area. In reality, there are still limited historical sites that are used as learning resources. This potential can be used as a foundation in building an attitude of historical awareness using local history learning (Santosa, 2017).

Malang City as a city that has a lot of local wisdom, one of which is a historical site in the form of a temple. Research on the use of temple sites in social studies learning media, some of which are carried out by Ningsih and Kurniawan who developed VR (Virtual Reality) as a form of object visualization, also focuses on the importance of developing digital media based on temple sites (Ningsih & Kurniawan, 2024). Malang City is inseparable from the history of the Singasari Kingdom. Along with its glory, this kingdom developed a culture that was patterned after Hinduism and Buddhism. This Hindu Buddhist kingdom grew and developed in 1222 and became one of the great kingdoms in Indonesia. Based on the book of Pararaton, the kings who ruled the Singhasari kingdom were Ken Angrok or Rajasa the Amurwabhumi who ruled around 1222-1246, Anusapati in 1247-1249, king Tohjaya in 1249-1250, the fourth king Ranggawuni or Wisnuwardhana in 1250-1272, and the last king, Kertanegara in 1272 to 1292 (Sudirman, 2014).

The kings who once led the Singasari kingdom had an important role in shaping a culture because one of the reinforcers or supporters of a culture is a leader or ruler. The culture of the Singasari Kingdom that can still be felt and enjoyed as one of the tangible cultural heritages is the temple. The cultural heritage has a relationship with the kings of Singasari from Ken Arok to Kartanegara. The existence of cultural heritage in the form of local history in the form of temples is clear evidence of the greatness of the Singasari kingdom. The cultural heritage in the form of temples from the Singasari Kingdom in Malang are Singosari Temple, Kidal Temple, Jago Temple and Jawi Temple. Kidal Temple is located in Kidal Village, Tumpang District. Kidal Temple is famous as the storage of the body of the second Singhasari raka, Anusapati. Singasari Temple located in Singosari District which is famous as a place to store the ashes of the last Singasari king, Kartanegara, related to King Kertanegara is also honored at Jawi Temple located in the Prigen area. Another temple is Jago temple located in Tumpang sub-district, known as the place where the ashes of King Wisnuwardhana are kept (Septiana, 2020).

Digital Comics have a storyline that is tailored to the material raised, namely the Singhasari Hindu Buddhist Kingdom and the form of evidence of Cultural Heritage in the form of temples. This is what distinguishes the digital comics developed with other research, namely by Deni Andria Toni. He conducted research with the title Comic Design Titled *Kertanegara, Raja Terakhir Singosari* for Teenagers with the same theme about the Singhasari Kingdom but emphasized more on the last King (Toni, 2013). While the research conducted by the author by raising the material of the Singhasari Kingdom with integrated evidence of cultural heritage in the form of temples that still exist today by using real pictures.

Based on the description above, to innovate in learning history and raise the theme of localization, as well as in order to increase interest and awareness of the

history of the current generation, it is necessary to develop a medium that can connect technology, local content, and increase interest and awareness of history. The learning media is a local history digital comic learning media based on cultural heritage, in this case the researcher raises the theme of the cultural heritage of the Singasari Kingdom which still exists in the Malang Regency area.

METHOD

The development model here is the basis for developing the product to be produced. This research uses the ADDIE Design model. The ADDIE design model is one of the learning design models that shows the basic stages in a simple and easy to understand way. The ADDIE learning design model has a more general and more rational nature, so it can be used in a variety of development models, one of which is the development of teaching media and materials (Pribadi, 2009). Wati's research shows that comics developed with the ADDIE model can keep up with a variety of readers, so they are suitable for various ages and levels of education (Wati, 2022). The ADDIE design model uses 5 stages of development namely: 1) Analysis, 2) Design, 3) Development, 4) Implementation, 5) Evaluation with the flow as follows :

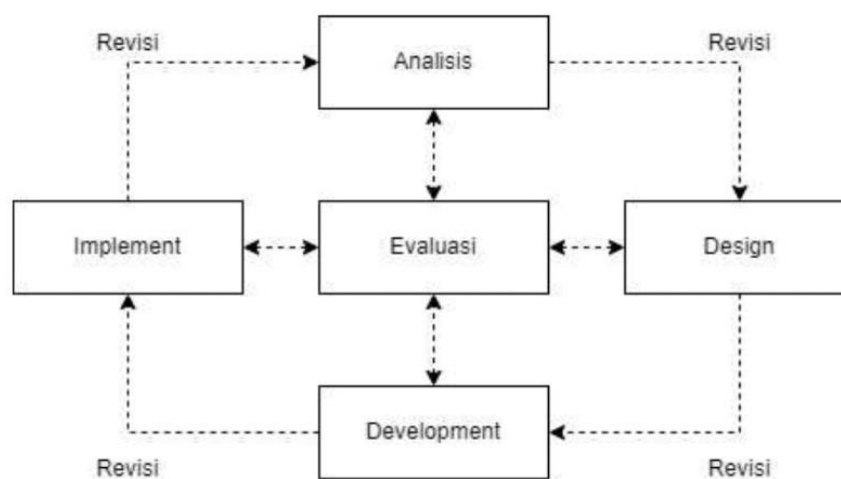


Figure 1. ADDIE Model of Development

The stages of development research are carried out through five stages as follows; First, conducting an analysis stage by interviewing several teachers at MA Al Ittihad, Malang Regency to find out what learning and media have been used in the learning process of the Hindu Buddhist Kingdom in Indonesia, the characteristics of students and also an analysis of media needs analysis and analysis of historical content. Second, the next stage is to design a digital comic media design by creating a storyboard design and comic design. Third, it is a stage to develop comics with the realization using the Clip Studio Paint Ex application, Photo Shop, Canva and an online website, namely an interactive flipbook using flipHTML5. After the digital comic media development stage is complete, a validation test is carried out on material experts and learning media experts. The selected validators have a minimum criterion of lecturers with a Masters education in accordance with their fields and have the appropriate abilities and knowledge. The material validator test was carried out by Widia Munira, M.Pd, a lecturer in History Education at Jabal Ghafur University and for media validation by Muchammad Rizky Kadafi, a lecturer in Visual Communication at

Paramadina University. The Validator Test aims to assess the feasibility of the media developed with aspects of material relevance, evaluation and practice questions, while media experts assess digital comics based on appearance, ease of use and visual elements of learning media. After obtaining a feasibility value from the validator, the product was then tested with users in class X MIA 4 totaling 30 students.

The Validation Test and Product Trial used a Likert scale of 1-4 with alternative answers as follows: 1 (STS / Strongly Disagree), 2 (TS / Disagree), 3 (S / Agree) and 4 (SS / Strongly Agree). The calculation of the percentage score in this development research uses the following formula:

$$\text{Percentages} = \frac{\text{Total assessment score } (\Sigma X)}{\text{Ideal total assessment score } (\Sigma x_i)} \times X$$

The assessment criteria used as a reference for assessing the feasibility of digital comic media are using an assessment with the following classification (Arikunto, 2018):

Table 1. Classification of Feasibility

Categories	Presentase
Very Unfit	1-20
Not Feasible	21-40
Fair	41-60
Feasible	61-80
Very Feasible	81-100

If the percentage of score results is greater, the better the product feasibility level, whereas if the assessment score has not reached the minimum score that has been determined above, the learning media must be improved so that it can reach the percentage of feasibility scores.

The fourth stage is the implementation or direct product trial to users, namely class X students at the MA level with a total of 30 students through product trials or user testing that emphasizes the evaluation of direct user experience of the product being developed. This implementation directly tests the developed teaching media to assess quality, focuses on user acceptance and experience, and allows product evaluation in a practical and efficient manner. User responses as a reference for making improvements and refinements to the product that will be evaluated in the fifth stage.

RESULTS AND DISCUSSION

Result

This research produces a product in the form of digital comic media “Cultural Heritage of Raja Raja Singhasari” for Senior High School students on KD 3.6 material on the development of community life, government, and culture during the Hindu and Buddhist Kingdoms in Indonesia and shows examples of evidence that still applies to the life of Indonesian society today. This development was carried out with the ADDIE model as follows:

Analysis

Needs Analysis, This stage is carried out with the aim of analyzing why the development of digital comic media of local history based on the cultural heritage of the

Singhasari kings is needed. This stage consists of two parts, namely literature study and field study. In the field study, researchers conducted observations and interviews at schools which found that students lacked motivation and historical awareness, learning so far has been carried out with book and PPT media, not many other types of media have been used and developed in schools.

Historical Content Analysis, The results of the literature study obtained by the researcher are in the form of KD. 3.6, namely Analyzing the development of community life, government, and culture during the Hindu and Buddhist Kingdoms in Indonesia and showing examples of evidence that still applies to the lives of Indonesian society today. The research conducted by the author by raising the material of the Singhasari Kingdom with integrated evidence of cultural heritage in the form of temples that still exist today using real images. These temples as a cultural heritage of the Hindu-Buddhist period have very high cultural value and will also be a typical discussion of the comics that are developed. The cultural heritage in the form of temples from the Singasari Kingdom in Malang is Kidal Temple, Singosari Temple, Jago Temple and Jawi Temple. Through interviews with history teachers, it was also found that the use of temple sites is still rarely used in learning, even though the potential of temple sites in Malang is very large. This explains that the material on the Singhasari Kingdom which focuses on cultural heritage in the form of temples is very necessary in history material for students. *Technology Analysis*, Technological innovation in history learning can be done by developing digital-based learning media. This digital technology-based learning media can be in the form of Digital Comics. Comics can be an alternative for students who do not like textbooks that generally lack interesting illustrations. This makes digital comics superior and able to create student interest.











Based on its type, comics that can be used in learning are Educational Comics. The use of comics with colored illustrations, concise storylines and real characterizations can attract students of various ages to read them. Through interviews with history teachers, comics can be a medium for learning history to increase students' interest in reading and learning.

Desain

The second stage is to design. This stage consists of two designs that are carried out before the media development stage. The details of the stages are:

- a. *Compiling Assessment Instruments*, Researchers use several sources that are used as a basis for compiling learning media quality assessment instruments. The instruments compiled include media assessment instruments, material assessment instruments, and user assessment instruments that are tailored to the aspects to be obtained from the assessment of learning media.
- b. *Designing Products*, Product design is done by making comic scripts and sketches. The comic scripts and sketches that are designed consist of three chapters. The chapters include : *Ken Angrok dan Asal Usul Singhasari*, *Anusapati hingga Wisnuwarddhana* : *Dendam dan Pemberontakan*, dan chapter ketiga berjudul *Kertanegara* : *Cakrawala Mandala Dwipantara*. Characters are created to strengthen the storyline accompanied by supporting dialog. Characters are also distinguished by their illustrations so that readers are easy to distinguish and the concepts they want to convey to readers can be understood and remembered well. Here are some examples of character depictions in the digital comic Raja Raja Singhasari Cultural Heritage.

Table 2. Characters in Comics

Image	Character Name	Character
	Ken Angrok	Stubborn, rash, unyielding
	Ken Dedes	Gentle, patient
	Mpu Gandring	Hard worker,
	AkuwuTunggul Ametung	Wise, fair
	Anusapati	Full of anger
	Tohjaya	Vindictive
	Wisnuwarddhana	Wise
	Kertanegara	Wise, fair, upholding tolerance, brave and firm
	Jayakatwang	Cunning, brave
	Khubilai Khan	Selfish, self-willed

Development

The devices used in the product design process are devices that are in accordance with the needs of making digital comics. These devices include laptops and pen tablets. Illustrators use applications to design comics in the form of images such as Clip Studio Paint Ex, Photo Shop, Canva and also use online websites to make digital comics that are developed into interactive comics in the form of interactive flipbooks using the Top FlipBook Maker & Digital Publishing Platform website - FlipHTML5

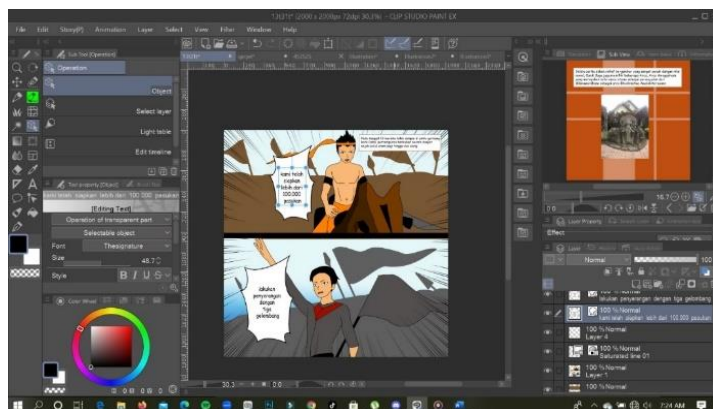


Figure 2. Working on Digital Comics using the Clip Studio Paint Ex application

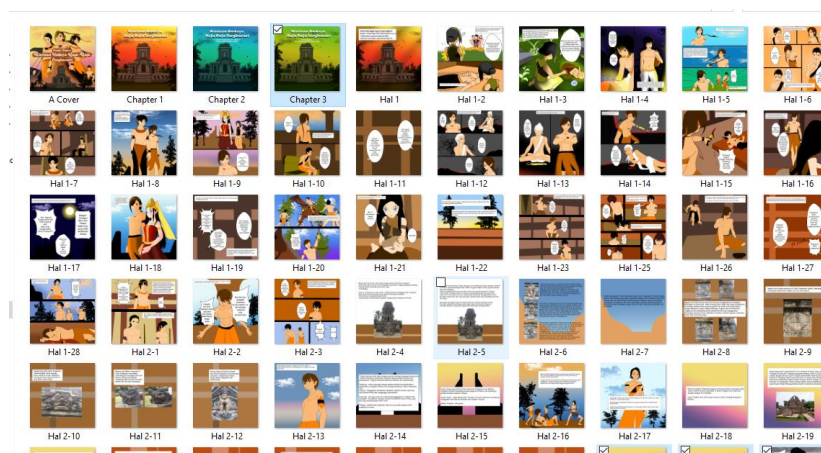


Figure 3. Digital Comic Suite

The series of digital comics that have been designed are then equipped with a cover page and a closing page. On the cover page, the researcher chooses a color that matches the contents of the comic, the cover must describe the contents of the story about the Cultural Heritage of Raja Raja Singhasari so that several characters are also displayed on the cover. The following is the cover page design of the digital comic Cultural Heritage of Raja Raja Singhasari.

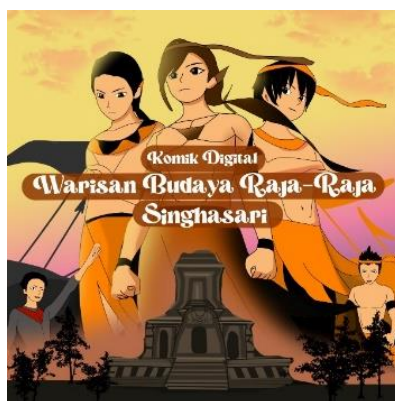


Figure 4. Digital Comic Cover Page

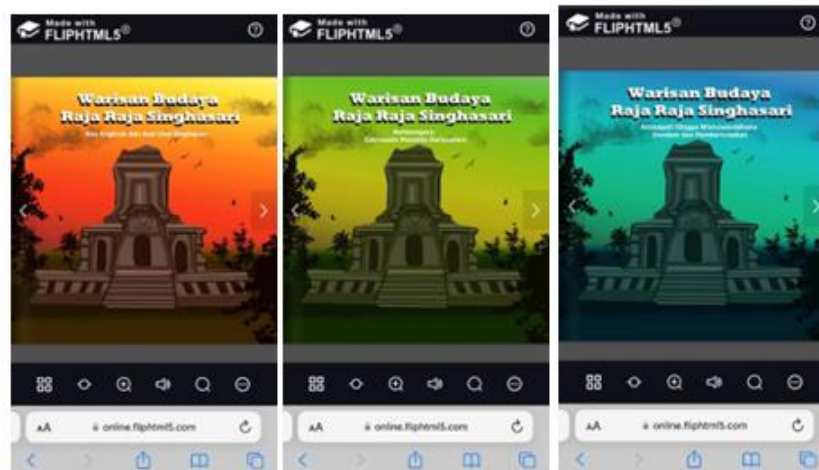


Figure 5. Chapter Cover Page

The comic images that have been created are then uploaded and stored on Google Drive for research purposes and illustrators can access each other. The finished graphic images are changed into PDF format to make it easier to create in Flip format using the online website <https://fliphtml5.com/>. The website is a free website that can be used online. The comic images that have been changed into PDF format are uploaded to the website and then the comics can be downloaded in the form of a link to display the flipbook. With the following process.

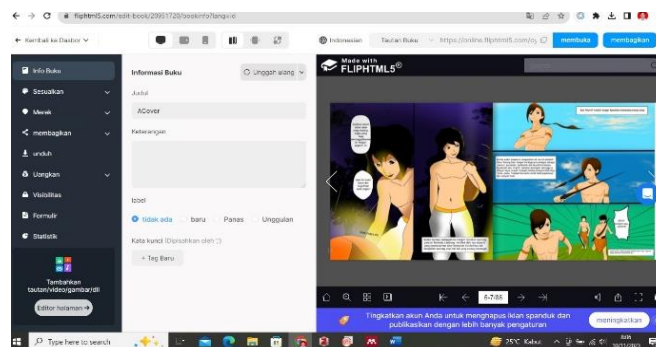


Figure 6. The process of making Flip using fliphtml5

After the Digital Comic is finished, it is validated by a validator consisting of media expert validation and material expert validation. The results of the material expert validation are as follows:

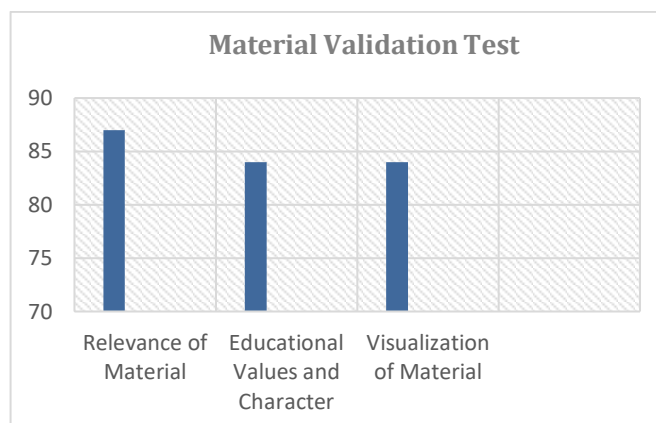


Figure 7. Digital Comic Material Validation Test Results

After the Digital Comic is finished, it is validated by a validator consisting of media expert validation and material expert validation. The results of the material expert validation are as follows:

Table 3. Material Expert Validator's Improvement Suggestions

No	Revision Notes and Suggestions	Follow-up
1	It is necessary to add the context of the background of the founding of the Singhasari Kingdom, including the political situation at that time, note that there are still many typos in the writing	Added according to revision notes and suggestions from Validator
2	It is advisable to emphasize cultural values	Pictures and explanations have been added to clarify the cultural value of the temple.
3	The clothing and architecture already depict the classical era, but some ornaments can be made more detailed according to historical references.	It has been fixed according to the suggestions given by the Validator.

Meanwhile, the assessment from media experts obtained scores with the following percentages:

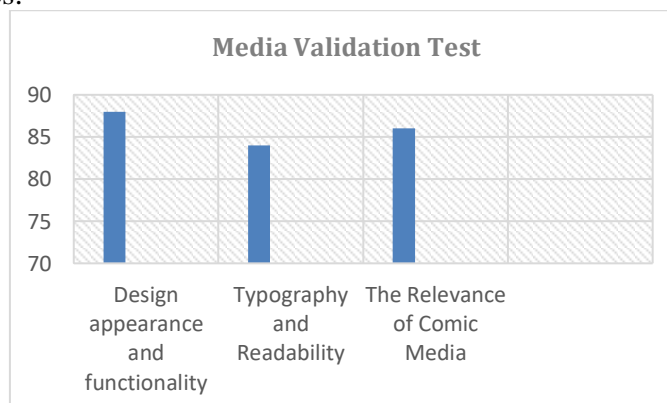


Figure 8. Digital Comic Media Validation Test Results

Based on the validation results carried out by media experts, the assessment score obtained was 86%, which stated that the digital comic media History was very feasible to be implemented with the following notes:

Table 4. Media Expert Validator Improvement Suggestions

No	Revision Notes and Suggestions	Follow-up
1	There are still many typos in some words, there are many spelling errors in Ken Angrok	It has been corrected according to the revision notes and suggestions from the Media Validator.
2	The cover page does not adequately describe the contents of the comic. It is suggested to add an illustration of the Kings of Singhasari behind the temple.	Pictures of the Singhasari kings have been added to the cover.
3	The text size is too small. The text should be enlarged so that it can be read clearly. Enlarging the text is not a problem even if it means adding more pages.	It has been corrected according to the suggestions given by the media expert validator.

Implementation

Teaching materials that have gone through the expert validation stage are then addressed to students. This trial or implementation test was conducted at the senior high school level of MA Al Ittihad on Jl. Raya 01 RT.07 RW.04, Belung, Poncokusumo District, Malang Regency. The implementation was carried out in class X MIA4 with a total of 30 students. A small percentage of them are comic readers available on certain online platforms. At this stage of implementation, researchers were assisted by field assistants and research assistants. The response of students to the digital comic of Raja Raja Singhasari Cultural Heritage was obtained through filling out a student response questionnaire given during implementation. The results of the questionnaire were analyzed for feasibility from several aspects, as found in the table of user response results as follows:

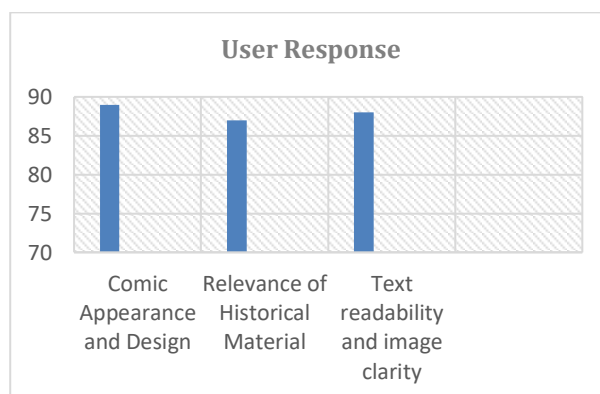


Figure 9. User Response Results

Based on the results of the responses of students who use digital comics, they get a total score of 88.33% which is included in the very decent category. The impact of using digital comics on local history *Warisan Budaya Raja Raja Singhasari* is an increase in interest in learning local history, especially that which is in the surrounding environment and becomes a medium for preserving cultural heritage, students are also

introduced to new ways of delivering historical material which can also increase students' digital literacy.

Evaluation

The last stage of this development research is evaluation. This stage plays an important role as the final improvement stage obtained from the trial results and user feedback. The evaluation also showed that the digital comic media of Local History based on the Cultural Heritage of Raja Raja Singhasari is an effective digital media in helping students understand local history material in a fun and interactive way. It was positively received by learners because the visual format and narrative contained in the comic made the historical material easier to understand and interesting to read. Positive responses from teachers also stated that this digital comic media can be used as a tool in learning history which especially supports the strengthening of local history material with a contextual and culture-based approach. The final product of digital comic development can be accessed through the following link <https://online.fliphtml5.com/oyfyb/vgjc/>

Discussion

Analysis, A fundamental aspect in developing digital comic media is to conduct a comprehensive analysis. The development of digital comics created for educational purposes specifically in the context of History learning requires a complete analysis, including analysis of learning needs, curriculum integration and the use of effective digital technology. Digital comics are able to offer transformative media that can involve students and also provide facilities to be able to understand more deeply through comic visualization. This is able to encourage pedagogical innovation in History learning. The initial analysis stage carried out was able to convey the obstacles implemented during the use of conventional History learning methods that can be overcome using digital comics, such as those related to the problem of a passive learning environment and the lack of student involvement (Vebrianto, 2023). This is in line with several problems explained by Santosa, namely that the problems that arise in the process of learning History in class mostly include the lack of interest of students in learning History, the lack of creativity of teachers in carrying out innovation and development of learning media, and the lack of awareness of History among students (Santosa, 2017). The limitations of local history teaching resources are also one of the problems in learning. Santosa also emphasizes the potential of locality or local history to be developed in media and learning resources. The local potential can be in the form of evidence of cultural heritage or legacies from the past (Santosa, 2017).

Involving students in learning using comics can be more effective than conventional methods, especially in subjects that require an understanding of complex narratives such as history learning (Moreno-Vera et al., 2021). In addition to having artistic value, comics that have various images and stories make comics a medium that is able to convey certain messages. The message can be a didactic message for the readers (Maharsi, 2011). Through this analysis, we can understand the needs of learners to be able to identify what are the obstacles in learning and what are the knowledge gaps that digital comics want to solve (Nugroho et al., 2024). The findings in this analysis stage play an important role in developing and adjusting comic content to fit the local cultural context that can increase the effectiveness of education (Irdalisa et al., 2023)

Design, The findings in this analysis stage play an important role in developing and adjusting the comic content to fit the local cultural context that can increase the effectiveness of education. Digital comic design serves as an innovative method as a form of preserving local history and cultural heritage. The creation of a digital comic script for local history based on the cultural heritage of the Singhasari kings is systematically designed by paying attention to character characters, storylines, scenarios, and sketches. The storyline that has been arranged needs to be supported by the character of the character. This stage also involves making Story Board and script writing. Irdalisa et al in their research also explained that in this stage the designer focuses on how comics can convey the storyline effectively and can attract students' interest (Irdalisa et al., 2023). It is quite important in the design stage that the comics created are not only visually appealing but also rich in educational value. The development of the digital Comic of the local History of the Cultural Heritage of Raja Raja Singhasari is designed to provide a narrative and illustrative description of the story of the History of the ruler of Singhasari which is full of cultural values, leadership and character learning that is needed by the younger generation.

Development , This is the stage to actually produce the results of the comic design in the previous stage. The creation of digital comics uses appropriate graphic design tools such as Clip Studio Paint Ex. The use of Clip Studio Paint (CSP) in making digital comics has several advantages, especially in functionality. CSP is equipped with good features to facilitate all comic creation processes from sketches to final comic presentations. Wang et al also stated that using CSP can get asset management functions that can significantly simplify workflows so that creators can focus more on art and narrative (Wang et al., 2022). CSP is also effective in developing stories and shows that the existing features are quite intuitive and can fulfill Education projects with its versatility (Wati, 2022).

Comics are also made in Flip view which is able to offer several advantages in increasing user accessibility. Through Flip form, it can simulate the experience of reading comics physically while also combining the benefits of digital technology so that the developed comics are interesting for readers. The appearance of comics in Flip form on computers with different gadgets. Researchers use sliding settings by sliding there is also a feature to enlarge the appearance of the comic. The comic media that is developed can be accessed using a computer or gadget by displaying a square comic page. Digital comics The appearance on computers and gadgets on the developed digital comic media is shown in Figure 9 and Figure 10 as follows :



Figure 9. Digital Comic Display using Laptop



Figure 10. Digital Comic Display using gadgets

Digital comic media is also validated by material experts and media experts. Material and media experts evaluate the educational content and visual representation of the comics that have been developed (Irdalisa et al., 2023). The validation results received from both expert validators, both material experts and media experts, showed a presentation with decent criteria, namely 85% material experts and 86% media experts. This is also in accordance with other research on the development of History comic media by Fikri et al who received a validation score with a percentage of 84% which is categorized as valid (Fikri & Fiqri, 2021).

Implementation. In the implementation of learning media in class X MIA 4 MA Al Ittihad there is a goal to be achieved, namely knowing the feasibility of learning media. The purpose of this stage is to obtain direct user response, especially on media display, material content and affordability. Responses from students collected using a user assessment questionnaire consist of three main aspects, namely appearance and design, material relevance and text readability and image clarity. The results of the implementation get the value that has been listed in Figure 9 showing the feasibility of the digital comic media developed as follows:

1. The appearance and design aspect obtained a learner response of 89%, which shows that the media has high visual appeal, structured layout and selection of colors and illustrations that support learner understanding.
2. The material relevance aspect is 87%, indicating that the content in the local history digital comic of Raja Raja Singhasari's cultural heritage is in accordance with the basic competencies and can be understood in the context of local history learning.
3. Aspects of text readability and image clarity of 88% indicate that the language used is easy to understand by students as well as the illustrations displayed are able to represent the content clearly.

These three aspects with an average percentage score of 88.33% were declared very feasible. This shows that the digital comic learning media developed is not only visually appealing but also relevant and effective in delivering learning messages to students. Adnyani and Wibawa also noted that digital comics contribute to the learning experience directly to students which includes seven important components, namely

material content, language, presentation, visuals, characterization and overall display quality (Adnyani & Wibawa, 2021).

Evaluation, through product trials stated that the final product in the form of digital comics has several advantages and disadvantages. The advantages of digital comics of Cultural Heritage of Raja Raja Singhasari among delivered through user and teacher responses that this comic is able to provide an explanation of the story of the Singhasari Kingdom which is delivered complete with illustrations of events so that readers or users can feel involved in the story and be able to remember the message longer, this digital comic is directly integrated with evidence of the relics of the Cultural Heritage of Raja Raja Singhasari in the form of temples which until now can still be found with clear original images. The story given is integrated with the Cultural Values of Kidal Temple, Jago Temple, Singhasari Temple and Jawi Temple able to display the values of life that are still relevant to life today. Because in studying History can take lessons from events and events that can be used as a reference to be able to step better, and become a lesson for the future (Amalina, 2020b).

The addition of Singhasari's rich cultural history to the comic can foster a sense of cultural identity and awareness in learners. Local history in comics depicting local cultural heritage can instill pride in learners as well as an understanding of the broader historical narrative. As also highlighted by Cahyani et al that integrating local context in learning media can foster greater interest and connection between learners and the material being studied (Cahyandari et al., 2022).

The advantage of the developed Comic lies in the integration of cultural heritage in the comic narrative which in the development of comics with the same theme Singhasari has not been developed. Singhasari History Comic in Octavia and Kusumandyoko's research with the title *Tumapel : Another Story* (Octavia & Kusumandyoko, 2021) The same one makes digital comics about the Singhasari Kingdom but the resulting product has a difference in the presentation of the comics. The comics developed here have a different side from other historical comics, the difference as well as being a characteristic of the comics developed is the integration with the cultural heritage of the Singhasari era temple and the moral values raised in the comic as evidence of valuable historical heritage. The integration also relates to the cultural values that exist in the temple both from reliefs, decorations, statues and others.

The integration makes students able to understand the meaning contained in it. In addition, students can also see evidence of the Singhasari Era Temple with clear images. The importance of integrating value education in learning history as an effort to prepare a golden generation through students is very necessary. As explained by Fitri in her writing entitled *Integrasi Pendidikan Nilai Dalam Pembelajaran Sejarah Sebagai Upaya Mempersiapkan Generasi Emas*, many materials in History learning contain values that can shape the character of students (Fitri, 2022). Learner character building can also be born from common behaviors that are carried out collectively communal, and taught through and behavior, and simulated educationally (Habibi, 2019). The education in question is through education and historical materials, the material of the Singhasari Kingdom and all cultural relics that still exist today have important value education to be integrated in learning and life today.

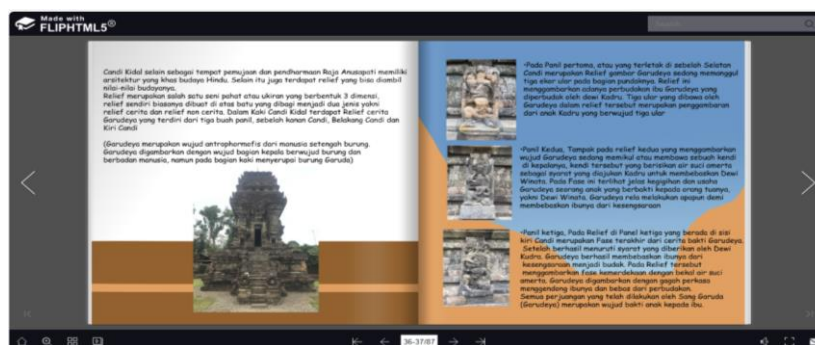


Figure 11. Display of Integration in Comics

In addition, digital comics as a medium that is easily accessible anywhere and anytime make learning history more interesting and also relevant to today's digital generation. As explained by Putri et al that digital comics can be accessed from anywhere and anytime so it is very suitable for the lives of 21st century learners (Putri et al., 2023). The combination of digital comics with technology is in line with current learning practices that prioritize learner-centered learning.

The developed comic shows that the digital comic of Local History Cultural Heritage of Raja Raja Singhasari is effective and positively received by teachers and students. The findings also indicate that digital comic media has strong potential as an alternative to digital-based history learning, especially in introducing local history in a contextual and fun way.

The research developed also has limitations. The following are some of the limitations of the research experienced:

- The selection of material that only covers the Singhasari Hindu Buddhist Kingdom. It would be better and also interesting if the material used also includes all types of other Hindu Buddhist Kingdoms in Indonesia.
- Determination of subjects is only limited to MA level students in class X MIA 4 MA Al Ittihad Poncokusumo, Malang Regency with a total of 30 students.
- The validation of the research carried out is limited to only two experts so that it is possible that there are differences in the level of feasibility if the test is carried out by more testers.
- This digital comic media can only be used when connected to the internet so that it requires a stable internet network to facilitate access to comics
- The quality of digital comic access depends on the internet, especially when rotating comic pages when reading. The more stable the internet used, the faster the comic will open the page and vice versa.

CONCLUSION AND SUGGESTIONS

The results of the analysis of the needs in the field, curriculum needs and needs in technological development indicate the importance of local History teaching materials presented in the form of interesting and contextual digital comics in this case local History related to the cultural heritage of the Singhasari Kings. The analysis also shows that high school students in grade X have difficulty in understanding history, especially local history, one of which is caused by the lack of contextual and interesting visual media. The teacher stated the need to develop digital media that is in line with the curriculum and the character of today's students

Design Stage Digital comic media is adjusted to the needs of students according to the results of the analysis that has been done previously, the design integrates visual elements, narrative or storyboard, character selection, illustrations and educational values from the cultural heritage of the Singhasari Kings with educational dialogue. The cultural heritage in the form of a temple is real evidence of the greatness of the Singasari kingdom. The cultural heritage in the form of a temple from the Singasari Kingdom in Malang is Kidal Temple, Singosari Temple, Jago Temple and Jawi Temple. The comics that are developed not only present historical stories but also display forms of cultural heritage along with the cultural values contained therein with the principle of instructional design

The Development Stage produces a digital comic prototype that is validated by two experts consisting of media experts and material experts with the results. Validation of material and media experts there are minor revisions and get a value of 85% and 86% for media validation, this shows the feasibility and validity of the digital comic media that is developed

Implementation in the form of user response trials from 30 MA Class Teacher and student responses show that digital comics make the process of learning local history easier and more interactive and fun.

Overall evaluation of the development of local history digital comics based on the Raja Raja Singhasari Cultural Heritage shows that comics are suitable for use in learning, especially history learning at the Upper Secondary level. In this way, comic products that have been developed using the ADDIE model have succeeded in meeting their objectives and can be used as innovative teaching media.

Suggestions and recommendations that can be given based on the results of research on media development are that students are expected to use the comic as a tool to understand the concept of History of the Hindu Buddhist Kingdom of Singhasari. This digital comic can be used during learning in the classroom or outside the classroom. This use makes learning History more flexible. Teachers are also advised to use this local History digital comic based on the cultural heritage of the Singhasari kings in learning in the classroom or outside the classroom as a supporting media for the learning process. However, it should be noted that this digital comic cannot be used as the only media to convey messages, so it is hoped that teachers can continue to innovate to achieve the desired learning objectives. The school is also expected to be able to improve school facilities by further increasing internet access because this is very much needed in learning, especially to be able to balance Education in Indonesia with the development of technology that is currently developing. Suggestions for further researchers can also use the Hindu Buddhist Kingdom material more widely, including those integrated with evidence of cultural heritage in it. Because the introduction of culture and cultural values in it is very important in order to preserve Indonesian culture. In addition, it is also possible to use a wider range of research subjects, accompanied by the use of more sophisticated methods, so that the resulting level of validity can be even better.

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