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**AN EVALUATION OF TECHNOLOGY-MEDIATED  
INSTRUCTION ON EFFECTIVE SOCIAL STUDIES  
INSTRUCTIONAL DELIVERY IN DELTA STATE  
HIGHER INSTITUTIONS**

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<sup>1</sup>Olubusola Olabisi **RENNER**, <sup>2</sup>Kwame-Sika Nathaniel **OPONG**  
& <sup>2</sup>Newyear Ukpegharovwe **OKEH**

<sup>1</sup>*Department of Social Science Education (Social Studies Unit)*

<sup>2</sup>*Department of Guidance and Counselling (Measurement  
and Evaluation Unit)*

*Delta State University, Abraka, Nigeria*

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**Abstract**

*An evaluation of technology-mediated instruction on effective Social Studies instructional delivery in delta state higher institutions was examined in this study. The design for the study was descriptive survey. Three research questions and one null hypothesis guided the study. The study employed the total enumeration sampling technique; hence, the sample for the study was the entire 71 Social Studies lecturers in the different higher institutions. The instrument was a structured close-ended questionnaire consisting of four sub-scales. The instrument was subjected to statistical analysis using Exploratory and Confirmatory Factor Analysis in determining the content and construct validity of the instrument. The reliability of the instrument was established using Cronbach Alpha which yielded a coefficient alpha value of 0.71 for Level of Availability of Technology-Mediated Scale, 0.78 for Extent of Technology-Mediated Utilization Scale; 0.82 for Instructional Delivery*

*Scale; 0.81 Technology-mediated Scale. Mean, standard deviation and linear and coefficient of determination were used in the analysis of data in line with the research questions. Linear and multiple regression was used in testing the stated hypotheses at 5% probability level. Based on the analysis, it was found out that there was moderate availability of technology-mediated instruction for social studies instructional delivery in Delta State Higher Institutions; that Social Studies teachers moderately utilized technology-mediated instruction in social studies instructional delivery and that technology-mediated instruction (audio, visual and audio-visual) had significant effect on social studies instructional delivery in Delta State Higher Institutions. It was recommended that there should be adequate provision of technology-mediated tools necessary for effective instructional delivery at higher institutions by the government.*

**Keywords:** CIPP Evaluation Model, Evaluation, Technology-Mediated, Instructional Delivery.

## **Introduction**

The integration of technology-mediated instruction for instructional delivery was heralded with great excitement, as it was seen as a way in improving not just instructional delivery but also students' learning academic success. In several ways, technology has drastically changed the education system in several ways. Its introduction into the educational system had great implications for the educational system, as it changed the learning styles of students and the teaching methodology of teachers. Teachers had to learn new skills to handle the integrated technology, schools had to provide the necessary technology and students on their part had to learn under a new learning situation.

Evaluation, as noted by Patton (2008), as cited in Wanzer (2021), is a systematic procedure which examines critically a designated program. It is conducted through the collection and analyzing of data concerning the activities a programme, its

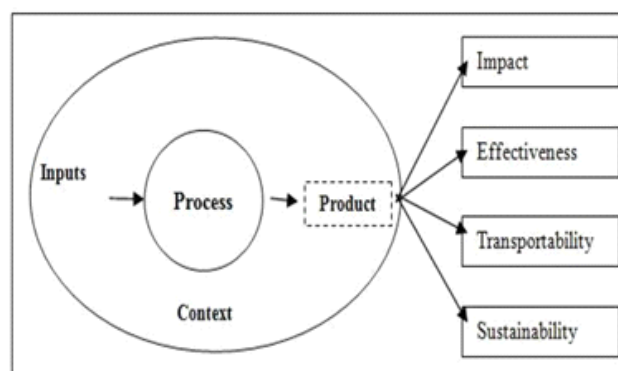
characteristics, and as well as its outcome. Its main objective is to make valid decisions or judgments concerning a programme, to enhance its effectiveness, and/or to inform decisions concerning the programme. Evaluation, thus, implies keeping track of the progress of a programme if it is achieving the necessary goals and objectives. Programme evaluation enables the evaluator to demonstrate the success or progress of an implemented school programme.

Instructional delivery refers to the means of sending information and process to understand and stick to it by the receiver (Merriam, 2019). It implies that instructional delivery is the procedure through which the teacher carefully selects the teaching methods and the technique for handling down the learning experiences to students through the appropriate medium of instruction. In the context of this paper, Social Studies instructional delivery entails preparing and sending learning experiences to students through technology mediated. Agina-Obu and Onwugbuta-Enyi (2017) cited Logan and Logan to have pointed out that instructional delivery is an activity that involves a person, who utilizes past experiences, combines the material, methods, ideas, and media in an existing and new means to assist students.

This paper is guided by Stufflebeam's four-stage model of evaluation (Context, Input, Process, and Product – CIPP) which proposes a straightforward, systematic, and practical approach to evaluation by employing a popular model used for the evaluation of educational and other social programs. The Context-Input-Product-Process-Evaluation Model (CIPP) was developed in the 1960s and described by Stufflebeam and Shinkfield (2007) as “a comprehensive framework for conducting formative and summative evaluations of programs, projects, personnel, products, organizations, and evaluation systems”. The components of the CIPP model provide robust indicators for proactively evaluating the success of an organization. In general, the four parts respectively ask: What needs to be done? How should it be done? Is it being done? Did it succeed?

The product evaluation in this model is suitable for impact studies like the present one on the effect of technology mediate

instruction on Social Studies instructional delivery in higher education. This type of study is a summative evaluation conducted for the purpose of accountability which requires determining the overall effectiveness or merit and worth of integrating technology into teaching. The first component depicted in Figure 1 “impact”, evaluates if the integration of technology-mediated instruction directly has any effect on the teachers’ instructional delivery, what the effects are and whether other parts of the programme (educational technology) changed as a result of its integration into teaching? The second component which deals with “effectiveness” evaluates whether the utilization of technology-mediated instruction achieves the intended and unintended benefits, or is it effective for the purpose of improved instructional delivery for which it is introduced?



**Figure 1: CIPP Evaluation Model – adapted and developed based on Stufflebeam (2007)**

The third component which is “transportability” measures whether the changes in instructional delivery and its improved effects can be directly attributed or associated to the deployment of technology mediated. Lastly, the “sustainability” component looks into how lasting the effect of the technology-mediated instruction integration will be on the students and teachers’ instructional delivery and how well they utilize and maintain it for the purpose instructional delivery (Stufflebeam, 2007).

Evaluators can adapt the above model to evaluate school initiated programme or curriculum such as the integration of technology-mediated facilities into teaching. Technology-mediated instruction includes practical techniques of teaching that systematically aim at effective instructional delivery leading to better learning. The utilization of technology-mediated instruction depends on its level of availability. However, looking at the Nigerian educational sector, there is yet to be any institution, which is fully functional on the utilization of technology-mediated tools. This aspect has been well researched. For example a study by Adeyemi and Olaleye (2010) revealed that many schools in Ekiti State were deficient in the availability of ICT facilities. Gbenga (2006) also pointed out that there was gross inadequate provision of technology facilities and equipment in many schools in Africa. Agbo, Mumuni & Williams (2017) in their study also found out that there was moderate availability of ICT availability and usage. Tella (2011) in his study revealed a low level of usage of ICT gadgets and non-availability of ICT equipment.

Umar (2014) in his study revealed that the use of computers in Social Studies teaching greatly enhanced teaching and learning of Social Studies. Ogwunte and Amadi (2020) their study revealed that Zoom Cloud and WhatsApp technologies positively influenced instructional delivery in Business Education programme. Most technology-mediated devices are effective in the teaching of content and also help sustain learners' interest. Teachers, by utilizing multimedia projector can verbally and also visually deliver a topic by capturing the attention of learners (Nnajofofor & Ejikeme, 2020).

Similar to Zoom technology is WhatsApp technology. WhatsApp, according to Cohari (2013), offers web-based services which allow individuals to construct a public or semi-public profile within a bounded system. Though, mostly used for social interaction, it can be utilized to enhance effective for instructional delivery. However, it was observed by Cohari (2013) the misapplication of Zoom cloud and WhatsApp video conferencing calls for instructional delivery may induce disorientation and cognitive overload that could interfere with the instructional delivery process rather than enhancing it. In spite of the shortcomings which might come up

through the misapplication of these technology-mediated facilities in instructional delivery, findings from the studies of Chipunza (2013) and Mbah (2016), have confirmed that the utilization of Zoom Cloud and WhatsApp video conferencing for will provide instructors with a more effective instructional delivery process, that is, it will provide a more effective way to transfer knowledge and information to students, and also enable them to study in a more productive way. According to Ogwunte and Amadi (2020) Whatsapp technology will offer educators with the ability to connect and share ideas, pictures, messages and information of interests with students.

Technology-mediated instruction is already a vital factor in the success of the educational system; therefore, the instructional delivery process requires effective utilization of technology-mediated instruction to facilitate Social Studies instructional delivery. In line with global trends and practices and the gains of technology there has been the clamour for integrating technology into education. Despite the efforts by both government and non-governmental agencies in the provision of technology-mediated resources, they seem not readily available, accessible and utilized by teachers in instructional delivery. The implications of this situation are of utmost important to educational evaluators in general and Social Studies educators in particular. Hence, the statement of problem in a question form is: What is effect of technology mediated instruction on effective Social Studies instructional delivery in Delta State higher institutions? Hence, in this study, the evaluation of the effect of technology-mediated instruction on Social Studies instructional delivery becomes imperative.

### **Purpose of the Study**

The specific objectives of the study are to:

- i. assess the level of availability of technology-mediated instruction for effective Social Studies instructional delivery in Delta State Higher Institutions;
- ii. examine the extent of utilization of technology-mediated instruction for effective Social Studies instructional delivery

- in Delta State Higher Institutions; and
- iii. determine the effects of technology-mediated instructions (audio, visual and audio-visual) on effective Social Studies instructional delivery in Delta State Higher Institutions.

### **Research Questions**

The research questions for this study were informed and framed by the four components of the CIPP Evaluation Model: Context (Technology-mediated instruction), Input (Types of Technology-mediated device), Process (Level of Utilization of Technology-mediated instruction), and Product (effect of Technology-mediated instruction on instructional delivery) (Stufflebeam & Shinkfield, 2007).

- i. What is the level of availability of technology-mediated instruction for effective Social Studies instructional delivery in Delta State Higher Institutions?
- ii. What is the extent of utilization of technology-mediated instruction for effective Social Studies instructional delivery in Delta State Higher Institutions?
- iii. Are there any effects of technology-mediated instructions (audio, visual and audio-visual) on effective Social Studies instructional delivery in Delta State Higher Institutions?

### **Hypothesis**

Technology-mediated instruction (audio, visual and audio-visual) has no significant effect on Social Studies instructional delivery in Delta State Higher Institutions.

### **Methods**

The study adopted the descriptive survey design. The population constituted 71 Social Studies lecturers in the Federal College of Education, Asaba, Colleges of Agbor (now University of Delta), Warri, Mosogar and Delta State University, Abraka. The total enumeration sampling technique was utilized in the study to capture all lecturers. The instrument for the collection of data was a

structured close-ended questionnaire structured into four sub-scales namely “Level of Availability of Technology-Mediated Scale”, “Extent of Technology-Mediated Utilization Scale”, “Instructional Delivery Scale” and “Effect of Technology-Mediated Scale” made of three clusters (audio devices, visual devices and audio-visual devices). The personally constructed instrument was subjected to statistical analysis to examine its content and construct validity after its administration to 20 respondents in tertiary institutions in Rivers State. *Exploratory and Confirmatory Factor Analysis* (Principal Analysis Component for extraction) was utilized in this case. Cronbach Alpha was used in establishing the reliability of the instrument which was administered to 30 Social Studies lectures in Rivers State Higher Institutions. The reliability index obtained was 0.71 for Level of Availability of Technology-Mediated Scale, 0.78 for Extent of Technology-Mediated Utilization Scale; 0.82 for Instructional Delivery Scale; 0.81 for Effect of Technology-Mediated Scale. Mean, standard deviation and linear and coefficient of determination were used in answering the research questions. A mean of 2.50 and above was used as the bench mark for accepting an item as agreed and below was regarded as disagreed. Linear and multiple regression was used in testing the stated hypotheses at 0.05 level of significance.

## **Results**

**Research Question One:** What is the level of availability of technology-mediated instruction for effective Social Studies instructional delivery in Delta State Higher Institutions?



**Table 1: Mean and Standard Deviation Analysis on the level of availability of technology-mediated instruction for effective in Social Studies instructional delivery**

	<b>Statements</b>	<b>Mean</b>	<b>SD</b>	<b>Remark</b>
1	WhatsApp Chat Group	3.42	.768	VHA
2	Youtube	2.68	.820	MA
3	Zoom	2.72	.892	MA
4	Computers	3.16	.749	VHA
5	Projectors	2.71	.858	MA
6	Electronic Whiteboards	2.20	.897	NA
7	Microphones	3.28	.819	VHA
8	Laptops	3.09	.754	VHA
9	Ipads	2.74	.915	MA
10	Facebook chat groups	2.61	.778	MA
	<b>Average mean</b>	2.86	0.83	

Table 1 revealed that there was a moderate to a very high availability to all the constructs. This was evident as the entire mean scores were above the agreed mean value of 2.50. The standard deviation, which ranged from 0.75 to 0.92, indicates a low variability. This was also signified by the average mean and standard deviation of 2.86 and 0.83 respectively. This indicates that there was moderate availability of technology-mediated instruction in Social Studies instructional delivery.

**Research Question Two:** What is the extent of utilization of technology-mediated instruction for effective Social Studies instructional delivery in Delta State Higher Institutions?

Table 2: Mean and Standard Deviation Analysis on the extent of utilization of technology-mediated instruction for effective Social Studies instructional delivery

	Statements	Mean	SD	Remark
1	WhatsApp Chat Group	3.21	.715	Very Highly Utilized
2	Youtube	3.07	.840	Moderately Utilized
3	Zoom	3.08	.921	Lowly Utilized
4	Computers	3.24	.713	Moderately Utilized
5	Projectors	2.92	.740	Moderately Utilized
6	Electronic Whiteboards	2.43	.846	Lowly Utilized
7	Microphones	3.30	.863	Very Highly Utilized
8	Laptops	3.56	.888	Very Highly Utilized
9	Ipads	2.65	.891	Moderately Utilized
10	Facebook chat groups	2.82	.928	Moderately Utilized
	Average mean	3.03	.835	Moderately Utilized

The analysis in Table 2 shows average mean of 3.03 which indicates that Social Studies teachers moderately utilized technology-mediated instruction in Social Studies instructional delivery. The standard deviation, which ranged from 0.71 to 0.93, indicates a low variability in the responses of the respondents.

Research Question 3: Are there any effects of technology-mediated instructions (audio, visual and audio-visual) on effective Social Studies instructional delivery in Delta State Higher Institutions?

Table 3: Pearson Correlation and Coefficient of Determination of the effect of technology-mediated instructions (audio, visual and audio-visual) on effective Social Studies instructional delivery

Variable	N	r	R <sup>2</sup>	R <sup>2</sup> %	Decision
Audio	71	0.236 <sup>a</sup>	0.121	12.1	Positive
Visual					Effect
Audio Visual Instructional Delivery					

Significance:  $P \leq 0.05$

Table 3 showed that the *r*-value of 0.236 indicate positive effect of technology-mediated instruction on effective Social Studies instructional delivery. The coefficient of determination was 0.121 and the level effect of audio, visual and audio-visual instruction to effective Social Studies instructional delivery was 12.1%. This implies that technology-mediated tools in form of audio, visual and audio-visual instruction had effect on effect Social Studies instructional delivery in Delta State Higher Institutions.

**Hypothesis 1**

Technology-mediated instruction (audio, visual and audio-visual) has no significant effect on Social Studies instructional delivery in Delta State Higher Institutions.

**Table 4: Multiple Regression on the effect of technology-mediated instruction (audio, visual and audio-visual) on effective Social Studies instructional delivery**

<b>ANOVA</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>	<b>P</b>
Regression	19.214	3	6.405	5.441	.004 <sup>b</sup>
Residual	885.770	67	14.521		
Total	904.985	70			

<b>Variables in the Equation</b>					
<b>Model</b>	<b>Unstandardized Coefficient</b>		<b>standardized Coefficient</b>		<b>P</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t-Ratio</b>	
(Constant)	42.918	7.768		5.525	.000
AUDIO	.107	.148	.104	.723	.472
VISUAL	.222	.201	.016	.108	.914
AUDIO	.336	.156	.111	.873	.386
VISUAL					

**Dependent variable: Instructional Delivery**

Table 4 showed the F-calculated value of 6.405 and a P-value 0. 004<sup>b</sup>. Testing the hypothesis at an alpha level of 0.05, the p-value of 0.004<sup>b</sup> was less than the alpha level of 0.05. Hence, the null hypothesis was rejected. This implied that technology-mediated instruction (audio, visual and audio-visual) had significant effect

on Social Studies instructional delivery in Delta State Higher Institutions. The unstandardized coefficient (B-value) of predicting effective Social Studies instructional delivery from audio instruction was 0.107, Visual instruction was 0.222, Audio-Visual was 0.336. The standardized coefficient or Beta value [ $\beta = 0.104$ ;  $P > 0.05$ ] indicates that audio instruction is a significant predictor of instructional delivery. A beta value or standardized coefficient [ $\beta = 0.016$ ;  $P > 0.05$ ], indicates that visual instruction is a significant predictor of effective Social Studies instructional delivery. The standardized coefficient or Beta value [ $\beta = 0.111$ ;  $P > 0.05$ ] indicates that audio-visual is a significant predictor of effective Social Studies instructional delivery. Therefore, technology-mediated instruction (audio, visual and audio-visual instruction) were significant at P-value of 0.05 in predicting effective Social Studies instructional delivery in Delta State Higher Institutions.

### **Discussions**

Findings from the study revealed that there was moderate availability of technology-mediated instruction for Social Studies instructional delivery in Delta State Higher Institutions. This finding is in line with the studies conducted by Gbenga (2006) and Agbo, Mumuni and Williams (2017). For instance, Gbenga (2006) pointed out that there was inadequate provision of technology-mediated facilities and equipment in African schools. Likewise, Agbo, Mumuni and Williams (2017) found out that there was moderate availability of ICT availability and usage. It was revealed in the second finding that Social Studies teachers moderately utilized technology-mediated instruction for Social Studies instructional delivery. Tella (2011) also lends credence to the above finding stating that the usage and perception of the impact of technology-mediated on teacher education in Nigeria revealed that there was low level of technology-mediated gadgets usage by teachers. The third finding revealed that technology-mediated instruction (audio, visual and audio-visual) had significant effect on Social Studies instructional delivery in Delta State Higher Institutions. This finding is similar to several studies carried out on this subject. Writing differently,

Chipunza (2013) and Mbah (2016) confirmed that the utilization of Zoom cloud meeting and WhatsApp for instructional delivery provided instructors with an effective avenue for effective instructional delivery. Umar (2014) in line with the third finding revealed that the use of computers in Social Studies teaching greatly enhanced instructional delivery and learning of the subject more effectively. Ogwunte and Amadi (2020) lending support to the above finding pointed out that Zoom cloud meeting and WhatsApp as a technology-mediated tool positively influences instructional delivery.

### **Conclusion**

The integration, availability and use of technology for instruction is a necessary ingredient for the attainment of the objectives of the Social Studies curriculum, however, this study found out that there was moderate availability of technology-mediated instruction for effective teaching of Social Studies instructional delivery. The technology-mediated instruction were therefore, moderately utilized for effective Social Studies instructional delivery. The availability of technology-mediated instruction for effective Social Studies instructional delivery is yet to be fully provided. It can also be concluded that technology-mediated tools for instructional delivery such as audio, visual and audio-visual technologies had positive effect on effective Social Studies instruction in Delta State Higher Institutions.

### **Recommendations**

Based on the findings and conclusions made it is recommended that there should be adequate provision of technology-mediated tools necessary for instructional delivery effectiveness at all higher institutions by the government and that lecturers/instructors should be encouraged to integrate technology-mediated instruction in their Social Studies instructional delivery. Hence, school administrators should ensure that they are well equipped through the acquisition of the necessary competency in usage of technology for teaching.

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