Development of Learning Videos Using Wondershare Filmora Software on Acid and Base Material at SMAN 1 Sungayang

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Abstract. This research was carried out due to the lack of creativity of teachers in using learning media, students were bored following traditional learning, and the low results of student exams. Thus, it is necessary to develop a media in the form of learning videos using Wondershare Filmora software. The purpose of this research is to produce learning videos using Wondershare Filmora software on acid and base material that are valid and practical. This study uses the 4-D research method (define, design, develop, and disseminate). But in this study only carried out from the first stage to the third stage. Data for the defining stage was collected using an interview sheet. Data for the development stage was collected with validity sheets and practicality questionnaires. Validation was completed by 3 validators. Practicality questionnaire sheets were completed by the students in SMAN 1 Sungayang. Data from validity and practicality instruments were analyzed using descriptive quantitative methods, with the percentage formula. The results showed that: 1) learning videos using Wondershare Filmora software acid and base material at SMA N 1 Sungayang have met highly valid criteria with a validation result of 88.33%, 2) learning videos using Wondershare Filmora software on acid and base material at SMA N 1 Sungayang has fulfilled the highly practical criteria with a response questionnaire of 85.67%. The results of this study indicate that learning videos using the Wondershare Filmora software are valid and practical and can be used as a learning resource.

Keywords: Acid and Base, Learning Videos, Wondershare Filmora

1. Introduction

Education is a way to improve the quality of life and the fate of humans in facing challenges. A way to face these challenges can be done through school. School is one of the places where the education process takes place. According to Islamic precepts, studying is an order that must be carried out by every Muslim / Muslim woman in order to raise her degree. Activities carried out in the classroom within the school environment are called the learning process. This learning process is called education. Education affects social strata in the community as well as provisions in the hereafter. In essence, education is an activity to humanize humans.

The development of education is the most important thing for a country (Siagian, 2015). The development of education today has followed the advancement of information and communication technology to answer the needs in the learning process.

Information and communication technology in the era of globalization is a necessity for society, individuals and even government agencies have taken advantage of advances in information and communication technology. Technology makes it easy for us to access all information anywhere and anytime and can be done easily and quickly (Munawarah, Mulbar, & Minggi, 2013). In the education process, learning is a core activity in the learning process,
the success of learning depends on the learning process experienced by students (Siagian, 2015). The implementation of this learning process will involve several components that support each other, including goals, materials, teachers, methods, media, students, environment and evaluation. Therefore, teachers must be able to provide an understanding that is easy to understand by utilizing the learning media available at school.

Learning media is a tool in delivering learning materials that can stimulate students' interest in learning (Daryanto, 2012). Learning media is used by teachers as a communication medium to students to channel learning messages. Appropriate media utilization is expected to increase students' interest in learning (Rohani, 2020).

Based on the results of observations and interviews with teachers and students of class XI IPA at SMAN 1 Sungayang. From the observation and interview activities carried out with one of the chemistry teachers, information was obtained regarding how the implementation of the chemistry learning process. The information that researchers get is related to learning media, curriculum, learning methods, students, facilities and infrastructure at school. Learning resources used are from package books available in the library. Teachers more often use media in the form of blackboards. Teachers have made learning videos, the video is a recording of the teacher while teaching. Videos made only on certain materials, namely electrolysis material.

In terms of learning methods, it was found that teachers use methods such as lectures and discussions. Meanwhile, in terms of infrastructure, the school already has a blackboard, LCD projector, computer laboratory, chemistry laboratory. Then if asked about the obstacles when using in the learning process the teacher stated that there were several factors that became obstacles in developing learning media, namely: (1) the limited ability of teachers in developing media, (2) the limited costs that must be incurred in making media, and (3) the limited time teachers have in making a learning media. When viewed from the results of observations and interviews with teachers, researchers found that the teaching materials used were inadequate to be utilized during learning. The teaching material used is the 2013 curriculum textbook, the color of the package book display is monotonous so that the images displayed are not interesting for students to read.

In fact, the percentage of students' exam results is still lacking in the field of chemistry. As evidenced from the completeness criteria applied by SMAN 1 Sungayang, namely out of 23 students who reached the limit of completeness only 5 people. The completeness of this exam is the Chemistry daily test scores of these students on Chemical equilibrium material, this material is abstract, but there is no learning media that supports learning. Low student chemistry learning outcomes are caused by difficulties in understanding chemistry lessons and students are less motivated in learning chemistry because it is caused by learning media that is less interesting and monotonous. Learning media is one of the external factors that affect student learning outcomes. Based on interviews, students are interested in learning media in the form of videos, this states that the dominant learning style of students is audio visual.

To overcome the problems that have been described, the solution can be done by developing learning media that contains a variety of media, the media developed is dominant for students with audio, visual, and audio visual learning styles. However, in the media there is a practicum, which contains practical activities, so that students who have a kinesthetic learning style can take the initiative to conduct experiments. Learning video media summarized in one wondershare filmora application package. By using audio-visual media, it is expected to provide benefits so that students have a clear picture of the material presented. Learning videos developed using wondershare filmora will be published into various outputs.
such as youtube, websites, CDs, and others. The development of learning media using wondershare filmora is applied to acid and base material, acid and base is the concept of acid and base. This acid-base material includes many subtopics discussed including the concept of acid and base according to experts, the characteristics of acid and base, their strength, equilibrium in solution. Based on the analysis of acid-base material, it is found that this material contains abstract concepts and equilibrium in solutions that are mathematical in nature (Santosa & Kiswoyo, 2018).

Based on the above problems, the researchers conducted research on the development of learning videos using wondershare filmora software on acid and base materials at SMAN 1 Sungayang.

2. Method
The research method used in this study is the research and development method, or commonly known as Research and Development (R&D). The development model in this research is the 4-D model. Thiagarajan suggests that the steps in the 4-D model consist of define, design, development, and disseminate. But in this study only carried out from the first stage to the third stage.

In the define stage, interviews with teachers in the field of study, curriculum analysis, analysis of learning media, analysis of students, and analysis of learning objectives were conducted. At the design stage, research instruments are designed, create a storyboard of learning videos, and make learning videos using wondershare filmora software. At the develop stage, validity and practicality tests were conducted on the learning videos. This validity test aims to see the feasibility of the content quality, language, presentation, and sound of the learning videos. The practicality test aims to determine the practicality of the learning videos developed.

Data for the defining stage was collected using an instrument in the form of an interview sheet. The interview sheet was filled in by the chemistry teacher. The data collection instruments used for the development stage are validity questionnaires, and practicality questionnaires. Questionnaires were used to measure the validity and practicality of the products developed. The data analysis techniques used were validity and practicality analysis techniques. The validity technique focused on content and construct validity, while the practicality analysis was carried out by conducting a trial use of the product at school. Scoring categories for these can be seen in Table 1. The practicality test was obtained from filling out questionnaires by students who used learning video products using wondershare filmora software on acid and base materials at SMAN 1 Sungayang. Data analysis of the results of validity and practicality instruments using the percentage formula:

\[
P = \frac{\text{score of each item}}{\text{maximum score of each item}} \times 100\%
\]

Table 1. Scoring categories

<table>
<thead>
<tr>
<th>Categories</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not valid/practical</td>
<td>0%-20%</td>
</tr>
<tr>
<td>Less valid/practical</td>
<td>21%-40%</td>
</tr>
<tr>
<td>Fairly valid/practical</td>
<td>41%-60%</td>
</tr>
<tr>
<td>Valid/practical</td>
<td>61%-80%</td>
</tr>
<tr>
<td>Highly valid/practical</td>
<td>81%-100%</td>
</tr>
</tbody>
</table>

Modification from Riduwan (2008)
3. Result and Discussion
This research used the 4D development model (define, design, develop and disseminate) but this research was only carried out until the development stage, the results are detailed as follows:

1. Defining stage
The defining stage is a major stage in developing learning videos using wondershare filmora software. This defining stage is useful to see the conditions and find out the problems that are happening in the field. This defining stage is also useful for finding solutions to problems in the field. The results obtained from the defining stage in chemistry subjects at SMAN 1 Sungayang, obtained data in the form of: Interviews with teachers in the field of study, curriculum analysis, analysis of learning media, analysis of students and analysis of learning objectives. The processes of these stages can be described as follows:
   a. Interviews with teachers in the field of study
      At this stage an analysis of the chemistry learning process is carried out with chemistry teachers, in conducting this interview it aims to get all the information that exists in the field, be it the problems experienced by students in learning (Darimi, 2016; Lydra, Mawarnis, & Herman, 2023). Based on the results of interviews at SMAN 1 Sungayang with one of the chemistry teachers, information was obtained about the learning process, both the curriculum, the media used and others. In the learning process the teacher still uses a tool in the form of a blackboard. Teaching materials that are often used by teachers are textbooks. The teacher also stated that the teaching materials developed were still limited, so that in the learning process the teacher more often used the blackboard tool as access to learning, so that learning still lacked variety. This is supported by the results of interviews with students. Information was obtained that students still often study on their own by reading the package book and summarizing the material due to lack of understanding of the material presented by the teacher, lack of interest in learning in class because the media used is still using blackboard media only.
   b. Curriculum analysis
      The curriculum used at SMA N 1 Sungayang is the 2013 curriculum. In the 2013 curriculum in class XI chemistry subjects contains 10 Basic Competencies (KD). One of them is KD 3.10 which is related to acid-base material.
   c. Analysis of learning media
      The results of the analysis of learning media using wondershare filmora software, journal reference sources and youtube videos that discuss how to make wondersahare filmora and what applications can be utilized in its creation. The components in the developed video consist of a cover, editorial greetings, achievement indicators, material, experimental examples and others. Based on the results of the analysis, researchers can design learning media using the wondershare filmora application.
   d. Student analysis
      Student analysis is an analysis of the characteristics of students which includes background knowledge, abilities, and level of cognitive development of students (Muqdamien, Umayah, Juhri, & Raraswaty, 2021). The purpose of analyzing students is to be able to develop chemical learning video media on acid-base material. Based on interviews conducted with several class XI students regarding the chemistry learning process in class XI IPA3 SMAN 1 Sungayang, the results obtained, that during the chemistry learning process they use teaching materials in the form of textbooks that contain material in general, making students less interested in learning chemistry.
e. Analysis of Learning Objectives

At the initial stage, it is necessary to review the applicable curriculum in chemistry subjects at SMAN 1 Sungayang, for students in class XI IPA. This is done with the aim that the resulting learning does not deviate from the learning objectives contained in the competency standards. Through learning videos using wondershare filmora, students can explain the concept of acid base, the properties of acid base, the development of this learning video is in accordance with KI, KD and indicators of competency achievement to be achieved. This video is also in accordance with the material to be studied. This acid-base material is material that displays what acid and base are and knows the properties of acid and base and also presents a practicum on acid and base.

Based on the define stage, information was obtained that the learning media used were less varied. Monotonous and less varied learning can cause students to be less enthusiastic in the learning process. This will have implications for student interest and learning outcomes. (Prasetyo, 2020). Therefore, to solve one of the problems found at the school, the researcher developed a learning videos using wondershare filmora software on acid and base material at sman 1 sungayang. The use of learning videos can make abstract learning concepts become concrete (Hafizah, 2020).

2. Design stage

This design stage is carried out to create, design products that are developed and design research instruments. The research instrument design consists of: validation sheet of learning videos using wondershare filmora software on acid and base and questionnaire sheet of response to the practicality of learning videos using wondershare filmora software on acids and base.

Activities at this stage are to create a storyboard of learning videos using wondershare filmora software, after which combining the videos. The composition of the learning video using wondershare filmora software can be seen as follows:

![Figure 1. Acid and base material on learning video](image-url)
In the developed video, the dominant colors used are orange, blue, and white. Similar colors are also applied to the development carried out by Trisnawati, Muharini, Rasmawan, Enawaty, and Lestari (2023), striking colors in the form of orange, blue, and white are used to attract students' interest. In the video there is animation in the form of clip art (yes, no) the animation used is adjusted to the learning in the video. In the learning process students are more focused on the material presented by using animated videos displaying moving cartoon images, sounds and slides that make students' interest higher to understand the subject matter, so that the teacher can monitor students during learning (Garsinia, Kusumawati, & Wahyuni, 2020). The sentences in the video are not too long, the font used and its size need to be adjusted to the video, so that it is not too small and can be read. The suitability of the use of font affects the readability of the media so that the media is easy for readers to read (Fadli, Sartono, & Suryanda, 2017)

3. Development Stage
At this stage, testing of learning media products that have been made is carried out. The tests carried out are product validity and practicality tests. This test uses an instrument in the form of a questionnaire. The questionnaire is made in accordance with the grids that refer to BSNP and before being tested for validity and practicality the product has been tested in advance for validity by two chemistry lecturers and one high school chemistry teacher. The development stage consists of 2 parts, namely:
a. Validation stage
1) Instrument Validation Results
The questionnaire format, language used, and questionnaire statement items as a whole obtained a percentage of 88.33% which means highly valid.
2) The results of validation of learning videos using wondershare filmora on acid and base material for SMA / MA

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Validator 1</th>
<th>Validator 2</th>
<th>Validator 3</th>
<th>Total</th>
<th>Max score</th>
<th>%</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Content Quality</td>
<td>18</td>
<td>16</td>
<td>20</td>
<td>54</td>
<td>60</td>
<td>90%</td>
<td>Highly valid</td>
</tr>
<tr>
<td>2</td>
<td>Language</td>
<td>15</td>
<td>16</td>
<td>20</td>
<td>51</td>
<td>60</td>
<td>85%</td>
<td>Highly valid</td>
</tr>
<tr>
<td>3</td>
<td>Presentation</td>
<td>16</td>
<td>15</td>
<td>19</td>
<td>50</td>
<td>60</td>
<td>83.3%</td>
<td>Highly valid</td>
</tr>
<tr>
<td>4</td>
<td>Sound</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>41</td>
<td>48</td>
<td>85.4%</td>
<td>Highly valid</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>61</td>
<td>60</td>
<td>75</td>
<td>196</td>
<td>228</td>
<td>86.5%</td>
<td>Highly valid</td>
</tr>
</tbody>
</table>

From Table 2, information can be obtained, namely, based on the results of validation of learning videos using Filmora, it shows that, from the aspect of content, the results are highly valid with a percentage of 90%. It is said that the video is in accordance with the Core Competencies (KI), Basic Competencies (KD), and Competency Achievement Indicators (IPK). The material presented in the learning video includes material, facts, and chemical theories that are in accordance with the KD and IPK. The material in the learning video is also presented scientifically correct and in accordance with the material, and is related to everyday life. Explanations that relate the material learned to everyday life will be easier to understand (Novelia, Rahimah, & S, 2017).

Based on the validation results on the linguistic aspect, it shows a percentage of 85%. This is due to the suitability of the language in the learning video with the development of students. The language used in the learning video is adjusted by researchers to the development of grade XI students with the aim of making it easier for students to understand
the learning material. In line with that, Rosyidah, Sudarmin, and Siadi (2013) also explained that the use of language in accordance with the level of development of students can optimize students' understanding of learning materials.

Based on the validation results on the presentation aspect, it shows a percentage of 83.3% so that it is included in the highly valid category. This is the location of images, animation, color design and the relationship between images and material is appropriate. The presentation of learning instructions aims to facilitate students when using my book and help teachers in guiding students during learning. An interesting learning video will make students more enthusiastic and understand the content of the video (Nurani, Hapidin, Wulandari, & Sutihat, 2022).

Based on the results of validation on the aspect of sound that shows a percentage of 86.5% with highly valid criteria. This is in accordance with the indicators of how the creator's voice with the video, the sound of the music with the video, the hardness of the music volume does not interfere with the voice of the narrator. According to the opinion Isnaeni and Hildayah (2020) that learning videos must have sound elements that are clearly heard by the audience, which can be heard clearly by the senses of the listener, so that the information conveyed is clear.

The overall product validity test results obtained a percentage of 85.67% which means highly valid. This means that the learning video has met the requirements, namely being able to measure what is to be measured, the language used is also synchronous, and the material is in accordance with the KI and KD used.

b. Practicality Stage

At this stage, a limited trial was conducted on chemistry teachers and students of class XI MIPA at SMA N 1 Sungayang. Practicality tests conducted on students through student response questionnaires cover several aspects, namely attractiveness of presentation, ease of interpretation, language, and flexibility. Table 3 is the results of student practicality.

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Total</th>
<th>Max score</th>
<th>%</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attractiveness of Presentation</td>
<td>233</td>
<td>276</td>
<td>84.42</td>
<td>Highly Practical</td>
</tr>
<tr>
<td>2</td>
<td>Ease of Interpretation</td>
<td>233</td>
<td>276</td>
<td>84.42</td>
<td>Highly Practical</td>
</tr>
<tr>
<td>3</td>
<td>Language</td>
<td>157</td>
<td>184</td>
<td>85.53</td>
<td>Highly Practical</td>
</tr>
<tr>
<td>4</td>
<td>Flexibility</td>
<td>244</td>
<td>276</td>
<td>88.41</td>
<td>Highly Practical</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>867</td>
<td>1012</td>
<td>85.67</td>
<td>Highly Practical</td>
</tr>
</tbody>
</table>

The test results of the first aspect of practicality are the attractiveness of the presentation, obtaining a percentage of practicality of 84.42% which means highly practical. The learning video is designed to be as interesting as possible so that students are not bored in using it. This is because the learning material in the learning video is systematic and easy for students to understand. Learning videos that present material systematically organized are in fact able to help students to learn gradually so that the learning objectives can be achieved optimally (Suantiani & Wiarta, 2022). A concise presentation of the material will be able to attract students' attention (Farida, Destiniar, & Fuadiah, 2022).

The results of the second aspect test, namely the ease of interpretation, obtained a percentage of 84.42% which means highly practical. It is easy to interpret because the learning video developed can increase students' understanding. In the language aspect,
obtained a percentage of 85.53% which means highly practical. The language used must be
good and correct, and the use of words must use standard words. In order for thoughts, ideas,
and feelings to be conveyed well, the language used must be precise, clear, and
straightforward (Alfarisi & Suseno, 2019).

The test results of the flexibility aspect of the learning video have a percentage of 88.41%
which means highly practical. The developed learning video is easily accessible anytime and
anywhere by students (Nuritha & Tsurayya, 2021). Students only need to bring a smartphone.
Student learning activities become more enjoyable, learning becomes interactive, and
provides opportunities for students to practice and motivate students in learning this is the
impact of using learning videos.

Overall, the results of the practicality test of the learning video developed have a
percentage of 85.67%, which means that the learning video using wondershare filmora
software on acid and base material for SMA/MA is classified as highly practical. Practicality
is related to the use of learning media in the learning process. A product is practical if it can
be used (usable) well. The practicality of the product measures the level of ease of use and
implementation of learning. Practicality test is measured using a questionnaire that has been
validated and declared valid by the validator. The media that has been developed is said to be
practical if experts and practitioners state that theoretically the media can be applied in the
field and the level of implementation is included in the good category. If a media is said to be
practical, it means that the product is easy to use by teachers and students (Syahmaidi &
Hidayat, 2016).

4. Conclusion
The learning video using wondershare filmora on acid and base material at SMAN 1
Sungayang was tested on students of class XI MIPA at SMAN 1 Sungayang. Based on the
research that has been done, it is concluded that learning videos using wondershare filmora on
acid and base material at SMAN 1 Sungayang are valid and practical and can be used as a
learning resource.

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