Development of Interactive Media Articulate Storyline 3 based on Problem based Learning in Class V Elementary School

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Article Info	ABSTRACT
	The background of this study is not enough availability of various learning media in the learning process so that impact to interest participant educate for active in learning. The objective of the study is to develop interactive media Articulate Storyline 3 based Problem Based Learning in class V SD that is valid, practical and effective . The research method used is R&D research with the ADDIE development model. Developed product load material thematic integrated theme 6 in class V SD with results study show the average value of interactive media validity is 92.6% very valid category, the results of interactive media practicality test show mark practicality for teacher and participant responses educate are 93.7% and 94.5%. Test the effectiveness of interactive media seen from the learning outcomes of students after using interactive media Articulate Storyline 3, namely obtaining 82% and 91% completeness with a student score of 70 or more. From these results, it shows that the interactive media Articulate Storyline 3 based on Problem Based Learning that has been developed is declared feasible, practical and effective for use in teaching and learning activities.

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INTRODUCTION

The development of the world in the 21st century is marked by advances in science and technology in all aspects of life. Technology is a renewal developed by humans as a means of life, of course with the existence of technology it will make it easier for humans to carry out various activities in life, one of which is in the world of education. Technology in the world of education is used as a tool for teachers to convey information easily to students which is referred to as learning media (Haqih et al., 2022). Learning media can be an attempt to improve the quality of interaction between teachers and students (Suryani, 2018:132).

Regulation of the Minister of Education and Culture No. 22 of 2016 says that technology , information and communication must used in principles learning for increase effectiveness and efficiency learning (Tazkia et al., 2019). One of them educator can try develop and utilize

customized learning media with science and technology (Reinita et al., 2018). Form application technology in learning is learning digital-based (interactive), one of them using interactive media in activity Study teach.

Articulate Storyline 3 is application (software) that can used by educators for make learning media interesting and interactive. As explained Sari et al., (2022) Articulate Storyline 3 can produce learning media interesting and fun interactive with various complete features in it, such as be equipped features audio, images, text, graphics, animation, and video. Publication results from the media can changed links or HTML5 and the media from the Articulate Storyline 3 application can be interactive media that is interesting, fun and students can directly use the media so that they can interact directly with the material presented in the media (Sari & Harjono, 2021).

Learning media interactive can made as an interesting learning media, can push interest participant teach, create participant educate involved active in learning and getting give experience direct for participant educate in Study (Hanisah et al., 2022). In the 2013 curriculum in elementary schools at the level Class V is applied learning thematic integrated . Learning thematic is something blended learning a number of eye lesson use theme (Desyandri & Vernanda, 2017). Learning thematic integrated more emphasize involvement participant educate in a manner active in study, learning centered to participant educate (student center), so participant educate obtain experience direct in learn and create atmosphere fun and interesting learning for participant educate (Syaifuddin, 2017). Because that one educator can using interactive and interesting learning media in learning.

Based on data obtained in class V Elementary School, in the use of learning media in activities study teach not yet done in a manner max, because in the teacher's learning process still seldom using learning media based technology and only using the image media described above class , learning still teacher centered, so matter the impact to interest participant educate in study, found participant passive students and not pay attention to the teacher in explain learning. Besides it, through teacher interview obtained that data facilities and infrastructure school Already complete like infocus, laptop, wi-fi. However , the teacher still not enough utilise facility the as a medium in the learning process and through deployment questionnaire about characteristics participant students, obtained data that participant students really like the learning media that is equipped with audio, video, and images compared to media images only explained by the teacher before class . Alternative solution For overcome problem the is with developing interactive media Articulate Storyline based Problem Based Learning.

As explained in previous research, namely research Af'idati et al., (2022), Articulate Storyline 3 is an application that can create interesting learning media equipped with features such as audio, video, images, characters and quizzes. The publication results can be customized by users, for example in the form of links and applications that can be accessed online or offline. The novelty in this study is that in using the Articulate Storyline application, researchers use the latest version with the 3rd release, namely Articulate Storyline 3, and in designing the product in previous studies a programmer was needed, while in this study researchers designed the product themselves.

In addition, it has also been explained in previous research, namely the research of Nurmarwaa et al., (2022) that the use of Articulate Storyline 3 produces interactive media that can assist teachers in delivering learning materials, help students in understanding the material because of its attractive appearance and students are easy to apply. The novelty of the development carried out with the previous study lies in the material presented, the previous study contained Physics material for high school students, while in this development it contains integrated thematic material in grade V on theme 6, then interactive media is not only equipped with audio, images / animations,

videos, but also equipped with educational games, quizzes and publication of results in the form of links that can be accessed easily for teachers and students.

The advantages of Articulate Storyline 3 are being able to present material in an attractive appearance, making it easier to understand the material presented because interactive media can add several media such as images, videos, quizzes, and audio in one media (Legina & Sari, 2022). In the learning process can not be separated from the use of appropriate learning models. One learning model that can create an active and learner-centered learning atmosphere is the Problem Based Learning model. Problem Based Learning is a learning model that can involve students actively to solve a problem related to the real life of students so as to create a learning experience for students (Setiyaningrum, 2018). Application Problem Based Learning in learning is center learning that is participant educate, while the teacher as facilitator (Fathurrohman, 2015).

As for goals in study development this is for create interactive media Articulate Storyline based valid, practical, and effective Problem Based Learning as well as for know interactive media feasibility Articulate Storyline 3 based Problem Based Learning as internal media learning.

LITERATURE REVIEW
Interactive Media
Interactive media is media that consists of a combination of various media such as images, audio, video, and text (Septiana et al., 2022). In line with that, Nugraha, (2017) stated that interactive media is media that presents material with sound, visuals, and video that is presented with a controller so that students can use the media actively and not only hear and see the images contained in the media. According to Jazuli (Legina & Sari, 2022) interactive media is media that contains a combination of text, sound, images, and video that is entered into the digital sphere. Interactive media can be operated by the user because this media is equipped with a controller so that the user can choose what he wants for the next process and this media is able to provide direct experience for students to actively participate in using the media (Hanisah et al., 2022). The use of interactive media in learning will be able to create interesting learning and be effective (Septiana et al., 2022).

Articulate Storyline 3
Articulate Storyline 3 is an application that can make learning media interesting, has an appearance that is almost similar to Microsoft Power Point, but Articulate Storyline 3 has advantages that can make media more attractive, such as being equipped with complete features: timeline, pictures/ animations, films, characters, videos, quizzes and publication results can be in the form of websites or links. Articulate Storyline 3 is used as a learning medium that can present material creatively and interestingly (Septiana et al., 2022). In line with that, Safira et al., (2021) stated that Articulate Storyline is a software that is used as a tool for creating interactive and fun learning content with scenes and slides equipped with menus of text, images, animation, video, audio and menus for creating quizzes or educational games. Publication results can be in the form of web (html5), articulate online, LMS, CD and word so that they can be used on laptops, computers, Android and operated both online and offline (Sari & Harjono, 2021). Learning media developed with Articulate storyline 3 can increase students' interest in participating in learning activities. The use of Articulate Storyline as a learning medium involves students directly, so that students will be actively involved in learning activities (Arwanda et al., 2020).

The Problem Based Learning Model

The Problem Based Learning (PBL) model is a learning model that provides problems related to students' daily lives, presented at the beginning of learning and students are asked to solve these problems so that they can help students' understanding of learning material (Nofziarni et al., 2019). Problem Based Learning is a learning model that involves students actively to solve a problem related to the real life of students so that it can create learning experiences for students (Setiyaningrum, 2018). The advantages of Problem Based Learning are that it can increase student activity in full, can make students learn not only memorize, but process from the experience of students in real life, class in this model as a place to solve a problem related to life real, and the subject matter is developed by the students themselves with the guidance of the teacher (Ariyani & Kristin, 2021).

METHOD

Study this use type study development (R&D) with the ADDIE development model consisting of 5 stages that is analysis, design, development, implementation and evaluation (Anarli et al., 2023; Fitra et al., 2023; Nurzayyana et al., 2021). The ADDIE model is used because each stage in the development model is systematic and easy to understand (Septiana et al., 2022). Study carried out in semester II in learning theme 6 in class V SDN 20 Sitiung with trial subjects 22 participants students and teachers of class V. Procedure development in study this using the ADDIE model, namely : (1) analysis, carried out studies introduction to school with method observation and interview for gather information about problems in the learning process, done analysis needs analysis curriculum, and analysis characteristics participant educate, (2) design, carried out provision the things needed in creating interactive media and designing interactive multimedia use application Articulate Storyline 3 with attractive and contained design material thematic integrated class V theme 6 sub-theme 1 learning 3 and 4 (3) development, done stage assessment of interactive media that has designed by the validators later done revision according to suggestions for improvement for produce interactive media Articulate Storyline 3 based valid problem based learning is used in the learning process, (4) implementation, trials are carried out product in the learning process, and (5) evaluation, become stage repair from application of interactive media Articulate Storyline 3 based Developed problem based learning through charging questionnaire practicality by the participants educate and teacher for see interactive media practicality and for see the effectiveness of interactive media through results Study participant educate after using interactive media Articulate Storyline 3 based Problem based learning.

Data in study this consists from validity test data, practicality test, and interactive media effectiveness test Articulate Storyline 3 based Problem based learning. Data collection instrument using sheet interactive media validation consists from sheet validation aspect material, media aspects, and aspects language, then questionnaire practicality consists from questionnaire response participant students and teachers as well sheet question evaluation. Data collection techniques include: observation and interviews, consisting of questionnaires from sheet validation, questionnaire response participant educate and enquette teacher's response as well test. After the data is obtained so done data analysis includes: qualitative data analysis and quantitative data analysis. Qualitative data analysis obtained from comments and suggestions for improvement from each validator against product developed and analysis quantitative obtained from results questionnaire (sheet validation and questionnaire practicality) and tests (Septiana et al., 2022).

Media validity data analysis used a Likert scale, the reason for using a Likert scale in this study is that in the study there is data to determine the satisfaction or opinion of respondents on the

use of interactive media developed, so researchers use a Likert scale, which is a research scale used to measure the attitudes and opinions of respondents towards something developed. Likert scala (1 – 4) with the categories not good (1), good enough (2), good (3), and very good (4). Analysis of validity and practicality data using the range of validity and practicality according to (Purwanto, 2017).

Table 1. Learning media validity categories

Percentage Range	Category
86% – 100%	Very Valid
76% – 85%	Valid
60% – 75%	Valid Enough
55% – 59%	Less Valid
0 – 54%	Invalid

Source: Modification from (Purwanto, 2017)

Media practicality data analysis used a Likert scale (1 – 4) with the categories disagree (1), disagree (2), quite agree (3), and agree (4). Then it is analyzed with the practicality category according to the following table:

Table 2. Categories of practicality of learning media

Percentage Range	Category
86% – 100%	Very Practical
76% – 85%	Practical
60% – 75%	Practical Enough
55% – 59%	Less Practical
0 – 54%	Not Practical

Source: Modification from (Purwanto, 2017)

Analysis of the effectiveness of interactive media is obtained from test results, namely data on student learning outcomes after using interactive media Articulate Storyline 3 by determining the average learning outcomes and classical completeness obtained from the number of students who have completed divided by the total number of students multiplied by 100%. Can explained as following (Damopolii et al., 2020):

$$K = \frac{JT}{JS} x\ 100\%$$

Description :
K = Completeness classic
JT = Amount participant complete study
JS = Amount whole participant educate
Learning can is said to be effective if the number of students achieves completeness greater than or equal to 70% and if individual completeness is greater than or equal to the minimum completeness criteria (KBM) then students are declared complete (Damopolii et al., 2020).

RESULTS
The results of this development research produce an interactive media Articulate Storyline 3 based on Problem Based Learning which is designed in an attractive design equipped with pictures, audio, video, games and quizzes. The research uses the ADDIE development model, namely:

Analysis

The initial stage of product development, at this stage observations and field interviews were carried out to gather information about problems in schools, needs analysis was carried out which aimed to analyze the needs of teachers and students regarding learning media, curriculum analysis which aimed to design a suitable media with the 2013 curriculum, namely analyzing the curriculum in integrated thematic learning in class V on theme 6, and analyzing the characteristics of students which aims to design and develop products that are adapted to the characteristics of each student.

Design

The media design stage is carried out according to the analysis stage, the media is designed using the Articulate Storyline 3 application which is designed with an attractive appearance and contains integrated thematic material in class V. The following are the stages of designing Articulate Storyline 3 interactive media:

1) The first step is to download the Articulate Storyline 3 application

Figure 1. Articulate Storyline 3 application

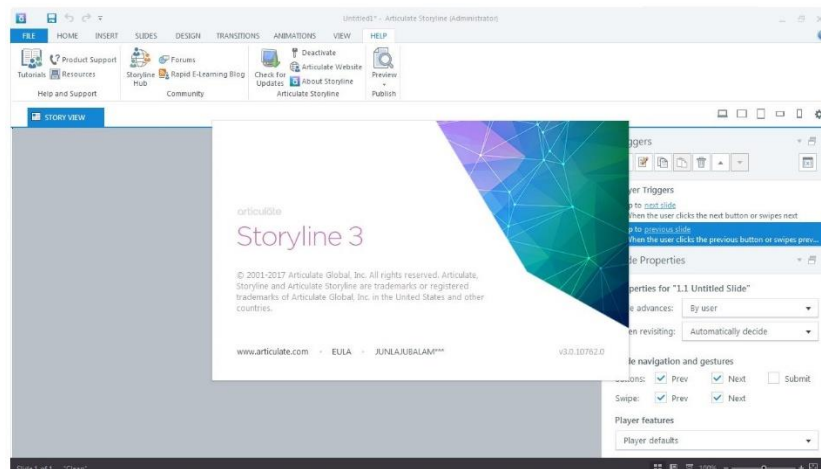2) Open the application and if the following display appears, it can be used to design media

Figure 2. Display for designing media

3) The following displays the interactive media Articulate Storyline 3 that has been designed

Figure 3. Display of the Learning Main Menu

Figure 4. Display of Instructions for Using Media

Figure 5. Display of Drag Games

Development

Prior to designed interactive media applied in the learning process, interactive media Articulate Storyline 3 is primarily PBL-based formerly validity test is carried out to product

validated by the validator, then done repair product according to suggestions and input from every validator. After done repair to interactive media products Articulate Storyline 3 gain validity test results with an overall average of 92.6% based on very valid category level validity according to Purwanto (2017) which is available in range first 86% - 100% with medium can used without revision if very valid. Based on results the can concluded that interactive media developed Articulate Storyline 3 Already stated worthy to be tested in the field.

Implementation

After the media is revised and already stated worthy for applied in the learning process, then product applied in condition real. Trial conducted in class V SDN 20 Sitiung. At the end of the implementation stage, questionnaires were given to teachers and students' responses regarding the practicality of interactive media used in learning.

Evaluation

It is carried out after the 4 stages have been completed, at this evaluation stage the stage is providing feedback to the product developer and the improvement stage is for the media that has been developed through filling out practical response questionnaires filled in by teachers and students as well as from student learning outcomes after using the Articulate Storyline interactive media 3.

Interactive Media Practicality Test Articulate Storyline 3 Based Problem Based Learning

Interactive media practicality test results Articulate Storyline 3 obtained from results questionnaire practical filled out by the participants students and teachers after interactive media Articulate Storyline 3 based on PBL implemented in activity study teach. Practicality test done for know interactive media facilities used in learning. Questionnaire results teacher and participant responses educate is 93.7% and 94.5% very practical category. those results enter category first in level interactive media practicality according to Purwanto (2017) that is between range 86% - 100% very practical category. Based on results that, can concluded that participant students and teachers assess that interactive media developed Articulate Storyline 3 practical for used in the learning process.

Table 1. Media Practicality Test Results

Questionnaire	Results	Category
Questionnaire teacher response	93.7%	Very Practical
Questionnaire response participant educate	94.5%	Very Practical

Interactive Media Effectiveness Test Articulate Storyline 3 Based Problem Based Learning

Effectiveness test aim for see influence media use against results study participant educate. Data obtained based on results study participant educate after using interactive media Articulate Storyline 3 obtain an average yield study in learning 3 namely 78 with percentage completeness 82% consisting of 18 of 22 participants educate with information complete and in learning 4 the overall average is 86 with percentage completeness 91% consisting of 20 of 22 participants educate with information complete.

Table 2. Learning Outcomes Participant educate

Learning	Average	Completeness
Learning 3	78	82%
Learning 4	86	91%

Based on results percentage completeness such, shows that participant educate can understand material with easy using interactive media Articulate Storyline 3 and earned that there is enhancement results study participant educate after using interactive media Articulate Storyline 3 based Problem Based Learning. This is in accordance with the opinion Damopolii et al., (2020) state that learning using interactive media can said effective if completeness obtained from results Study participant educate after using interactive media more or the same with 70%.

DISCUSSION

Objective from study this is for know feasibility, practicality and effectiveness of interactive media Developed Articulate Storyline 3 so that can creating decent, practical, and effective media for used in learning. Based on results media validity data analysis, obtained yield of 92.6% for the overall mean media validation from aspect material, aspect language, and media aspects. those results lies in category first level validity according to Purwanto (2017) with range 86% - 100% category is very valid and media can used without revision, if very valid. This is also supported by research Legina & Sari (2022) with the title "Development of Learning Media Interactive Articulate Storyline Based Skills Think Critical on Science Learning for Student Elementary School" obtained the average value of the validity of 91% with very decent category. This is in accordance with the advantages of interactive media Articulate Storyline 3, namely that it can present material with an attractive appearance, making it easier to understand the material presented because interactive media can add several media elements such as audio, images/animations, videos and quizzes in one media (Legina & Sari, 2022). Because that, results interactive media validation Articulate Storyline 3 based developed Problem Based Learning already stated worthy for piloted in learning.

Next is interactive media piloted in the field, practicality test results about convenience in use of interactive media obtained from questionnaire response participant students and teachers namely 94.5% and 93.7% with very practical category. Assessment given by the teacher and participants educate to the media are in category 3 and 4 in scale Likert. Evaluation the supported by opinion Irawan & Hakim (2021) that is if teacher and participant educate dominant give evaluation with category 3 and 4 then can said teacher and participant responses educate of the interactive media developed is positive. After practicality test obtained the effectiveness test of interactive media is carried out for see influence and improvement results study participant educate after using interactive media Articulate Storyline 3 based Problem Based Learning that has developed. Learning outcomes in learning 3 is an average of 78 with percentage completeness 82% and in learning 4 the average result study is 86 with percentage completeness 91%. Based on results such, shows that participant educate can understand material with easy using interactive media Articulate Storyline 3 and earned that there is enhancement results study participant educate after using interactive media, so can concluded that use of interactive media Articulate Storyline 3 is effective used in the learning process. These results are also reinforced by research Damopolii et al., (2020) with results study show results study participant educate reach percentage completeness 84% so can said that results study participant educate with using interactive media walk with effective.

The results of the application show that the use of interactive media gets a very good response from students and teachers. This can be seen from the enthusiasm of students in participating in the learning process using interactual media, students look happy and active when learning to use interactive media, because students can interact directly with the media, creating student-centered learning and students are also not easy bored during learning, because interactive media is designed with an attractive appearance. it supported by research Nurmala et al., (2021) explain that participant students are very happy study with using interactive media Articulate Storyline 3 because attractive media display, no boring and the material presented easy understood by participants educate so that make participant educate enthusiasm and passion follow learning. based on results overall validity test, practicality test and effectiveness test, then can concluded that interactive media Articulate Storyline 3 based developed Problem Based Learning has declared valid, practical, and effective for applied in learning. it emphasized with research that has done Af'idati et al., (2022) in develop a medium using Articulate Storyline 3 makes for decent media for used in learning as well as can increase results learn, because participant educate can more easy learn material learning.

CONCLUSION

Interactive media development Articulate Storyline 3 based developed Problem Based Learning obtain results media validity 92.6% so Already stated worthy tested try it in the field, results media practicality of questionnaire response participant students 94.5% and teacher questionnaires 93.7%, so the media can said practical for used in learning and effectiveness test results obtain the average completeness with percentage of 82% and increasing to 91% so the media can be said effective for used in learning. Besides therefore, suggestions for improvement are also needed for development product more further, the product is developed limited to learning thematic integrated theme 6 in class V SD and in its use recommended use wi-fi or good internet network so when participant students and teachers can with easy access interactive media developed Articulate Storyline 3 in form website or link.

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