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Digital Video Based Rampak Kendang Learning Media for Deaf Students

AS Pratiwi1, AT Lestari1, B Hendrawan1, MF Nugraha1, M. Nurfitriani1, M Nurkamilah1, Mujiarto 1, Tadkiroatun Musfiroh2, F Nugraha1, Wan Ridwan H1*

1 Universitas Muhammadiyah Tasikmalaya, Indonesia
 2 Universitas Negeri Yogyakarta, Indonesia

Abstract

This study aims to develop an effective digital video-based learning media for rampak kendang learning in Special Schools (SLB). This digital video learning media developed contains the learning process of Rampak Kendang using sign language. This learning media is validated by experts and tested in the field. This research is R & D research through the stages of needs analysis, digital video media design, product validation, field trials, and testing of media effectiveness. The procedure of research development and digital video media development for learning rampak kendang through several stages. The first stage is needs analysis in the form of observations, interviews, and questionnaires. The second is making video designs, making storyboards, making flowchart views, and collecting materials. The third is product validation that consist of media experts validation, material experts, and users. In media expert validation, it got a score of 38 with good criteria on the aspect of appearance, while in the programming aspect got a score of 32 with sufficient criteria. Validation of material experts and users (teachers), consist of the format aspect that got a score of 24, the content aspect of the score 23, the language aspect score of 37, and it got a score 55 for learning aspect, all aspects were in good criteria (Approx. 210 words)

Keywords: Digital video, learning media, deaf student

Topic: Education

Type: Oral Presentation

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Website: <http://www.iccomset.umtas.ac.id>

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Date: 12 October 2018

Letter of Acceptance for Abstract

Dear Authors: AS Pratiwi1*, AT Lestari1 , B Hendrawan1 , MF Nugraha1 , M. Nurfitriani1 , M Nurkamilah1, Mujiarto 1 , Tadkiroatun Musfiroh2 , F Nugraha1 , Wan Ridwan H1

We are pleased to inform you that your abstract (ABS-228, Oral Presentation), entitled:

"Digital Video Based Rampak Kendang Learning Media for Deaf Students"

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Date: 30 October 2018

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¹ Universitas Muhammadiyah Tasikmalaya, Indonesia

² Universitas Negeri Yogyakarta, Indonesia

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1. Introduction

Visualization through learning media is one way that can be done to concretize something abstract. Prensky's statement can be an illustration of how importance of digital video media in education. Prensky stated that, "Schools are stuck in the 20th century. Students have rushed into the 21st. How can schools catch up and provide students with a relevant education?" [1]. Technological developments have promised great potential in changing the way of person learns, obtains information, and adapts information. Learning media is no longer just seen as a tool for teachers in teaching but as a means of delivering messages [2]. Audiovisual media is a way that can produce or deliver material using mechanical and electronic machines to present audio and visual messages [3]. Digital video is specifically designed as an effective learning media, containing practical guidance on target, presented through audio-visual presentations (pictures and sounds) which are equipped with clear Indonesian language guidance sounds that are easily understood and packaged in an autorun program. Digital video in learning functions to attract students' interest during learning. Students will

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In the learning process, sometimes it is still found teacher-centered, textbook oriented, and teachers use makeshift learning media. This situation causes less optimal learning.

In this case, students become less active, lack of interest in learning, and students cannot learn independently. As well as in rampak kendang learning in Special Schools (SLB). Learning about rampak kendang will certainly be very easy to teach for public school students, but it is different if it is delivered to students in SLB. The use and utilization of the right media in the learning process will overcome obstacles and disturbances in students or instructors in the teaching and learning process [4]. These obstacles can be in the form of verbalism, misinterpretation, unresolved attention or the absence of a comprehensive response so that students do not understand and understand the content of the material taught by the instructor.

Learning rampak kendang in SLB showed unsatisfactory results. There are many obstacles faced by teachers, one of which is that students have difficulty following the music rhythm due to physical limitations. Sign language is a medium that can facilitate communication with deaf students [5]. This is because language is processed through visual/gestural modality (the opposite of vocal/oral for spoken language). Language literacy is difficult to understand for deaf students, especially when the deaf student does not enjoy hearing access at all with the language involved. However, it is expected that students already have oral language knowledge and phonetic skills in reading. The report was obtained from the results of observations and interviews with some deaf students who took art lessons [6]. Therefore, learning media are needed that are suitable for deaf students in learning rampak kendang. Media equipped with facilities that can facilitate communication with deaf students, namely digital video-based learning media equipped with sign language.

2. Material and Methods

The type of research is research and development. The research and development model is "a process used to develop and validate educational products", namely research oriented to the development and validation of learning products [7]. Development research has an understanding that is aimed at the process of producing objects that can be seen or touched. The development procedure in research and development of digital video media for learning rampak kendang through several stages. The first stage is needs analysis in the form of observations, interviews, and questionnaires. The second is, making video designs in the form of similar video analysis, making a storyboard, making a flowchart view, and collecting materials. The third is product validation that consist of material experts validation and material experts. The fourth is field trials included one-on-one trials, small group trials, and large group trials. Validation of experts will use the following criteria.

Table 1.Criteria for evaluation of digital video based Rampak Kendang learning media

| Interval | Interval | Criteria |
|---|------------------------|-----------------|
| $X > \bar{x} + 1,8 sbi$ | $X > 68.00$ | Very good |
| $\bar{x}_i + 0,6 sbi < X < \bar{x}_i + 1,8 sbi$ | $56.00 < \leq 68.00$ | Good |
| $\bar{x}_i - 0,6 sbi < X < \bar{x}_i + 0,6 sbi$ | $44.00 < X \leq 56.00$ | Enough |
| $\bar{x}_i - 1,8 sbi < X < \bar{x}_i - 0,6 sbi$ | $32.00 < X \leq 44.00$ | Low |
| $X < \bar{x}_i - 1,8 sbi$ | $X \leq 32.00$ | Very Low |

(Widoyoko, 2015: 238)

Description:

- X_i = ideal average
= $\frac{1}{2}$ (ideal maximum score + Ideal Minimum score)
- s_{bi} = ideal standard deviation
= $\frac{1}{6}$ (ideal maximum score–ideal minimum score)
- X = empirical score

3. Result and Discussion

The research of digital video based rampak kendang media development carried out with the needs analysis phases, video design creation, product validation, and field trials.

3.1. Needs Analysis

Need analysis is the first stage before developing stage. Needs analysis consist of observations, interviews, and filling out questionnaires. Observations were carried out during the rampak kendang learning to observe the teaching and learning process, the media used by the teacher during the teaching and learning process, attitudes, readiness, and student motivation in participating in learning, student interest in the media used by teachers, computer units available at school, and computer feasibility.

The interview was conducted with one of the SLB teacher to determine the most essential media to develop, student responses, media use, and criteria for digital video media that are appropriate to be used as learning media. In addition, a needs analysis was carried out by distributing questionnaires that contained the difficulties of SLB students in participating rampak kendang learning and its causes, the need to use digital video media for rampak kendang learning, and media features that students liked.

3.2. Design Making Video

The design phase of the development in this media development research is through the stages of similar media analysis, making a storyboard, making a flowchart view, and collecting materials. Similar media analysis aims to find out the advantages and disadvantages of other video media similar to digital video media that will be developed. After analyzing similar media, then the stage of making a storyboard. The making of the storyboard is based on material that is in accordance with the material of Rampak Kendang. The storyboard that was created was then discussed with colleagues, experts in the IT field, and video makers. After the storyboard is completed, the next stage is to make a flowchart view. In this stage, there are some steps presented on digital video media developed. After the flowchart view is completed, then the next stage is collecting material. The material collected was in the form of rampak kendang and material for making videos. In the video that was developed, it involved students of Drama Dance and Music Arts (Sendratasik) and students of Primary School Teacher Education (PGSD). Sendratasik students become a model that directs the rampak kendang process, while PGSD students become guides and translators into sign language.

3.3. Product Validation

Validation activities in media development are intended to improve and complete the media that will be developed to be more effective and efficient. The product validation stage is validation by material experts and media experts. Then, it continued by data analysis and product revisions based on reviews of media experts and material experts. The following shows the results of media expert validation.

3.3.1. Media Expert Validation

After the digital video-based learning media for rampak kendang learning of deaf students was completed, it was then validated by media experts. After being validated and getting input, then this media was revised based on the input from media experts. The results of the validation after revision are as follows. After being revised, the score for the display of digital video-based learning media for rampak kendang learning was the score 38 for the display aspect with good criteria. The results of media expert validation on the display aspect can be seen in the table below.

Table 2. Validation of media views after revision

| No | Expert Name | Display | | | | | | | | | |
|----|------------------|---------|---|---|---|---|---|---|---|---|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Dr. Mujiarto | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Total | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Average per item | 38 | | | | | | | | | |
| | Criteria | Good | | | | | | | | | |

Besides being validated from the display aspect, this digital video-based rampak kendang learning media is also validated on programming aspects. The results of the programming aspects validation can be seen in the table below.

Table 3. Validation of media programming after revision

| No | Expert Name | Programming | | | | | | | | |
|----|------------------|-------------|----|----|----|----|----|----|----|----|
| | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1 | Dr. Mujiarto | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 |
| | Total | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 |
| | Average per item | 31 | | | | | | | | |
| | Criteria | Sufficient | | | | | | | | |

3.3.2. Material and Teacher Expert Validation

Aside from media experts, this validation of digital video-based learning media is also carried out by material experts and teacher. Validated aspects are aspects of format, content, language, and learning. The score obtained in the format aspect is 24, the content aspect gets a score of 23, the language aspect score is 37, while the learning aspect gets a score of 55. All aspects have received good criteria. The results of the material and teacher expert validation can be seen in the data below.

Table 4. Material and teacher expert validation

| No | Respondent | Format | | | Language | | | | | Learning | | | | | | |
|----|------------------|--------|---|---|----------|---|---|----|----|----------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 7 | 8 | 9 | 10 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1 | Teacher Material | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 2 | Expert | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | Total | 8 | 8 | 8 | 7 | 7 | 8 | 7 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 |
| | average per item | 24.0 | | | 37.0 | | | | | 55.0 | | | | | | |
| | Criteria | Good | | | Good | | | | | Good | | | | | | |

3.4. Trial field

Stage of field trials consist of testing one-on-one, small group trial and test large groups. One-on-one trials were conducted on three students, followed by data analysis and product revisions. Small group trials were conducted on 5 students followed by product analysis and revision. Then the last trial is a large group trial that will be conducted on all students, followed by data analysis and product revision based on the results of these trials to produce the final product.

The steps in this field trial are as follow: (1) The products that have been revised based on the input of material experts and media experts were tested with one-on-one trials. Then the input from the one-on-one trial is the basis for further product improvement. (2) The researcher conducts a small group trial for further improvement. Input from the small group trial was analyzed again. Next, the researcher revised based on the results of the analysis. (3) The researcher conducted a large group trying to obtain empirical data. Data that has been entered is analyzed based on the criteria that have been made by the researcher. The results of the analysis are used as input material to revise the product so that it becomes a finished product. This field trial will be conducted in further research.

4. Conclusion

- a. Based on the validation of media experts, material experts, and teachers, the digital video based rampak kendang learning media is worthy of being used as a learning media for deaf students.
- b. The programming aspect of this digital video-based rampak kendang learning media still needs development.

5. References

- [1] Prensky, Marc. (2001a). *The Digital Game-Based Learning Revolution*. New York: McGraw-Hill.
- [2] Sadiman, Arief S. (2010). *Media pendidikan*. Jakarta: PT Raja Grafindo Persada.
- [3] Azhar Arsyad. (2006). *Media Pembelajaran*. Jakarta: PT. Raja Grafindo Persada.
- [4] Pratiwi, Anggia. (2013). *Pengembangan Media Game Digital Edukatif untuk Pembelajaran Menulis Laporan Perjalanan Siswa SMP*. Universitas Negeri Yogyakarta.
- [5] Cripps, JH & Supalla, SJ 2012. *The power of spoken language in schools and deaf students who sign*. *International Journal of Humanities and Social Science*, 2 (16), 86-102.
- [6] Lestari, Asti Tri. 2017. *Pembelajaran Rampak Kendang dengan Bahasa Isyarat pada Siswa Tunarungu di SLB Aisyah Singaparna*. *Naturalistic*: Vol 2 No.1.
- [7] Borg, WR & Gall, MD (1983). *Educational research an introduction (4th ed.)*. New York: Longman.

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Authors AS Pratiwi1*, AT Lestari1 , B Hendrawan1 , MF Nugraha1 , M. Nurfitriani1 , M Nurkamilah1, Mujiarto 1 , Tadkiroatun Musfiroh2 , F Nugraha1 , Wan Ridwan H1

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Best regards,

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ICComSET 2018 Finance Manager

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2. Material and Methods

The type of research is research and development. The research and development model is "a process used to develop and validate educational products", namely research oriented to the development and validation of learning products [7]. Development research has an understanding that is aimed at the process of producing objects that can be seen or touched. The development procedure in research and development of digital video media for learning rampak kendang through several stages. The first stage is needs analysis in the form of observations, interviews, and questionnaires. The second is, making video designs in the form of similar video analysis, making a storyboard, making a flowchart view, and collecting materials. The third is product validation that consist of material experts validation and material experts. The fourth is field trials included one-on-one trials, small group trials, and large group trials. Validation of experts will use the following criteria.

Table 1.Criteria for evaluation of digital video based Rampak Kendang learning media

| Interval | Interval | Criteria |
|---|------------------------|-----------------|
| $X > \bar{x} + 1,8 sbi$ | $X > 68.00$ | Very good |
| $\bar{x}_i + 0,6 sbi < X < \bar{x}_i + 1,8 sbi$ | $56.00 < \leq 68.00$ | Good |
| $\bar{x}_i - 0,6 sbi < X < \bar{x}_i + 0,6 sbi$ | $44.00 < X \leq 56.00$ | Enough |
| $\bar{x}_i - 1,8 sbi < X < \bar{x}_i - 0,6 sbi$ | $32.00 < X \leq 44.00$ | Low |
| $X < \bar{x}_i - 1,8 sbi$ | $X \leq 32.00$ | Very Low |

(Widoyoko, 2015: 238)

Description:

- X_i = ideal average
= $\frac{1}{2}$ (ideal maximum score + Ideal Minimum score)
- s_{bi} = ideal standard deviation
= $\frac{1}{6}$ (ideal maximum score–ideal minimum score)
- X = empirical score

3. Result and Discussion

The research of digital video based rampak kendang media development carried out with the needs analysis phases, video design creation, product validation, and field trials.

3.1. Needs Analysis

Need analysis is the first stage before developing stage. Needs analysis consist of observations, interviews, and filling out questionnaires. Observations were carried out during the rampak kendang learning to observe the teaching and learning process, the media used by the teacher during the teaching and learning process, attitudes, readiness, and student motivation in participating in learning, student interest in the media used by teachers, computer units available at school, and computer feasibility.

The interview was conducted with one of the SLB teacher to determine the most essential media to develop, student responses, media use, and criteria for digital video media that are appropriate to be used as learning media. In addition, a needs analysis was carried out by distributing questionnaires that contained the difficulties of SLB students in participating rampak kendang learning and its causes, the need to use digital video media for rampak kendang learning, and media features that students liked.

3.2. Design Making Video

The design phase of the development in this media development research is through the stages of similar media analysis, making a storyboard, making a flowchart view, and collecting materials. Similar media analysis aims to find out the advantages and disadvantages of other video media similar to digital video media that will be developed. After analyzing similar media, then the stage of making a storyboard. The making of the storyboard is based on material that is in accordance with the material of Rampak Kendang. The storyboard that was created was then discussed with colleagues, experts in the IT field, and video makers. After the storyboard is completed, the next stage is to make a flowchart view. In this stage, there are some steps presented on digital video media developed. After the flowchart view is completed, then the next stage is collecting material. The material collected was in the form of rampak kendang and material for making videos. In the video that was developed, it involved students of Drama Dance and Music Arts (Sendratasik) and students of Primary School Teacher Education (PGSD). Sendratasik students become a model that directs the rampak kendang process, while PGSD students become guides and translators into sign language.

3.3. Product Validation

Validation activities in media development are intended to improve and complete the media that will be developed to be more effective and efficient. The product validation stage is validation by material experts and media experts. Then, it continued by data analysis and product revisions based on reviews of media experts and material experts. The following shows the results of media expert validation.

3.3.1. Media Expert Validation

After the digital video-based learning media for rampak kendang learning of deaf students was completed, it was then validated by media experts. After being validated and getting input, then this media was revised based on the input from media experts. The results of the validation after revision are as follows. After being revised, the score for the display of digital video-based learning media for rampak kendang learning was the score 38 for the display aspect with good criteria. The results of media expert validation on the display aspect can be seen in the table below.

Table 2. Validation of media views after revision

| No | Expert Name | Display | | | | | | | | | |
|----|------------------|---------|---|---|---|---|---|---|---|---|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Dr. Mujiarto | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Total | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Average per item | 38 | | | | | | | | | |
| | Criteria | Good | | | | | | | | | |

Besides being validated from the display aspect, this digital video-based rampak kendang learning media is also validated on programming aspects. The results of the programming aspects validation can be seen in the table below.

Table 3. Validation of media programming after revision

| No | Expert Name | Programming | | | | | | | | | |
|----|------------------|-------------|----|----|----|----|----|----|----|----|--|
| | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |
| 1 | Dr. Mujiarto | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | |
| | Total | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | |
| | Average per item | 31 | | | | | | | | | |
| | Criteria | Sufficient | | | | | | | | | |

3.3.2. Material and Teacher Expert Validation

Aside from media experts, this validation of digital video-based learning media is also carried out by material experts and teacher. Validated aspects are aspects of format, content, language, and learning. The score obtained in the format aspect is 24, the content aspect gets a score of 23, the language aspect score is 37, while the learning aspect gets a score of 55. All aspects have received good criteria. The results of the material and teacher expert validation can be seen in the data below.

Table 4. Material and teacher expert validation

| No | Respondent | Format | | | Language | | | | | Learning | | | | | | |
|----|------------------|--------|---|---|----------|---|---|----|----|----------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 7 | 8 | 9 | 10 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1 | Teacher Material | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 2 | Expert | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | Total | 8 | 8 | 8 | 7 | 7 | 8 | 7 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 |
| | average per item | 24.0 | | | 37.0 | | | | | 55.0 | | | | | | |
| | Criteria | Good | | | Good | | | | | Good | | | | | | |

3.4. Trial field

Stage of field trials consist of testing one-on-one, small group trial and test large groups. One-on-one trials were conducted on three students, followed by data analysis and product revisions. Small group trials were conducted on 5 students followed by product analysis and revision. Then the last trial is a large group trial that will be conducted on all students, followed by data analysis and product revision based on the results of these trials to produce the final product.

The steps in this field trial are as follow: (1) The products that have been revised based on the input of material experts and media experts were tested with one-on-one trials. Then the input from the one-on-one trial is the basis for further product improvement. (2) The researcher conducts a small group trial for further improvement. Input from the small group trial was analyzed again. Next, the researcher revised based on the results of the analysis. (3) The researcher conducted a large group trying to obtain empirical data. Data that has been entered is analyzed based on the criteria that have been made by the researcher. The results of the analysis are used as input material to revise the product so that it becomes a finished product. This field trial will be conducted in further research.

4. Conclusion

- a. Based on the validation of media experts, material experts, and teachers, the digital video based rampak kendang learning media is worthy of being used as a learning media for deaf students.
- b. The programming aspect of this digital video-based rampak kendang learning media still needs development.

5. References

- [1] Prensky, Marc. (2001a). *The Digital Game-Based Learning Revolution*. New York: McGraw-Hill.
- [2] Sadiman, Arief S. (2010). *Media pendidikan*. Jakarta: PT Raja Grafindo Persada.
- [3] Azhar Arsyad. (2006). *Media Pembelajaran*. Jakarta: PT. Raja Grafindo Persada.
- [4] Pratiwi, Anggia. (2013). *Pengembangan Media Game Digital Edukatif untuk Pembelajaran Menulis Laporan Perjalanan Siswa SMP*. Universitas Negeri Yogyakarta.
- [5] Cripps, JH & Supalla, SJ 2012. *The power of spoken language in schools and deaf students who sign*. *International Journal of Humanities and Social Science*, 2 (16), 86-102.
- [6] Lestari, Asti Tri. 2017. *Pembelajaran Rampak Kendang dengan Bahasa Isyarat pada Siswa Tunarungu di SLB Aisyah Singaparna*. *Naturalistic*: Vol 2 No.1.
- [7] Borg, WR & Gall, MD (1983). *Educational research an introduction (4th ed.)*. New York: Longman.

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To cite this article: AS Pratiwi *et al* 2019 *J. Phys.: Conf. Ser.* **1179** 012040

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Digital Video Based Rampak Kendang Learning Media for Deaf Students

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Abstract. This study aims to develop an effective digital video-based learning media for rampak kendang learning in Special Schools (SLB). This digital video learning media developed contains the learning process of Rampak Kendang using sign language. This learning media is validated by experts and tested in the field. This research is R & D research through the stages of needs analysis, digital video media design, product validation, field trials, and testing of media effectiveness. The procedure of research development and digital video media development for learning rampak kendang through several stages. The first stage is needs analysis in the form of observations, interviews, and questionnaires. The second is making video designs, making storyboards, making flowchart views, and collecting materials. The third is product validation that consist of media experts validation, material experts, and users. In media expert validation, it got a score of 38 with good criteria on the aspect of appearance, while in the programming aspect got a score of 32 with sufficient criteria. Validation of material experts and users (teachers), consist of the format aspect that got a score of 24, the content aspect of the score 23, the language aspect score of 37, and it got a score 55 for learning aspect, all aspects were in good criteria.

1. Introduction

Visualization through learning media is one way that can be done to concretize something abstract. Prensky's statement can be an illustration of how importance of digital video media in education. Prensky stated that, "Schools are stuck in the 20th century. Students have rushed into the 21st. How can schools catch up and provide students with a relevant education?" [1]. Technological developments have promised great potential in changing the way of person learns, obtains information, and adapts information. Learning media is no longer just seen as a tool for teachers in teaching but as a means of delivering messages [2]. Audiovisual media is a way that can produce or deliver material using mechanical and electronic machines to present audio and visual messages [3]. Digital video is specifically designed as an effective learning media, containing practical guidance on target, presented through audio-visual presentations (pictures and sounds) which are equipped with clear Indonesian language guidance sounds that are easily understood and packaged in an autorun program. Digital video in learning functions to attract students' interest during learning. Students will



respond to what they see and hear, so the message from the content of material contained in the video will be constructed by the student's brain and lead to feedback in the form of questions about learning material that will create interaction between students and learning media.

In the learning process, sometimes it is still found teacher-centered, textbook oriented, and teachers use makeshift learning media. This situation causes less optimal learning.

In this case, students become less active, lack of interest in learning, and students cannot learn independently. As well as in rampak kendang learning in Special Schools (SLB). Learning about rampak kendang will certainly be very easy to teach for public school students, but it is different if it is delivered to students in SLB. The use and utilization of the right media in the learning process will overcome obstacles and disturbances in students or instructors in the teaching and learning process [4]. These obstacles can be in the form of verbalism, misinterpretation, unresolved attention or the absence of a comprehensive response so that students do not understand and understand the content of the material taught by the instructor.

Learning rampak kendang in SLB showed unsatisfactory results. There are many obstacles faced by teachers, one of which is that students have difficulty following the music rhythm due to physical limitations. Sign language is a medium that can facilitate communication with deaf students [5]. This is because language is processed through visual/gestural modality (the opposite of vocal/oral for spoken language). Language literacy is difficult to understand for deaf students, especially when the deaf student does not enjoy hearing access at all with the language involved. However, it is expected that students already have oral language knowledge and phonetic skills in reading. The report was obtained from the results of observations and interviews with some deaf students who took art lessons [6]. Therefore, learning media are needed that are suitable for deaf students in learning rampak kendang. Media equipped with facilities that can facilitate communication with deaf students, namely digital video-based learning media equipped with sign language.

2. Material and Methods

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Table 1.Criteria for evaluation of digital video based Rampak Kendang learning media

| Interval | Interval | Criteria |
|---|------------------------|-----------|
| $X > \bar{x} + 1,8 sbi$ | $X > 68.00$ | Very good |
| $\bar{x}_i + 0,6 sbi < X < \bar{x}_i + 1,8 sbi$ | $56.00 < \leq 68.00$ | Good |
| $\bar{x}_i - 0,6 sbi < X < \bar{x}_i + 0,6 sbi$ | $44.00 < X \leq 56.00$ | Enough |
| $\bar{x}_i - 1,8 sbi < X < \bar{x}_i - 0,6 sbi$ | $32.00 < X \leq 44.00$ | Low |
| $X < \bar{x}_i - 1,8 sbi$ | $X \leq 32.00$ | Very Low |

(Widoyoko, 2015: 238)

Description:

\bar{X}_i = ideal average
= $\frac{1}{2}$ (ideal maximum score + Ideal Minimum score)

s_{bi} = ideal standard deviation
= $\frac{1}{6}$ (ideal maximum score – ideal minimum score)

X = empirical score

3. Result and Discussion

The research of digital video based rampak kendang media development carried out with the needs analysis phases, video design creation, product validation, and field trials.

3.1. Needs Analysis

Need analysis is the first stage before developing stage. Needs analysis consist of observations, interviews, and filling out questionnaires. Observations were carried out during the rampak kendang learning to observe the teaching and learning process, the media used by the teacher during the teaching and learning process, attitudes, readiness, and student motivation in participating in learning, student interest in the media used by teachers, computer units available at school, and computer feasibility.

The interview was conducted with one of the SLB teacher to determine the most essential media to develop, student responses, media use, and criteria for digital video media that are appropriate to be used as learning media. In addition, a needs analysis was carried out by distributing questionnaires that contained the difficulties of SLB students in participating rampak kendang learning and its causes, the need to use digital video media for rampak kendang learning, and media features that students liked.

3.2. Design Making Video

The design phase of the development in this media development research is through the stages of similar media analysis, making a storyboard, making a flowchart view, and collecting materials. Similar media analysis aims to find out the advantages and disadvantages of other video media similar to digital video media that will be developed. After analyzing similar media, then the stage of making a storyboard. The making of the storyboard is based on material that is in accordance with the material of Rampak Kendang. The storyboard that was created was then discussed with colleagues, experts in the IT field, and video makers. After the storyboard is completed, the next stage is to make a flowchart view. In this stage, there are some steps presented on digital video media developed. After the flowchart view is completed, then the next stage is collecting material. The material collected was in the form of rampak kendang and material for making videos. In the video that was developed, it involved students of Drama Dance and Music Arts (Sendratasik) and students of Primary School Teacher Education (PGSD). Sendratasik students become a model that directs the rampak kendang process, while PGSD students become guides and translators into sign language.

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3.3.1. *Media Expert Validation*

After the digital video-based learning media for rampak kendang learning of deaf students was completed, it was then validated by media experts. After being validated and getting input, then this media was revised based on the input from media experts. The results of the validation after revision are as follows. After being revised, the score for the display of digital video-based learning media for rampak kendang learning was the score 38 for the display aspect with good criteria. The results of media expert validation on the display aspect can be seen in the table below.

Table 2. Validation of media views after revision

| No | Expert Name | Display | | | | | | | | | |
|----|------------------|---------|---|---|---|---|---|---|---|---|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Dr. Mujiarto | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Total | 5 | 5 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 |
| | Average per item | 38 | | | | | | | | | |
| | Criteria | Good | | | | | | | | | |

Besides being validated from the display aspect, this digital video-based rampak kendang learning media is also validated on programming aspects. The results of the programming aspects validation can be seen in the table below.

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| No | Expert Name | Programming | | | | | | | | |
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| | Average per item | 31 | | | | | | | | |
| | Criteria | Sufficient | | | | | | | | |

3.3.2. *Material and Teacher Expert Validation*

Aside from media experts, this validation of digital video-based learning media is also carried out by material experts and teacher. Validated aspects are aspects of format, content, language, and learning. The score obtained in the format aspect is 24, the content aspect gets a score of 23, the language aspect score is 37, while the learning aspect gets a score of 55. All aspects have received good criteria. The results of the material and teacher expert validation can be seen in the data below.

Table 4. Material and teacher expert validation

| No | Respondent | Format | | | Language | | | | | Learning | | | | | | |
|----|------------------|--------|---|---|----------|---|---|----|----|----------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 7 | 8 | 9 | 10 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 1 | 2 | 3 | 7 | 8 | 9 | 10 | 11 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Teacher | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| | Material | | | | | | | | | | | | | | | |
| 2 | Expert | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | Total | 8 | 8 | 8 | 7 | 7 | 8 | 7 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 |
| | average per item | 24.0 | | | 37.0 | | | | | 55.0 | | | | | | |
| | Criteria | Good | | | Good | | | | | Good | | | | | | |

3.4. Trial field

Stage of field trials consist of testing one-on-one, small group trial and test large groups. One-on-one trials were conducted on three students, followed by data analysis and product revisions. Small group trials were conducted on 5 students followed by product analysis and revision. Then the last trial is a large group trial that will be conducted on all students, followed by data analysis and product revision based on the results of these trials to produce the final product.

The steps in this field trial are as follow: (1) The products that have been revised based on the input of material experts and media experts were tested with one-on-one trials. Then the input from the one-on-one trial is the basis for further product improvement. (2) The researcher conducts a small group trial for further improvement. Input from the small group trial was analyzed again. Next, the researcher revised based on the results of the analysis. (3) The researcher conducted a large group trying to obtain empirical data. Data that has been entered is analyzed based on the criteria that have been made by the researcher. The results of the analysis are used as input material to revise the product so that it becomes a finished product. This field trial will be conducted in further research.

4. Conclusion

- a. Based on the validation of media experts, material experts, and teachers, the digital video based rampak kendang learning media is worthy of being used as a learning media for deaf students.
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- [5] Cripps, JH & Supalla, SJ 2012. *The power of spoken language in schools and deaf students who sign*. *International Journal of Humanities and Social Science*, 2 (16), 86-102.
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