Science Learning Based on Local Wisdom: Analysis of Multimedia use Needs Using Canva in Class V Elementary School

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ABSTRACT

This research was conducted to determine students' responses to the use of learning media. This research is a qualitative research using descriptive qualitative methods. The data analysis technique used is descriptive analysis with data reduction, data presentation, conclusion drawing and verification. Data collection in this study used questionnaires with qualitative data types and distributed using google forms so that respondents could fill out questionnaires online. The results of this study showed that 78.1% of students stated that they really need interactive multimedia learning by presenting interesting elements of images, audio and video. One of the applications that supports this is the Canva application. So that it can be argued that this research can be a benchmark for teachers regarding the development of interactive science multimedia based on local wisdom can be made as attractive as possible and according to the needs of students through various applications or supporting software such as Canva.

Keywords: *multimedia learning. canva, science-based: local wisdom*

INTRODUCTION

Education has been updated from time to time with the aim of improving the quality of education at every level. Renewal occurs in every aspect of education such as curriculum, syllabus models, strategies, techniques, approaches and learning media. Learning media that uses technology is currently known as digital-based education, where digital is the main media as a tool for the implementation of information and communication technology (ICT) based education so that teachers as facilitators in learning are required to be able to make learning media keep up with the times. (Mujir, 2020)The teacher is a person who designs learning and develops the talents and potentials possessed by students so that outputs are created, namely graduates who have quality resources Professional teachers are educators who have competencies. (Sintawati et al., 2020)

The rapid advancement of ICT offers new conveniences in learning, resulting in a shift in the learning orientation of learners from outside-guided to self-guided and from knowledge-as-possession to knowledge-as-construction. So an effective learning medium in this ICT era is interactive multimedia. Mulimedia makes it easy for students to access information related to learning. Multimedia can be in the form of images and photos, sound, motion, video, animation and text combined in a product whose purpose is to communicate information in various ways.(Komalasari & Rahmat, 2019) (Roblyer, 2020)

Interactive multimedia is equipped with a controller or navigation for users, so they can choose the next activity as per their choice. Some of the things obtained from the field are related to science learning which is considered by students to be learning that is difficult to understand and boring. Science is a human effort in understanding the universe through precise observation of the target, using structured procedures, and explained by scientific reasoning to obtain a conclusion. (Green, 2002)

The 2013 curriculum states that grade V students are expected to master several essential science competencies, one of which is understanding the digestive process. The material of digestive systems and

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processes contains a number of abstract and conceptual materials, very broad and complex, covering several processes occurring in the internal organs, making it difficult to make direct observations, many terms, foreign as well as having a high degree of complexity of understanding.(Susantini, 2013)

Based on the researcher's observations, it was found that the data on science learning outcomes were still relatively low and below the minimum learning completion standard (KKM) score. This shows that the lack of media or intermediaries for learning in schools makes teachers overwhelmed in finding media for learning science subjects. This reduces students' enthusiasm and makes the material difficult to understand during learning. The following is a recap graph of the semester scores of science subjects in class V of SDN 87 Palembang.
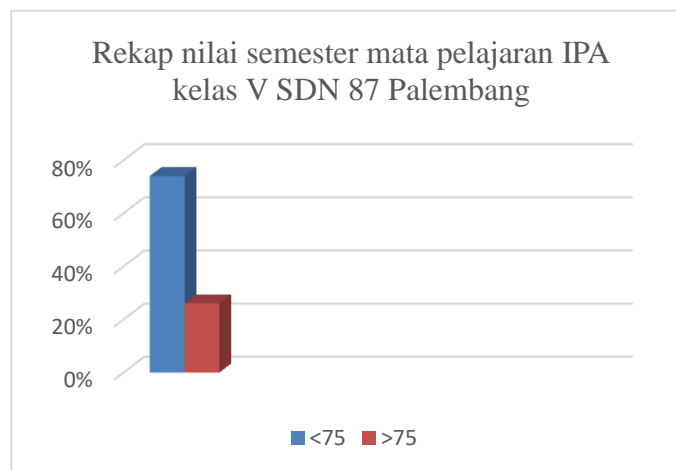
Figure 1. Science subject semester grade recap graph

Based on the graph above, it can be seen that the learning outcomes of students in science subjects with KKM 75 in total 39 people in class V of SDN 87 Palembang, data obtained on 27 people (79%) students did not meet KKM, while 12 (31%) students met KKM. While the highest score of students is 90 and the lowest score is 50. If the problem is left unchecked, an effective solution is needed to overcome the problem in the learning process by presenting interactive multimedia. Especially for science learning, many researchers have tested the use of media in science learning to introduce abstract concepts in early childhood learning. Teachers in the field of education have a very important role.

The characteristics of the learner today require visualization will be the target of points. Audiovisual media with visual and audio fusion features will be very helpful towards mastery of concepts (Hotimah & Muhtadi, 2017). Creating learning media in the form of multimedia requires its own expertise in designing interesting learning media. *Canva* is one of the applications that provides an alternative convenience in designing(Rahmatullah, 2020). Research on the use of *canva* applications in science learning has been carried out by Encep Andriana, et al (2017) with the title *Multimedia Development of Science Learning based on Local Wisdom in Elementary Schools*. The results of this study are: (1) the results of the student motivation test get an average score of 90.79% with a very good category. (2) Provide a positive response to multimedia learning based on local wisdom.

Based on the description contained in the background of this study, there is a research gap which is described as multimedia science learning based on local wisdom in the digestive system material of class V elementary school. There are several previous studies that are related or relevance and gaps in this study, namely research conducted by Encep Andriana, et al (2017) with the title *Multimedia Development of Science Learning based on Local Wisdom in Elementary Schools*. The results of this study are: (1) the results of the student motivation test get an average score of 90.79% with a very good category. (2) Provide a positive

response to multimedia learning based on local wisdom which shows that learning multimedia is very worthy of being used as alternative learning multimedia.

Furthermore, research on multimedia science learning based on local wisdom was also carried out by Adriana, et al (2017) that multimedia based on local wisdom of the Baduy tribe can make students better understand their surroundings and preserve the resources contained in their environment. This is a supporting factor that as an educator, you must be able to keep up with the times by continuing to innovate to present learning tools such as multimedia while still involving local elements. This study aims to analyze multimedia needs using *canva* in local wisdom-based science learning for elementary school students in grade V. Local wisdom is raised in multimedia learning because science learning is closely related to the surrounding environment so that many science learning materials can be integrated with local wisdom because through the content of local wisdom, it is hoped that the learning process will be able to grow develop children's character, this is in line with the studies conducted by (Dawnini, 2014).

LITERATURE REVIEW
Understanding Multimedia
According to Prasetya (2017) Multimedia development refers to the learning process that is expected to present a fun, interactive, efficient learning situation, and make it easier for students to understand the material so that students' learning motivation will increase. The definition of multimedia is a medium that combines two or more elements of media consisting of text, graphics, images, photos, audio, video and animation in an integrated manner (Ningsih, 2020). Based on the above understanding, it can be concluded that multimedia is a medium used as a learning model that can be used to provide messages, feelings, attention and interest of students to participate in learning process activities.

In the era of the Industrial Revolution 4.0, multimedia has a role in almost all fields. Especially in the world of education. Multimedia has a function and benefit for the world of education, namely multimedia is used to process computer-based training and books that allow users through a series of presentation books, certain topics related to various information. Learning in decades has evolved along with the introduction of multimedia towards computer-based learning and online learning.

Multimedia Elements
Multimedia technology began to develop in a new dimension along with the development of technology. Information technology has brought changes to the media industry. The role of multimedia management technology has the ability of computer-based interactive technology. Multimedia elements consist of (Simarmata, 2020, p. 1314):

1. Text
   The text is the bottom element in conveying information. Texts have various types and forms of writing that can be interesting in the delivery of information. The text emphasizes the material you want to convey.
2. Of
   Graphics are an important element in giving visual emphasis to something. Helps convey information more effectively and the delivery looks interesting.
3. Audio
   Audio becomes a tool to convey information more effectively. The goal is to help users increase the attractiveness of an impression and help increase the attractiveness of the content of the material.
4. Video
   Video provides an interesting method of conveying information and is more colorful with the real world. Video is an effective element in conveying information.
5. Animation
   Animation serves as a puller and helps in explaining a complex concept easily.

Multimedia Platforms

Multimedia applications are computer applications that are designed and formed to be able to manage and combine elements such as documents, sounds, images, animations and videos. Multimedia has many types of applications ranging from just looking to creating and editing them. Some applications that are often used in making multimedia are (Simarmata, 2020, p. 912):

1. Media player

Media player is a software used to create information in the form of audio and video. Some types of software on media players are window, winamp, WinDVD, power DVD, musicmatch jukebox, DivX Player, Real Player, XMMS, Xine, and Audio.

2. Audio or Video Editor

Audio or video editor is a type of software used to edit and compile information in the form of video and audio. According to Ketut et al (2018) the process of cutting, merging, converting audio or video formats, and manipulating audio or video quality (Simarmata, 2020, p. 10). Some types of video or audio editor software are adobe premiere, premiere elements, windows movie maker, pinnacle studio, and TMPGEnc.

3. Graphis or Image Viewer

Image viewer is a type of software used to view images in an organized manner in a directory. Some applications that support image viewer such as bmp, jpeg or jpg, gif, png and so on. Some types of image viewer software are ACDSee, XNView, Irfan View, Microsoft Picture Manager, and Microsoft Picture and Fax Viewer.

4. Graphic or Image Editor

Image editor is software used to paint, draw, edit and manipulate images interactively on a computer system. Some examples of image editor software are Adobe photoshop, corel draw, Microsoft paint, paint shop pro, GIMP.

5. 3D Graphics

A three-dimensional graphics application (D3) is a device used to create or edit and manipulate information in the form of three-dimensional images. Dimensionality drawings are image repsentations in three-dimensional geometry, namely, 3D studio max, silo 3D modeling and maya.

6. Animation

Animation applications are software that is used in creating, editing and manipulating information in the form of animation. Animation is a moving image or video with fictitious image content such as cartoon images or unreal images. Some animation software such as macromedia flash, Houdini animation software and power animator and canva.

Canva

The Canva application is one of the design applications that can be used for online graphic design with a variety of features. Multimedia Canva is one of the applications that provides an alternative convenience in designing (Rahmatullah et al., 2020). One of the advantages of Canva is that it provides convenience in making any design; presentations, graphics, Ebook Covers, videos, Mapping with animations that are available and can be directly published anywhere. In designing, you don't have to use a laptop, but it can be done through a device (Tanjung & Faiza, 2019). This software can be used for free, although there are some templates that are paid online-based. However, this is not an obstacle, because there are many attractive templates that can be used for free (Tanjung & Faiza, 2019). According to Pelangi (2020) with the diverse and attractive designs of Canva makes the learning process less monotonous and boring. The use of canva learning media can make it easier and save teachers time in designing learning media and make it easier for teachers to explain learning materials (Hapsari & Zulherman, 2021).

Local Wisdom-Based Learning

Local wisdom is a characteristic of a certain region or region that has cultural values, developing in the local sphere from generation to generation (Damayanti, 2019). Meanwhile, according to Taylor and de Leo in Chaipar (2013) explained that local wisdom is a living order inherited from one generation to another in the form of religion, culture, or common money customs in the social system of society. Education in elementary school is a basic education for students to learn science, not only subject knowledge but also culture in the local area. Local culture-based learning is the creation of a learning environment and the design of learning experiences integrating local cultures as part of the learning process

Natural Science   Learning (IPA)

Science is defined as a collection of natural phenomena obtained from the thinking and research of scientists carried out with skills. According to Setyowati et al (2013) Natural Science (IPA) is a learning concept about natural symptoms that have a relationship with human life and the object of broad study, which consists of a collection of concepts, principles, hukum and theories. Science is essentially a science of natural symptoms that is poured in the form of facts, concepts, principles and laws tested for truth and through a series of activities in the scientific method (Hisbullah &Nurhayati, 2018, p. 12). Natural science or science is a science that studies the universe and its contents, as well as the events that occur in it developed by experts through a series of scientific processes that are carried out carefully and carefully (Sujana, 2014, p. 4).

Science lessons are one of the important subjects instilled in students because through science learning, students are able to be scientific in solving the problems faced (Widiana, 2016). Based on some of the definitions of science above, it can be concluded that science is a science that studies things that happen about nature and its contents. Science learning in elementary school occupies an important role in science learning at the next level, because students' first knowledge affects students' interests and tendencies to learn science.

METHOD

This research is a qualitative research using descriptive qualitative methods. Descriptive research is intended to obtain an overview and information about learning media, student characteristics, methods, strategies and science materials studied. This research was conducted in Class V of SDN 87 Palembang in the third week of October 2022. The population in this study was all Class V students who numbered 34 people. The data analysis technique used is descriptive analysis with data reduction, data presentation, conclusion drawing and verification. Data collection in this study used a questionnaire with a qualitative data type and was distributed using *a google form* so that respondents could fill out the questionnaire online. Below is a needs analysis *questionnaire* instrument.

Table 1. Needs Analysis Instruments

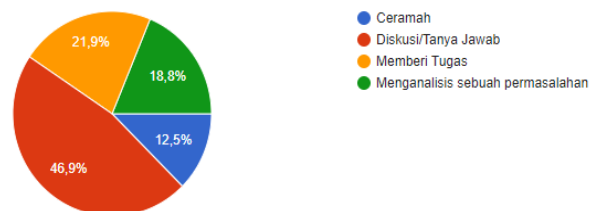| No	Aspects	Indicators	No Questionnaire
1	Learning Aspects	- Preferred learning - Frequently used learning methods - Preferred learning style - Frequently used media	4,5,6,8
2	Material Aspects	- The most difficult material -Reasons for material difficulty	7,16
3	Aspects of Multimedia Feature needs	- Display of images, concept maps, videos and interesting questions - Audio display	9,10,12,14 13
4	Evaluation aspect	- Display summaries, Exercises and questions	11
5	Aspects of facilities and infrastructure	- Preferred learning environment - Familiarity with *using android*/laptop	15,17

RESULTS AND DISCUSSION
Result

Based on the identification of student characteristics, it was carried out using *a googleform* for 39 Class X students at SMA Negeri 7 Palembang who were randomly selected. The results of the indetification analysis of students can be seen in the following pictures and tables:
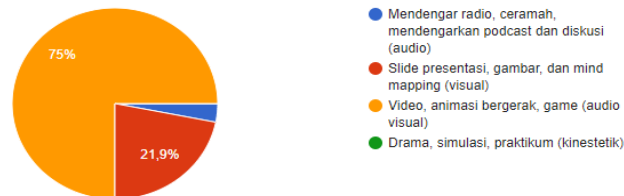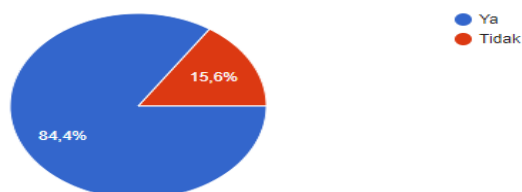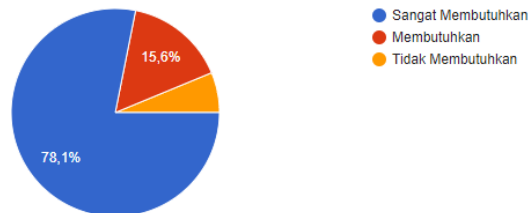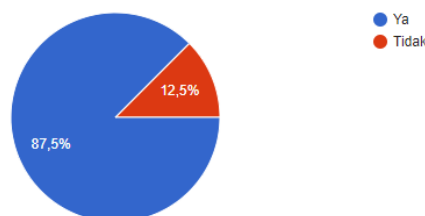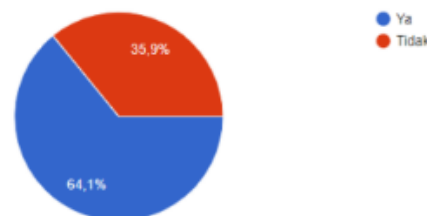
Figure 2. Needs analysis diagram

Identification of the analysis of needs and characteristics described above on 39 Learners who showed that students were interested in learning involving elements of sound, image, video and technology. Here are the results of data analysis from the results of the questionnaire distributed to students:

Table 2. Identification of Learner Characteristics

Percentage	Data Results
3.1%	Learners love learning with audio.
21.9%	Learners love learning with visuals
75%	Learners love learning with Audiovisual
46.9%	Students answer the method that is often used by teachers is discussion / question and answer
84,4%	Learners answer difficulties in understanding science subjects

78,1%	Students are in dire need of multimedia learning that contains elements of video, image and audio.
87,5%	Students answered that they are used to using laptops and *cellphones*
64.1%	Students answer about suggestions for school infrastructure in the form of wifi functioning lancer

Based on the diagram and table above, it can be explained that students have diverse learning styles, but 75% of students like learners with audio-visual where audio-visual includes elements of sound, video images. Spending with audio-visual that can present concrete experiences through visualization with the aim of introducing, clarifying abstract concepts, and encouraging the emergence of further learning activities Another thing about learning methods that are often used by teachers in science subjects is discussion or question and answer with a percentage of 46.9%, while in the digital era learning teachers are led to be able to present more interactive learning methods again. Furthermore, the statements of students regarding science subjects in class V of SDN 87 Palembang, a total of 84.4% of students find it difficult to understand science subjects. So to answer these difficulties, researchers tried to offer a multimedia by presenting elements of images, video and audio in multimedia and a total of 78.1% of students answered that they really needed multimedia with these elements. (Fuady, 2018).Another question about students' ability to operate laptops and *cellphones*. A total of 87.5 students answered that they were familiar with the object. Researchers also conducted a needs analysis of school facilities and infrastructure to support the use of canva-based multimedia by asking for wifi or internet at school, which was answered by 64.1% of students stating that the internet in the school was smooth.

Discussion

The results of observations and analysis of the needs questionnaire in this study show that multimedia learning provided by schools and teachers, especially in science content, is still not helpful so that the latest innovations are needed that can produce multimedia according to the needs of students in order to better understand the material well. In addition, multimedia learning using the *canva* application has never been used in learning and according to students the use of multimedia will help the process of delivering material and provide an easier understanding to accept. According to Suryani (2018: 195) multimedia is a combination of several media elements such as text, images, graphics, video, and so on. Multimedia can be used in the learning process for students who have audio, visual, and kinesthetic learning styles. Based on the needs analysis carried out, the dominant learning style in class V of SDN 87 Palembang is 75% audiovisual so it is suitable if applying multimedia in the learning process.

Based on the results of processing questionnaire data on students, it was explained that 78.1% of students stated that they really needed media in which there were image, audio, and video features. This is in line with the notion of multimedia is a medium that combines two or more elements of media consisting of text, graphics, images, photos, audio, video and animation in an integrated manner (Ningsih, 2020). The use of multimedia can involve other applications such as *Canva*. *Canva* is one of the applications that provides an alternative convenience in designing (Rahmatullah et al., 2020). One of the advantages of Canva is that it makes it easy to make any design such as: presentations, graphics, Ebook Covers, videos, mapping with animations that are available and can be published directly anywhere. In designing, you don't have to use a laptop, but it can be done via *cellphone* (Tanjung & Faiza, 2019). Considering that based on data, 87.5% of students are accustomed to using *cellphones*, it is appropriate as educators to keep up with the times by presenting digital learning multimedia that can be accessed *online,* anywhere and anytime.

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CONCLUSIONS AND RECOMMENDATION

Based on the results and discussion, it can be concluded that technological developments can be used by teachers as an innovation in making multimedia learning. *The Canva* application is one of the editor applications that can be used in making learning. Through this needs analysis research, data was obtained that 78.1% of students answered that they really need multimedia learning by including interesting image, audio, and video features. This can be a teacher's benchmark regarding the development of an interactive multimedia that can be used by teachers in the learning process. Multimedia learning in science subjects based on local wisdom can be made as attractive as possible and in accordance with the needs of students in order to attract the interest of elementary school students so that it will have an impact on improving student learning outcomes.

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