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Digital Learning Media for Early Children Based on Local Wisdom of the “Jagat Kertih”

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Abstract---This study conveys how to learn with digital media so students can easily understand the material presented independently. The research aims to create new learning innovations through digital audio-visual media easily accessible via mobile phones. Teaching media is made as a barcode that can be scanned and then pasted into the teaching material book. Audio-visual material can then be displayed on the topics discussed in the textbook. Students can easily understand the material because digital media can be explained in detail and completely about the material in student textbooks. The approach is carried out through the local wisdom of Sad Kerti Loka Bali in the Jagat Kertih section, which means glorifying the human environment so that students can adapt the teaching materials. The method used in this research is the *Qualitative Method*. The design process is carried out in three stages: *pre-production, production, and post-production*. In testing, in the first stage, students were taught conventional face-to-face methods. Then in the second stage, learning was carried out by adding digital material and being observed. Tests were carried out on early childhood students, teachers as material experts, and visual communication designers as media experts. The observation results show that early childhood is interested in and able to understand the learning conveyed in books through digital media so that the media can be categorized as suitable for use.

Keywords---digital, early childhood, Jagat Kertih, learning media, local wisdom.

Introduction

The environment and humans are two things that cannot be separated, and the environment greatly influences human life. Early childhood education books teach the environment as a process and place of harmonious adaptation. The environment is all objects, including humans and their behavior, which are contained in the space where humans are located and affect their survival and welfare (HIDUP, 2003; Sutrisno, 2021). Therefore, teaching young children to take care of the environment and living things around them is very important to create comfort on earth. Early childhood according to Law No. 20 of 2003 concerning national education states that early childhood education is a coaching effort aimed at children from birth to the age of six, which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have the readiness to enter further education (K. N. R. Indonesia, 2003; P. R. Indonesia, 2006). The need for early childhood to protect the environment will have an impact on increasing the role of early childhood in maintaining the cleanliness of the surrounding environment. Through the Governor of Bali program, the government has conveyed that one thing considered important is instilling the character of education in early childhood in a part of Sad Kertih called Jagat Kertih. Jagat Kertih is an effort to preserve dynamic and productive harmonious social relations based on the Dharma and quality and a conducive social environment. Jagat Kertih is an effort to build four togethernesses that are harmonious, safe, and peaceful and foster physical and spiritual well-being by implementing spiritual power that arises from the worship of God (Dharmika, 2019; Triguna et al., 2022; Wiana, 2018). The importance of introducing

how to protect the environment and living things in early childhood can start from teaching how to protect the environment, caring for fellow living things, looking after animals, and much more. That will help children care more about their surroundings and of course, it can also impact the child's character (Ginaya et al., 2019). This form of concern for the environment and living things can be done by not littering or hurting living things, such as hitting animals, killing, etc.

From the description above, media is needed to help character education in early childhood so they can always protect the environment and living things around them. Given that early childhood is very happy in playing and learning, media that have effective communication in the form of audio-visual is needed (Davis & Hunt, 2017; Grane & Crescenzi-Lanna, 2021; Leborg, 2006; Mutia et al., 2020). Lessons that are visualized in the form of animated videos will be more meaningful and interesting, and easier to accept and understand, even more motivating (Sukiyasa & Sukoco, 2013; Zakirman et al., 2022). Then learning videos, apart from providing information and entertainment, can also be used as learning media (Lalian, 2018; Rachmadtullah et al., 2018). The goal is that the learning process will be more quickly captured and understood by students. In addition, teachers or teachers will find it easier to convey the material through learning video media (Hadi, 2017; Kimball, 2013; Melinia & Nugroho, 2022; Yudianto, 2017).

The audio-visual media will be designed as a video describing children's activities in playing and learning about the importance of protecting the environment and the living things around it. The data collection required for designing this learning video was carried out at Padang Griya Kindergarten in Padangsambian because Padang Griya Kindergarten still uses manual or conventional learning methods. Therefore, it is necessary to have a new learning method that can attract children's attention to learning, namely using a learning video in the teaching and learning process (Barak et al., 2011; Rachmavita, 2020). The designed learning video will later contain funny motion graphic animations, which are considered suitable for young children studying at the Padang Griya Kindergarten. This learning video is expected to motivate young children to care more about the environment and the living things around it. This learning video will output Mp4 HD.

Method

The method used in this research is qualitative. This method is used because it can descriptively convey the quality of visual communication media created as teaching media for early childhood (Hamilton & Finley, 2019). After being observed, early childhood can explain the material being studied so that data can become a part that determines research conclusions. The descriptive is used as a research procedure in solving a problem by investigating images or objects in the form of people, places, or institutions without using hypotheses or special treatment of research objects. The strategy used in this study is a linear strategy or straight-line strategy (Hitchings & Latham, 2020), which is relatively easy to understand. The straight-line strategy can be seen in Figure 1 below.

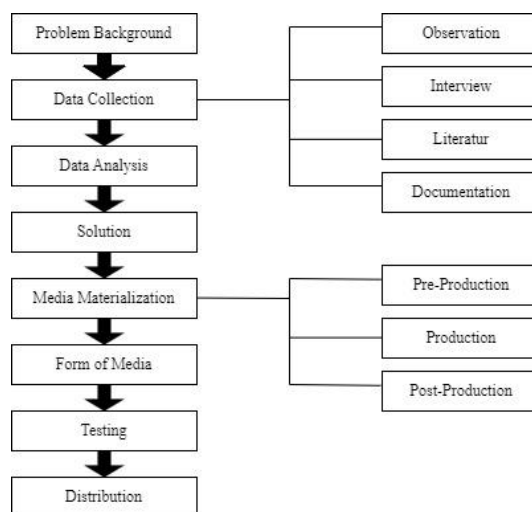


Figure 1. Straight Line Strategy
[Source: Saryana, 2022]

Data collection methods are used to obtain valid, objective, and reliable data from various sources. Data collection methods used in designing this research are observation methods, interview methods, documentation methods, and

library methods. The collected data is then analyzed to produce ideas that will be used to realize solutions to existing problems.

Result and Discussion

Obtained from observations of data which were then analyzed through data collection methods. The data shows that teachers do learning with conventional methods. Lessons are delivered according to the references and media only by pointing to printed pictures. The teacher tells the story and intends to convey the material so that it can be understood in early childhood (Black et al., 2017; Odom & Diamond, 1998). From these observations, visual communication media is needed to convey material so that early childhood can understand the material in books. In the embodiment of this learning video, 3 (three) stages are undertaken: the pre-production stage, the production stage, and the post-production stage.

1) Pre-Production

a. Concept

The concept chosen to be the concept in the learning video about protecting the surrounding environment and also its living things for early childhood based on the small universe is the concept of culture and technology (in video form). This learning video will explain things that early childhood needs to know about protecting the surrounding environment while still carrying out cultural themes and concepts that are modernized into video form. There are also additional motion graphic animations in certain scenes to add to the attractiveness of this learning video.

b. Visual Strategy

Visualization is made with video illustrations that tell two children who carry out their daily activities, from just waking up to playing and cleaning up the surroundings. Children can know the good things they are doing in protecting the environment, starting with themselves, serving God, and cleaning and protecting their environment. The setting is used by Balinese culture to bring the local wisdom of the world of understanding closer to the lives of children (Kartikawangi, 2017; Hamid et al., 2021; Widodo, 2012). This is intended so that children can understand life in their environment, such as where they live in the Bali area. In this way, knowledge is absorbed more quickly by children. The addition of animation is done so that children are more interested in the video displayed. In learning videos about protecting the surrounding environment and its living things for early childhood based on the small universe, 3 types of sound are used: Voice over, Soundtrack/BGM, and Sound Effects. Text is still used to become a visual attraction and teach non-verbal forms of expression close to early childhood. The illustration model refers to the style of the entertainment genre, such as the video on YouTube, "Niki and Vlad," which children like. The choice of genre was made after observing 880,000 viewers in 2 months.

2) Production

The production was carried out by shooting two small children whose brothers told. They are shown just getting up in the morning, cleaning themselves, praying, walking, and playing while doing environmental cleaning activities. Then the children convey the impact they get from protecting the environment. At this production stage, preparations for the camera to be used, taking footage/video that will be used in this learning video, recording dubbing/voice-over, and preparing sound fx and background music.

3) Post-Production

Some video displays the results of learning videos about protecting the surrounding environment and also its living things for early childhood based on a small universe that uses the concepts and ideas that have been discussed previously:

Scene 1

Displays the title intro animation from this learning video and uses a sunrise timelapse video background using a wide angle to get a wider view. This shot is displayed to introduce the title of the learning video that will be watched. The text in the learning video about protecting the surrounding environment and its living things for early childhood based on the natural world is useful to further emphasize the activities and information being carried out.



Figure 2. Opening display
Source: Author's Personal Document, 2022

Scene 2

Displays views of rice fields using a bird's eye view shooting technique using a drone that moves forward slowly. This shot conveys the impression of fresh air on a cloudy morning.



Figure 3. Environmental Situation
Source: Author's Personal Document, 2022

Scene 3

It displays small children when they wake up in the morning and contains animated text and pictures to add to the appeal of this learning video for early childhood. This image describes the activities of small children who just woke up early in the morning.



Figure 4. View of starting an activity
Source: Author's Personal Document, 2022

Scene 4

Showing the activities of small children doing prayers at home. This video shot is used for teach young children who watch this learning video to pray before doing other activities.



Figure 5. Display of starting the taqwa activity
Source: Author's Personal Document, 2022

Scene 5

Showing a small child helping his mother to clean the yard and also the yard around the temple with the Full Shot shooting technique so that the cleaning activities carried out by small children can be seen clearly. Use this shot to inform young children always to remember to keep their surroundings clean.



Figure 6. View of starting a skill activity
Source: Author's Personal Document, 2022

Scene 6

Showing small children planting trees, the footage is taken in close up towards the hands of the small children, and there are also interesting animated writing and tree animations. This shot is used to inform young children that planting trees is important for this earth.



Figure 7. The appearance of starting an activity to protect the environment
Source: Author's Personal Document, 2022

Scene 7

Displaying a smiling 2D earth animation makes the learning videos look more attractive to young children. The addition of this animation aims to provide information to small children that the earth will be happy when the earth is clean and beautiful.



Figure 8. The Appearance of Clean Earth
Source: Author's Personal Document, 2022

Scene 8

Displaying animation to invite young children to protect the environment and living creatures, with the addition of trash can animations, rabbit animations, and tree animations.



Figure 9. The display invites to protect the environment
Source: Author's Personal Document, 2022

4) Post-Production Explanation

After the video can be finalized in 720P format, the files are uploaded to the drive. The file link is then translated into a QR code for easy use by mobile devices.

In the next section, the teacher is given new digital learning media. The teacher scans the barcode to be able to explain the material in the book. The media appears in the form of audio-visuals which explain learning to protect the surrounding environment and its living things for early childhood based on the small universe. The video conveys the situation and conditions and how to protect the surrounding environment (Verhoef et al., 2021; Qi et al., 2021).



Figure 10. Display of student worksheets with barcodes
(Digital Media Device Application)
Source: Author's Personal Document, 2022

Through observation, it can be analyzed that the solution that can be done is to design a learning video for Padang Griya Kindergarten children studying in class. Learning media in the form of videos is the most effective media that teachers and parents can use with children because video learning media can attract children's attention to study harder in class and at home (Haryana et al., 2022; Zhang et al., 2015; Dabbagh & Kitsantas, 2012).

The test was carried out on early childhood students in one class. The teacher delivers material with digital devices consisting of Android and Smart TV. Then students are observed. The testing process is carried out by observing student activities in learning. Furthermore, observation notes are made, namely anecdotal notes. Questions are submitted in the form of discussions about what is conveyed in the teaching media, which covers the four competencies. The four competencies include Religious Attitude, Social Attitude, Knowledge, and Skills. Religious attitude is directed at devotion to God Almighty before carrying out activities. Social attitudes are observed in cooperation and mutual help, among others. Knowledge is directed at the importance of cleanliness in the surrounding environment to protect the place where we live. Meanwhile, skills are directed at protecting the environment through environmental hygiene activities and playing (Suasthi et al., 2019).

From observations, data was obtained that student development grew from undeveloped, marked by ignorance, to Developing According to Expectations (BSH). Students could explain and answer teacher questions related to daily activities and were willing to be clean and imitate the activities in the video. Material experts, namely teachers, said that video is appropriate to be used as a new digital-based teaching media for early childhood. Parents of students stated that it was easy to understand and teach again about the teaching material contained in the student book

Conclusion

From the research that was made, it was concluded that digital teaching media could be used to support the learning process of early childhood. The creation process is carried out in three stages: pre-production, production, and post-production. From tests carried out through observation with anecdotal notes, it was obtained that student development grew from underdeveloped, marked by ignorance, to Developing According to Expectations (BSH). Done in videos. Material experts, namely teachers, said that video is appropriate to be used as a new digital-based teaching media for early childhood. Parents of students stated that it was easy to understand and teach again about the teaching material contained in the student book.

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