EFFECT OF PRESENTATION MEDIA ON STUDENTS LEARNING OUTCOMES IN VISUAL ARTS

Olurinola Oluwakemi Dessy PhD.

Department of Science and Technology Education
Olabisi Onabanjo University, Ago-Iwoye
kolorinola@gmail.com

Abstract

This study examined whether the use of the PowerPoint presentation (PPT) and the interactive Multiple Mouse (MM) presentation were more effective than the conventional method (CM) in influencing the students’ learning outcomes in Visual Arts. This was based on the need to find adequate media and technology solution that would improve the teaching and learning of the subject Visual Arts and how these technologies can be most effectively utilized in Visual Arts education. The research design was a pre-test, post-test, control group quasi-experiment. The population consisted of Junior Secondary School three students (JSS3) in Ogun state. Purposive sampling technique was used in selecting three schools. Two of them were experimental groups that were exposed to PowerPoint and Multiple Mouse presentation while the third was the control. An intact class of 110 students was used in each of the selected schools. Two hypotheses were tested using the Analysis of Covariance. The findings revealed significant main effect of presentation media and conventional method (MM, PPT, & CM) on students’ achievement in Visual Arts. However, there was no significant main effect on students’ attitude to Visual Arts. The results also revealed mean gains across the three treatment groups. The study concluded that, since the presentation media and conventional method (MM, PPT, & CM) was effective. The study therefore recommended, amongst others, that PowerPoint and Multiple Mouse Presentations should be used in the teaching and learning of Visual Arts in the secondary schools.

Keywords: Visual Art, Microsoft, PowerPoint, Multiple Mouse, Learning outcomes

Introduction

The 9-year Basic Education Curriculum on Cultural and Creative Arts is a combination of all the various aspects of the arts that comprise; music, drama, dance and the visual arts including crafts. The integrated approach is emphasized in order to produce artists that would understand and appreciate the inter-disciplinary nature of the arts. (Obioma, 2007). This study is however interested in the Visual Arts aspect of the Cultural and Creative Arts Curriculum,
which includes Drawing, Painting, Pattern and Design, 3-Dimensional Works, Crafts and Arts. The visual Arts programme is a synthesis of the traditional art of Nigeria (Arts and Crafts) and selected aspects of such basic art as drawing, painting, sculpture and design that has meaning and relevance to the students and society. (Irivwieri, 2009)

According to Lawal-Ojibara, (1991), Abdulrazzaq, (1997), Irivwieri, (2009), Archibong, (2012), Art teaching in Junior Secondary Schools in Nigeria seems to be fraught with hindrances, the most common problems hampering effective implementation of its curriculum, as noted by the above authors include: inadequate space for creative arts classes, apathy on the part of students to the subject, lack of administrative interest, timetabling, lack of parental/community interest and support, lack of incentive to work, lack of materials, equipment, shortage of relevant textbooks and shortage of qualified art teachers. Research grants and other opportunities that can develop art educators and teachers are limited, if available at all. There is usual “mimicking” of art being capital intensive and that there are “better” subjects that need attention.

It is also apparent that there is lack of interest on the part of students to the learning of Visual Arts, as it has been observed that only few students offer the subject beyond the Junior Secondary School level. At the Senior Secondary School level, the number of students that enroll for Visual Arts in the final examinations is quite negligible and this eventually leads to a reduced number at the tertiary education levels. Such a situation seems to undermine arts teaching. From a survey carried out in 2010, of 50 secondary schools in Ogun state, with a population of 7,644 JSS 3 students, only 4% (334 students) of that number took Visual Arts in SSS 3 (Ministry of Education, 2013). The statistics from a study carried out by Lawson and Ajibade (2003) shows that out of the 2,866 school graduates in a selected group of secondary schools from 1998 – 2002, only 219 students took Visual Art as a subject in the Senior Secondary School Level. Archibong (2012) bemoans the crises facing the nation through a
disturbing decline in the study and promotion of Visual and Creative Arts. He noted that this frightening development emerged as discourse at Tai Solarin University of Education (TASUED), during a conference on the Review of the Visual and Creative Arts Curricula, which took place from 11 to 13 November, 2008. And that, almost four years after that conference, which revolved around the theme: Designing Suitable Creative Arts Curricula for Nigeria’s Development in the 21st Century, things have simply become worse as far as art education and promotion are concerned in Nigeria.

There is no doubt from the foregoing that there is need for effective teaching of Visual Arts as it would lead to the improvement of students’ attitude towards the subject. The researcher believes most Arts teachers, especially in the secondary school system, are still imaging the curriculum after the style, content, and methods of their earlier education, rather than reflecting the reality of the contemporary times. It must also be emphasized that, effective teaching and learning of Visual Arts develops a complete and total individual (in cognitive, affective and psychomotor domain). Affective domain deals with the role emotions play in learning and the development of art appreciation values. Visual Arts teachers expect that students learn to value and appreciate Visual Arts as part of their learning. Smith and Regan (1999) (in Miller, 2005) have pointed out that any cognitive or psychomotor objective must add the affective components to it. The authors also state that a student’s attitude toward a given course or subject area can be a contributing factor to his achievement in it. This especially holds true for the learning of Visual Arts, as in some cases attitude learning is the main objective of the instruction. In comparison to the plethora of studies showing improvement in students learning outcomes, using computer based technology, little has been documented relating technology integration in the teaching and learning of Visual Arts.

In the light of these, the question of how these technologies can be most effectively utilized in Visual Arts education is what must be answered; it also becomes necessary to find adequate
media and technology solution that would improve the teaching and learning of the subject Visual Arts. As documented, low enrolment and general apathy are some of the challenges facing the study of Cultural and Creative Arts in Nigerian Junior Secondary Schools. At present, there is the situation of having just a few students continuing the study of Visual Arts at senior secondary level or the total absence of the subject at senior secondary in some schools in Ogun state. Granted that creativity is inborn, it must also be emphasized that effective and interesting teaching techniques have potentials of encouraging young learners to study of the subject, regardless of individual degree of talent or creative ability. It is the researcher’s belief that the possibilities provided for by the multimedia dimension of the presentation media may proffer a solution. A multimedia programme is likely to be more effective than one which relies on a single medium. It is possible that the positive outcomes achieved with the integration of ICT in teaching other school subjects may also be replicated with Visual Arts. This research therefore reports the impact the two types of presentation media (PowerPoint & Multiple Mouse) had on students’ attitude and achievement in Visual Arts. With the prospect that such ICT driven strategies would improve enrolment and create more interest in the subject.

The study set out to examine:

1. Whether the use of the PowerPoint presentation and the Multiple Mouse presentation are more effective than the conventional method used in teaching Visual Arts.

2. The influence of the use of these presentation media on students’ attitude towards Visual Arts.

The study generated and tested the following null hypotheses:

Ho1: There is no significant main effect of treatment (presentation media – PPT, MM & CM) on students’ attitude to Visual Arts.
Ho1: There is no significant main effect of treatment (PowerPoint (PPT), Multiple Mouse (MM), and Conventional Method (CM) on students’ achievement in Visual Arts.

**Technology Integration in the teaching of Visual Art.**

Knowing that the present generation of students are naturally keyed to technology, there is therefore a need to apply a system which combines the best of traditional teaching with the latest developments in technology. Art teachers and artists are now challenged to embrace and utilize these technology tools and find means to implementing and using them in creative and critical ways. It is in this light that the researcher strongly believes that more appropriate methods of teaching Visual Arts using computer based technology must be sought. In the teaching of art and design, the need to consider how ICT might be used alongside and or integrated with art practice and how to develop this new medium in a way that develops and extends visual understanding is important. Artists now use ICT to develop and create their works of Art. Therefore, to have the broadest experience, pupils must also have access to ICT in relation to the artworks being created. For instance, the art teachers use a digital projector that allows them to show techniques, like ‘double-loading’ a brush or shading, on the big screen. (Brooks 2010).

PowerPoint can be very effective to display pictures, diagrams and other visuals; the teacher has them ready and does not need to spend time to draw them on the board. Anulobi’s (2012) study of the effectiveness of PowerPoint slides and chalkboard instructional delivery methods on students’ performance in Junior Secondary School Fine Arts revealed that students taught with PowerPoint slides presentation performed better than those taught without the PowerPoint slides. There are many advantages to the use of this technology in the class, but technology used without the teachers understanding of what his/her goals are, and without a
plan of reinforcement and with no real assessment, has no real value. PowerPoint as a tool for presenting information has always being used as a one-way medium, Mouse Mischief (multiple mouse presentation) makes Office PowerPoint 2007/2010 an interactive medium.

Mouse Mischief (multiple mouse presentation) integrates into Microsoft PowerPoint and allows teachers to create interactive presentations that engage student in the classroom. It is easy to use because it integrates into familiar PowerPoint technology; one does not have to spend time learning new skills to use it. Compared to other interactive classroom technologies such as smart boards, interactive white boards, among others. Mouse Mischief is very affordable; making it is easy on the classroom budget. A classroom can be set up to play multiple mouse presentation lessons without purchasing expensive hardware, it enables multiple people to use a single computer simultaneously by using common computer peripherals like mice, equipping teachers with technology teaching tools at an affordable cost. By combining conventional teaching techniques with the interactive benefits of Mouse Mischief, teachers are able to present a more engaging classroom experience. Skinner (1954) discusses the potentials of mechanical devices providing immediate feedback on correctness of learner’s response. Mouse Mischief is an alternative to expensive classroom response systems. Classroom Response Systems (CRS), also known as Student Response System (SRS) is a technological way to assess students. The SRS-empowered classroom provides the quantitative tools to influence the processing of questions and formulation of answers by the student. The questions come from a computer, and are displayed for each student to view. Each student can answer the test questions at his/her own pace and respond with a device (in this case ‘a computer mouse’). A Bluetooth or infrared transmitter picks up the student's response and sends it to the computer, which stores the responses and can provide detailed reports. This system allows instructors to obtain immediate feedback from each student. The improvement in the teaching and learning of the subject Visual Arts can be facilitated by teaching methods
that give immediate feedback on students’ comprehension of the subject taught, these immediate feedbacks can be provided with the use of Multiple Mouse presentation such as Microsoft Mouse Mischief.

Methodology

The research design for the study was a pre-test, post-test, control group quasi-experiment.

The dependent variables are the students learning outcomes with respect to

(1) Achievement in Visual Art.

(2) Attitude towards Visual Art.

The independent variable is the presentation media strategy at 3 levels

(1) PowerPoint presentation (PPT), - treatment group 1.

(2) Multiple mouse presentation (MM) – treatment group 2

(3) Conventional Method (CM) - control group

The population for this study consists of the Junior Secondary School three students (JSS3) in Ogun state. Junior Secondary Three (JSS3) was chosen because Cultural and Creative Arts is compulsory up to this level in secondary school and that was a deciding year, if they would be continuing the study of Visual art or not. Purposive sampling was used in the selection of schools based on some criteria one of which was the availability of a computer laboratory and students with basic knowledge of computer studies because prior familiarity with the Computer would help reduce the time required for training and the effect of novelty of the technology on the students. It was also to ensure possible continuity of the use of the technology after the end of the treatment. Three Junior Secondary Schools that satisfied the criteria were purposively selected. In each of the three schools, intact classes of JSS3 were used: a total of one hundred and ten (110) students participated in this study. The schools were selected from
Effect of Presentation Media on Students Learning Outcomes in Visual Arts.

3 distinct locations in Ogun state in order to reduce interaction that could possible occur among the groups.

The PowerPoint slides were based on the Visual Art topics that were treated during the study (Elements of Art, Colour, Principles of Art, Traditional Nigerian Art & Response to Art) these topics were adopted from the National Curriculum For Creative And Cultural Art (NERDC 2006). For the experimental group assigned to Microsoft Multiple Mouse, a PowerPoint add-in called Mouse Mischief, which is used to create and play interactive, multiple-mouse presentations was used with the same PowerPoint slides created for the PowerPoint group. The interactive dimension enabled by Mouse Mischief application allows the students to point and click or pick and drag on the PowerPoint presentations. Questions requiring yes or no answers, multiple choice questions, and drawing activities were included in the slides. The Conventional method followed the conventional mode of presentation.

The Research Instruments used were the Students Attitude to Visual Art Questionnaire (SAVA) The 25-item SAVA was designed to assess students’ attitudes towards visual art. The survey instrument had the four-point Likert type scale with assumed equal intervals between points. The instrument scales for the items are 1= strongly disagree, 2= disagree, 3= agree, 4= strongly agree this was used to assess the degree of agreement or disagreement with the statements. The other instrument was the Visual Art Achievement Test. (VAAT) which were field validated Junior Secondary Certificate Examination past questions (2005-2012) that corresponded to the content of the topics treated during the study. The VAAT is 25 item multiple-choice questions with five options. To ascertain reliability of the Students Attitude to Visual Art Questionnaire (SAVA), and The Visual Arts Achievement Test (VAAT) instrument was administered on a sample of students that are not part of the main study. A test-retest method was used. The reliability coefficient of the attitude questionnaire gave the reliability co-efficient as 0.91. While that of the achievement test was 0.79.
A pretest was given to determine if any statistically significant differences exist among the groups at the beginning of the study. For all the treatment groups, the Students attitude to Visual Art questionnaire (SAVA), and Visual Art achievement test (VAAT) were administered. The data collected were analyzed using descriptive and inferential statistics. Means and standard deviation scores are the descriptive statistics used to show estimates of the post-test achievement and attitude scores according to the levels of presentation media. The formulated hypotheses were tested using the Analysis of Covariance (ANCOVA), using pre-test scores as covariates. The accompanying Multiple Classification Analysis (MCA) was used to explain the magnitudes of the post-test mean achievement and attitude scores across the various levels.

**Discussion**

The result revealed mean gains across the three treatment groups when the pre-test and post-test scores are compared, with the highest mean achievement gain from the multiple mouse presentation group. The group of participants taught using the multiple mouse presentation strategy recorded the highest post-test mean achievement score of 17.67 (S.D. = 3.59); this was followed by the participants taught using the power point presentation strategy whose post-test mean achievement score was 16.64 (S.D. = 3.54), while the conventional method recorded the least post test mean achievement score of 15.16 (SD=2.50). Results for the test in Attitude showed the participants taught using the multiple mouse presentation strategy recording the highest post-test mean attitude score of 64.31 (S.D. = 6.45)followed by the participants taught using the power point presentation strategy whose post-test mean attitude score was 64.07 (S.D. = 8.30), while the participants taught using the conventional method recorded the least post-test mean attitude score of 63.62 (S.D. = 6.10). The result also revealed mean gains across the three treatment groups.
Table 1:

Summary of Analysis of Covariance of Students’ Achievement Scores

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>800.819</td>
<td>1</td>
<td>800.819</td>
<td>93.045</td>
<td>.000</td>
</tr>
<tr>
<td>Covariates (pre-test)</td>
<td>142.744</td>
<td>1</td>
<td>142.744</td>
<td>16.585</td>
<td>.000</td>
</tr>
<tr>
<td>Treatment (PPT, MM, CM)</td>
<td>64.683</td>
<td>2</td>
<td>32.342</td>
<td>3.758</td>
<td>.027*</td>
</tr>
</tbody>
</table>

Note. * indicate significant F at .05 level  
R Squared = .378 (Adjusted R Squared = .255)

Hypothesis 1: There is no significant main effect of treatment (PowerPoint (PPT), Multiple Mouse (MM), and Conventional Method (CM) on students’ achievement in Cultural and Creative Arts.

The result in Table 1 shows the main effect of presentation media on the students’ achievement scores in Visual Arts. The result revealed significant outcome ($F_{(2, 91)} = 3.758, P < 0.05$), that is, the post-test mean achievement scores of the students exposed to the different presentation media are significantly different. As a result, the null hypothesis one that states that there is no significant main effect of treatment (PowerPoint (PPT), Multiple Mouse (MM), and Conventional Method (CM) on students’ achievement in Cultural and Creative Arts is rejected.

Table 2:

Multiple Classification Analysis of Students’ Achievement Scores

<table>
<thead>
<tr>
<th>Variable + Category</th>
<th>N</th>
<th>Unadjusted Deviation</th>
<th>Eta</th>
<th>Adjusted for Independent Covariates</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Power Point (PPT)</td>
<td>28</td>
<td>-0.96</td>
<td></td>
<td>1.40</td>
<td></td>
</tr>
<tr>
<td>2. Multiple Mouse (MM)</td>
<td>45</td>
<td>-0.02</td>
<td></td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>3. Conventional (CM)</td>
<td>37</td>
<td>-2.23</td>
<td>.08</td>
<td>0.01</td>
<td>.28</td>
</tr>
</tbody>
</table>
The result in Table 2 shows the magnitudes of the adjusted post-test mean achievement scores of students exposed to the three presentation media. The MCA revealed that with a grand mean of 16.559, the students exposed to multiple mouse presentation strategy recorded the highest adjusted post-test mean achievement score of 18.359 (i.e. 16.559 + 1.80). This outcome thus revealed that the multiple mouse presentation strategy with the best adjusted post-test mean achievement score had more impact in improving students’ achievement in Visual Arts.

Table 3:
Summary of Analysis of Covariance of Students’ Attitude Scores

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>1734.414</td>
<td>1</td>
<td>1734.414</td>
<td>40.887</td>
<td>.000</td>
</tr>
<tr>
<td>Covariates (pre-test)</td>
<td>252.611</td>
<td>1</td>
<td>252.611</td>
<td>5.955</td>
<td>.017</td>
</tr>
<tr>
<td>Treatment (PPT, MMM, CP)</td>
<td>55.416</td>
<td>2</td>
<td>27.708</td>
<td>.653</td>
<td>.523</td>
</tr>
</tbody>
</table>

Note. R Squared = .234 (Adjusted R Squared = .082)

Hypothesis 2: There is no significant main effect of treatment (presentation media – PPT, MM & CM) on students’ attitude to Visual Arts

The result in Table 3 shows the main effect of presentation media (i.e. PPT, MM and CM used as strategy in the study) on the students’ attitude to Visual Arts scores. The result revealed no significant outcome ($F_{(2, 91)} = .653, P > 0.05$), that is, the post-test mean attitude to Visual Arts scores of the students exposed to the different presentation media are not significantly different. As a result, the null hypothesis two is tenable.

Table 4:
Multiple Classification Analysis of Students’ Attitude Scores
Effect of Presentation Media on Students Learning Outcomes in Visual Arts.

<table>
<thead>
<tr>
<th>Variable + Category</th>
<th>N</th>
<th>Unadjusted Deviation</th>
<th>Eta</th>
<th>Adjusted for Independent + Covariates</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Power Point (PPT)</td>
<td>28</td>
<td>-2.94</td>
<td></td>
<td>2.31</td>
<td></td>
</tr>
<tr>
<td>2. Multiple Mouse (MM)</td>
<td>45</td>
<td>-1.02</td>
<td></td>
<td>3.07</td>
<td></td>
</tr>
<tr>
<td>3. Conventional (CM)</td>
<td>37</td>
<td>-3.16</td>
<td>.03</td>
<td>1.74</td>
<td>.12</td>
</tr>
</tbody>
</table>

*Note. Grand Mean = 63.654*

The result on Table 4 shows the magnitudes of the adjusted post-test mean attitude to Visual Arts scores of students exposed to the three presentation media. The MCA revealed that with a grand mean of 63.654, the students exposed to multiple mouse presentation strategy recorded the highest adjusted post-test mean attitude score of 66.724 (i.e. 63.654 + 3.07). This outcome thus revealed that the multiple mouse presentation strategy with the best adjusted post-test mean attitude led to improved attitude to Visual Arts than the other presentation strategies used in this study. There was however no statistically significant difference in the post-test mean attitude scores of the students according to presentation media used as treatment.

In summary, the findings of the study revealed that there was significant main effect of presentation media on the students’ achievement in Visual Arts. It was also observed that all the groups had improvement in learning outcomes after receiving their respective instructional strategies. Although it was observed that all groups made learning gains, the students exposed to multiple mouse presentation strategy recorded the highest adjusted post-test mean achievement score, followed by those exposed to the power point presentation strategy, while the students exposed to conventional method recorded the least adjusted post-test mean achievement score. It can be said that all the strategies used have the potency to improve learning in the Visual Art classroom, therefore the approach of combining the possibilities provided by the multimedia dimension of the presentation media with the conventional practice can lead to better teaching and learning of Visual Art. Oliver (2000) also asserts that by
incorporating digital media elements, the students are able to learn better since they use multiple sensory modalities, which would make them more motivated to pay more attention to the information presented and better retain the information.

This finding corroborates with the assertion of the multimedia principle which states that including multimedia as part of instruction can significantly enhance student learning (Mayer, 2005). Zywno and Waalen (2002) quasi-experimental study in a course offered in a hypermedia-assisted mode, found a statistically significant increase in academic achievement in the hypermedia mode, as compared with the conventionally instructed control group. These findings also corroborate Abass (2011) study which assessed the use of computer assisted instruction in enhancing students’ creative ability in sculpture education, the results of data analysis showed that students instructed with computer graphic benefited more than their counterparts in conventional teaching methods. It was concluded that application of computer in learning environment has considerable influence on the student’s performances in sculpture. Abass (2012) study on the use of computer technology in the teaching and learning of graphic arts findings revealed that computer technology enhanced the teaching and learning of Graphic arts. The study concluded that computer would contribute immensely to the teaching and learning of graphic arts in schools. Hastings (2000) also found higher grades in two PPT conditions (PPT lecture &PPT lecture with notes) compared with an overhead lecture condition.

Although both of the presentation media used as instructional strategies in this study had greater effect on the learning outcome than the conventional method, the students exposed to multiple mouse presentation strategy recorded the highest adjusted post-test mean achievement score, this can be attributed to the interactivity enabled by the Microsoft mouse mischief add-on, the students were not mere passive recipients of information but were able to
interact with the PowerPoint presentation, leading to active participation and more engagement in the learning process which equally led to greater effect on learning.

In the contrary to the findings of significant main effect of Presentation media on the students’ achievement in Visual Arts, it was revealed that the post-test attitude score of Visual Arts students exposed to the different presentation media were not significantly different. Although the MCA revealed that the students exposed to multiple mouse presentation strategy recorded the highest adjusted post-test mean attitude score followed by the students exposed to power point presentation strategy, while the students exposed to conventional method recorded the least adjusted post-test mean attitude score. This outcome thus revealed that the multiple mouse presentation strategy with the best adjusted post-test mean attitude had the highest impact that led to improved attitude to Visual Arts than the other presentation strategies used in this study. Smith and Regan (1999) in Miller (2005), state that a student’s attitude toward a given course or subject area can be a contributing factor to his achievement in it. This statement particularly holds true for this study as the students exposed to the multiple mouse presentation, having the highest improved attitude to visual arts also had the best adjusted post test mean achievement score compared to the other presentation strategies.

**Conclusion and Implication**

The result revealed mean gains across the three treatment groups when the pre-test and post-test scores were compared. Since all the presentation media proved to be effective and all results showed improvement, the best approach to the selection of media therefore is to combine these presentations media (MM & PPT), especially MM presentation using a variety of multimedia content with the conventional method of teaching visual arts. Art teachers and artists should embrace and utilize these presentation media and find the means to implement and use them creatively. Teachers should be offered training in the use of these technologies as instructional strategies. Teachers should be provided with in-service professional
development on practical applications of this technology in the classroom, and they should be given in-depth, sustained assistance not only in the use of the technology but in their efforts to integrate this technology into the Visual Art curriculum. It is also important to build time into the daily schedule allowing teachers more to time to use this technology in their creative art work with their students. Engaged learning through technology is best supported by changes in the structure of the school day, including longer class periods. It is important that the government, at least at the local and perhaps national level, establish guidelines and standards for ICT integration for Art teachers’ preparation in pre-service education to enhance the quality of Arts Education delivery. And, the Ministry of Education should draft a new Creative Art curriculum that identifies key competences that may be readily demonstrated in Art practices and ICT collaborations.

References


Effect of Presentation Media on Students Learning Outcomes in Visual Arts.


