

The Use of Audio-Visual Materials in Visual Art Education During Home-Based Teaching and Learning (PdPR) for Primary School Students

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Abstract

Since March 2020, Malaysia has made a 360-degree transformation in human life including the system of education due to the pandemic. All higher and lower institutions throughout 14 states in Malaysia have been shut down hence the teaching and learning process has shifted to Home-Based Teaching and Learning (PdPR). Despite the difficulty that has been faced by the students and teachers, the Minister of Education has responded and proposed various methods and approaches to maintain the continuance of interaction between school students and teachers. One of the methods is using technology in education. It is not only a method to give new knowledge to the students but also a part of an effort to develop students' potential and at the same time improve their skills to fulfill their needs for education in the future. Audio-visual materials have been widely used in educational technology however, looking at the utilization of that method in lower institutions such as primary schools still not reaching the target. As the rate for digital literacy is still low, this study has been conducted to discover a new approach such as audio-visual through web-based learning to give benefits to both students and teachers. Besides, this study explores the adaptation of the ADDIE instructional model in designing and developing a special website for learning Visual Art Education for primary school students. This research has employed WordPress as the platform thus this prototype provides students with a method of receiving new experience and resources beyond the classroom and at the same time investigate the efficacy of integrating audio-visual in web-based learning.

Keywords: Addie Model, Digital Literacy, Home-Based Teaching and Learning, Primary School, Visual Art Education.

Introduction

Audio-visual materials are one of the mediums that may benefit all people in the education system throughout the world. It has the ability to stimulate emotions, inspire ideas, and also could give impact towards the development of attitudes. Audio-visual materials are those that appeal to both the senses of sight and sound. It aids in the retention and enhancement of pupils' interest (Ibe et al.,2019). Sounds, text, illustration, graphic and visuals have the ability to capture the audience's attention, simplify concepts and helps in overcoming physical challenges and limitations of space, size, and time (Pettersson, 2020).

Somehow, there are limitations and a lack of studies that have been found related to this area, especially in art education. Therefore, the objectives of this research are to identify the need of having audio-visual media in primary school students, to design an audio-visual media prototype that can help to fulfil the needs of art students and also to analyze how the audio-visual media is able to enhance and develop creative thinking skills among primary school students in learning Visual Art Education.

The purpose of this research is to investigate the use of audio-visual materials through the WordPress platform as an innovative tool in learning visual art education during home-based teaching & learning (PDPR) for primary school students. After the pandemic of Corona Virus diseases, some institutions held their classes through home-based learning (Mustafa, 2020). According to UNESCO observed in the middle of April 2020, 191 countries have implemented nationwide closures and 5 have implemented local closures, affecting approximately 98.4% of the global student population (Huang et al., 2020). School closures in reaction to COVID-19 have shed attention on a variety of social and economic challenges, including digital learning. The impact was more severe for disadvantaged children resulting in interrupted learning. Thus, the use of audiovisual materials is one of the ways teaching and learning tools which help teachers to interact with their students in this new norm. But currently in this time being, the integration of audiovisuals is still not reaching its target. This is because of the factors that affect the lack of integration of audiovisuals through teaching and learning.

The Use of Audio-Visual Material in Learning

According to Vlachopoulos (2019), the teaching and learning process is an interaction between teachers and students as well as reciprocal communication that occurs in an educational setting to attain learning goals. Interaction and reciprocal communication between teachers and students are the primary quality and requirements for the teaching and learning process to take place. To ensure that the teaching and learning process provides more knowledge. An educator needs tools to assist learning activities when teaching. Learning media is one of the tools that teachers may use to help students learn in class. The media also influences education. Media comes from the Latin *medius* which means introduction or intermediary (Ferdiansyah et al., 2020). In Arabic, the media means the introduction or intermediary of information from the sender to the recipient of the information.

Learning media is something that can be used to assist educators in teaching or communicating with students. According to Dakhi et al. (2020), the media used in this case is audio-visual media, which is a learning system that uses the sense of hearing and also the sense of sight. Audio-visual materials are the medium for providing tangible experiences through visuals to introduce, clarify, and stimulate the formation of further learning activities (Maxwell, 2021). A good learning material can certainly improve the learning process. According to Rizal (2018), the element of audio-visual media has clearly become a significant interest for students due to its numerous advantages over other media such as media pictures, print media, and hearing media. This media combines the senses of hearing and sight which are related to dual coding theory.

Allan Paivio of the University of Western Ontario proposed the dual-coding theory, a theory of cognition, in 1971 (Okonkowo, 2022). Paivio developed the theory of dual coding to process and recalls information based on two channels different. It is a journey of information to our brain. This means information processing that involves pictures and words being in the direction which are different. The visual channel involves the eye that sees, and the verbal

channel involves the ear to hear. Learning can enhance because visual and verbal information is cognitively processed so as not to match each other (Kanellopoulou et al., 2019). This theory explained the powerful effects that mental imagery has on memory. Our mind can store both verbal and images of the information (dual) at the same time and can be remembered when we retrieved either one of them. So, it is an effective tool for immersing the past in a realistic setting.

Home-Based Teaching and Learning

According to Dewi et al (2019), education is a process of humanizing humans in order for them to be able to develop themselves in life and good education is an education that does not just educate students for a job or position but also addresses the difficulties that they may encounter in everyday life. At every level of education, efforts to increase educational quality must be made in a holistic manner. The interaction between the teacher and the student is one of the most important factors in the teaching and learning process. An educative interaction is one that occurs throughout the learning process. However, we have been living in the pandemic Disease (Covid-19) since 2019 and forcing the majority of people to study and work from home so that the chain of the spread of the disease can be broken. This may cause certain challenges and limitations in the learning process, particularly for teachers and students. People are coming to realize the value of technology in their everyday lives at this time but maximizing the use of technology is still a long way off. Home-based teaching and learning is one techniques of teaching utilizing technological tools that may be used effectively in education throughout educational system. The use of images or animation to show information can help students in better comprehend the contents so that they can conduct the learning induction (Tarchi et al.,2021). According to Alenizi (2019), Utilizing multisensory learning methods such as hearing, writing, and seeing visuals. For example, a teacher can create an audio-visual presentation based on their learning objectives. Adults and children are multisensory learners, therefore using several senses can help them learn more effectively. WordPress is a group of well-chosen informative and communicative technology tools that could provide students quick access to the content they're studying, as well as interactive student-teacher communication and management over new materials (Vladimir, 2020).

The Effectiveness of Audio-Visual in Art Classroom

When students are given the chance to use their senses, they become more engaged in their studies (Ratna, 2019). Interactive media technology such as website software is a combination of various elements of audio-visual media such as text, graphics, sound, video and animation. The practice of interactive media for students will make them more active if there is an element of interactivity in teaching and learning. Electronic software such as websites is one of the reference sources using hypermedia applications. Hypermedia applications allow students to explore and obtain information according to their interests, abilities, or wishes according to the selected links (Tahmasebi et al., 2019). Besides, audio-visual material has the potential to reduce an item that was previously excessively large, allowing pupils to better understand the materials presented. For example, in the pandemic era, students are not allowed to go to workshops to do their work and this will cause difficulties to understand the knowledge well as they cannot see it directly. The alternative that can be used is using audio-visual which the teacher can record and make a video throughout the process (Bagila et al.,2019). On the other hand, a teacher may not be able to

convey various information to students at one-time interaction in the classroom where time allocation is limited (Paliwan et al.,2021). With the availability of increasingly sophisticated media technology at this time, all teacher teaching is simplified.

Methodology

Based on this research, the methodology that has been used in this research is mixed method design. The primary data has been collected through a survey with a total of 43 primary school students and five primary school teachers as respondents. While the secondary data has been collected from multiple journals, articles, and websites. For this research, the researcher has started an overview of the use of audio-visual which includes the definition of audio-visual materials followed by the development of audio-visual in learning, the effectiveness of audio-visual in the art classroom, audio-visual through web-based learning to overcome creative block, the relation between literacy and technology in education, reliability, and validity through Google Scholar. When the database regarding the topic chosen is complete, the researcher has analyzed the evidence and data about the usefulness of audio-visual materials which was collected from the students to support the needs of having the prototype for educational products. The product will be tested on 97 students consisting of three schools to get their feedback. All discussions will be elaborated in depth according to the topics in the next section.

Design and Development Process of Web-Based Learning

Figure 1 shows the steps to develop a website in learning Visual Art Education for primary school students which adopts WordPress as a web development platform. Adaptation of the ADDIE model in this educational product consists of five phases which are need analysis, design, development of website, implementation and evaluation. The researcher followed each of the phases to produce a good product for educational purposes.

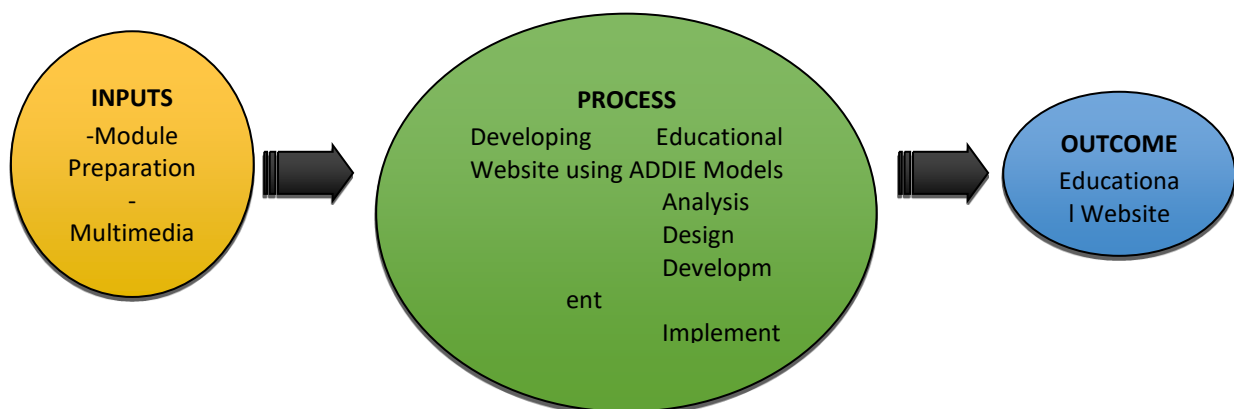


Figure 1. Design and Develop of Educational Website

Analysis Phase

Preliminary research was conducted to obtain data and information. Then, the data that have been collected were analysed to identify the problems and needs of the teachers and students in primary school on Visual Art Education material. The preliminary research was carried out by distributing need analysis questionnaires for students and teachers. For this research, there are 43 primary school students in Year 6 and five teachers from a school in

Sitiawan, Perak have responded to the questionnaire. The need analysis questionnaire consists of three sections with the first section on details of the respondent. Then, the second section is on the uses of audio-visual materials while the third section is about a platform that helps to integrate audio-visual materials into the learning process for visual art students. The result from the need analysis process will determine the problems that have been faced by the students and teachers which need to be solved and identify the solution to the issues. Table 1 below shows the sample of questions included in the need analysis questionnaire that has been given to the respondent.

Table 1
Need analysis sample question

Section	Question
1. Details of respondent	<ol style="list-style-type: none"> 1) Name 2) Gender 3) Age 4) The frequency on internet search 5) Number of subjects use online platform
2. Uses of audio visual	<ol style="list-style-type: none"> 1) Preferences on study visual art education using audiovisual 2) Type of audio-visual materials that available in school 3) The usefulness of audio visual 4) The student's need in classroom 5) Suggestion about audiovisuals in art classroom 6) Effects of audio visual in teaching visual art
3. Platform that help in learning	<ol style="list-style-type: none"> 1) Knowledge on existing education web-based platform especially in visual art education 2) Importance of a platform for easy access 3) Preferences on platform that provide all information using audiovisual 4) Knowledge about WordPress platform 5) Opinions and recommendation

The survey was responded by a total of 43 primary school students in year 6 in Sitiawan, Perak. There are all female students. The result of the data has been analyzed that 70% of students have access to the Internet to search for their study material with 6% often, 20% sometimes and 4% never. Based on the question "How many subjects use online as a learning platform?", there are about 42% responses to all subjects, 39% for most of subjects, 12% less than 5 subjects and 7% only for core subjects. From the data, it shows that the majority of students about 68% preferred to use both learning techniques which are direct teaching and the use of audio-visual. Next, is the question on the use of audio-visual materials in the art classroom, there about 63% respond to yes and 37% with no. On the question "What audio-visual materials are available for learning visual art in primary schools?", students' responses to 44% using videos, 42% projector and 14% PowerPoint. The majority with 81% of the

primary school students agreed that audio-visual materials are useful but 19% responded otherwise with no.

Students have been asked about the need for the teacher to use audio-visual in the art classroom, there are 70% responded yes while 30% no. Furthermore, based on the question, "What are the effects of using audio-visual materials in teaching visual art?", it's about 56% feel attractive, 37% feel inspired and only 7% feel bored. To maximize the usefulness of audio-visual materials, students have been asked about their experience in using audio-visual by questioning them about the platform that can serve the use of audio-visual for their learning purpose. Based on the question, "Do you have found any website/platform that collects all the information about visual art education in one place?", there are about 52% say yes and 48% say no. 88% of primary school students agreed that it is important to have a platform that can help them easily access visual art information. The bigger percentage presented the question of their opportunity to have that platform, would they like it and 98% responded with yes and only 2% with no. The question "Have you ever heard of WordPress?", shows that only a small number of respondents have heard of WordPress before with a percentage of 26% and 74% choose for no.

Design Phase

In this phase, the designers will begin with the preparation of a conceptual construction of the website based that will help to fulfil the student's needs. In this second phase of the ADDIE model, the design phase used the data obtained during the analysis phase and applied it to the development of relevant theories and instructional design models that describe how learning may be achieved. Learning contents, assessments, and instructional strategy, which include teaching techniques and website design are three design components that educators should concentrate on.

For learning contents design, educators created based on students' needs, as well as their thoughts and ideas, based on the data acquired during the analysis phase. Learning content should be connected to art students and meet the needs of students.

In the assessment design component, the information gathered in the analysis phase was used to create an effective assessment. Consequently, educators must ensure that the assessment is closely related to subject, content, and context. Moreover, to minimize misunderstandings among students, the assessment must be straightforward to comprehend.

Besides, the instructional strategy design should be carried out. This design will help to compile a variety of methods for the student to boost their understanding of their subject. Firstly, determine the teaching method. Then, create the flowcharts to construct the website. These two elements paint a clear image of what the website will look like and how it will function to fulfil the needs of the students. The website is divided into five sections: "Pengenalan", "Mari Belajar", "Pengurusan Seni", "Jejak Seni" and "Hubungi Kami".

The first page of the website which is the "Pengenalan", visualises the aims of the website by inserting the greeting towards the audience and the background about Visual Art Education and some pictures related to this subject. Next, the "Mari Belajar" pages contain other four sub-topic which are "Penerokaan Media Kering", "Penerokaan Media Basah", "Teknik lukisan" and "Karya 3 Dimensi". Each of the sub-topic is divided into a few parts. For example, in "Penerokaan Media Kering" page will explain 'Bahan Media Kering' and "Penggunaan Bahasa Seni Visual Dalam Karya Dengan Penerokaan Media Kering". Moreover, in "Penerokaan Media Basah" will show the "Bahan Media Basah" and "Penggunaan Bahasa

Seni Visual Dalam Karya Media Basah” and in “Teknik lukisan” page illustrated the way in making of “Tetingkap Fokus”. Last but not least, the “Karya 3 Dimensi” page provided the audience with “Jenis-jenis Karya 3 Dimensi” and “Penggunaan Bahasa Seni Dalam Karya 3 Dimensi”. All of this content and learning materials is aligned with the learning syllabus in Visual Art Education for Year 6 students. The “Pengurus Seni” page provides the students with additional information and give them the exposure to handle the event and the teach the student on the process on appreciation of art. On the last page which is “Hubungi Kami” provides a way for students to interact with their teachers at any time. The website is built using Bahasa Malaysia as it is the medium of instruction in primary school.

Development Phase

At this phase, the methodology used in the project is created and tested. This phase is based on the data collected in the previous two phases which are the analysis phase and design phase. The developers will begin working on the website by determining the hardware and software requirements that can be used to make the website interesting. In this research, the WordPress platform is chosen as it is the one of website platforms that is very convenient, easy to use and suitable for all ages. WordPress is known as a content management system (CMS). Table 3 below shows the other software that is needed in the development of educational products which is the website.

Table 3

Software Used in Development of Website

Software	Purpose
WordPress	Platform for web-based learning
Canva	Design logos and editing quote.
Adobe Photoshop	Editing pictures quality
YouTube	Additional source
Elementor Pro	Interactive website builder
Draw Attention	Plugin for interactive image

Experts in Visual Art Education were asked to carry out a full review of the website after it is developed. They will review the website and suggest some feedback and recommendations so that it may be improved before it can be implemented to visual art students.

Implementation Phase

In the implementation phase, the targeted student is given priority to be put into action. This phase entails delivering and presenting information to the focus group students, who are primary school students that study Visual Art Education in their learning syllabus. A total of 43 students from a group of year 6 will participate in the implementation phase. During the post-pandemic period, students used their own facilities such as computers, handphones and an internet connection to implement this educational website. This process enables testing all of the content to see if it delivers properly and is acceptable for the target audience.

Evaluation Phase

At this phase, it is to verify if the main goal of this research could be achieved. Throughout the implementation phase, teachers will assist in the evaluation by giving an evaluation questionnaire to 97 visual art students. To enhance instructional quality and the

website's efficiency in assisting students in learning Visual Art Education, the procedure of evaluation needs to be carried out. During the testing process, the testers will check the prototype and make sure the designer does not work further on a product with usability problems or that is not suited to your users' needs. Table 4 below presents the evaluation items for the students.

Table 4

Evaluation items

Evaluation Section	Evaluation Items
1. Details of respondent	<ol style="list-style-type: none">1) Gender2) Age3) Year4) School Name
2. Website performance and features	<ol style="list-style-type: none">1) Graphic and audio-visual elements2) Physical appearance of website3) Text and spacing
3. Experience and satisfaction	<ol style="list-style-type: none">1) Material exposure2) Writing quality3) The order of presentation of the material4) Relevancy

Discussion on the Findings

Table 2

Likert Scale Results Based on Student's Perception

	N	Minimum	Maximum	Mean
An audio-visual material keeps students attentive throughout the whole lesson period.	43	1.00	5.00	4.20
An audio-visual material. makes a lesson not to be boring.	43	1.00	5.00	4.28
Audio visual materials help students to participate and observe what the teacher is teaching.	43	1.00	5.00	4.19
Audio visual materials help students to understand a lesson with ease.	43	1.00	5.00	4.16
Audio visual materials help to clear some doubts or confusion in the minds of the students.	43	1.00	5.00	4.02
Audio visual materials attract student's attention.	43	2.00	5.00	4.16
Audio visual materials make class more interactive and interesting	43	1.00	5.00	4.37
Audio visual materials provides opportunities for effective communication between teacher and students in online learning.	43	2.00	5.00	4.16
Audio visual materials help in maintaining discipline in the class.	43	1.00	5.00	3.51
The use of audio-visual materials help makes the students to remember the concept for a longer period of time	43	1.00	5.00	4.09

Table 2 shows the data that have been analyzed through descriptive statistics by using the Statistical Packages for Social Science (SPSS) version 20.0. We can conclude that based on the majority of primary school students agreed with the statement given related to the audio-visual materials. This can be seen through the mean scale that is more than 4 except for one statement on "audiovisual materials help in maintaining discipline in the class" with a mean scale of 3.51 which is moderate. When the researcher further enquiring the respondents, the respondents preferred to use audio-visual materials throughout the home-based learning process and supported by their opinions that they can understand better in topic taught, can watch what they need to do repeatedly, get more references, clearer explanations, effective learning method, useful for the future and wider explanation.

To have a concrete data set, the same survey has been carried out on the teacher's perception and responses on the audiovisual in online learning. There are five Visual Art teachers have responded to this survey. The questions that have been given to the teachers are similar to the student questions but for teachers, one more section has been added which is about the student's creativity and technology. Based on the survey, the differences that have been shown in the teachers' responses only 63% feel the usefulness of audiovisual materials in art classrooms compared to 81% of students with a higher percentage. This difference may occur because of some factors that have been mentioned before in the

problem statement. Based on the statement related to the student creativity and technology used during teaching and learning 100% agreed with the teacher's perception.

This study is focused on producing educational material for Visual Art Education subject that integrates audio-visual materials. Each of the processes in the making of the web-based learning product is followed accurately as planned. The prototype of the website is also has been implemented for the students involved in this study and their opinions and feedback are collected and reflected. Three elements can be measured and one element with open opinions. The three elements are the demographic of students, website performance and features, the user experience and satisfaction. These elements are calculated using the Likert scale while the open opinions are an open-ended answer. As a result of the study, all respondents that have been chosen are responsive to answering the questionnaire without any missing data. In the aspect of website performance and features, it shows the mean score is between 3.83 to 4.01. Next on the user experience, the mean score is between 3.46 to 4.16. This shows that the website performance is at the intermediate level where the scale is between 3=somehow agree to 4= agree. This is a good indicator for this research. The future researcher could look out for the items that have the lowest scale among all the items.

For last part of the questionnaire is an open-ended question regarding user opinion, the answers were collected and categorized into several themes including thought and feel, successful factors, learning experience, favorite features, and additional features and elements. The answers may be subjective as it depends on their interest and preference.

Conclusion

This study employed the use of the ADDIE instructional approach in the design and development of a special website for studying Visual Art Education for elementary school students adopting WordPress as the platform. This learning prototype intends to offer primary school students a new experience, and resources outside of the classroom and to evaluate the efficacy of integrating audio-visual in web-based learning. This study is significant to the current situation and preparing towards the unexpected education system in the future as all around the world are still dealing with uncertain situations. As learning material is one of the factors that will influence student learning outcomes. The result of this research can be used as a reference for future studies to improve better use of the web-based platform as an innovative way of learning. It is also assisted by audiovisual that suits the needs of elementary students in learning Visual Art Education these days. Great initiatives should be done quickly to avoid the pitfalls, especially in Visual Art Education in our current education system.

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