

## Development of Concept Map Assisted by Articulate Storyline 3 with Jigsaw Model on the Material of Islamic Kingdom in Indonesia

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### Abstrak

Penelitian ini dilatarbelakangi karena di SMAN 2 Batang Anai belum berkembangnya media berbasis web yang mengakibatkan peserta didik kurang aktif dalam pembelajaran dan kurang bersemangat, karena masih menggunakan modul ajar dan buku cetak dalam proses pembelajaran. Tujuan penelitian ini agar dapat menghasilkan media berbentuk peta konsep, Penelitian ini menggunakan metode penelitian dan pengembangan atau sering disebut *Research and Development (R&D)*. Hasil dari penelitian ini yaitu, pengembangan peta konsep berbantuan *Articulate Storyline 3* dengan model *jigsaw* pada materi kerajaan islam di Indonesia yang meliputi validasi dari para ahli yaitu validasi ahli media 95,71%, bahwa pengembangan peta konsep berbantuan *Articulate Storyline 3* ini memenuhi kriteria media pembelajaran sejarah yang valid dan sudah di uji cobakan kepada peserta didik kelas X.4 Fase E SMAN 2 Batang Anai yang berkategori sangat praktis.

**Kata kunci:** peta konsep, articulate storyline, model jigsaw.

### Abstract

*This research was motivated by the fact that at SMAN 2 Batang Anai there was no development of web-based media, which resulted in students being less active in learning and less enthusiastic, because they still used teaching modules and printed books in the learning process. The aim of this research is to produce media in the form of concept maps. This research uses research and development methods or often called Research and Development (R&D). The results of this research are, the development of a concept map assisted by Articulate Storyline 3 with a jigsaw model on Islamic kingdom material in Indonesia which includes validation from experts, namely media expert validation of 95.71%, that the development of the concept map assisted by Articulate Storyline 3 meets the criteria for learning media. history that is valid and has been tested on students in class X.4 Phase E of SMAN 2 Batang Anai which is categorized as very practical.*

**Keywords:** concept map, articulate storyline, jigsaw model.

### INTRODUCTION

Concept maps are a learning model that can create meaningful learning. In meaningful learning, students can connect or relate information to knowledge (in the form of concepts) that they already have. The concept map model helps students understand the concepts to be learned. By understanding the material, students will be motivated to learn (Akbar, 2017). Thus, it is expected that student learning

outcomes will also increase. In other words, a concept map is a picture composed of related concepts as a result of concept mapping. Concept maps are developed to dig into the cognitive structure of students and to find out, both for students and teachers, what students already know. Concept maps are used to express meaningful relationships between concepts in the form of propositions.

Propositions are two or more concepts connected by words in a semantic unit.

Concept maps (concept mapping) are a way to show the concepts and propositions of a field of study, whether it is physics, chemistry, biology, mathematics and others (Nu'us, 2014).

By making their own concept maps, students “see” the field of study more clearly, and learn the field of study more meaningfully. A concept map is a two-dimensional image of a field of study or a part of a field of study. This feature shows the propositional relationships between concepts (Sihkabuden, 2015).

Based on observations conducted by researchers from July 17 to December 17, 2023 at SMAN 2 Batang Anai, in this school, web-based media has not yet developed and there is still a lack of sources and media for learning history assisted by Articulate Storyline 3 which results in students being less active in learning and less enthusiastic, because they still use teaching modules and printed books in the learning process. Therefore, researchers provide a solution to use concept map media assisted by Articulate Storyline 3 to improve students' creative thinking skills and with the existence of concept map media assisted by Articulate Storyline 3 as a supporter of the learning process, it will make it easier for students to digest and capture the messages conveyed so that learning objectives are achieved.

Articulate Storyline 3 assisted concept map development This is to clarify and increase students' understanding of the material on the Islamic kingdom in Indonesia. This is because the material contains many visualizations in the form of images and can also be in the form of videos.

## **METHOD**

The type of research used in this study is research and development (R&D). The approach used by researchers uses the (R&D) approach. This approach is in accordance with the title which examines the Development of concept maps assisted by Articulate Storyline 3 with the jigsaw model on the material of Islamic kingdoms in Indonesia (Nurhadi, 2020).

The research and development method aims to produce products and validate products. This study produced a product in the form of a concept map learning media assisted by Articulate Storyline 3.

The population of this study were students of class X.4 Phase E of SMAN 2 Batang Anai, totaling 8 classes, namely classes X.1-X.8 with a total of 258 students. Because the ones who will conduct the trial of the concept map learning media assisted by Articulate Storyline 3 are class X.4 Phase E, the sample is class X.4 Phase E students totaling 30 people.

Because the class that will conduct the trial of the concept map learning media assisted by Articulate Storyline 3 is class X.4 Phase E, the sample is 30 students from class X.4 Phase E.

Data analysis techniques and validity analysis using a Likert scale. After the questionnaire is filled in by the material expert validator, media expert, and language expert, the next step is for the researcher to analyze the completed questionnaire to obtain an average score. Practicality analysis using a Likert scale, the questionnaire is arranged in the form of a Likert scale with a positive category (Riduwan,2010).

After the questionnaire has been filled out by the audience, the next step is for the researcher to analyze the completed questionnaire to obtain an average score. The questionnaire for media experts aims to obtain the validity of the product in terms of appearance and suitability of the Articulate Storyline 3 media based on the opinions of media experts. The questionnaire for material experts aims to obtain the validity and quality of the product in terms of material based on the opinions of material experts. The questionnaire for students aims to obtain the data used. This instrument is in the form of a questionnaire containing requirements consisting of the Validity Instrument and Practical Instruments.

The validation sheet functions to obtain data on the validity of the

developed Articulate Storyline 3-assisted concept map media. Validation in this writing is in the form of media validation, material validation and language validation. Media validation is Informatics Study Program Lecturer Rini Novita, M.Pd, material validation is History Study Program Lecturer Meldawati, M.Pd and language validation is carried out by Indonesian Language Study Program Lecturer Armet, M.Pd. This validity sheet is given to the validator, the validator's assessment of the learning media consists of five categories, arranged based on the Likert scale.

## RESULTS AND DISCUSSION

SMAN 2 Batang Anai is one of the educational units located at Jl. Tong Blau No. 69 Korong Kasai, Kasang, Batang Anai District, Padang Pariaman Regency, West Sumatra. This school opened new student admissions in July of the 2013 school year, and the teaching and learning process began with 95 students (3 classes). The school's status at that time was still a filial of SMAN 1 Batang Anai for 6 months.

SMAN 2 Batang Anai, where based on the analysis that has been done, students need varied learning media, namely concept map media assisted by Articulate Storyline 3 which is in accordance with the learning media to be developed. This analysis was carried out to obtain information on students' needs for learning media in other forms, to

obtain this information, researchers obtained it during the implementation of field practice (PPL) at SMAN 2 Batang Anai. The results of this study are in the form of concept map learning media assisted by Articulate Storyline 3. The material in this learning media is CP element 4 understanding the basic concept of the Islamic kingdom.

In this phase, the researcher chooses a format to design a concept map learning media assisted by Articulate Storyline 3. The selection of the format is adjusted to the material analysis. The material chosen is the 4th element, namely understanding the basic concept of the Islamic kingdom. This material will be interesting if using concept map media assisted by Articulate Storyline 3.

In this phase, the preparation of the material that has been determined in the definition stage is carried out. The material chosen is the material to understand the basic concept of the Islamic kingdom. Then an analysis of learning outcomes is carried out and the formulation of objectives to be achieved is carried out. The material that has been determined is then presented in the learning media that will be developed.

The instrument design in this study is expert validation and student responses. Expert validation is carried out by three validators who are in accordance with their fields. Media validation is carried out by Informatics lecturer Rini Novita,

M.Pd.T, material validation is carried out by History lecturer Meldawati, M.Pd and Language validation is carried out by Indonesian Language Study Program lecturer Armet, M.Pd,.

The steps to create a concept map media using Articulate Storyline 3 are: first, open the Articulate Storyline 3 application, on the Articulate Storyline 3 screen there are several options, then select new project.

*Second*, enter the downloaded background, adjust the background to the learning material, then create a text box. Create a log in text, then click the input button, click data entry then move the mouse under the log in text until the text box appears then enter the name and school of origin, then click the button to create the next text.

*Third*, create the main menu for using concept map learning media in Articulate Storyline 3 which contains the home button, close button, material button, CP button and learning objectives, evaluation button, profile button, and instruction button for using concept map learning media assisted by Articulate Storyline 3. Each image is first downloaded, then entered into the Articulate Storyline 3 application.

*Fourth*, create a learning achievement and learning objective page, by clicking the learning achievement and learning objective button then add a new page there, then add the downloaded

background, then add the home, back and person reading book icons so that the concept map learning media assisted by Articulate Storyline 3 is interesting to use.

*Fifth*, for making concept maps assisted by Articulate Storyline 3 by adding a new page, then add the downloaded background, adjust the background to the learning material, then click the button, add the buttons for the names of the kingdoms which contain the Perlak Kingdom, Samudera Pasai Kingdom, Malacca Kingdom, Aceh Kingdom, Banten Kingdom, Cirebon Kingdom, Demak Kingdom, Pajang Kingdom, Islamic Mataram Kingdom, Gowa Tallo Kingdom (Makasar), Ternate Kingdom and Tidore (Maluku). Also add images of back buttons, home, and people reading books. In order to connect to the previous page, please click each button and adjust the button name with the variable name. for example, button I where there is the Perlak kingdom, please exchange the variable name with the name of the Perlak kingdom.

*Sixth*, Click the Perlak Kingdom button, add a new page then add the background that has been downloaded, adjust the background to the learning material, click the button then add five buttons, which consist of the background of the founding of the Perlak Kingdom, the kings of the Perlak Kingdom, the glorious period of the kingdom, and evidence of the legacy of the Perlak kingdom. Then

also add a home icon and back button to the page.

*Seventh*, Add a background that matches the learning material, then add background material on the founding of the Perlak kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Eighth*, add the next page, click the kings of the perlak kingdom button, then add a background that matches the learning material, then add the kings of the perlak kingdom material, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Ninth*, add the next page, click the button for the golden age of the Perlak kingdom, then add a background that matches the learning material, then add the material for the golden age of the Perlak kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use

*Tenth*, add the next page, click the button for the fall of the Perlak kingdom, then add a background that matches the learning material, then add the material for the fall of the Perlak kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Eleventh*, add the next page, click the button for evidence of the Perlak kingdom's heritage, then add a background that matches the learning material, then add evidence of the Perlak kingdom's heritage, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Twelfth*, Click the Pasai Ocean Kingdom button, add a new page then add the downloaded background, adjust the background to the learning material, click the button then add 5 buttons, which consist of the background of the founding of the Pasai Ocean Kingdom, the kings of the Pasai Ocean Kingdom, the future. the glory of the kingdom, and evidence of the legacy of the Pasai Ocean kingdom. Then also add a home icon and back button to the page.

*Thirteenth*, add the next page, click the background button for the establishment of the Samudera Pasai kingdom, then add a background that matches the learning material, then add the background material for the establishment of the Samudera Pasai kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Fourteenth*, add the next page, click the button of the kings of the Samudera Pasai kingdom, then add a background that matches the learning

material, then add the material of the kings of the Samudera Pasai kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Fifteenth*, add the next page, click the button for the heyday of the Samudera Pasai kingdom, then add a background that matches the learning material, then add the material for the heyday of the Samudera Pasai kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Sixteenth*, add the next page, click the button on the period of the collapse of the Samudera Pasai kingdom, then add a background that matches the learning material, then add the material on the period of the collapse of the Samudera Pasai kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Seventeenth*, add the next page, click the button for evidence of the legacy of the Samudera Pasai kingdom, then add a background that matches the learning material, then add evidence of the legacy of the Samudera Pasai kingdom, add a home icon and an icon of a person reading a book, so that the concept map media assisted by Articulate Storyline 3 is interesting to use.

*Eighteenth*, add a new page, add a background that matches the learning material, then add a home icon, then add an introduction as above. Then click the button then add to the media page then give further writing.

*Nineteenth*, add a new page, add a background that matches the learning material, then add a home icon. Click the new slide button, then select graded questions, then select the type of question that has been provided in the Articulate Storyline 3 application, the researcher chooses the multiple choice question type or can be called (multiple choice). Then click the multiple choice button, the page to create the question automatically appears, then add questions like the picture above. Then select one of the correct answers so that later when the evaluation has been done by students, the teacher can see what the score or final result of the questions that have been worked on is.

The development stage of the concept map learning media assisted by Articulate Storyline 3 which has been designed and validated by 3 experts in their fields, media experts, material experts, and language experts.

After conducting expert validation tests and obtaining suggestions from material experts, media experts and language experts. The next step is to revise the concept map learning media assisted by Articulate Storyline 3.

The product before the revision still has many shortcomings, remove the next button background, adjust the background to the title to be studied, differentiate the background of each kingdom, add a home icon to the initial media display, evaluate the background to be the same for all, add instructions, add a home icon, and add the author's biodata and supervisor.

The revised product has an attractive appearance, has learning achievements and objectives, has a researcher profile and a supervisor profile, and also has instructions for using concept map media assisted by Articulate Storyline 3.

The product after the revision already has eleven Islamic Kingdoms in Indonesia, namely: Perlak Kingdom, Samudera Pasai Kingdom, Malacca Kingdom, Aceh Kingdom, Banten Kingdom, Cirebon Kingdom, Demak Kingdom, Pajang Kingdom, Islamic Mataram Kingdom, Gowa Tallo Kingdom (Makasar), Ternate Kingdom Tidore (Maluku), and also the material presented is in accordance with the book History of Indonesia in the Age of Islamic Influence, the book Islamization and the Development of Islamic Kingdoms in Indonesia.

The data from the assessment results of the developed learning media are presented in a table (see attachment 16 on page 118), then manual data processing is carried out to determine the

level of validity of the product created, then the validation results are obtained from media experts, material experts and language experts as shown in the following table:

Table 1. Expert Validation Results

No	Indicator	Score obtained	Percentage	Category
1.	Media Expert	67	95.71%	Very Valid
2.	Linguist	32	91.42%	Very Valid
3.	Subject Matter Expert	47	94%	Very Valid
	Amount	146	93.71	Very Valid

Based on the results of the expert validation above, it can be concluded in general that the concept map learning media assisted by Articulate Storyline 3 that has been developed is categorized as very valid with an average percentage reaching 93.71%.

Based on the expert validation that has been carried out and the results obtained are very valid, the next step is a media trial to determine the level of practicality. The media trial was carried out at SMAN 2 Batang Anai in class X.4 Phase E with the material of the Islamic kingdom in Indonesia.

The stages of opening learning in the laboratory are by saying hello, then checking the attendance of students in history learning, then the researcher explains the learning outcomes, namely the learning material for the 4th element

of understanding the basic concept of the Islamic kingdom, with the learning objectives to be achieved by students.

Each expert team presented the results of their discussion to the initial group members, the material of which was about the Islamic kingdom in Indonesia.

The results of the students' practicality are obtained from the students' responses using the instrument developed from the grid. The developed instrument is given to the students and the students assess the practicality of the media.

It can be seen that the research on the practicality of the media for students that was developed is categorized as very practical, which means that the concept map media assisted by Articulate Storyline 3 helps in generating students' interest in the learning process. Details of the practicality of the media for students can be seen in appendix 17 on page 119.

This stage is the stage of distributing the concept map learning media product assisted by Articulate Storyline 3, so that it can be tried or used, which is done by publishing the concept map learning media assisted by Articulate Storyline 3 in the form of a website 2 Apk (Android App Builder), then the media is made into an Android version after that the application file can be shared via the teacher's WhatsApp and then installed, and so that it can be used anytime and anywhere by history teachers.

Researchers conducted a trial of the concept map product assisted by Articulate Storyline 3 by evaluating students regarding the material that had been studied.

The practicality of the media for students that was developed is categorized as very practical, which means that the concept map media assisted by Articulate Storyline 3 helps in arousing students' interest in the learning process.

Based on the explanation above, it can be said that the implications of developing a concept map learning media assisted by Articulate Storyline 3 on the material of the Islamic kingdom in Indonesia. The results of the product trial that has been conducted by researchers with 25 students in class X.4.

## CONCLUSION

Based on the results of research and development (R&D) that researchers have conducted, it can be concluded that: The concept map learning media assisted by Articulate Storyline 3 on the material of understanding the basic concepts of the Islamic Kingdom for class X.4 Phase E of SMAN 2 Batang Anai meets the criteria for valid learning media. This is evidenced by the assessment of media expert validation with a value of 95.71% in the very valid category, language expert validation 91.42% in the valid category, and material

expert validation 94% in the very valid category, with an average of 93.71%.

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