



Effect of Hands-on/Mind-on Learning Activities on Primary School Pupils` Achievement in Cultural and Creative Arts

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

The purpose of the study was to experimentally determine the effect of Hands-on/Mind-on learning activities on primary school pupils` achievement in Cultural and Creative Arts in Nsukka Local Government Education Authority. The study adopted quasi experimental research design. Non-equivalent pre-test post-test alternative treatments, in particular, are used in the control group design. The study was led by three research questions and three null hypotheses. The population of this study was 4,200 (2700 males and 1,500 females) Basic Four pupils in all the 117 primary schools in Nsukka Local Government Education Authority (2021/2022 session). The sample size for the study was 101 Basic 4 pupils. The sampling technique adopted was purposive sampling techniques and simple random sampling technique. The instrument for the study was a 20 items multiple choice objective questions of Cultural and Creative Arts Achievement Test. On the Test instrument, a reliability coefficient of 0.86 was achieved using Kuder Richardson 20 (K - R 20). The study questions were answered using mean and standard deviation, and the hypotheses were evaluated using Analysis of Covariance (ANCOVA) at the 0.05 level of significance. The study found out that pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities performed better than those pupils taught using conventional method. Also, Hands-on/Mind-on learning activities was effective in improving both male and female pupils` achievement in Cultural and Creative Arts. Base on the findings, the study recommended that both in-service and pre-service teachers should be educated on the significance and relevance of hands-on/minds-on

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learning activities, as well as how to effectively use them in cultural and creative arts classrooms so as to makes learning easy for the students since must study does not consider learners of cultural and creative arts in their study.

Keywords: Hands-on/mind; learning activities; cultural and creative arts; achievement; and gender.

1. INTRODUCTION

While the goal of education is to help pupils increase their cognitive capacity and thinking abilities, the efficacy of a teaching-learning activity is determined by how well students achieve and interact with the information or experience they are given. Pupils can participate in a learning activity with a teacher to gain the knowledge or skills needed to accomplish the intended educational objective. Therefore, the pupil's level of achievement in a particular subject could be determined by the learning activities in which the pupils are involved. Learning activities, according to Siemens and Tittenberger [1], are a collection of actions aimed at promoting learning, such as diffusion, discussion, discovery, and demonstration. Siemens and Tittenberger believed that for learning activities to be lively, a series of actions must be involved. According to Bransford, Brown, and Cocking [2], while designing learning activities, it is critical to examine how learners process new knowledge, obtain new talents, or build a new way of being. Learning activities may also be defined as the activities that students and teachers engage in during learning events in order to achieve the desired learning results. Teachers providing space in the classroom for students to work with their hands while reasoning with their minds on an item can be considered a sort of learning activity.

So far, several interpretations of what "hands-on/mind-on learning" means have been presented, with the most prevalent and accepted meaning being "learning by doing." Sadi [3] stated that hands-on/mind-on entails fostering a child's capacity to think critically as part of a comprehensive learning experience. Sadi stated further that, contrary to popular assumption, learning via hands-on/mind-on activities includes not only controlling or manipulating things, but also a depth of study utilizing ideas, objects, and materials, as well as drawing on the depth of investigations using items, materials, and phenomena. It comprises pupils' applying concepts and inferring meaning and understanding from their experiences [4]. Hands-on/minds-on in cultural and creative arts may be

seen as any arts activities that allow pupils to handle, witness, and modify the artistic process. It differs from traditional education in that pupils engage with art objects to make observations, and it includes a variety of activities. Hands-on/mind-on cultural and creative arts are essential for student success because they engage students in the learning process by allowing them to manipulate objects or materials in order to absorb information and develop their own understanding of cultural and creative arts themes [5]. Sadi believes that interacting with materials or things motivates and excites students to participate in class. Hands-on/mind-on learning activities, according to the current study, assist students to become critical thinkers, active learners, and researchers in the future. Music, painting, theatre, and dance are all enhanced by hands-on/mind-on activities.

The Cultural and Creative Arts (CCA) curriculum combines the fine and applied arts, music, and theater. The Cultural and Creative Arts curriculum was initially recommended in Nigeria as one of the six basic elementary school curricula during the Lagos Curriculum Conference of 1969 [6]. Cultural and Creative Arts (CCA) is regarded by Nnamani [7] as an integration of music, arts, drama, and dance in which a student is supposed to grow into and with his people's cultural legacy. He/she is meant to function organically as a cultural aid product, appreciating and acquiring components of his cultural background. According to Ogboji [8], the incorporation of information, skills, attitude, and values into the many components of CCA enhances the learning of entrepreneurial skills, which in turn generates excellent theatrical performances and artistic masterpieces. The current research is of the opinion that this sort of topic in elementary school may help students attain self-actualization and self-fulfillment since each component of CCA, including studio activities, builds creative process abilities that boost students' grasp of the subject. Ogumor [9] argued that the abilities that learners gain via CCA activities allow them to generate works that are also the final results of an artist's creative process. A truly creative and well-educated person understands how to work with his or her

hands and mind and recognizes that any labor can be noble if done with the utmost integrity [9]. This implies that CCA programs might help students improve their manipulative abilities. Using good methods to teach such a subject, such as hands-on/mind-on learning activities, will increase student achievement and, in the long run, produce creative, patriotic, and productive students who will do their best to help the country grow [10].

Achieving a certain standard in a course of study is referred to as "achievement." Ugwuanyi [11] sees achievement as a pupil's cognitive attainment in school work, as measured by a passing grade on a school teacher-made exam or standardized test in a subject such as mathematics. Ezeudu, Ezeudu and Jolaosho [12] stated that academic achievement is all about what a learner has achieved in a class work organized by the teacher using Economics for example. Ajua [13] argues that a pupil's academic achievement is seen as effective academic development obtained from the pupil's work and skills in a certain subject area. "Academic achievement is regarded as the extent to which a pupil/learner, teacher/instructor, or institution has met educational objectives" [14]. In this study, academic achievement is seen as how well male and female students do in activities, assignments, courses, research projects, or programs that they have been given the chance to do.

Gender is a characteristic that distinguishes a man from a woman. Gender has a number of constraints on students' academic success, many of which are related to sex-role differentiation, in which some tasks are assigned to males and others to females. "Gender is defined as the social meaning of being a boy or a girl, which includes the formation of identities, expectations, behaviors, and power relationships via social interactions" [15]. Gender, according to Keightley [16], "is concerned with males and females as classifications for each sex in society". According to Ezeudu, Jolaosho, Yahaya, Opara, and Babalulu [17], "gender is a trait used to distinguish a man from a woman. Ezeudu et al stated further that they are many reticence posed by gender on learners' achievement in terms of learners gender".

Since records from male and female pupils' grade books show that they do perform poorly in cultural and creative arts, the researcher of this study attributed the poor achievement of the pupils to the poor methods used by the teachers

and to put a full stop to this high poor achievement rate among the pupils, the researcher of this study conducted a study on how hands-on/minds-on learning activities could be of help in cultural and creative arts classroom which the final findings showed positive results which were not gendered bias. The academic achievement of male and female students in the cultural and creative arts is prioritized in this study. In light of this study, therefore, it is necessary to verify the effect of Hands-on/Mind-on learning activities on pupils' achievement in Cultural and Creative Arts.

The study aim was to ascertain the effect of hands-on/mind-on learning activities on primary school pupils' achievement in cultural and creative arts. In particular, the study sought to:

- Find the differences in the mean achievement scores of pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities and those taught with conventional method.
- Find the differences in the mean achievement scores of male and female pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities
- Find the interaction effects of method and gender on the differences in the mean achievement scores of pupils taught t Cultural and Creative Arts.

The following research questions guided the study.

- What is the difference in the mean achievement scores of pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities and those taught with conventional method?
- What is the difference in the mean achievement scores of male and female pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities?
- What is the interaction effect of method and gender on the differences in the mean achievement scores of pupils taught t Cultural and Creative Arts?

The following null hypotheses tested at 0.05 level of significant guided the study.

Ho₁: There is no significant difference in the mean achievement scores of pupils taught Cultural and Creative Arts using Hands-

on/Mind-on learning activities and those taught with conventional method.

Ho₂: There is no significant difference in the mean achievement scores of male and female pupils taught Cultural and Creative Arts using Hands-on/Mind-on learning activities

Ho₃: There is no significant difference in the interaction effects of method and gender on the differences in the mean achievement scores of pupils taught Cultural and Creative Arts.

2. METHODS

The study was a quasi-experimental design. In particular, non-equivalent pre-test and post-test alternative treatments control the group design. This might be used to more thoroughly assess if treatment X1 delivers different results than treatment X2 [18]. The intact classes of four primary schools in Nsukka Local Government Education were used. Using full classes minimized the potential of student selection bias, as well as re-arranging and re-grouping, which may interrupt a usual session. Rogers and Revesz [19] say that the goal of a quasi-experimental research design is to find out if there is a cause-and-effect relationship between independent variables and dependent variables.

The research design involves two groups which are the experimental group and the control group. The research design is illustrated in Chart 1.

Chart 1. Research design

Group	Pretest	Treatment	Posttest
Experimental	R _b	X ₁	R _a
Control	R _b	-	R _a

“The study was carried out in primary schools in Nsukka Local Government Education Authority. Nsukka Local Government Education Authority includes 117 elementary schools” [20] and is comprised of various localities like Ede-Oballa, Nsukka, Eha-Alumona, Okpuje, Opi-Agu, Edem, Umuabor, Opi, Okutu, Obukpa, Ibagwni, Obiomo, Awka, Lejja, Alor-Uno, Okpalig The surface area of Nsukka Local “Government Education Authority is 1,810km². Nsukka Local Government Education Authority is in Enugu State, Nigeria's South-East. The population of this study was 4,200 (2700 males and 1,500 females) Basic Four pupils in all the 117 primary schools in Nsukka Local Government Education

Authority” [20]. The sample size of the study was 101 (53 for the experimental group and 48 for the control group) basic 4 pupils. The intact classes of the four schools were used as the sample size. A purposive sampling technique was used to select the 2 experimental schools with cultural and creative arts instructional materials, while a simple random sampling technique was used to pick the 2 control group schools.

The instrument used in the study was the Cultural and Creative Arts Achievement Test (CCAAT). The CCAAT was a 20-item of 4 multiple-choice objective questions which was adopted from the Basic 4 Enugu State Government unified examination. Three experts face validated the instrument while a table of blueprint handled the content validity of the instrument. Two of the specialists were in Childhood Education and one in Measurements and Evaluation, both from the Faculty of Education at the University of Nigeria, Nsukka. The experts gave the instrument their stamp of approval based on how well it worked, how clear it was, and how well it worked for this level of students.

A pilot study was conducted at Obollo-Afor Local Government Education Authority to determine the dependability level of the research tools. The reason for the choice of Obollo-Afor LGEA was that the schools in Obollo-Afor were believed to be more or less equivalent in standard to the schools in Nsukka Local Government Education Authority which is the main study area. One type of reliability testing was conducted to determine the internal consistency of the test instrument using Kuder Richardson 20 (K – R 20). The K-R 20 result gave a reliability value of 0.86 which shows that the Cultural and Creative Arts Achievement Test (CCAAT) instrument was highly reliable. Pretest and posttest were used for data collection. The pretest and posttest instrument were administered to both the experimental (Hands-On/Mind-On and control (Conventional) groups. Pre-test at the initial stage was administered simultaneously to both groups. The Pupils in the experimental group were exposed to Hands-On/Mind-on learning activities while those in the control group were taught in the traditional way of teaching. After three weeks posttest was now administered to both groups. The three study questions were addressed using mean and standard deviation, whereas the three null hypotheses were examined using Analysis of Covariance (ANCOVA). As a result, hypotheses larger than

0.05 were accepted, whereas hypotheses less than 0.05 were rejected.

3. RESULTS

3.1 Research Question 1

What are the differences in the mean achievement scores of pupils taught cultural and creative arts using Hands-on/Mind-on learning activities and those taught with conventional method?

According to the data in Table 1, experimental group 1 was taught using Hands-on/Mind-on Learning Activities (HMLC) and had a pre-test mean achievement score of 25.32 with a standard deviation score of 3.44 and a post-test mean achievement score of 70.72 with a standard deviation score of 6.13. The pre-test/post-test mean difference for the group taught utilizing Hands-on/Mind-on learning activities was 45.40. The conventional method (CM) control group had a pre-test mean score of 25.25 with a standard deviation score of 3.26 and a post-test mean achievement score of 49.67 with a standard deviation score of 4.47. The difference (mean gain) between the pretest and posttest means for the group instructed with CM was 24.42. This finding indicates that students in the experimental group taught with HMLC

outperformed students in the control group taught with CM on the achievement exam. Hence Hands-on/Mind-on Learning Activities is more effective in enhancing pupils' achievement in Cultural and Creative Arts.

3.1.1 Hypothesis 1

Ho₁: There is no significant difference in the mean achievement scores of pupils taught Cultural and Creative Arts using Hands-on/Mind-on Learning Activities and those taught with Conventional Method.

Table 2 reveals that an F-cal of 370.893 with an associated probability of 0.000 was obtained in relation to the difference in mean accomplishment scores between children taught Cultural and Creative Arts utilizing Hands-on/Mind-on Learning Activities and those taught using Conventional Method. The null hypothesis (Ho₁) was rejected because the associated probability (0.000) was less than the 0.05 level of significance chosen as the decision-making threshold. The conclusion was that there was a substantial difference in mean accomplishment scores between students who were taught Cultural and Creative Arts utilizing Hands-on/Mind-on Learning Activities and those who were taught using the Conventional Method.

Table 1. Pre-test and post-test mean scores of hands-on/mind-on learning activities and conventional method groups in the achievement test

Group	N	Pretest		Posttest		Mean Gain
		\bar{x}	SD	\bar{x}	SD	
Experimental	53	25.32	3.44	70.72	6.13	45.40
Control	48	25.25	3.26	49.67	4.87	24.42

*N = Number of students, \bar{x} = Mean and SD = Standard Deviation

Table 2. Analysis of covariance (ANCOVA) of the significant difference in the mean achievement scores of pupils taught cultural and creative arts using hands-on/mind-on learning activities and those taught with conventional method

Source	Type III sum of squares	Df	Mean square	F	Sig.
Corrected Model	11273.607 ^a	2	14228.673	186.935	.000
Intercept	7987.422	1	7987.422	264.890	.000
Pretest	112.355	1	112.355	3.726	.056
Group	11183.803	1	11183.803	370.893	.000
Error	2955.066	98	30.154		
Total	386520.000	101			
Corrected Total	14228.673	100			

3.2 Research Question 2

What are the differences in the mean achievement scores of male and female pupils taught Cultural and Creative Arts using Hands-on/Mind-on Learning Activities?

The male group had a pretest mean achievement score of 25.19 with a standard deviation score of 3.48 and a posttest mean achievement score of 70.67 with a standard deviation score of 6.13, as shown in Table 3. The difference in mean gain between the pretest and posttest for the male group was 45.48. The pretest mean accomplishment score for the female group was 25.46, with a standard deviation of 3.47, and the posttest mean achievement score was 70.77, with a standard deviation of 6.25. For the female group, the difference between the pretest and posttest mean scores is 45.31. The posttest achievement mean was higher than the pretest achievement mean for both male and female students, with the male group having a bigger mean gain. This demonstrates that hands-on/minds-on learning activities appear to have increased both male and female students' success scores.

3.2.1 Hypothesis 2

Ho₂: There is no significance difference in the mean achievement score of male and female pupils taught Cultural and Creative Arts using Hands-on/Mind-on Learning Activities.

Table 4 reveals that an F-ratio of.018 was achieved with an associated probability value of 0.893 for the difference in the mean accomplishment scores of male and female learners taught Cultural and Creative Arts utilizing Hands-on/Mind-on Learning Activities. The null hypothesis (Ho₂) was not rejected since the associated probability (0.893) was larger than the level of significance and decision threshold of 0.05. Based on this, it was determined that there was no statistically significant difference in the mean accomplishment scores of male and female students who were taught Cultural and Creative Arts through Hands-on/Mind-on Learning Activities.

3.3 Research Question 3

What is the interaction effect of method and gender on the differences in the mean achievement scores of pupils taught Cultural and Creative Arts?

Table 5 displays the relationship between technique and gender on the mean achievement scores of Cultural and Creative Arts students. The male group had a pretest mean of 25.19 with a standard deviation of 3.48 and a posttest mean of 70.67 with a standard deviation of 6.13, according to the results. The difference in mean gain between the pretest and posttest for the male group was 45.48. The pretest mean for the female group was 25.46, with a standard deviation of 3.47, and the posttest mean was 70.77, with a standard deviation of 6.25. For the female group, the difference between the pretest and posttest means was 45.31. The posttest achievement means for both groups were higher than the pretest achievement means, with the male group having a bigger mean gain. This indicates that Cultural and Creative Arts appears to have boosted both male and female students' academic scores. The male group taught using the traditional technique had a pretest mean of 24.60 with a standard deviation of 3.32 and a posttest mean of 50.00 with a standard deviation of 4.81, according to the results in Table 5. For the male group, the difference between the pretest and posttest means was 25.40. The pretest mean for the female group was 25.71, with a standard deviation of 3.21, while the posttest mean was 49.43, with a standard deviation of 4.98. For the female group, the difference between the pretest and posttest means was 23.72. The posttest mean score for each of the two groups was higher than the pretest mean score. The male group in the traditional method group had higher marks than their female counterpart, indicating that technique and gender had an interaction on students' achievement in Cultural and Creative Arts.

3.3.1 Hypothesis 3

Ho₃: There is no significant difference in the interaction effect of method and gender on the differences in the mean achievement scores of pupils taught Cultural and Creative Arts.

Table 6 reveals that an F-ratio of.034 was obtained with an associated probability value of.855 for the interaction impact of technique and gender on learners' achievement scores in Cultural and Creative Arts. The null hypothesis (Ho₃) was accepted since the associated probability (0.855) was larger than the 0.05 threshold of significance stated as the criterion for making a choice. As a result, the conclusion reached was that there is no significant

Table 3. Pre-test and post-test mean achievement scores of male and female pupils in cultural and creative arts using hands-on/mind-on learning activities

Gender	N	Pretest		Posttest		Mean gain
		\bar{x}	SD	\bar{x}	SD	
Male	27	25.19	3.48	70.67	6.13	45.48
Female	26	25.46	3.47	70.77	6.25	45.31

*N = Number of students, \bar{x} = Mean and SD = Standard Deviation

Table 4. Analysis of covariance (ANCOVA) of the significant difference in the mean achievement scores of male and female pupils taught cultural and creative arts using hands-on/mind-on learning activities

Source	Type III sum of squares	Df	Mean square	F	Sig.
Corrected model	119.262 ^a	2	59.631	1.626	.207
Intercept	6308.683	1	6308.683	172.040	.000
Pretest	119.122	1	119.122	3.249	.078
Gender	.665	1	.665	.018	.893
Error	1833.493	50	36.670		
Total	267000.000	53			
Corrected total	1952.755	52			

Table 5. Mean and standard deviation of the interaction effect of method and gender on the mean achievement scores of pupils taught cultural and creative arts

Variables	N	Pretest		Posttest		Mean gain
		\bar{x}	SD	\bar{x}	SD	
Experimental Male	27	25.19	3.48	70.67	6.13	45.48
Female	26	25.46	3.47	70.77	6.25	45.31
Control Male	20	24.60	3.32	50.00	4.81	25.40
Female	28	25.71	3.21	49.43	4.98	23.72

*N = Number of students, \bar{x} = Mean and SD = Standard Deviation

Table 6. Analysis of covariance (ANCOVA) of the significant interaction effect of method and gender on the difference in the mean achievement scores of pupils taught cultural and creative arts

Source	Type III sum of squares	Df	Mean square	F	Sig.
Corrected model	11274.645 ^a	4	2818.661	96.601	.000
Intercept	7895.083	1	7895.083	256.574	.000
Pretest	109.444	1	109.444	3.557	.062
Method	10993.717	1	10993.717	357.274	.000
Gender	.006	1	.006	.000	.989
Method *Gender	1.038	1	1.038	.034	.855
Error	2954.029	96	30.771		
Total	386520.000	101			
Corrected total	14228.673	100			

interaction impact of technique and gender on the mean achievement scores of Cultural and Creative Arts students.

4. DISCUSSION OF FINDINGS

As shown in Table 1, there is different between the mean achievement scores of the two groups of pupils taught Cultural and Creative Arts

(Experimental 1: Hands-on/Mind-on learning activities and Control: Conventional method). The analysis revealed that pupils taught using Hands-on/Mind-on performed significantly better in Cultural and Creative Arts Achievement Test than their counterparts who were taught with Conventional method. Result in Table 2 further confirmed this finding by indicating a significant difference in the mean achievement scores of

both group taught Cultural and Creative Arts. This implies that the efficacy of methods with regards to academic achievement in Cultural and Creative Arts is not the same. The findings of this study contradict the findings of Ogboji [7] who find out that “method of teaching as no effect on students’ achievement in Cultural and Creative Arts”.

From the finding of this study, male pupils slightly performed better than their female counter part in Cultural and Creative Arts (CCA). This means that there is no significant difference in the mean achievement scores of male and female CCA students taught utilizing Hands-on/Mind-on learning activities. This study also discovered that there is no statistically significant difference in the mean achievement scores of male and female CCA students taught with Hands-on/Mind-on learning activities. This might be due to how engaging their hands-on/mind-on learning was. The aforementioned study is consistent with Anaduaka’s [21] discovery that “gender has no impact on the Multiple Intelligence Teaching Approach (MITA), which boosts students’ success and interest in geometry”. Also in line with the present study was the findings of Ezeudu, Ezeudu and Jolaosho [17] who found “out no significance difference in the mean achievement scores of male and female students taught Economics using YouTube instructional package videos”.

The comparison between the male and female students taught CCA shows that there is a difference in achievement when Hands-on/Mind-on learning activities and conventional method were used. It was observed that males achieved higher than the females when both Hands-on/Mind-on learning activities and conventional method but no significant difference in both achievement. This means that there seem not to be interaction effect of methods and genders on pupils’ achievement in CCA. In line with the study was Omeje [22] who found out that “there is no significant interaction impact of teaching technique and gender on students’ interest in Igbo language”. The present study was also in agreement with the findings of Ezeudu, Jolaosho, Yahaya, Opara and Babalulu [20] who found out in that “study there was no significant interaction effect of method and gender”.

5. CONCLUSION

Various educational approaches, such as constructivism, have stressed the active

engagement of students and instructor direction in cultural and creative arts programs. In comparison to traditional training, the findings of this study imply that hands-on/mind-on learning activities may improve learning outcomes. The students in the hands-on/mind-on group learned artistic concepts through both hands-on and mind-on activities. They were actively involved in their learning and had firsthand experience with it. During their lessons, their teachers assist them. They completed all hands-on activities and explored all vital questions in order to grasp the subject’s key points at the conclusion of the activities. As a result, they may recall significant concepts years later. Furthermore, these activities make cultural and creative education for pupils more entertaining, interesting, and effective. However, pupils who were taught in a conventional way only learned artistic concepts by listening to their teacher and taking notes. They did not use their hands to observe and practice the artistic ideas they were taught. According to the findings, pupils who were taught cultural and creative arts using conventional method achieved an average level of achievement.

6. IMPLICATIONS OF THE STUDY

This study has several significant implications, one of which is that instructors must recognize the importance of hands-on/mind-on learning activities in cultural and creative arts education. Because a learning environment should incorporate creativity and self-motivation [23,24], it is hoped that exposing teachers to contemporary art concerns would drive them to use fresh, motivating methods to comprehend art themes in their classrooms. They should realize that they don’t necessarily require high-priced cultural and creative arts tools to properly teach the subject. Teachers may be able to construct hands-on/mind-on learning activities to pique pupils’ interest in cultural and creative arts classes [25]. Teachers should also know how to prepare hands-on/mind-on learning activities, as they should not be done in a cookbook approach. Hands-on and mind-on activities should be included in teachers training programme.

7. RECOMMENDATIONS

The following recommendations were made:

1. Both in-service and pre-service teachers should be educated on the significance and relevance of hands-on/minds-on

learning activities, as well as how to effectively use them in cultural and creative arts classrooms.

2. In cultural and creative arts curricula, curriculum developers should design and incorporate hands-on/mind-on learning activities.
3. Teachers should encourage both male and female pupils on how to carried out some artistic drawings.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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