

**AN EXPLORATORY FACTORIAL ANALYSIS OF SCIENCE TEACHERS' PERCEPTION ON
PERCEIVED ROLE OF MEDIA IN TEACHING (A CASE STUDY OF SOME SECONDARY
SCHOOLS IN DELTA STATE.**

BY

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Abstract

The main objective of the study was to carry out an exploratory factorial analysis of science teachers' perceptions of perceived role of media in teaching in some selected secondary schools in delta state. The study was guided by four specific objectives and three research questions. The Sample was 140 teachers from private and public secondary school in Warri-south and Uvwie Local government areas which was selected by purposive and simple random sampling procedure. Frequencies, mean, standard deviation, Interval of Standard Deviation from Mean (ISDM) and exploratory factor analysis were utilized in the study. The 2 factors had Cronbach Alpha reliabilities of (0.84 - 0.92). The data was analyzed using SPSS version 20. The sex distribution therefore has about 51.5% respondents as female and the remaining 48.5% as male. While respondent from private school represents about 85 or 60.7% and more than 52.90% of the teachers are having between 1 - 10years teaching experience. On teacher's responses on the role of media in teaching and learning the mean perception ranged from 2.4357 to 3.6714. The result also showed that the medium level of response on media has been most frequently with a frequency of 66 and 47.1%. The results regarding the factor analysis for this measure yielded a two factor solution with eigenvalues greater than 1.0 with a total variance of 47.597% explained of the total variance. KMO was 0.860 which indicates sufficiency of intercorrelations while the Bartlett's Test of Sphericity was significant (Chi square=1552.327, $p < 0.000$). This study was carried out to establish the factors of teacher perception on the role of media in the learning process. Two factor themes occurred through data collection and analysis factors that were studied include media as a substitute and teacher centred. Based on this finding, the results of this study have implications for the schools to take into consideration this perception of teachers since they are the implementer of education policies.

Introduction

Education is believed to be the fulcrum of human existence. It has continue to remain the vehicle driving

the overall wellbeing of various sector of the economy and the educational sector is not left out. Grunwald Declaration (1982) defined media education as that

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which is concerned with the full range of media, including moving image media (film, television, video), radio and recorded music, print media (particularly newspapers and magazines), and the new digital communication technologies. Similarly Buckingham (2001) view media education as that which is concerned with teaching and learning about the media and that media education aims to develop both critical understanding and active participation. Rugut and Role (2016) opined that as early the 1980s, UNESCO had not only identified the critical role of the media in social improvement, but also outlined concrete policies, programs, and strategies for engaging and using different media in school development goals.

According to Shapley, Sheehan, Maloney, and Caranikas- Walker, (2010) in the 21st Century, the world develops the utilization of technology in accessing, analyzing and communicating information, this was made possible by knowing how to manage electronic information in respective of its source. Corroborating this view, Banoglu (2011) opined that Education has undergone various phases resulting from the integration of technology into the administration of the organization, the curricula of the classrooms, and the methods of the teachers.

Banoglu (2012) further acknowledged that technology is changing what is commonly considered successful schooling. Technology enables and induces changes in communications, planning, activities, management

decision making, instruction, teaching and learning. But in order for technology to achieve its impact in education, the way teachers interpret the role of media in teaching in the classroom must decide to a large extent the level and degree of its usage (Tiawo, 2009). Teacher produces a favorable impression which is depending on the particular characteristics of the teacher attribute to media.

Media interpretation by teachers is predicated on what they believe media can do in the process of teaching-learning. Based on the foregone it is evident that teachers play a very important role in the teaching and learning process using media content. According to Okojie and Olinzock (2006), most teacher training Colleges and Universities do not offer instruction designed to teach students the media selection requirements that are important to the educational goals and methods.

In addition to addressing factors that prevent teachers from using technology effectively (Heo, 2011), teacher education needs to provide instruction that promotes the benefits, modes, and strategies for effective technology integration.

Similarly, there are also proven that external factors preventing the utilization of audiovisual media. The

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major preventing factors revealed were budget difficulty in getting materials, absence of audiovisual teaching facilities and absence of prepared varying media work force (Higgins and Moseley, 2001, Windschitl and Sahl, 2002).

Inan and Lowther (2010) investigated the impacts of teachers' individual attributes and views of contextual factors that influence ICT integration in classrooms. Teachers' convictions about technology was one of the autonomous factors included in their study, they defined it as the teachers' impression of the impact of technology on teaching and learning practices.

The findings revealed that variables like the computing abilities of teachers, the overall support of teachers, the technological support of teachers and the availability of computers have a strong impact on the technology beliefs of teachers. The values of teachers have had a significant impact on the use and incorporation of ICT in classrooms.

The study resolved teachers' improvement for technological innovation and the use of it in the teaching process is greatly influenced by their attitudes toward computers in education.

The application of educational media in the teaching process of various subjects, including science subject can't be over emphasized. Even UNESCO (2006) support such idea. The implementation of this in schools is largely believed to depend teacher's

willingness and knowledge of using media as a way to make teaching more meaningful. Due to these reasons there is a need to examine; the demographic characteristics of the teachers, the prioritization the perception of teachers on the usage of media in teaching of science subject, the level of perception of teachers on the use of media in teaching of science subject and the perceived of teachers on the usage of media in teaching of science subject.

Review of Related Literature

Enhanced understanding that teachers' interest in technology plays an important role in the effective adoption of that technology, and their exposure to digital implementation has always been a problem for education in many countries around the world.

Previous studies utilized a variety of techniques and point of view to evaluate to assess in-service teachers' technology convictions. Research additionally shows that the teachers will only employ a technology for teaching they have to personally be convinced of its advantages and should see the utility of utilizing a specific innovation (Lam, 2000).

Similarly, various research works have focused on technology as a way of reinforcing the teaching process (Cutrim, 2008, Carle, Jaffee, and Miller, 2009). Moreover, others studies also paid attention to technology integration, concluding that using technology in educational settings benefits students

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(Kim & Hannifin, 2011, Govender and Govender, 2013).

likewise Yilmaz (2011) and Neyland (2011) draw attention to adoption of ICT among teachers they noticed that the issue of infrastructure and access to technology been a critical factors affecting integration of information and communication technology (ICT) This is a direct result of the enormous benefits of ICT in instructing and learning, Taiwo (2009) further noticed that teachers utilize technology since it propels students and offers an alternate method of presentation.

Corroborating this point of view lam (2000) opined teachers using technology as an educational resource to improve learning for students rather than making use of computer for drilling and practice. The successful adoption of technology in the classrooms of teachers depends on school administrators having an individualized and segregated preparation and implementation process (Gray, 2001).

In the view of Celik and Yesilyurt, (2013), Kutluca and Ekici, (2010) they reiterated that technology diffusion or adoption in whatever context it is been discussed it depends on shared negotiation of values and priorities of the educators, particularly on the way technology fits into the existing social purposes and practices of the community.

Numerous researchers have conducted studies on the use, role, and impact of instructional materials on the learning and teaching process. According to a research works by Kersaint, Horton, Stohl and Garofalo, (2003) and Govender, (2006) they agreed that the teachers attitudes is very important for any successful implementation of educational technologies in the teaching and learning.

Corroborating this view Bullock (2004) and Govender (2012) set that teachers' perspectives are a significant empowering/incapacitating component in the reception of technology. Hence the improvement of a positive user attitude towards ICT adoption is fundamental for upgrading computer integration, but also for preventing teacher's opposition to computer usage in classrooms.

A good numbers of research studies view computers as having an impact on the teaching and learning processes. They opined that classroom will become more learner-centered with the introduction of computers in the classroom, thus encourage individualized learning. (Voogt, 2010, Ward and Parr, 2010, and Friedman and Friedman 2011).

In student-centred classrooms, with the use of computers, students can team up, in utilizing use critical thinking and provide another solutions to problems (Govender, 2010). Inan and Lowther (2010) analyzed the impacts of teachers' individual attributes

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and perceptions of contextual factors that encourages the integration of ICT in the teaching process. Teacher's belief was an independent variables used in their study, the results revealed that teachers' computer capability, overall support and technical support, and computer availability have a statistical significant influenced teachers' convictions or beliefs about technology. Likewise, the influence on the utilization and integration of ICT in schools, depends largely on the belief of the teachers.

Mundy, Kupczynski and Kee (2012) examines the teacher's perceptions of technology utilization in schools. The findings revealed that teachers who were part of DOT USA's Teach Up! Program perceived a significant improvement in the areas of student engagement, student excitement, acceleration of learning, and their proficiency with computer technology.

The analysis has revealed that members of faculty need not only to learn how to use technology at a fundamental stage, however additionally to research how to combine that technological know-how into their curricula. The findings also showed that it is critical that the position of the teacher as an expert in the classroom not be discounted when evaluating classroom curriculum improvement and strategy, together with those that would integrate various technologies.

However, Perrotta (2013) investigated the impact of individual, classroom, institutions and system-level issues on how teachers experience the educational advantages of digital technology. The study showed that the broader contextual and cultural conditions might influence teachers' prerequisites may affect teachers' perceptions of the advantages of digital technology.

Badiaa, Menesesa, Sigalésa, and Fàbreguesa (2014) studied the factors affecting school teachers' perceptions of the Instructional advantages of digital technology. The study aimed at exploring the association between teachers' perceptions of the advantages of the use of digital technology for curriculum improvement and individual and school-level conditions. The findings of the study propose that factors which includes, digital literacy, teaching area, educational ICT training, and Internet access are necessary determinant of teachers' perceptions of the advantages of instructional digital technology.

Su Luana, Atanb, and Sabudinc (2010) Explored teachers' perceptions of their pedagogical position with computers: A case study in Malaysia Using 209 teachers for the analysis the findings revealed that teachers perceive their pedagogical position as being more student-centred in the science laboratories, the results further propose that teachers are solely equipped to use this strategy in their instruction of

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science laboratory periods when computers are available.

Adeyemo (2011) reported that teachers' perception of teaching is very important, and that the perception of teachers' teaching, largely, determines the level of understanding reached by his students. Most teachers perceive teaching as boring, none interesting and a highly none rewarding profession. Raob, Al-Oshaibat and Ong (2012) carried out an analysis to factor of teacher's competency in technology, using a sample size of 317 teachers from secondary school. The results for the factor analysis for this measure yielded a three factor solution with eigenvalues greater than 1.0 and the total variance explained was 30.327% of the total variance. The KMO measure of sampling adequacy was 0.779 which indicates the sufficiency of intercorrelations while the Bartlett's Test of Sphericity was significant with (Chi square=1850.599, $p < 0.01$).

Concluding the study, they noted that three factor themes were obtained via data collection and factor analysis, these were, basic technology operation, personal usage of technology equipment's and teaching of technology. Hence, the consequences of the study have implications that the schools need to take into consideration the competency's teacher when motivating them to employ technological know-how. Rugut and Role (2016) investigated the perception of teachers and learners on the use of educational media in teaching and learning of History and Government subject in public secondary schools in Nandi Central Sub County, Kenya.

Findings indicated that majority of student rated that educational media was very helpful in learning History and Government. Also teachers had more positive perceptions towards the integration of educational media in teaching and learning of History and Government. Finally, there was a significant

difference on the teachers perception and students perception on the use of educational media in teaching and learning History and Government in secondary schools ($p < 0.05$).

2. Materials and methods

2.1 Area of Study

This research was conducted in Warri metropolis of Delta State, comprising of two local government areas (Warri –South and Uvwie). The area experiences a maxima rainfall regime and highly good vegetation. It is also the commercial nerve center in the economics of Delta State.

2.2. Research approach and design

The descriptive survey design was employed in conducting this study. This design was considered adequate since the sampled perception can be utilized to make generalizations about the target population.

2.3. Data Types, Sources and Instrumentation

The data employed for this research were quantitative in nature. Data set and information used for the study were elicited from primary and secondary sources. Primary data were collected from the teachers while secondary data were gathered from journal articles, etc. The instrument was a simple questionnaire tagged Media Perception Evaluation Scale (MPES) developed by Taiwo (2009) with 31 items, on a five - point scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Exploratory factor analysis and its reliability, was confirmed by calculating Cronbach's alpha coefficient ($\alpha = 0.84 - 0.92$).

2.4. Sample and Sampling Method

A combination of purposive and simple random sampling was employed for the study. Purposive in the sense that, only science teachers from the selected private and public in the two local government. A total of 23 schools were selected which composed of 12 public schools and 11 private school. Ten sciences teachers and five science were selected from public and private schools respectively. A total of 175 questionnaire was administered, out of which 140 was

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found suitable for the analysis.

2.5. Method of Data Analysis

The models used in this study are the mean, standard deviation, coefficient of variation, Interval of Standard Deviation from Mean (ISDM) and factor analysis

2.5.1. Mean and Standard Deviation

The mean can be viewed as the sum of all observation divided by the number of observation in the set. It is a major measure of central tendency

$$x = \frac{\sum xi}{N} = \frac{\sum (FX)}{\sum F}$$

X – Notation of mean

∑ - summation

N – The sum of total of the frequency of observation

X₁ = Variable

Variance. It is also known as the root mean squared deviation. It is a measure from mean. It is one of the most widely used measures of dispersion because it overcomes the limitation associated with the other measure of dispersion.

$$(i) \sqrt{\frac{\sum (x - \bar{x})^2}{N}} \quad (ii) \sqrt{\frac{\sum Ex^2}{N} - \left(\frac{\sum Ex}{N}\right)^2} \quad (iii) \sqrt{\frac{\sum Ed^2}{N} - \left(\frac{\sum Ed}{N}\right)^2}$$

2.5.2. Interval of Standard Deviation from Mean (ISDM)

For examining the level of teachers response on the role of media in teaching and learning, sum of all items scores (the level of responses) was computed using the Interval of Standard Deviation from Mean (ISDM).

Thus the ISDM was applied to categorize respondent into three class in terms of their levels of response. This classification conducted according to following formula (Manafi *et al.*, 2015).

Weak: $A < (\bar{X} - \frac{1}{2} SD)$

Medium: $B (\bar{X} - \frac{1}{2} SD) - (\bar{X} + \frac{1}{2} SD)$

Strong: $C > (\bar{X} + \frac{1}{2} SD)$

2.5.3. Coefficient of Variation (CV)

This was used to rank the level of responses on the usage of media in teaching process employed by teachers in the study area.

2.5.4. Exploratory Factor Analysis

The factor analysis was used for the study. According to Ototoju, (2013) the factor analysis was considered appropriate as a result it is an econometric model that has the potential of reducing huge units of measured variables to few possible dimensions called factors. Exploratory factor analysis (EFA) tries to find the nature of the constructs that is responsible for a set of responses. Cokluk and Kayri (2011) stated the primary objectives of an EFA are to decide the number of common factors influencing a set of measures and to establish the strength of the association between each factor and each observed measure.

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3. Results and Discussion

3.1. Demographic characteristics of respondents

The study used descriptive analysis to identify responses from the respondent's demographic characteristics relating to their teaching profession (Table 1).

Table 1: Demographic Information Distribution Across the Metropolis

| LGA | Male | % | Female | % | Total | % |
|--------------|--------------|--------|---------------|--------|-------|--------|
| Warri –South | 31 | 22.1% | 32 | 22.9% | 63 | 45.0% |
| Uvwie | 37 | 26.4% | 40 | 28.6% | 77 | 55.0% |
| Total | 68 | 48.5% | 72 | 51.5% | 140 | 100.0% |
| LGA | Private | % | Public | % | Total | % |
| Warri –South | 19 | 13.6% | 44 | 31.4% | 63 | 45.0% |
| Uvwie | 36 | 25.7% | 41 | 29.3% | 77 | 55.0% |
| Total | 55 | 39.3% | 85 | 60.7% | 100 | 100.0% |
| LGA | 1 - 10 years | % | Above 10years | % | Total | % |
| Warri –South | 38 | 27.2% | 25 | 17.8% | 63 | 45.0% |
| Uvwie | 36 | 25.7% | 41 | 29.3% | 77 | 55.0% |
| Total | 74 | 52.90% | 66 | 47.10% | 140 | 100.0% |

Source: Field Survey, 2020

Table 1 shows that out of 140 questionnaire returned, 31 or 22.1% respondents from Warri-South LGA are male, while 32 or 22.9% are female. Uvwie LGA has 37 or 26.4% respondents as male and 40 or 28.6% are female. The sex distribution therefore has about 51.5% respondents as female and the remaining 48.5% as male.

The table also showed the type of school of the respondents of the study. It was discovered that most of them re from the public secondary schools which represents about 85 or 60.7% and other are from private secondary school which is 55 or 39.3%.

From the teaching experience distribution of the respondents, it could be observed that the highest proportion of the respondents i.e 38(27.2%) were in the 1- 10 years' experience bracket, followed by those above 10years teaching experience with 25(17.8%) respondents across Warri –South LGA. Respondents between the experience of 1 – 10years were 36(25.7%) while those at 10years and above were 41(29.3%) of the respondents. We observed that more than 52.90% of the teachers are having between 1 - 10years teaching experience.

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On the response of teachers in terms of their responses on the role of media in teaching and learning, the 23 items were analysed and the result presented below. Ranked 1st is The use of media should be encouraged in school because they enhance the work of teachers($\bar{X}=3.6714, CV=0.409955, SD =1.50511$), followed by Media, when used with teacher, provides the teacher with the means of extending the horizon of experience($\bar{X}=3.6500, CV=0.367315, SD =1.34070$), ranked 3rd is Students learn best when media are used with teacher because the teacher is in the classroom and hence there is interpersonal relationship between them($\bar{X}=3.600, CV=0.395372, SD =1.42334$), 4th is Students learn best when media are used with teacher because the teacher in the classroom maintains discipline than is possible when media alone are used($\bar{X}=3.600, CV=0.438003, SD =1.57681$), 5th ranked is teachers use media because they see them as partner in progress ($\bar{X}=3.5643, CV=0.398496, SD =1.42036$), 6th ranked is the major use of media is to assist the teacher by enhancing his effectiveness in the classroom ($\bar{X}=3.5214, CV=0.475024, SD =1.67275$), 7th ranked item is media when used with teacher give the teacher the opportunity to determine the students' level of understanding by virtue of his presence in the classroom than is possible when media alone are used ($\bar{X}=3.5071, CV=0.401055, SD =1.40654$) 8th ranked item is the effectiveness of any teaching-learning situation depends on the amalgam of teacher and

media ($\bar{X}=3.3786, CV=0.394501, SD =1.33286$), 9th ranked item is Both media and teacher are indispensable to each other ($\bar{X}=3.3071, CV=0.410193, SD =1.33488$), 10th ranked item is media used, when the teacher is physically present in the classroom help to enrich existing instruction only ($\bar{X}=3.2714, CV=0.408045, SD =1.33488$), 11th ranked item is Courses of instruction taught by programmed texts are bad because they displace teacher from his traditional role ($\bar{X}=2.6500, CV=0.474581, SD =1.25764$), 12th ranked item is Instruction, whereby media are used with teacher is defective because teacher still dominates the classroom ($\bar{X}=2.5429, CV=0.47259, SD =1.20175$) 13th ranked item is Course of instruction taught by Radio, Tapes and Records are bad because they do not specify what the role of teacher will be ($\bar{X}=2.5071, CV=0.460149, SD =1.15364$) 14th ranked item is Media when used with teacher limit the power of student to think for themselves ($\bar{X}=2.4929, CV=0.496558, SD =1.23787$), 15th ranked item is Media dictates to the teacher, and thus limit his freedom ($\bar{X}=2.4714, CV=0.47168, SD =1.16571$), 16th ranked item is The use of media per se makes teacher redundant ($\bar{X}=2.4714, CV=0.459027, SD =1.13444$), 17th ranked item is the use of media per se should be discouraged because it threatens the position of teachers ($\bar{X}=2.4429, CV=0.527185, SD =1.28786$), 18th ranked item is in any teaching-learning situation teacher is all

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in all, he needs no help from any source ($\bar{X}=2.4357$, CV=0.530895, SD =1.29310), 19th ranked item is media like Television, Radio, Video cassette, etc are manufactured not for learning but for relaxation($\bar{X}=2.4143$, CV=0.5491954, SD =1.30844), 20th ranked item is media when used with teacher do not provide for individualised learning and hence is defective($\bar{X}=2.3867$, CV=0.0459681, SD =1.09666), 21st item is It is against the interests of our children education as a matter of experiment ($\bar{X}=2.43786$, CV=0.466215, SD =1.0966), 22nd items is Computer-assisted instruction is ineffective because it does not make better use of teacher's time ($\bar{X}=2.3571$, CV=0.480285, SD =1.13208) and items that ranked 23rd is The use of media per se does not make better use of teacher's time and sooner or later the teacher may be declared unwanted ($\bar{X}=2.3429$, CV=0.513953, SD =1.20414). In order to determine the teacher's response level on media role in teaching and learning, they were classified in three groups based on obtain score and standard division. Finding (Table 3.3) showed that 23.6% of respondents from perception of media on teaching and learning were in the low level, 47.1% in the medium and 29.3% in the height level. This finding indicates that the medium level of response on media has been most frequently.

Exploratory factor analysis was used to determining the number of factors that affect teacher's perception on the role of media in the teaching and learning

process. The KMO and Bartlett's Statistical analysis was carried to check for internal consistency of data, and appropriateness for factor analysis, the (KMO=0.860>0.50) the sample was adequate, and Bartlett's test (1552.327, ***p<0.000) been significant indicates that there are at least two variables that are highly correlated. According to Kaiser Criteria there were two factors with Eigen values more than 1. These two factors explained 47.597 percent of variance .These results were summarized in Table (5).

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Table 3: Frequency of teachers in terms of their responses on the usage of media in teaching and learning.

| Range on level of responses | | | | |
|------------------------------------|-----------|---------|---------------|--------------------|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| <60.94 (low) | 33 | 23.6 | 23.6 | 23.6 |
| 60.94-72.98 (medium) | 66 | 47.1 | 47.1 | 70.7 |
| >72.98(High) | 41 | 29.3 | 29.3 | 100.0 |
| Total | 140 | 100.0 | 100.0 | |

Source: Field Survey, 2020

Table 4: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .860 |
| | Approx. Chi-Square | 1552.327 |
| Bartlett's Test of Sphericity | Df | 253 |
| | Sig. | .000 |

Source; Field survey, 2020

Table 5 : Rotation sums of affecting variables on teacher's media perception in teaching and learning

| Factor | Eigenvalues | % of variance | Cumulative variance % |
|--------|-------------|---------------|-----------------------|
| 1 | 6.907 | 29.597 | 29.597 |
| 2 | 4.136 | 17.982 | 47.597 |

Source; Field survey, 2020

According to the nature of variables, factors were named as: media centered and teacher centered. Given the amount of extract eigenvalues, media factor was greatest effect on the total variance (eigenvalues= 6.907) and the teacher centered (eigenvalues=4.136). In total, 45.79% of teacher's perception on media role in teaching and learning variances were determined by these two factors.

Table 6: Factors and variables that related to teacher's media perception in teaching and learning after the varimax rotation

| Factor Name | Variables | Factor load |
|-------------|-----------|-------------|
|-------------|-----------|-------------|

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| | | |
|---|--|------|
| Media centered | The use of media should be encouraged in school because they enhance the work of teachers. | .861 |
| | Students learn best when media are used with teacher because the teacher is in the classroom and hence there is interpersonal relationship between them | .841 |
| | Teachers use media because they see them as partner in progress | .834 |
| | Students learn best when media are used with teacher because the teacher in the classroom maintains discipline than is possible when media alone are used | .827 |
| | The effectiveness of any teaching-learning situation depends on the amalgam of teacher and media.. | .801 |
| | Media, when used with teacher, provides the teacher with the means of extending the horizon of experience | .778 |
| | Media when used with teacher give the teacher the opportunity to determine the students' level of understanding by virtue of his presence in the classroom than is possible when media alone are used. | .765 |
| | The major use of media is to assist the teacher by enhancing his effectiveness in the classroom..... | .704 |
| | Both media and teacher are indispensable to each other | .685 |
| | Media used, when the teacher is physically present in the classroom help to enrich existing instruction only | .668 |
| | Teacher centered | |
| Media when used with teacher do not provide for individualised learning and hence is defective | | .683 |
| Media when used with teacher limit the power of student to think for themselves | | .658 |
| Media like Television, Radio, Video cassette, etc are manufactured not for learning but for relaxation... | | .643 |
| Courses of instruction taught by programmed texts are bad because they displace teacher from his traditional role | | .634 |
| The use of media per se should be discouraged because it threatens the position of teachers. | | .631 |
| It is against the interests of our children education as a matter of experiment | | .617 |
| Course of instruction taught by Radio, Tapes and Records are bad because they do not specify what the role of teacher will be | | .586 |
| Instruction, whereby media are used with teacher is defective because teacher still dominates the classroom | | .577 |
| The use of media per se does not make better use of teacher's time and sooner or later the teacher may be declared unwanted | | .540 |
| In any teaching-learning situation teacher is all in all, he needs no help from any source | | .534 |
| Computer-assisted instruction is ineffective because it does not make better use of teacher's time | | .522 |
| The use of media per se makes teacher redundant. | | .496 |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.860; Bartlett's Test of Sphericity, Approx. Chi-Square=1552.327/df=253; significant at 0.000. | | |

Source; Field survey, 2020

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Of the 31 items examined in the factor analysis, eight were associated with no factor which indicates their irrelevance in explaining the role of media in teaching and learning. However, only two factor showed relevance and there are grouped as media and teacher centered with 10 and 13 variables (items) respectively. Under factor 1 all ten items loaded fairly highly. The use of media should be encouraged in school because they enhance the work of teachers(0.861), Students learn best when media are used with teacher because the teacher is in the classroom and hence there is interpersonal relationship between them(0.841), Teachers use media because they see them as partner in progress(0.834), Students learn best when media are used with teacher because the teacher in the classroom maintains discipline than is possible when media alone are used(0.827), The effectiveness of any teaching-learning situation depends on the amalgam of teacher and media(0.801), Media, when used with teacher, provides the teacher with the means of extending the horizon of experience(0.778), Media when used with teacher give the teacher the opportunity to determine the students' level of understanding by virtue of his presence in the classroom than is possible when media alone are used.(0.765), The major use of media is to assist the teacher by enhancing his effectiveness in the classroom(0.704), Both media and teacher are indispensable to each other(0.685), and Media used, when the teacher is physically present in the classroom help to enrich existing instruction only(0.668). This findings corroborate the contemporary issues of

technology integration focuses on facilitating student development and learning through a conceptual understanding that instructional processes are useful in the process of helping teachers facilitate learning with the required ICT competence in order to deliver academic content. Thus according to Inan, Lowther, Ross, & Strahl, (2010) this calls for varied teaching-learning approaches, such as project-based learning, which is primarily learner-centred. Also as noted by Yen and Lee (2011) students who do not engage in classroom group discussions and report-writing using technology show to perform less with regards to learning achievement than those who were involved.

Under factor 2 the teacher centered factor ,the prominent variables that loaded high values includes Media when used with teacher do not provide for individualised learning and hence is defective(0.683), Media when used with teacher limit the power of student to think for themselves(0.658), Media like Television, Radio, Video cassette, etc are manufactured not for learning but for relaxation(0.644), Courses of instruction taught by programmed texts are bad because they displace teacher from his traditional role (0.634), The use of media per se should be discouraged because it threatens the position of teachers(0.631), It is against the interests of our children education as a matter of experiment(0.617), Course of instruction taught by Radio, Tapes and Records are bad because they do not specify what the role of teacher will be(0.586), Instruction, whereby media are used with teacher is

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defective because teacher still dominates the classroom(0.577), The use of media per se does not make better use of teacher's time and sooner or later the teacher may be declared unwanted(0.540), In any teaching-learning situation teacher is all in all, he needs no help from any source(0.540), In any teaching-learning situation teacher is all in all, he needs no help from any source (0.534), Computer-assisted instruction is ineffective because it does not make better use of teacher's time(0.534) and The use of media per se makes teacher redundant(0.496). Teachers use technology so as to motivate students and offers a different mode of presentation. However some teachers who show competency in using technology prefer to use it as an instructional tool for learning, instead of using computers for drill and practice (Lam, 2000).

Conclusion

Our society has changed with advances in technology; the field of education is slowly transforming instruction and learning in this digital age (McCoog, 2007). The 21st century learner requires classroom instruction that validates their digital culture and educators who effectively integrate pedagogy with technology (Prensky, 2001). Effective technology integration begins with teacher preparation that provides the usefulness, ways, and approaches for instruction that promotes learning in this digital culture. This study investigated the factors of teacher

perception on the usage of media in classroom teaching and learning

Two factor themes were obtained via data collection and analysis factors that were studied include basic media as a supplement to teachers and teacher centred. The results of the media as a supplement to teachers had a total variance explained was 29.597%. Moreover, the factors of the teacher centered had a total variance explained to be 17.982%.

Thus the factor analysis revealed that perception of teacher's usage on media inn class room teaching and learning can be categorized into two factors i.e. media as a supplement to teachers and teacher centred, hence the total factors explained 47.58 percent of total variance

Finally, it can be concluded that this study contributes to understanding the factors of teacher perception on the role of media in teaching and learning.

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