Development of I-Spring Learning Media and Its Effectiveness on Students' Historical Analysis

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Abstract: In the millennial era, learners need skills in utilizing technology in education. Learners who use technology for educational purposes will tend to have a higher level of understanding. This research aims to produce a validated product in the form of ispring learning media and determine its effectiveness on historical analysis. This research method uses the 4D development model. The results of material expert validation get a mean value of 3.66, linguist validation gets a mean value of 3.6 and media expert validation gets a mean value of 3.64. The validation is included in the "very good" category. In the user test for educators, the mean is 3.70. The results of the learner user test 1 get an average value of 3.75, learner II gets an average value of 3.50, learner III gets an average value of 3.62, learner IV gets an average value of 3.62, it can be concluded that in the learner trial users of ispring learning media products have an average value of 3.62. If adjusted to the product feasibility table, the Ispring learning media developed is in the very good category and can be used without revision. The effectiveness as measured by the relative effectiveness formula reaches a high effectiveness value. In the small group test, the score was 0.89 in the "Large Effect" category, while the large group test gets a value of 0.95 in the "Large Effect" category.

Keywords: *Development, Model 4D, Learning Media, I-Spring, Historical Analysis*

1. INTRODUCTION

The Industrial Revolution 4.0 has changed the outlook in education innovation [27]. In the millennial era, learners need skills in utilizing technology in the field of education. Educational technology is the process of applying modern technology in a systematic and organized manner to improve the quality of education [31]. Individuals who use information technology for educational purposes will tend to have a higher level of understanding compared to those who do not use information technology [22]. Recent advances in educational technology have produced positive results in the education sector. Educational technology supports the teaching and learning process [25]. Along with technological advances and information growth, knowledge delivery needs to be more flexible in connecting learners to support independent learning [13]. So that the use of technology as a learning medium cannot be separated from the world of education, especially during the learning process.

History learning has several problems and challenges in the learning process. One of the problems lies in the lack of interest of students to learn historical material [21]. Educators are expected to be able to utilize technology in learning history. The utilization of technology is one way that educators can do to make the learning process more innovative and can also encourage students to learn optimally [20]. Learning materials developed to utilize technological advances must incorporate the latest developments in the learning paradigm [7]. History learning today is expected to have critical thinking skills that must be developed by students. Historical Thinking Skills is a cognitive process that when possessed by students can provide an understanding of complex, abstract and irrelevant facts and provide their meaning for life today . These skills are very important to include in history teaching [32]. Historical thinking skills are thinking skills that provide learners with the opportunity to construct and interpret historical events by reasoning through logical thinking [17]. Learners involved in the history learning process, referring to the National Standard for United State History, are expected to have thinking skills that include several aspects in understanding Historical Thinking Skills, including: (1) cronological thinking, (2) historical comprehension, (3) historical analysis and interpretation, (4) historical research capabilities (5) analysis of historical issues and decision making [14]. When associated with the above aspects, one of the main skills that students must have in understanding history is Historical Analysis. Historical analysis is one of the standards in historical thinking skills. Historical Analysis is the ability to analyze facts in history and can interpret them based on historical evidence [14]. Historical Analysis is an analytical skill that is required to realize the difference between historical events and historical facts to examine different aspects of historical events, and to evaluate controversies and historians' views on historical events [17].

The problem obtained from the initial observation conducted at Bangorejo 1 State Senior High School was by distributing a needs analysis questionnaire. Needs analysis is a very important component in identifying problems that exist in learning programs (Umamah., et al, 2019: 1). Based on the results of the needs analysis questionnaire for students in class XI Social Sciences 1 at State Senior High School 1 Bangorejo with a total of 35 respondents, the lowest three points of the needs analysis results can be analyzed, namely 1. Educators do not use interactive learning media in the learning process (M: 1.63, SD: 0.770) 2. Educators do not use technology-based learning media (M: 1.88, SD: 0.993) 3. Educators do not use a variety of learning media in the learning process (M: 2.00, SD: 0.874).

Based on the first lowest point, it can be analyzed that interactive learning media is rarely used by educators. Educators in using learning media have not varied and are still limited. Multimedia can bring benefits in the field of education. The main features of various media, user control over the delivery of information and interactivity can assist students in understanding the material; involving learners actively in the learning process [3]. Interactive multimedia offers learners different forms of media that suit their learning styles, providing personalized delivery of adaptive content that can enhance learners' learning effectiveness [9]. Interactive learning can be implemented by administering interactively designed quizzes. The quiz feature in Ispring offers a variety of question formats including: multiple choice types, matching questions and more [4]. iSpring allows you to include visuals and videos The results of interviews with teachers stated that educators still use modules (printed media), workbooks and packages and power point as learning resources.

The second lowest point can be analyzed that educators do not use technology-based history learning media. Currently, many educational institutions in developed countries face a lack of student interest and motivation in learning [19]. Educators are more likely to use conventional learning media such as pictures, concept maps and posters. The use of information technology today can lead to changes in interaction in the delivery of information in the field of education [24]. Information and Communications Technology-based learning media is media in which there are elements or variables of technology as a support for the creation of an interesting, creative and not boring learning. Computer-based cognitive tools have been deliberately adapted or developed to function as intellectual partners to enable and facilitate critical thinking and higher-level learning. Examples of cognitive tools include: databases, semantic networks, communication software such as teleconferencing programs, multimedia / hypermedia construction software, and computer programming languages [23]. Learners can complete a specific set of educational objectives in less time with CBI than using more traditional/conventional approaches [23].

The third lowest point can be analyzed that when the learning process takes place, learning media is still rarely used by educators. Learning media is a tool that can present information or material related to learning objectives [30]. Educators can choose to use alternative media such as ispring learning media. One of the main advantages of iSpring products is that it does not require professional skills for material development. Ispring software is one of the highest quality software among other tools that can be used in education [8]. Another advantage of iSpring is that it can be used for distance learning effectively [36]. Ispring makes it possible to develop e-courses, tests, video lectures, and interactive games [12]. Ispring software is an innovative e-learning tool that allows educators to easily create cross-platform learning media. The resulting product can be accessed on any device such as: computers, laptops, iPads, Android, and Windows devices [10].

Based on the above problems, the problem formulations in this study are 1) How is the implementation of i-spring learning media development using the 4D model? 1) How is the effectiveness of spring learning media development products on *historical analysis of* class XI Social Science 1 students at Bangorejo State Senior High School 1. The objectives in this development research are Producing a product and knowing the implementation of i-spring learning media development using the 4D model 2) Knowing the effectiveness of i-spring learning media on historical *analysis of students of* class XI social studies 1 at SMAN 1 Bangorejo.

2. RESEARCH METHODS

This type of research is development research. The development model used is 4d. Thiagarajan's 4d development model (1976) consists of four stages including: 1.the defining stage 2. the design stage 3. the development stage and 4. the dissemination stage [33]. The research subjects were aimed at students of class XI Social Science 1 at State Senior High School 1 Bangorejo totaling 35 students.

Define

The define stage is carried out in setting and defining development requirements. This stage analyzes the needs to develop a media product. Needs analysis is given to educators and students. When developing a media product, developers need to analyze and collect information about the extent of the development. The define stage in this stage consists of 5 activities, namely front end analysis, learner analysis, task analysis, concept analysis, specifying instructional objectives.

Design

Stage Design, in this stage consists of 4 activities, namely: constructing criterion-referenced tests, media selection, format selection, initial design. This design stage can be done after setting goals, determining the material to be used and selecting the media to be developed. This planning stage will produce indicators obtained from the initial-end analysis. The design stage is used to design the developed learning tools. The purpose of the design stage is to design the basic form of the product that we will develop [33].

Development

The development stage consists of two parts, namely expert appraisal and developmental testing.
a) Expert Appraisal

Expert Appraisal is a technique used to validate or assess the feasibility of the product that has been developed. The implementation of product evaluation is carried out by experts in their fields. Suggestions and input from validators / experts are

then used to revise the learning design that has been designed and compiled by the developer. "expert appraisal is a technique for obtaining suggestions for the improvement of the material.". The assessment given by experts on learning media includes: language, format, illustration, content and design [33].

b) Developmental testing

Developmental testing is a stage carried out to test the product design made by the developer against the actual target subject. The implementation of the trial aims to obtain data on user responses, reactions and target user comments on the devices we develop. Furthermore, it is tested again until effective results and data are obtained that can be used in learning history. The development of ispring media in this development stage is carried out by testing the media that has been designed by the developer and testing the material in the learning media. Based on the 4D development model, at the developmental testing stage, two trials were carried out including large and small group trials. This trial was carried out by conducting pretests and posttests in order to measure the effectiveness of the learning media developed for history learning and to measure the effectiveness of learning media in efforts to increase students' historical analysis.

Disseminate

The stages in disseminate are divided into 3 stages. These stages include validation testing (dissemination), packaging (packaging) and the last is diffusion and adoption. (Thiagarajan, Sivasailam, 1974). . The resulting product is in the form of Ispring media. At this stage the developer disseminates the ispring learning media developed by uploading media files to google drive. Then the google drive link is shared through the developer's personal website and then disseminated to users / targets.

Data Collection Technique

The instruments used in this research are needs analysis instruments, media, material and language expert validation instruments, interview instruments, user test instruments. The questionnaire preparation begins with making a questionnaire grid for each instrument.

The instrument in the form of a needs analysis questionnaire, historical analysis uses a Likert scale with 4 assessment scores. While the expert validation instrument uses a Likert scale with four alternative answers [6]. Open instruments in the form of descriptions can be filled in by respondents in the form of short answers. The data collection technique used in developing ispring learning media is by collecting data in this study using questionnaires, tests and interviews.

This study uses a questionnaire to determine the feasibility of products such as media, language and material The purpose of using a questionnaire in this study is to find out about the feasibility of products such as material, media and language. Students are also given a needs analysis questionnaire with the aim of obtaining information related to the problems faced during learning, then the developer can find problem solving by developing learning media. The questionnaire is also used as user response data for ispring learning media.

This research used interviews, the developer conducted interviews with educators of history subjects in class XI Social Sciences 1 at Bangorejo State Senior High School. Interviews were conducted for needs analysis to educators.

Data Analysis

a. Expert and User Test Data Analysis

Alternative answers use a scale consisting of 4 value scales as follows:

Table 1. Likert Scale

Assessment	Rating Scale
4	Very good
3	Good
2	Good enough
1	Not so good

Source: (Gronlund, 2001: 210)

The following is the formula for determining the average value:

$$\bar{X} = \frac{\sum n}{N}$$

Description

$\bar{X}$: Average Validation Score

$\sum n$: Total Validation Score

N : Number of Validation Questions

The use of data analysis in analyzing validation data from linguists, media and materials with the help of SPSS uses descriptive statistical techniques.

The mean interpretation is used to see the feasibility of learning media, it is feasible or must make revisions first. The mean interpretation in this study uses Gronlund's (1977) as follows:

Table 2. Product Feasibility

Rating	Description	Interpretation
1.0≤ SV> 1.5	Less Good	Unusable
1.6≤ SV> 2.5	Good enough	Usable with major revisions
2,6≤ SV> 3,5	Good	Usable with minor revisions
3,6≤ SV> 4	Very good	Can be used without revision

Source: Gronlund (1977)

b. Test the effectiveness of ispring learning media on historical analysis

The initial stage to determine the effectiveness of the media is to conduct a prerequisite analysis test (normality test), namely to determine whether the data distribution is normal or not. The normality test was carried out using SPSS using the Shapiro Wilk analysis. Before conducting the prerequisite test, it is necessary to know the pretest and posttest scores. The next stage is to conduct a t test to determine the differences obtained by students before using the media with students who have used the media. The formula used is using paired sample t test.

The results of this t test will be used as a basic reference by the developer to see whether or not there is a difference in the average pretest and postest after using the ispring learning media that has been developed. This measurement does not explain how much influence the use of the developed media has, so a further test is needed, namely the effectiveness test.

The formula used to measure the effectiveness of the product against historical analysis is by using the relative effectiveness formula as follows:

Formula 3. Calculation of Relative Effectiveness

$$\text{Eta Squared} = \frac{t^2}{t^2 + N - 1}$$

(Cohen (Pallant), 2007: 240)

The following are the criteria for interpreting the effectiveness test:

Table 3. Relative Effectiveness Test Criteria

Score	Qualification
0.01	Small Effect
0.06	Moderate Effect
0.14	Big Effect

(Source: Cohen (pallant), 1988:284)

After the data is obtained, the developer can find out whether the ispring learning media developed is effective in improving students' historical analysis.

3. RESULTS AND DISCUSSION

3.1 RESULT
Define
a. front-end analysis

At this stage the developer conducted a performance analysis interview with Indonesian History subject educators at Bangorejo State Senior High School 1. The following are the results of the needs analysis interview:

Table 4. Interview Results Analysis Educator Needs

No.	Indicator	Description
1	Delivery of Learning Objectives	It is very important to convey learning objectives because it is the basis for determining the methods and media to be used.
2	Use of Teaching Materials	Teaching materials used by educators are lks books, packages and library books and modules on the internet.
3	Use of Learning Methods	The learning methods that educators use are the lecture method and the discovery learning method.
4	Learning Material Development	First determine the material then create the indicators. After that, create sub-discussions and develop these indicators with the help of book references.
5	Innovations to Improve Learning Quality	Wanting to learn history not only in writing and not only relying on lks books but using technology-based interactive learning media that can create an understanding of history.

No.	Indicator	Description
6	Use of Learning Media	Learning media that are often used are power point, documentaries and concept maps.
7	Expected Learning Media	Media that can make students interested and not get bored quickly learning history and improve historical analysis. Media that includes interactive materials and quizzes.
8	Learning Evaluation	Evaluation is done by assessing knowledge and skills. Knowledge is assessed through daily tests, midterm tests, and end-of-semester tests, while skills are assessed through student engagement.
9	Educator Personal Skills	History education is attitude education by looking at past events. Cultivating polite, courteous, honest attitudes to students
10	Professional Skills of Educators	Mastering the material and being on time when learning hours are in progress
11	Pedagogical Skills of Educators	Can develop lesson plans, syllabus, prota and promes
12	Social Skills	Communicating and respecting students
13	Barriers to Learning	Lack of historical analysis of students, lack of mastering technology-based media as a result learning history is boring

b.   `Learner Analysis

This analysis is carried out to find out an overview of the characteristics of students, including the following: 1. The level of development and abilities of students. 2. Social and individual skills that students have and can then be developed to achieve predetermined learning objectives. Here the developer conducts a needs assessment / needs analysis to obtain information related to the needs of students when learning history. The following are the mean results of the needs analysis:

Table 5. Results of Learner Needs Analysis

About	$\bar{x}$	N	Min	Max	σ
Extracurricular Program Implementation	2.74	35	2	4	.505
Classroom Availability	2.69	35	1	4	.832
Availability of School Infrastructure	3.23	35	2	4	.598
Availability of School Facilities	3.40	35	2	4	.651
Internet Network Availability	3.51	35	2	4	.562
Delivery of Learning Objectives	2.94	35	2	4	.639
Use of Teaching Materials	2.86	35	2	4	.692
Use of Learning Methods	2.60	35	1	4	.775
Use of various learning media	2.00	35	1	4	.874
Use of interactive Learning Media	1.63	35	1	4	.770
Use of Technology-Based Media	1.86	35	1	4	.912
Learning Evaluation	2.97	35	1	4	.664
Achievement of KKM	2.91	35	2	4	.781
Classroom Management Processing	2.94	35	1	4	.725
Educator Personal Skills	3.03	35	1	4	.785
Professional Skills of Educators	2.83	35	2	4	.664
Pedagogical Skills of Educators	3.00	35	1	4	.728
Educator Social Skills	2.89	35	2	4	.631
School Rules and Regulations	2.91	35	2	4	.612
School Cooperation with Other Institutions	2.97	35	1	4	.747
Educator Communication Skills	3.17	35	2	4	.618
Learning Activities with Peers	2.74	35	2	4	.561
Special Education Qualification	3.09	35	2	4	.445
Difficulties in Learning	2.83	35	2	4	.618
School Safety Guarantee	3.03	35	2	4	.514

Based on the results of the needs analysis questionnaire for students in class XI Social Sciences 1 at State Senior High School 1 Bangorejo with a total of 35 respondents, the lowest three points of the needs analysis results can be analyzed, namely 1. Educators do not use ispring learning media in the learning process (M: 1.63, SD: 0.770) 2. Educators do not use technology-based learning media (M: 1.88, SD: 0.993) 3. Educators do not use a variety of learning media in the learning process (M: 2.00, SD: 0.874).

c.   Task Analysis

At the task analysis stage is to determine the concept of material that will be used as material in making ispring learning media. The theme used in media development is the Hindu Buddhist Maritime Kingdom. The theme will later be sorted into several topics, namely the Kutai Kingdom, Tarumanegara Kingdom, Sriwijaya Kingdom, Majapahit Kingdom and the influence of the Hindu Buddhist Maritime Kingdom. Based on the above topics, it will be further divided into sub-topics, namely the government system, social system, economic system and cultural system.

d.   Concept Analysis)

Concept analysis is the stage of identifying the main concepts or the stage of analyzing the concepts that will be taught to students in the learning process. Concept analysis is needed to identify knowledge in the development of material in the media. The goal is to fulfill the principle of coverage in compiling the selected concepts and materials. To analyze a concept can be done with the following steps: 1. Analyzing competency standards with the aim of determining the type and amount of teaching materials 2. Analyzing learning resources, is to collect and identify sources that will be used when designing learning media.

The choice of Basic Competencies is that the developer takes from the Basic Competencies of class XI Senior High School in the 2013 Curriculum Basic Competency 3.1 Analyze the maritime kingdoms of Indonesia during the Hindu Buddhist period in the government, social, economic and cultural systems and their influence on the lives of Indonesian people today The developer only examines related to (1) Government Systems; (2) Social Systems; (3) Economic Systems; (4) Cultural Systems; (5) as well as its influence on the lives of Indonesian people today

e.   Specifying instructional objectives

Based on the results of task analysis and concept analysis, the learning objectives that want to be produced from the development of ispring learning media are developers make learning objectives from Basic Competency 3.1 Analyze Indonesian maritime kingdoms during the Hindu Buddhist period in government, social, economic and cultural systems and their influence in the lives of Indonesian people today. Through the use of ispring learning media: (1) Students are expected to be able to analyze the Indonesian maritime kingdoms during the Hindu and Buddhist periods in government, social, economic and cultural systems and their influence in the lives of Indonesian people today (2) After applying ispring software-based learning media, students are expected to be able to analyze and compare the government, social, economic and cultural systems of the Kutai, Tarumanegara, Sriwijaya and Majapahit Kingdoms and their influence on the lives of Indonesian people today.

Design

a.   Criterion test construction

The stages of test preparation in the development of ispring learning media here are used as an additional menu to measure whether the use of this media can help students to understand the material about the Hindu Buddhist Maritime Kingdom. The test is included in the quiz feature that has been designed in such a way in the ispring learning media. The test used in this application is in the form of multiple choice evaluation questions.

b.   Media Selection

Media selection is used to identify media that are appropriate and in accordance with the characteristics of the material to be used. Media selection should be based on task and concept analysis as well as training targets (users), and planning for media deployment plans. Learners will be helped in achieving basic competencies. The conclusion is that media selection is carried out to optimize the use of product results during product development activities during classroom learning activities. Developers at this stage will choose Ispring learning media assisted by Ispring software according to the interviews conducted with educators and based on the results of the analysis of the needs of students. This media is expected to be used in the learning process so that it is not monotonous and boring, this medi is expected to be able to improve the historical analysis of students' learning.

c.   Format Selection

The format selection in this development is ispring learning media in the form of applications to make historical analysis improvements for students using the 4D development model. This learning media application was developed by utilizing Ispring software (application design), powerpoint (initial design) and website2apk (making the application format).

d.   Initial Design

The initial stage design is the design of the entire learning device (prototype) that the developer must do before conducting the trial stage [33]. The initial design of making ispring learning media focuses on one subject, namely the Maritime History of Hindu Buddhist Kingdoms. Each feature in the ispring learning media product has been designed in detail and completely in accordance with its order and function.

Learning media developed in learning history must have criteria which include 1) learning media must be able to generate historical analysis of students 2) learning media must be able to repeat material that has been learned by students. 3) provide learning stimulus for students 4) learning media must be able to activate responses from students 5) learning media must be able to provide feedback or feedback 6) learning media must be able to provide evaluation or practice questions in the form of learning quizzes.
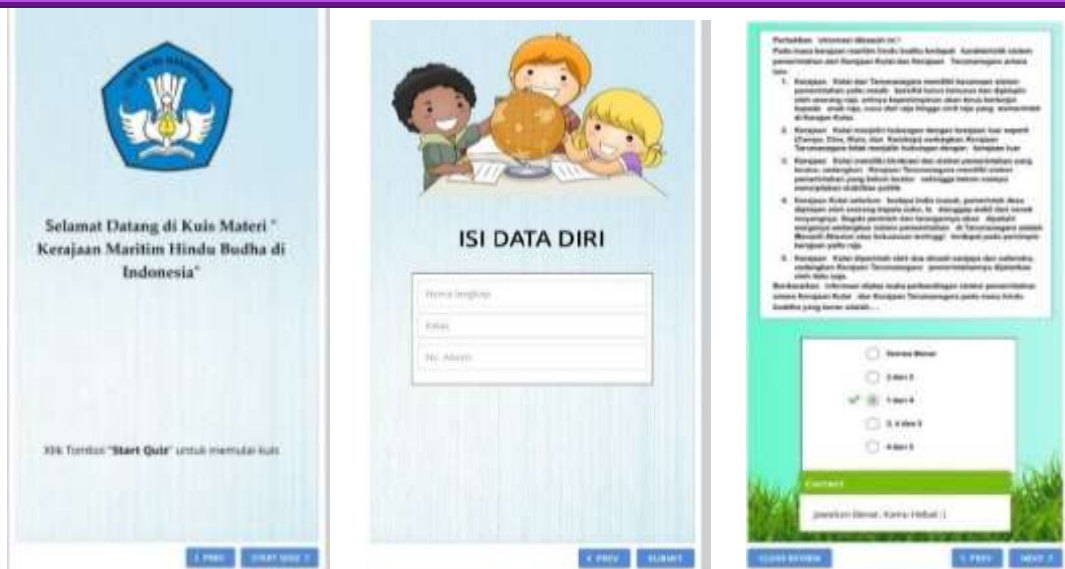
Figure 1. Display of the Home Page, Menu and Core Competencies / Basic Competencies on Ispring Learning Media

Figure 3. Display of Reference Material Menu and Profile on Ispring Learning Media

Quiz Menu Display on *Ispring* Learning Media

Development
Material Expert Validation
The following is a questionnaire presentation of the results of the material expert validation:

Table 7 Results of Assessment and Response to Material Expert Validation

No.	Assessment Aspect	x̄	σ
1.	Content quality	3.67	.516
2.	Quality of Learning	3.67	.516

Based on the assessment given by the material expert validator, the following results were obtained:

Table 8. Statistical Analysis Results of Material Experts

	x̄	N	n	$\sum_{x1}$	Min	Max	σ
Material Expert Validation Data	3.66	1	12	44	3	4	.492

Based on the assessment results from the material expert validator on the ispring learning media above, a score of 3.66 was obtained. If adjusted to the product feasibility table, the ispring learning media developed is in the very good category and does not need to be revised .

Comments and material experts on ispring learning media are: 1. It needs to be reviewed in the sub chapter of material about the government system in the Kutai Kingdom there is the word "war" it must be strong in order to protect the safety and welfare of its citizens. 2. Need to be reviewed in the sub chapter of the cultural system in paragraph 2 there is a sentence "ketopong is the crown of the sultan" the word sultan is dubious because the title of sultan is used in the Islamic kingdom. 3. Please complete the number of years when the Kutai Kingdom collapsed. 4. Add the definition of the government system in the Tarumanegara Kingdom is absolute monarchy.4. Careful again Writing words that should be capitalized are written in lowercase letters. After getting input from the validator, the product was revised according to the comments and suggestions of the material expert.

Linguist Validation
The following is a table of linguist assessment results:

Table 9: Assessment Results and Responses of Language Expert Validators

No.	Assessment Aspect	x̄	σ
1.	Straightforward	3.50	.707
2.	Communicative	4.00	.000
3.	Dialogical and interactive	3.50	.707
4.	Language Rules	3.50	.707
5.	Use of terms, symbols/icons	3.50	.707

Based on the assessment given by the linguist validator, the following results were obtained:

Table 10: Statistical Analysis Results of Language Experts

	x̄	N	N	$\sum_{x1}$	Min	Max	σ

Linguist Validation Data	3.60	1	10	36	3	4	.516

Based on the results of the assessment of the linguist validator of the ispring learning media above, a score of 3.60 was obtained. If adjusted to the product feasibility table, the ispring learning media developed is in the very good category and does not need to be revised .

Comments and suggestions from material expert validators on learning media products developed in the form of ispring learning media are: 1. Pay attention to the neatness aspect 2. Fix the paragraph writing technique 3. Make the throat consistently. After getting input from the validator, the product was revised according to the linguist's comments and suggestions.

Media Expert Validation

The following is a table of media expert assessment results:

Table 11 Assessment Results and Responses of Media Expert Validators

No.	Assessment Aspect	x̄	σ
1.	Design/Display	3.56	.527
2.	Programming Aspects	3.80	.447

Based on the assessment given by the media expert validator, the following results were obtained:

Table 12 Statistical Analysis Results of Media Experts

	x̄	N	N	$\sum_{x1}$	Min	Max	σ
Media Expert Validation Data	3.64	1	14	51	3	4	.497

Based on the assessment results from the media expert validator on the ispring learning media above, a score of 3.64 was obtained. If adjusted to the product feasibility table, the ispring learning media developed is in the very good category and does not need to be revised.

Comments and suggestions from material expert validators on learning media products developed in the form of ispring learning media are: 1. Choose a uniform symbol 2. Add an opening page to the quiz menu 3. Eliminate the back button at the end of each menu 4. Change the position of the reference under the material menu. After getting input from the validator, the product was revised according to the comments and suggestions of the media expert.

Data Presentation, Data Analysis and Product Development Trial
Educator User Test

The following are the results of a user test assessment for educators as follows

Table 13 Results of Educator Assessment and Feedback

No.	Assessment Aspect	x̄	σ
1.	Design	3.50	.707
2.	Self Intruction	3.83	.408
3.	User Friendly	3.50	.707

The following are the results of user test data analysis for educators as follows:

Table 14 Results of User Test Data Analysis for Educators

	x̄	N	$\sum_{x1}$	Min	Max	σ
Educator User Test	3.70	10	30	3	4	.483

Based on the results of the formula assessment above, it can be concluded that in the user test for educators on ispring learning media products get a score of 3.70. When associated with the product feasibility table, the product developed is included in the very good category and can be used without revision.

Based on the review of educators on ispring learning media products are as follows: 1. It is feasible to be tested, but correct errors in word writing. After getting a review from the educator, the ispring learning media product was revised according to the advice of the educator.

Individual User Test

The individual trial was aimed at students as users of the ispring learning media that had been developed. This user trial involved 4 students of class XI IPS 1 at Bangorejo 1 Senior High School.
1) Learner User Test Response I

Table 15. Assessment Results and User Test Responses of Learners 1

No.	Assessment Aspect	x̄	σ
1.	Design	4.00	.000
2.	Self Intruction	4.00	.000
3.	User Friendly	3.00	.000

Table 16 Results of User Test Data Analysis for Learner 1

	x̄	N	$\sum_{x1}$	Min	Max	σ
Learner User Test I	3.75	8	30	3	4	.462

Based on the results of the formula assessment above, it can be concluded that in the learner user test I on ispring learning media products get a score of 3.75. When associated with the product feasibility table, the product developed is included in the very good category and can be used without revision.

2) Learner User Test Response II

Table 17 Learner User Test Assessment Results 1I

No.	Assessment Aspect	x̄	σ
1.	Design	3.50	.707
2.	Self Intruction	3.75	.500
3.	User Friendly	3.00	.000

User Test Data Analysis Table for Learners 1I

	x̄	N	$\sum_{x1}$	Min	Max	Σ
Learner User Test II	3.50	8	28	3	4	.534

Based on the results of the formula assessment above, it can be concluded that in the II student user test of ispring learning media products get a score of 3.50. When associated with the product feasibility table, the product developed is included in the category that can be used with minor revisions.

3) Learner User Test Response III

Table 19 Assessment results of Learner User Test III

No.	Assessment Aspect	x̄	σ
1.	Design	3.50	.707
2.	Self Intruction	3.75	.500
3.	User Friendly	3.50	.707

Table 20 Results of User Test Data Analysis for Learners III

	x̄	N	$\sum_{x1}$	Min	Max	σ
Learner User Test III	3.62	8	29	3	4	.517

Based on the results of the formula assessment above, it can be concluded that in the third student user test of ispring learning media products get a score of 3.62. When associated with the product feasibility table, the product developed is included in the very good category and can be used without revision.

4) Learner User Test Response IV

Table 21. Results of User Test Assessment of Learners IV

No.	Assessment Aspect	x̄	σ
1.	Design	3.50	.707
2.	Self Intruction	3.75	.500
3.	User Friendly	3.50	.707

Table 22.Results of User Test Data Analysis for Learners IV

	x̄	N	$\sum_{x1}$	Min	Max	σ
Learner User Test IV	3.62	8	29	3	4	.517

Based on the results of the formula assessment above, it can be concluded that in the IV student user test of ispring learning media products get a score of 3.62. When associated with the product feasibility table, the product developed is included in the very good category and can be used without revision.

Small Group Product Effectiveness Test

This study conducted a normality data test conducted on a small group trial. The normality test is a prerequisite before conducting parametric tests and to determine whether the distribution of the data population has a normal distribution or not. This small group test research used the Shapiro-Wilk test. The use of the Shapiro-Wilk test is because the sample used was 9 people. The Shapiro-Wilk test is considered the most appropriate because this test is used to measure small samples <50 samples . The results of the small group normality test can be seen in the table below :

Table 23 Normality Test of Pretest and Posttest of Small Group Tests

Shapiro- Wilk			
	Statistic	Df	Sig.
Pretest	0.930	9	0.477
Posttest	0.928	9	0.466

Based on the results of the small group Shapiro-Wilk normality test, the pretest data stated Sig. 0.477. It can be concluded that the data is normally distributed because the significance value> 0.05. While the posttest data is Sig.0.466. This means that the data is normally distributed. When viewed from the results of the Shapiro-Wilk normality test, the pretest and posttest data are normally distributed.

Table 24 Paired Samples Statistics Results Small Group Test

Paired Samples T Test Pretest and Postest Historical Analysis								
$\bar{x}$	N	σ	σx	R	t.	df	A	p.
Pretest 64.66	9	7.28	2.42					
Posttest 80.77	9	2.63	0.87	0.699	-8.400	8	0.05	0.000

Based on the table above, it is known that the data shows an average *pre-test of* 64.66 (Std. Deviation = 7.28) and a *post-test of* 80.77 (Std. Deviation = 2.635). The average value of the *post test is* greater than the average value of the *pre test* on small group subjects. It can be concluded that there is an increase in student learning outcomes (small group) after using ispring learning media. The table above also shows that there is a very strong and positive relationship between pretest and posttest in small group trials. This can be seen from the Sig. (2-tailed) value of 0.000 with a probability figure of 0.000 <0.05, it can be concluded that there is a significant difference between pretest and postest scores in small groups, which means that there is an increase in student learning outcomes after using ispring learning media.

The results of data analysis show that between the pretest and posttest have a mean difference of 16.11. This means that the development of ispring learning media has been able to improve the historical analysis of students by 16.11 compared to the previous condition without using ispring learning media. Based on the results of the above analysis, it can be concluded that the development of ispring learning media has proven to be significantly effective for improving students' historical analysis.

Based on the results of data analysis conducted regarding the small group test of the development of ispring learning media can improve the historical analysis of students in learning. The results of the data analysis above are then used to measure the effectiveness of history learning using the relative effectiveness formula. The following is the relative effectiveness formula that will be used:

$$\text{Eta Squared} = \frac{t^2}{t^2+(N-1)}$$
$$= \frac{-8.400^2}{-8.400^2+(9-1)}$$
$$= \frac{70.56}{70.56+8}$$
$$= \frac{70.56}{78,56}$$
$$= 0,89$$

Based on the results of relative effectiveness in using ispring learning media, the value is 0.89. If adjusted in the product eligibility criteria table, the ispring learning media developed falls into the *"Large Effect"* effectiveness level category. *This* means that the product developed succeeded in increasing the effectiveness of learning, and the level of effectiveness of the ispring learning media developed has a high influence in improving historical analysis.

Large Group Product Effectiveness Test

This study conducted a normality data test on a large group trial. The normality test is a prerequisite before conducting a parametric test of the population distribution of the data must be normally distributed. This large group test research used the Shapiro-Wilk test. The use of the Shapiro-Wilk test is because the sample used was 35 people. The Shapiro-Wilk test is considered the most appropriate because this test is used to measure small samples <50 samples (Balogun, 2015; Laerd Statistic, 2018; Shapiro & Wilk, 1965). The results of the small group normality test can be seen in the table below:

Table 25: Normality Test of Pretest and Posttest of the Large Group Product Effectiveness Test

	Shapiro- Wilk		
	Statistic	Df	Sig.
Pretest	0.961	35	0.239
Posttest	0.949	35	0.107

The normality test is used to determine whether the data distribution is normally distributed or not Based on the results of the large group Shapiro-Wilk normality test, the pretest data stated Sig. 0.239 . It can be concluded that the data is normally distributed because the significance value> 0.05. While the posttest data amounted to Sig.0.107. This means that the data is normally distributed. When viewed from both Shapiro-Wilk normality test results, the pretest and posttest data are normally distributed.

Table 26 Paired Samples Statistics Results Large Group Test

	Paired Samples T Test Pretest and Postest Historical Analysis								
	$\bar{x}$	N	σ	σx	r	t.	df	A	p.
Pretest	58.51	35	6.40	1.08					
Posttest	85.00	35	3.25	0.55	0.52	-28.65	34	0.05	0.000

Based on the table above, it is known that the data shows an average *pre-test of* 58.51 (Std. Deviation = 6.40) and a *post-test of* 85.00 (Std. Deviation = 3.25). The average value of the *post test is* greater than the average value of the *pre test* on small group subjects. It can be concluded that there is an increase in student learning outcomes (large group) after using ispring learning media. The table above also shows that there is a very strong and positive relationship between pretest and posttest in the large group trial. This can be seen from the Sig. (2-tailed) value of 0.000 with a probability figure of 0.000 <0.05, it can be concluded that there is a significant difference between the pretest and postest scores in the large group which means that there is an increase in student learning outcomes after using ispring learning media.

The results of data analysis show that between the pretest and posttest have a mean difference of 26.49. This means that the development of ispring learning media has been able to improve the historical analysis of students by a difference of 26.49 compared to the previous condition without using ispring learning media. Based on the results of the above analysis, it can be concluded that the development of ispring learning media has proven to be significantly effective for improving students' historical analysis.

Based on the results of data analysis conducted regarding the large group test of the development of ispring learning media can improve the historical analysis of students in learning. The results of the data analysis above are then used to measure the effectiveness of history learning using the relative effectiveness formula. The following is the relative effectiveness formula that will be used:

$$\text{Eta Squared} = \frac{t^2}{t^2+(N-1)}$$
$$= \frac{-28.65^2}{-28.65^2+(35-1)}$$
$$= \frac{820.8}{820.8+34}$$
$$= \frac{820.8}{854.8}$$
$$= 0.95$$

Based on the results of relative effectiveness in using ispring learning media, the value is 0.95. If adjusted in the product eligibility criteria table, the ispring learning media developed falls into the "*Large Effect" effectiveness* level category. *This* means that the product developed succeeded in increasing the effectiveness of learning, and the level of effectiveness of the ispring learning media developed has a high influence in improving *historical analysis.*

Disseminate

The stages in disseminate are divided into 3 stages. These stages include validation testing (dissemination), packaging (packaging) and the last is diffusion and adoption [33]. *The* resulting product is in the form of ispring learning media using Ispring software.

a.   Validation Testing

This stage is the product that is produced and developed, and has gone through the revision process will then be applied to the target, namely students. in this step a measurement of the achievement of goals will be carried out, this is useful for knowing how the effectiveness of product development. After the media we produce is applied, developers also need to observe the results of achieving goals. Then if there are goals that have not been achieved, the developer must explain the solution or solution so that it does not happen again when the ispring learning media that we develop is disseminated.

b.   Packaging

The packaging stage is carried out after passing the media publish stage. Media that is deemed ready for dissemination will be published final in html format. The packaging stage of this ispr learning media is done by converting the web format into an application using website to apk software. The purpose of packaging the media form from html to the application form is to make it

easier for students to apply the media. The file of this application is disseminated via a link automatically the application file can be directly downloaded by students. The final media in the form of this application can be used via cellphones / smartphones from students.

c. Diffusion and adoption

This step is carried out with the intention that the final product that the developer creates can be used and utilized by the target user or by others [33]. At this stage the developer disseminates the ispring learning media developed by uploading media files to google drive. Then the google drive link is shared through the developer's personal website and then disseminated to users / targets.

3.2 DISCUSSION
a. Conclusion of Expert Validation and User Test
The results of the validity test and user test data analysis are as follows:

Summary Table of Data Analysis Results of Validation Test and User Test

	x̄	N	n	Σx_1	min	max	σ
Material Expert Validation	3.66	1	12	44	3	4	.492
Linguist Validation	3.60	1	10	36	3	4	.516
Media Expert Validation	3.64	1	14	51	3	4	.497
Educator User Test	3.70	1	10	30	3	4	4.83
Learner User Test I	3.75	1	8	30	3	4	.462
Learner User Test II	3.50	1	8	28	3	4	.534
Learner User Test III	3.62	1	8	29	3	4	.517
Learner User Test IV	3.62	1	8	29	3	4	.517

The review in this expert validation stage contains products that have been validated and declared feasible in the history learning process. The developed product has passed 3 stages of expert validation, namely linguist validation, material expert validation and media expert validation. The purpose of this expert validation stage is to determine the quality of the ispring learning media products developed. The results of data analysis obtained from the material expert validation assessment get a mean value of 3.66, meaning that the product developed is "very good" and based on the product feasibility table is in the "can be used without revision" category. The results of data analysis obtained from the linguist validation assessment get a mean value of 3.6 meaning that the product developed is "very good" and based on the product feasibility table falls into the category "can be used without revision", The results of data analysis obtained from the linguist validation assessment get a mean value of 3.64 meaning that the product developed is "very good" and based on the product feasibility table falls into the category "can be used without revision". Based on the validation results of media experts, linguists and media experts, it can be concluded that the ispring learning media developed is in the "very feasible" category and can be used without revision and is suitable for use in the history learning process.

The study at the user trial stage was conducted on educators. User test results for educators get a mean of 3.70. The results of student user test data 1 get a mean value of 3.75, the results of student user test data II get a mean value of 3.50, the results of student user test data III get a mean value of 3.62 and the last is the result of student user test data IV get a mean value of 3.62. Based on the compilation of the assessment results above, it can be concluded that in the individual student user test of the ispring software learning media product gets a mean value of 3.62. If adjusted to the product feasibility table, the ispring learning media developed is in a very good category that can be used without revision.

b. Effectiveness Study of Ispring Learning Media on Historical Analysis
The product review developed in improving historical analysis contains a product review of ispring learning media that has been validated by 3 expert validators of language, media and material and has been declared suitable for use in the learning process. The developed product has also passed the user trial stage which is used to determine the quality of the ispring learning media product developed to get a high level of effectiveness. The amount of learning outcomes to determine the level of historical analysis of students can be obtained from small group trials and large group trials by distributing pre-test questions and post-test questions.

There was an increase in the results of measuring the historical analysis test of students based on the pre test results and post test results. In the small group trial, if the values are accumulated, the pre-test average value is 65.66, while after using ispring learning media, the post-test value increases and gets an average value of 80.77. Large group trials if the accumulated value gets an average pre-test value of 58.51 while after using ispring learning media, the post test value increases and gets an average value of 85.00. Based on the above results, it can be concluded that the ispring learning media products developed are effective in improving students' historical analysis.

The results of the small group trial to determine the effectiveness of ispring learning media on historical analysis were analyzed using the relative effectiveness formula and obtained results of 0.89 based on the relative effectiveness test criteria table into *large effect* qualifications while the results of the large group trial to determine the effectiveness of ispring learning media to improve historical analysis obtained effectiveness of 0.95 and based on the relative effectiveness test criteria table into *large effect* qualifications. Based on the results of the small group and large group trials on students at the State Senior High School 1 Bangorejo, it shows that learning media based on ispring software is effective in improving students' historical analysis. The results obtained

also show a high level of effectiveness so that it can improve the quality of history learning and is suitable for use in the history learning process.

Ispring software is one of the highest quality software among other tools that can be used in education (Juraev, 2019: 758). The content in ispring software-based learning media can contain media aspects such as audio, visual and audio visual. In addition, ispring media can also contain various types of evaluation tools including interactive quizzes. Learning media using ispring software can have a positive influence on students. Such as, changes in the behavior of students towards the good, namely increasing curiosity, respect for facts and data. Can make students think more critically. Discovery and increase the creativity of students and can make students think openly and cooperatively (Budhiarta & Waras, 2018: 1). The resulting content can be easily accessed through mobile devices [15].

Historical analysis is one of the standards in historical thinking skills. The National Center for History in the School states that there are 5 interconnected standards in historical thinking skills, including 1) Chronological Thinking 2) Historical Comprehension 3) Historical Analysis and Interpretation 4) Historical Research Capabilities 5) Historical Issues-Analysis and Decision-Making [14]. Historical Analysis according to NCHS is the ability to analyze facts in history and be able to interpret them based on historical evidence (National Center for History in the School, 1996). Historical Analysis is an analytical skill that is required to realize the difference between historical events and historical facts to examine different aspects of historical events, and to evaluate controversies and historians' views on historical [17]. According to the National Center for History in the School, to be able to analyze history, students must be able to utilize their skills in understanding past historical events.

Previous relevant research belonging to (Sumardono, Susanto & Rachmedita, 2019) states that the learning outcomes of the experimental class (the class subjected to the developed learning media) get an average value of 85.71 while the control class results get an average value of 78.75. So it can be concluded that the ispring suite 6.2 learning media developed is effective in improving student learning outcomes. Based on research belonging to (Dalimunthe, 2021) shows the results that the Ispring presenter learning media developed obtained material feasibility results of 89% and the results of media feasibility received a value of 85.6% in very feasible criteria. Meanwhile, the students' learning outcomes obtained data tcount> ttable (3.90> 1.67) based on these results it can be concluded that the learning outcomes of students using Ispring presenter software-based learning media are higher than the learning outcomes of students by not using Ispring media. Research belonging to [17]. states that Historical Analysis is an analytical skill that is required to realize the difference between historical events and historical facts to examine different aspects of historical events, and to evaluate controversies and historians' views on historical events This skill can provide opportunities for students to be able to build and interpret historical events with reasoning through logical thinking. [17] . It is important that students have historical analysis skills in understanding historical material. Therefore, a development of ispring learning media was carried out. The selection of ispring software is based on the fact that there are features that can be used to help improve students' Historical Analysis skills.

4. CONCLUSION

Based on the results of the validation and trials carried out during the process of developing ispring learning media products, the following results can be known; (1) The ispring learning media developed has met the feasibility and has passed the validation process of material experts, linguists and media experts. Based on the results of material expert validation getting a value of 3.66 into a very good category, linguist validation getting a value of 3.6 into a very good category and media expert validation getting a value of 3.64 into a very good category; (2) The ispring learning media developed is able to improve the *historical analysis of* students. The use of ispring learning media developed to improve historical analysis is able to make effective learning. This is based on the results of small group trials in the form of tests to measure historical analysis obtained an effectiveness value of 0.89 and included in the large *effect* qualification and the results of large group trials in the form of tests to measure historical analysis obtained an effectiveness value of 0.95 and included in the *large effect* qualification.

Based on the above results, the ispring learning media product developed to improve *historical analysis* using the 4D development model developed has been validated and obtained good results. Ispring learning media is able to improve students' historical analysis. It can be concluded that the development of ispring learning media developed using the 4D model is able to increase the effectiveness of learning for students in class XI Social Science I at State Senior High School 1 Bangorejo.

Advice

The suggestions for utilizing ispring learning media are as follows:

5. Learners and educators are expected to be able to independently operate the ispring learning media that has been developed in the learning process.
6. Educators are expected to take advantage of the quiz feature in the ispring learning media, by utilizing this media educators do not need to correct students' quizzes manually because automatically the results of students' work will be sent via the educator's email.
7. Educators are expected to be good facilitators in supporting the learning process so that learning objectives can be achieved.

5. ACKNOWLEDGMENT

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