Development of Infographics Learning Medium Using Adobe Illustrator on the *Aesan Paksangkong* Local Wisdom in Palembang During the Covid-19 Pandemic

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Abstract. This study was conducted under research and development framework in developing an infographics learning medium on the topic of *Aesan Paksangkong* local wisdom in Palembang using Adobe Illustrator as the main instrument. The research subject of this study was students of 2019 from History Education program, Universitas Sriwijaya. The research and development model used here is the ADDIE model whose stages of research are analysis, design, development, implementation, and evaluation. The objective of this study is to see the effectiveness of such learning medium developed in this study on students' learning processes during online learning caused by the Covid 19 pandemic. The end result of this study shows an increase in students' learning outcome (seen from their test scores at the final testing stage conducted at the end of this study) by about 47.19% with an N-gain of 0.79, which means that an approach like this and thus the accompanying developed learning medium is proven to be valid and effective, especially in the case of online learning.

Keywords: development · teaching materials · history learning · Adobe Illustrator

1 Introduction

Following the digitalization era, the need for information and communication technology has also spread to learning activities (Rusman, 2015: 5). Online learning requires the educators to make an innovation in the learning process and use interesting media as the learning tool. Various equipment is used by educators to convey messages to students through sight and hearing according to their needs such as teaching materials that are packaged into images and videos (Bachtiar, 2014). Educators must be able to combine elements of historical study material in the desired media to be conveyed to students, so that history learning is more interesting and meaningful without losing the slightest historical value (Jones, 2019).

Historical studies, especially historical learning that are local in nature, need to be given to students. It is intended that students are able to appreciate the local history

in their surrounding environment. Through history learning, it is hoped that students can love the values of their ancestors and their homeland. The skills of educators in processing information to be conveyed through teaching materials need to be of good quality. This is because the clarity of information in teaching materials will affect the level of understanding of the students. The instructional design that has been made will become the main guideline in the implementation of learning, starting from the arrival of educators until the end of learning hours (Pane and Dasopang, 2017).

Visual media that has met these characteristics is infographics media. Infographics media has a concept that combines detailed and up-to-date information with the current situation. Then, it is equipped with pictures or graphics that support the presented information. Because of this, infographics media is very efficient in conveying information to the public. The learning process can be conveyed to students by using learning medium, one of which is infographics media (Afonso et al., 2012). Infographics media is a media that visual data and conveys complex information to readers so that it is easy to understand. In addition, infographics media is also of fun category because it consists of pictures and other visual elements, as well as brief descriptions of material arranged in chronological order to make it easier for students to learn.

Before conducting the main research, a literature review was thoroughly done to find out the conclusions of related previous studies to be developed in further research. One of the studies on utilizing infographics as a learning medium is from Admoko entitled "Development of Infographics Media on Global Warming Materials to Improve Students' Learning Outcomes at SMA 19 Surabaya". A similar study was also conducted by Khomaria et al., (2017) entitled "Using Infographics Media to Increase Social Studies Learning Interest in Elementary School Students". The purpose of their study was to increase interest in learning social studies using infographics for fifth grade students at SDN 1 Semanding, Gombong, Kebumen in the 2016/2017 academic year.

However, no one has discussed the utilization of such infographics as a learning medium, specifically on the topic of *Aesan Paksangkong*, especially during the Covid 19 pandemic. The difference between this study and the previous ones lies in the different features of the application used to create the infographics, as well as the materials presented on it.

2   Method

The type of research approach taken in this study is research and development, which is a type of research to develop and validate educational products (Setyosari, 2013: 224). In this case this approach was taken to produce a fun, interactive and effective learning product according to the needs of the students. This study uses the ADDIE development model, some reasons of which include: (1) ADDIE model is very commonly used by learning medium designers in developing and producing effective learning tools, (2) the ADDIE model can make learning medium capable of creating an inspirational learning environment, (3) the ADDIE model is very suitable for producing learning products that implement both multimedia and technology in its presentation. The ADDIE model has 5 stages as its guidelines, namely analysis, design, development, implementation, and evaluation (Suryani, 2016). These five guideline stages can make it easier for researchers

in processing the data so that they can produce teaching material products that are in accordance with the needs of the students to overcome online learning struggles due to the Covid 19 pandemic.

1. Analysis phase: needs analysis, target audience analysis, topic and task analysis.
2. Design phase: setting specific goals, determine learning activities, identify instructional or pedagogical strategies, design learning activities, and create subject content or materials.
3. Development phase: create and build all content and components based on the design phase, build the structure of the teaching and learning program, make the program available on the selected delivery medium.
4. Implementation phase: implementing teaching materials into the real-world environment, providing support to users, and using evaluation instruments to investigate the instructional value of materials and programs.
5. Evaluation phase: evaluating the effectiveness of teaching materials, tools, and activities, investigate the achievement of learning objectives, impact the teaching-learning process, and identify changes and modifications for future delivery (Budoya et al., 2019).

In addition, developing such learning medium using infographics with help of Adobe Illustrator in this manner is hoped to create a creative and innovative learning environment which would directly affect students' overall learning outcome.

3   Results and Discussion

The swift currents of globalization have somewhat eroded the sense of love and pride as citizens of the Indonesian nation. In this regard, local history education as part of national education can be useful for strengthening students' identities as well as filtering out negative influences that have developed as a result of the strong influence of globalization (Ufie, 2013). However, current conditions show that materials containing elements of local wisdom and local history are insufficient to be introduced to students either in non-formal or formal education. "If this is allowed to continue, then what happens is that there is no sense of love and pride in the students' own nation" (Wijayanti, 2017).

In connection with the above problems, this study uses local history materials with the historical theme of *Aesan Paksangkong* as Palembang traditional clothing in the learning process by utilizing infographics as the learning media. The selection of historical materials for *Aesan Paksangkong* was based on the lack of use of local history materials in the learning process in semester 5 of the local wisdom course. Palembang has several traditional clothes, including the *Aesan Gede* and *Aesan Paksangkong*. Traditional clothing is a symbol of greatness as well as a reflection of philosophy and views of life, concepts and ideas as well as responsibilities, especially the leadership of an ethnic or sub-ethnic group. Functionally, traditional clothing is only (allowed to be) worn at certain ceremonies (Mutia, 1996: 19). *Aesan Paksangkong* is a traditional attire worn by the bride and groom during a wedding ceremony in Palembang called the "*penganten munggah*", after going through several traditional wedding ceremonies in Palembang,

such as *madik* (choosing the bride and groom), *menyenggung* (consolidating choices), *meminang* (proposing), *berasan*, breaking *kato*, delivering shopping money, dressing up, marriage contract, parading the bride, *munggah*, ceremony in the *gegajah* room, visiting the bride and groom, picking up the bride and groom, washing hair (bathing *simbur*), bringing the bride and groom together, thanksgiving, *nyanjoke* the bride and the away bride (Saragih, 2001: 24). *Munggah* is one of the traditional marriage ceremonies which is the culmination of the whole marriage ceremony (Saramat, 1997: 93). At this event, *Aesan Gede* and *Aesan Paksangkong* are worn.

According to Ali Hanafiah, this Palembang traditional wedding dress is influenced by foreign cultures outside of Palembang (Hanafiah, personal interview, 5 September 2021). The entry of foreign culture is also influenced by the geographical location of Palembang which at the time of Kerajaan Sriwijaya had a large port where traders from outside including Javanese, Chinese and Arabs stopped. The arrival of outsiders in Palembang caused the Palembang culture to get a very big influence from the outside culture, including the traditional Palembang wedding clothes. The formulation of infographic-based learning objectives developed in this study consists of 7 objectives, namely: (1) students are able to explain in general the history of *Aesan Paksangkong*; (2) students are able to explain the history of *Aesan Paksangkong* as traditional Palembang clothing; (3) students are able to identify the history of *Aesan Paksangkong* as traditional palembang clothing; (4) students are able to identify the types of traditional Palembang traditional clothing equipment, namely *Aesan Paksangkong*; (5) students are able to find the philosophical values in each of the accessories used in the traditional clothes of *Aesan Paksangkong*; (6) students are able to collect information about the history of *Aesan Paksangkong* as traditional palembang clothing and the values contained therein; (7) students are able to make a report on the results of the discussion regarding the history of *Aesan Paksangkong* as traditional Palembang clothing and the values contained in it.

At this stage, the learning materials began to be composed and designed to be put into the developed infographic-based learning media. The purpose of this design stage is to produce an initial design of learning materials that have been sorted such as the history of *Aesan Paksangkong*, how to dress using *Aesan Paksangkong*, and the value and meaning contained therein. At the design stage of the learning material, a material concept map is made consisting of various sub-materials presented within. These materials are also supported by the existence of sub-materials used in designing the learning media, namely the history of *Aesan Paksangkong* in general, the acculturation contained in *Aesan Paksangkong*, clothing and accessories for *Aesan Paksangkong*, as well as the values and meanings of every detail of *Aesan Paksangkong*. The following is the design of the learning material to be developed (Fig. 1).

Based on the picture above, the design of learning materials consists of 4 submaterials that support the development of learning media with the theme of *Aesan Paksangkong* as Palembang traditional clothing. The formulation of learning objectives is carried out by analyzing the semester program plan for the South Sumatra Local Wisdom course by developing indicators of learning achievement and the learning outcomes indicators that have been determined in the History Education Study Program, Universitas Sriwijaya. Researchers and lecturers of the South Sumatra Local Wisdom course determine the basic competencies and indicators that will be achieved in the learning

Fig. 1. Design of the Learning Media

process in the South Sumatra Local Wisdom Course using infographic learning media based on Adobe Illustrator CC 2021. After that, a storyboard is made which serves to tell the stages and parts contained in infographics.

Based on the components contained in the Learning Implementation Plan that has been designed, these components will later support the trial of infographic-based learning media in the implementation of local history learning. The storyboard in this study is functioned as a series of plots that are systematically arranged to find out the steps in making infographic learning media products based on Adobe Illustrator CC 2021 so that they can be easily understood by students. One of the storyboard images regarding infographic learning media based on Adobe Illustrator CC 2021 is as follows.

Title of the material: *Aesan Paksangkong* as a traditional clothing in Palembang.

Name of the frame: History of the traditional clothing, *Aesan Paksangkong* (Table 1).

The storyboard above displays one of the infographics learning media frames based on Adobe Illustrator CC 2021. The frame contains historical material from *Aesan Paksangkong* as traditional Palembang traditional clothing. What is shown on the storyboard above is the layout view, narration, display description, and animation description.

The next stage is making the learning media using Adobe Illustrator CC 2021 with historical material of *Aesan Paksangkong* as Palembang traditional clothing. At this stage the elements of text, images, and infographics are incorporated into the developed learning media. After carrying out the unification process, the researcher then carried out a self-evaluation process of the learning media with the aim of seeing the level of its validity. Then validation was also carried out towards material, learning design, media, and language experts on top of self-evaluation. Self-evaluation is one of the stages carried out to see the readiness of the learning media that has been made. The self-evaluation aims to see, prepare and fix the deficiencies found in the Adobe Illustrator CC 2021-based infographic learning media before being validated by several experts of related fields. The results of the self-evaluation can be seen in the table below (Table 2).

The expert validation stage is carried out after the self-evaluation process that has previously been carried out in developing the learning media. Expert validation which is defined as expert judgment has an important role in seeing the feasibility and validity of the developed learning media before being applied to the students. The following is a list of expert validators who support the development process of learning media (Table 3).

Table 1. Storyboard of the Learning Media Based on Adobe Illustrator CC 2021

Frame	Narration
	It can be seen at the infographics where *Aesan Paksangkong* began its history with rich acculturation from Chinese, Arabic and Malay traditions, down to the meanings of each part of *Aesan Paksangkong*.

Image Description	Design Description
This image contains explanations/descriptions of *Aesan Paksangkong*'s history, in the middle of which there is an illustration of a wedding couple wearing *Aesan Paksangkong*.	An illustration of a wedding couple wearing *Aesan Paksangkong*, along with the descriptions and explanations.

In practice, the three expert validators will later play an important role in assessing and validating the developed learning media. The list of components assessed by the validator is material, learning design, media, and language.

Material expert validation is used to see expert opinions and assessments of the *Aesan Paksangkong* material as Palembang traditional clothing which is used as the main material in the developed learning media. In this case, Muhammad Idris acts as an expert in learning media materials. The appointment of Muhammad Idris was based on his great experience in history education.

Aspects assessed by material experts are the appropriateness of the content and its presentation. The results of the expert's assessment of the material showed an average value of 4.80 in the very valid category with a value range of 4.21–5.00. In addition to assessing, the material expert also provided opinions and suggestions on the material used. Opinions and suggestions given by the expert validator are analyzed for later improvement. The following are the results of improvements that have been made in accordance with comments and suggestions from material experts (Table 4).

Expert validation comments and suggestions have been realized, namely that the material is made more complete so that it can be used for students of SMA/SMK/MA alike. This has been discussed with the material validator that the learning media developed in this study only focuses on the history of *Aesan Paksangkong*. Furthermore, however, information about *Aesan Paksangkong* as traditional Palembang traditional

Table 2. Result of Self-Evaluation

Before Revision	Expert Comment
	The media shown here has not yet have the text element, and is even not fully designed.

After Revision	Description
	The learning media shown here is finished, along with the illustration of a wedding couple wearing *Aesan Paksangkong* and the accompanying text element explaining the illustration shown.

Table 3. List of Expert Validators

No.	Expert Validator	Occupation
1	Muhammad Idris, M.Pd (Material Expert)	History Lecturer, Universitas PGRI Palembang
2	Dwi Yolanda, M.Pd (Media Expert)	Teacher, SMP Negeri 4 Talang Kelapa
3	Achmad Rizqi Turama, M.A (Language Expert)	Lecturer, Universitas Sriwijaya

clothing was added to make it a little bit more complete and representative of the traditional clothing. The following is one of the suggestions from material experts and improvements that have been made in the development of this learning material (Table 5).

Table 4. Comments and Advice from the Material Validation Process

Advice	Revision
The infographics are better made with two versions, one for the needs of university students, while the other for high school students.	The infographics learning media is made more complete to accommodate the needs of booth high school and university students.

Table 5. Revision Following the Material Validation Process

Before Revision	Expert Comment
	The existing materials to be added with the history of *Aesan Paksangkong* as a traditional clothing of Palembang, along with the meanings of its accessories.

After Revision	Description
	Materials on the history of *Aesan Paksangkong* have been added, along with the meanings of its many accessories.

Table 6. Revision Following the Media Validation Process

Before Revision	Expert Comment
	The image (illustration) better be placed in the middle with the text elements on each side.

After Revision	Description
	The image element of the infographics has been added with the advised addition and moved to the new layout.

Based on the table above, improvements have been made to the material contained in the developed learning media by adding material about *Aesan Paksangkong* as Palembang traditional clothing and the meaning of its accessories.

The next stage is media expert validation. The person in charge of this process was Dwi Suseno Wati, a teacher at SMP Negeri 4 Talang Kelapa, to evaluate and provide comments and suggestions to the media regarding *Aesan Paksangkong* as Palembang traditional clothing. The appointment of Dwi Suseno Wati as a media expert is based on her experience in technology because she is a graduate of S2 educational technology, Universitas Sriwijaya. Some aspects assessed by media experts are graphics, color and interactivity. The results of the assessment obtained at this stage was a score of 4.30 which fall into the very valid category with a value range of 4.21–5.00. In addition to providing an assessment of the media, the expert also provided comments and suggestions on the developed media. The following are the results of the improvements that have been made in accordance with the comments and suggestions of media expert (Table 6).

Comments and suggestions by the media expert have been followed by improvements such as in the infographic sector by changing the concept to be more varied and

using more appropriate layout sizes and fonts. Overall, the infographic media used have received a lot of positive responses from the media expert, one of which is the excellent use of text, lighting, layout, and color elements.

The next stage of expert validation is language validation. This stage was carried out by Achmad Rizqi Turama by providing assessments and comments on the language elements in the learning media developed in this study. The appointment of Achmad Rizqi Turama was based on his work as a lecturer in the Indonesian language education study program at Universitas Sriwijaya. The aspects assessed by the language expert are the appearance and feasibility of the language used. Based on the results of the language validation process, the learning media developed here gets a value of 4.80 which falls into the very valid category with a value range of 4.21–5.00. The language expert also provided suggestions and comments on elements of the language. The following are the results of the improvements that have been made in accordance with the comments and suggestions of the language validator.

Comments and suggestions regarding the language element in learning media have been used as a reference for improving learning media here, one example is replacing and changing the sentence "*Baju lengan panjang ditutupi jubah motif tabor bunga emas yang senada dengan celana berwarna merah*" to "*Baju lengan panjang berwarna merah ditutupi jubah meotif tabur bunga emas yang senada*". Overall, the language in the learning media here received positive assessments and comments such as the use of language and sentence structures that are in accordance with the rules of the Indonesian language (Table 7).

The implementation stage consists of 3 stages of testing, namely individual (one to one) test, small group test, and field test. The individual and small group test stages were carried out through an interview process with several students by providing a questionnaire aimed at seeing and finding out the weaknesses of the learning media that have been developed. After carrying out these two stages, the next step was to carry out a field test which aims to see the level of usefulness of *Aesan Paksangkong*'s learning media as Palembang traditional clothing based on Adobe Illustrator 2022 infographics. The implementation stage of the individual test was carried out by involving three students of the History Education Study Program, Universitas Sriwijaya. The provisions in selecting the three students are carried out using the absent number system. The three students are expected to be able to identify and tell the errors contained in the developed learning media. The individual test stage was held on Friday, March 14, 2022. The following are suggestions and comments given by students at the individual test stage (Table 8).

Based on the results of the individual test that have been carried out, there are 2 comments given by students such as the details for the accessories that have not been fully included, making it a little difficult to learn. In addition, there is also no complete infographic version for the *Aesan Paksangkong* material. Students requested that the learning media be equipped with more text materials. The comments given by these students have been accepted and used as a reference for revision of the developed learning media. Therefore, it can be concluded that the learning media developed here are declared feasible and good. In addition, the learning media assessed by these students was deemed very interesting and very easy to understand.

Table 7. Revisions Following the Language Validation Process

Before Revision	Expert Comment
	The sentence "*Baju lengan panjang ditutupi jubah motif tabor bunga emas yang senada dengan celana berwarna merah*" be changed into "*Baju lengan panjang berwarna merah ditutupi jubah meotif tabur bunga emas yang senada*".
After Revision	**Description**
	The text receiving comment has been changed accordingly.

The next testing stage is the small group test. This stage involves eight students to criticize the learning media that has been revised according to the suggestions from students from the individual test stage. At this stage, the students were given a questionnaire via Google Forms. The purpose of the small group test is to find out the weaknesses and shortcomings of learning media that have gone through improvements in the previous stage. The small group test stage was held on Friday, March 14, 2022. The following are the results of suggestions and comments given by students in the small group test stage (Table 9).

Based on the results of interviews conducted with the eight students in the small group test, the Adobe Illustrator 2022 Infographic-based learning media still has several shortcomings, such as the lack of version for computer users. The shortcomings based on these comments have been corrected, so that the learning media can be taken to the next stage, namely the field test stage. The next testing stage is to do a field test on the learning media developed here. This stage involves about 16 students to find out the impact of using learning media on the learning process. The field test stage was held on Friday, December 9, 2021 on the Zoom cloud meeting platform.

Table 8. Result of the Individual (one to one) Test

Before Revision	Expert Comment
	All the details about the accessories better be included to make it easier for students to learn.

After Revision	Description
	The part about *Aesan Paksangkong*'s accessories have been added with all the detailed information and explanation.

4   Discussion

This developmental research has the aim of producing a product that is valid and has an effective impact in the local history learning process. In practice, this research uses the ADDIE development model in which there are 5 stages (analysis, design, development, implementation, and evaluation). The five stages will be carried out and implemented in a systematic and planned manner. The initial stage in this research is to analyze the needs and characteristics of the students, the curriculum that applies in the History Education Study Program, Universitas Sriwijaya, and conduct material analysis. The collection of information about the needs and characteristics of the students is carried out using the Google Forms platform to create a questionnaire which contains various questions about the needs and characteristics of the students. The results obtained from this stage are that students have minimal understanding and knowledge regarding the History of *Aesan Paksangkong* as Palembang traditional wedding clothing. In addition, the learning media that have been used so far are also still less attractive and have minimal variations, causing the learning process carried out by students to be quite boring and monotonous.

With regard to online learning, students also often experience difficulties and obstacles in conducting online learning such as high internet costs and unstable internet connectivity. Therefore, learning media that have local history materials (especially interesting, interactive and technology-based and can be used anywhere and anytime) are needed by students and educators in carrying out online learning during the current pandemic. The data shows that 69.8% of students experience problems related to internet connectivity, then 16.3% of students think that learning materials and learning media are

Table 9. Result of the Small Group Test

Before Revision	Expert Comment
	The infographics learning media better be made into desktop version as well to increase its practicality, especially when used in learning with computers or laptops.
After Revision	**Description**
	The desktop version of the infographics learning media has been made according to the comment received.

still packaged unattractively, while 13.9% of them are constrained in the quota sector which runs out quickly, lack of clarity in some cases, the internet network and online learning materials that are still limited.

The second stage in this research is to design the product to be developed. The purpose of the design stage is to adjust the learning media to the objectives to be achieved. At this stage, various design activities are carried out such as designing learning materials, designing learning implementations, and making storyboards of the material design. In the learning material design process, the material to be presented is sorted starting from the history of *Aesan Paksangkong* in general, the elements contained in *Aesan Paksangkong*, accessories and equipment for traditional clothing of *Aesan Paksangkong*, as well as the meanings and values contained in clothing, accessories, and clothing equipment for coercion. Meanwhile, in the design stage of the learning implementation design, several components are arranged such as core competencies, basic competencies, indicators, learning objectives to be achieved, learning methods, learning media, learning resources, learning activities, and learning outcome assessments.

After the learning media preparation process is carried out, the next step is to develop the results of the learning media design that has been carried out at the design stage using Adobe Illustrator CC 2021. The results will later go through a self-evaluation process before going through the validation process by several expert validators such as material, design, media, and language validators. The person in charge at the material validation

stage is Muhammad Idris as a lecturer in History at Universitas PGRI Palembang. The result obtained was a score of 4.89 in the very valid category. In addition to assessing the material, the material validator also provides comments and suggestions, such as adding a more complete description of the accessories for *Aesan Paksangkong* in the infographic media.

In the next stage, Dwi Suseno Wati, a teacher at SMP Negeri 4 Talang Kelapa, acts as a media validator. The media validation result obtained was a score of 4.43 in the valid category. The comments and suggestions given by the media validator are that the infographic object is placed in the middle with explanations on the left and right sides of the object, and uses a real model so that the shape of the item is clearly visible. Lastly, Achmad Rizqi Turama, a lecturer in Indonesian language education, acts as a language validator. The score obtained from the language validation process is 4.83 in the very valid category. The comments and suggestions given by the language validator were to correct the writing error in the groom's infographic text, namely "*baju lengkap panjang ditutupi jubah motif tabor bunga emas yang senada dengan celana berwarna merah*", to be changed into "*baju lengan panjang berwarna merah ditutupi jubah motif tabur bunga emas yang senada*".

Based on the results of the assessments of the three validators, it was discovered that the infographic learning media based on Adobe Illustrator CC 2021 has an average score of 4.73 with a very valid category and also deserves to be tested, although there are several revisions from the three validators. The average score is in accordance with other developmental research, one example of which is the research conducted by Paramita Candra Devi, Yusak Hudiyono, and Widyatmike Gede Mulawarman. The results obtained at the expert validation stage in their research are 100% for language validation, 82% for material validation, and 93% for media validation (Devi et al., 2018).

The next stage is product implementation. This stage is divided into three processes, namely individual (one to one) test, small group test, and field test. The individual test stage is carried out by interviewing 3 students by distributing the questionnaires that have been provided on Google Forms. The comments obtained from the individual tests are that it is better if the details for the accessories kit are included in full so that it is easy to learn. These comments and suggestions are then realized by revising the developed learning media. The small group test stage was conducted by interviewing 4 students. The mechanism carried out is almost the same as the individual test stage, with a difference in the number of students interviewed. The purpose of conducting individual test and small group test is to find out the errors contained in the developed learning media. As for the comments and suggestions given by students at the small group test stage, it is better to make a desktop (besides mobile) version of the infographic learning media so that it can be used when learning using a computer. Then revisions are made according to the students' comments.

The next step is to carry out a field test. This stage involves around 16 students in testing the developed infographic learning media based on Adobe Illustrator CC 2021. Before showing the developed learning media, an initial knowledge/ability test or pretest is carried out, aiming to see the students' abilities and understanding of the historical material of *Aesan Paksangkong* as Palembang's traditional wedding clothing. Then 20 multiple choice questions that have been prepared are distributed via Google Forms to

semester 5 students. The average score obtained by students when carrying out the pretest is 40.93. After carrying out the pretest activity, the developed infographic learning media based on Adobe Illustrator CC 2021 was applied to their learning process in semester 5.

This was followed by the posttest stage by distributing the same 20 multiple-choice questions to the students. The purpose of the posttest is to determine the ability of students after using the developed learning media in their learning process. The average value obtained by students at the time of the posttest was 88.12. The results of the pretest and posttest showed that there was an increase in the ability of students as seen by the increase in their scores by 47.19% with an N-gain of 0.79 which was in the high category. The increase in students' scores with the application of learning media assisted by infographic media was also experienced by Purwanto and Swaditya Rizki with research on the development of learning media. The average learning outcomes obtained by students in their study is 84.33 which indicates that infographic-assisted learning media is very feasible to use in the learning process (Purwanto and Rizki, 2015).

This big increase in students' scores proves that the infographic learning media based on Adobe Illustrator CC 2021 has an effective impact in improving students' learning outcomes, namely by creating a new interpretation in processing information. In addition, during the field trials, it was seen that students were very focused on paying attention and listening to the presented learning media carefully and also often asked questions about the information provided. This statement is also supported by data in the field which states that as many as 16 students think that there is no difficulty in using the developed infographic learning media based on Adobe Illustrator CC 2021 in their learning process. This is in accordance with the theory of constructivism put forward by Jean Piaget. According to him, the knowledge gained by students is the result of the interpretation of new knowledge obtained with the initial knowledge of students so that there is a process of compiling the initial and new knowledge possessed by students (Ummi and Mulyaningsih, 2016).

Furthermore, the increase in students' scores after being given this kind of learning media is also in line with the cognitive theory presented by Bruner and Simon, who argue that real learning is learning that can form an information transfer system. This is in accordance with the reality on the field which shows that semester 5 students experience a process of transferring information from the learning media to their initial knowledge so that in the posttest many students experience a significant increase in their scores (Hussin, 2013). In addition, the increase in the students' scores at the posttest stage is also related to the opinion of Dick and Carrey which states that learning media that are considered good are those that are systematically arranged and focused on improving the competencies that exist in the students by applying learning media into their learning process (Ardiansyah et al., 2017).

The use of infographic learning media based on Adobe Illustrator CC 2021 which is considered by some students as a creative learning media is certainly very liked by students so that the scores they acheived were very different from the pretest and posttest stages. This is in accordance with the opinion of Perwitasari that the unavailability of creative learning media can make it difficult for educators to deliver the material(s) so that their efforts are not maximal in increasing the effectiveness of learning which

is generally seen from the increase of students' scores (Perwitasari et al., 2018). The success of learning carried out by educators using infographic learning media based on Adobe Illustrator CC 2021 is also supported by the characteristics of learning media that are able to help students achieve the learning goals. In addition, learning media is considered a lifelong learning concept where it can be used by users (educators and students) whenever and wherever the user is (Rachmawati, 2016).

The results in this study also show that the developmental research carried out is able to create and verify infographic learning media based on Adobe Illustrator CC 2021 as in accordance with the opinion of Borg and Gall that developmental research is very suitable for increasing the effectiveness of learning and creating an educational product, one example being this kind of learning media (Ainin, 2013). The ADDIE development model used is also able to make students more innovative and active (Agustian, 2014). Based on the results of the research described above, it can be concluded that the developed infographic learning media based on Adobe Illustrator CC 2021 is stated as a valid learning media and has an effective impact on students' learning outcomes. In addition, it can also be declared valid for use in the learning process. Furthermore, this learning media can be used easily by both educators and students anywhere and under any conditions; in other words, this learning media is very practical to use.

The use of infographic learning media based on Adobe Illustrator CC 2021 in the learning process can also make students experience learning directly so that they are able to improve knowledge that was initially only abstract to become real by looking at the infographics of traditional clothing of *Aesan Paksangkong* presented on through the learning media via their smartphone screens or laptop monitors. The use of smartphones or other digital devices is very helpful in carrying out online learning which is currently being intensively carried out in every educational institution. Online learning according to Moore, Dickson-Deane and Galyne is learning that is done through the Internet with accessibility and connectivity in bringing up learning interactions (Firman and Rahayu, 2020). Online learning using technology-based infographic learning media such as Adobe Illustrator CC 2021 can certainly be an alternative for educational institutions to carry out learning during a pandemic. This statement is in accordance with the reality on the field where as many as 16 students agree that the application of infographic learning media based on Adobe Illustrator CC 2021 can increase their knowledge and understanding. In addition, as many as 16 students also agreed that the developed infographic learning media based on Adobe Illustrator CC 2021 can also make online learning more interesting than usual.

5   Conclusion

Of all the discussion and results presented above, it can be concluded that the implementation of infographics learning medium made by Adobe Illustrator on the topic of *Aesan Paksangkong* Palembang local wisdom has been proven valid after going through the validity test phase of experts and through field trials to determine the practicality of the product. At the material validation it was obtained a score of 4.89, media validation a score of 4.43, and language validation a score of 4.83. The average score of the validation stage is 4.73 which is categorized as very valid. Therefore, it can be concluded that the infographics learning medium developed in this study is considered very valid.

In addition, the results of the field trials show that the effectiveness of the implementation of the developed learning media in this study is looking good as can be seen from the increase in learning outcomes of the students between the pretest and posttest scores. Their average pretest score is 40.93%, while the average posttest is 88.12%, which means there was a significant increase of 47.19%, so that an N-gain of 0.79 can be obtained which is included in the high category. These scores obtained by the students indicate that the product developed in this study regarding the use of infographics as a learning medium with help of Adobe Illustrator on the topic of *Aesan Paksangkong* Palembang local wisdom has a significant impact and effectiveness.

Bibliography

Ade Nasihudin Al Ansori. (2020). *Belajar di Rumah Akibat Corona COVID-19, Ini Pendapat dan Harapan Anak Indonesia.* Liputan6. https://m.liputan6.com/health/read/4224969/belajar-di- rumah-akibat-corona-covid-19-ini pendapat-dan-harapan-anak-indonesia

Aji, R. H. S. (2020). Dampak COVID-19 pada pendidikan di indonesia Sekolah, keterampilan, dan proses pembelajaran. Salam Jurnal Sosial dan Budaya Syar-i.(7), 5, 395-402.

Aldinan, Ahzan, Fuaddunazmi. *Development of Learning Media Using Adobe Affter Effects in Dynamic Electricity Subject Matter.* Jurnal Ilmiah Pendidikan Fisika. V 4(1).

Ayu, I., Susanti, L. R., & Wiyono, K. (2019). Pengembangan multimedia interaktifberbasis saintifik dalam mata pelajaran kimia materi laju redoks di kelas X. Jurnal Inovasi Pendidikan, 9(2), 57–67.

Atep, 2014. *Membuat Rigging Karakter dan Animasi di Adobe After Effects.* Penerbit Andi

Bachtiar, 2014. *Media Pendidikan Pengembangan dan Pemanfaatannya.* Jakarta

Dewi, Wahyu Aji Fatma. *Dampak Covid-19 terhadap implementasi pembelajaran daring di Sekolah Dasar*. Edukatif Jurnal Ilmu Pendidikan 2, no. 1 (2020) 55-61.

Fatimah, Siti Ayu Silviani. 1996. *Pengembangan Media Slide Pembelajaran Sejarah Quis Team Pada Materi Pergerakan Kebangsaan IndonesiaUntuk Meningkatkan Motivasi dan Hasil Belajar Siswa Kelas VIII SMPN 2. Skripsi.* Malang: Universitas Negeri Malang.

Fitri, Yuliani Fitri, and Anike Putri. "*Validitas Media Pembelajaran Matematika Berbentuk Video Pada Siswa Sekolah Menengah Kejuruan.*" Math Educa Journal 4, no. 1 (2020): 31–46.

Hong, R., Zha, Z. J., Gao, Y., Chua, T. S., & Wu, X. (2013). Multimedia encyclopedia construction by mining web knowledge. *Signal Processing*, *93*(8), 2361–2368. https://doi.org/10.1016/j.sigpro.2012.06.028

Hsu, T. C., Lee-Hsieh, J., Turton, M. A., & Cheng, S. F. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. *Journal of Continuing Education in Nursing*, *45*(3), 124–131. https://doi.org/10.3928/00220124-20140219-04

Jones, H. (2019). Wikipedia as a translation zone: A heterotopic analysis of the online encyclopedia and its collaborative volunteer translator community. *Target*, *31*(1), 77–97.

Lehmann, J., Isele, R., Jakob, M., Jentzsch, A., Kontokostas, D., Mendes, P. N., Hellmann, S., Morsey, M., Van Kleef, P., Auer, S., & Bizer, C. (2015). DBpedia - A large-scale, multilingual knowledge base extracted from Wikipedia. *Semantic Web*, *6*(2), 167–195. https://doi.org/10.3233/SW-140134

Parma, I. P. G., Mahardika, A. A. N. Y. M., Armawan, I. K., & Novia, P. Y. S. (2021). The Strategy of Developing Historical Tourism in the City of Singaraja Based on CHSE During the Covid-19 Pandemic. *Proceedings of the 6th International Conference on Tourism, Economics, Accounting, Management, and Social Science (TEAMS 2021)*, *197*(Teams), 34–42. https://doi.org/10.2991/aebmr.k.211124.006

Pentzold, C., Weltevrede, E., Mauri, M., Laniado, D., Kaltenbrunner, A., & Borra, E. (2017). Digging Wikipedia: The online encyclopedia as a digital cultural heritage gateway and site. *Journal on Computing and Cultural Heritage*, *10*(1). https://doi.org/10.1145/3012285\

Widyastuti, E., & Susiana. (2019). Using the ADDIE model to develop learning material for actuarial mathematics. *Journal of Physics: Conference Series*, *1188*(1). https://doi.org/10.1088/1742-6596/1188/1/012052

Menteri Pendidikan. (2020). *Surat Edaran Nomor 3 Tahun 2020 Tentang Pelaksanaan Pendidikan dalam Masa Darurat CoronaVirus (COVID-19).*

Mulyono, Wekke. (2018). *Strategi Pembelajaran di Abad Digital.* Yogyakarta : Gawe Buku.

Nahar, N. I. (2016). *Penerapan teori belajar behavioristik dalam prosespembelajaran. 1.*

Rusman, Kurniawan. (2015). *Pembelajaran Berbasis Teknologi Informasi dan Komunikasi.* Jakarta Raja Grafindo Persada.

Setyosari Punaji, 2013. *Metode Penelitian Pendidikan dan Pengembangan.* Jakarta : Kencana

Shawket, I. M. (2016). Educational Methods Instruct Outdoor Design Principles : Contributing to a Better Environment. Procedia Environmental Sciences, 34, https://doi.org/10.1016/j.sbspro.2014.07.576. 222–232. https://doi.org/10.1016/j.proenv.2016.04.021\

Subarjah. (2016). *Hubungan antara Kebugaran Jasmani dan Motivasi Belajar dengan Prestasi Belajar Mahasiswa. 9*(1), 117–130.

Theresia Prabawati, 2008. *Mahir Dalam 7 Hari Adobe After Effects 6.5.* Yogyakarta : Andi.

Uzunboylu Huseyin dan Cansu Meryem Birinci. 2014. *Assessment Of The Studies On Problem Based Learning Studies Through The Content Analysis.*

Yurianto, Ahmad, Bambang Wibowo, K. P. (2020). *Pedoman Pencegahan dan Pengendalian Coronavirus Disease* (Covid-19) (M. I. Listiana Azizah, Adistikah Aqmarina (ed.)).

Yustina, I. (2020). *Criksetra: Jurnal Pendidikan Sejarah, Vol. 9, No. 1, 2020. 9*(1), 15–31.