

TEACHER VARIABLES AND TEACHING OF ENVIRONMENTAL EDUCATION AT THE UNIVERSAL BASIC EDUCATION (UBE) LEVEL IN CROSS RIVER STATE

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Abstract

This study investigated Teacher Variables and Teaching of Environmental Education (EE) at the UBE Level in Cross River State, Nigeria. A sample of 450 teachers was used from the 3 education zones of the state. Proportionate stratified random sampling was used to select the sample size of the teachers. The instrument used for data collection was a questionnaire titled, Teacher Variables and Teaching of Environmental Education questionnaire (TVTEEQ). An Ex-post Facto design was adopted for the study. The reliability estimate of the instrument was established through Cronbach Alpha Reliability Method with reliability index of 0.74 to 0.87. One Way Analysis of Variance (ANOVA) and Independent t-test were used to analyze the data collected. Two hypotheses were formulated for the study and tested at .05 level of significance. The results of the analysis revealed that: On teachers' age, each of the sub dependent variables showed that there was a significant influence of teachers' age on the teaching of EE in all the five sub variables. However, on teachers' religion, Teacher Communicative Competence (TCC) showed no significant difference between Christian teachers and Muslims/other teachers in their teaching of EE. On the other hand, there was a significant difference between Christian teachers and Muslims/other teachers in their teaching of EE in terms of Knowledge of Subject Matter (KSM), Teacher Classroom Management (TCM), Teacher Capacity to Work with Students (TCWS) and Teacher Evaluation Capacity (TEC). Based on the findings, the study recommended among others that, Government should ensure that teachers should not exceed the normal retirement age set for civil service.

Keywords: Teacher Variables, Teaching, Environmental Education and Universal Basic Education

Introduction and background

The National Policy on Education stipulates a 9-3-4 structure in Nigeria which include nine years lower basic education, three years upper basic and four years of university education. The primary and junior secondary classes constitute basic education that is free and compulsory which is the scope of this study.

The National Environmental Education Curriculum which is based on the various career subjects and the ecological zones in Nigeria was developed by Nigeria

Educational and Research Development Council (NERDC) under the guidance of United Nations Development Programme and UNESCO (Okukpon, 2008). The curriculum was approved in 1998 with its main focus on designing and infusing EE objectives and strategies into the teaching of the various career subjects in the school system; developing learners values, skills and information basically related to eco-friendliness through effective utilization of appropriate instructional materials; designing appropriate learning experiences for the learners at every instructional encounter and motivate learners to maximize the learning opportunities involving first hand interactions (Okukpon, 2008). Furthermore, it can be deduced that the main goal to be achieved from this curriculum is creating an environmentally sustainable condition in the society by improving the environmental literacy rate of her citizens. This is done by motivating and informing citizens on how to apply their skills, commitments, positive attitude and adequate knowledge to identify, solve and prevent environmental problems faced now and perceived in the future.

Glaring evidences exist around us in the world today of the effects of long years of negative interferences with the environment which are revealed in the unpredictable climatic conditions; flooding; rise in temperature, urban decay; drought amongst others. Nigeria is not exempted from such environmental crisis and the effects faced in the world today. The country is already experiencing a high population density as the population is more than 120 million, yielding an average density of more than 120 persons per square kilometer (Omofonmwan & Osa-Edoh, 2008). The interaction of these multitude of persons in the society leaves extraordinary mark on the environmental landscape in the country especially through the manifestation of some anti-environmental acts such as poaching, bush burning, overgrazing, land degradation, indiscriminate dumping of refuse, unplanned urban development, deforestation, creation of noise, over exploitation of natural resources and amongst others are prevalent in the country and even in Cross River State.

However, various strategies had been proposed and implemented by the Nigerian government to curb these environmental crisis and some of the strategies include abatement measure, environmental legislation, environmental policies, afforestation, creating game reserves, nature parks, establishing the environmental sanitation day exercise and provision of task force on environmental sanitation in some states (Jekayinfa & Yusuf, 2008). Although these efforts have been effective in curbing some of these environmental problems, new problems are emanating due to the fact that the basis of these problems have not been resolved.

According to Thathong (2012), most of these strategies focus on “end of the pipe line” control and treatment rather than prevention and thus have been unable to produce desirable result thus far. In this regard, these environmental crises require more focus on prevention and resolving the issues from the roots. Therefore this means that the source of these crises in the state is based on the knowledge, attitude and behaviour of the general public towards nature. Thus in resolving such problems, special attention must be placed on increasing the knowledge of the populace and thereby creating a positive attitude and a change in behaviour toward the environment. Hence Environmental Education (EE) has a significant role to play in creating such knowledge and positive attitude and a change in behaviour about the environment among the individuals in the society. This helps enlighten individuals

and give them greater insight into their environment and the consequence of their actions and inactions. However, in this study, the researcher seeks to assess the effectiveness of teachers in the actualization of teaching of environmental education in Cross River State.

This effectiveness can be achieved through teaching by a teacher who indeed has gone through the teacher training process and is qualified to impart knowledge that brings about change in behaviour, mould and reform characters, inculcate discipline and the right value as well as equip an individual for sustainable environmental friendliness. A teacher is also the one who aims at bringing about a desirable outcome not only in the life of an individual but the society at large. The teacher has the ability to: influence what is taught, assess learning and more importantly, organize some areas of pedagogy to influence learning (Maguire, Dillon & Mahony, 2011).

Religious values may determine teachers' behaviour in the area of religiously-normative practices in the classroom. They may determine teacher-student relationship more especially in a strange environment and their response to some infused themes of Environmental Education especially when it contradicts with their cultural and religious beliefs.

Age may attenuate potential negative effect on classroom performance. This may imply that older teachers may not reach the same performance level as those of their younger colleagues and may not multitask effectively in the classroom. According to Jakayinfa and Yusuf (2008) the Environmental Education Curriculum of UBE, drafted by the Nigerian Educational Research and Development Council (NERDC), has the scope of environmental education structured into four main themes:

- i. Ecological foundation
- ii. Human environment/Development
- iii. Environmental change/impact
- iv. Sustainable development

Alufohai and Ibhafidon, (2015) carried out a study on influence of teachers' age on the academic achievement of secondary school students in English Language as a subject. The population for the study was the 304 public senior secondary schools in the three senatorial districts of Edo State, Nigeria. The proportionate sampling technique was used to select 52 senior secondary schools. 52 senior secondary final year (SS III) English language teachers and their 1,689 students consisted the sample for the study. Instruments used for the study were the English Language Teachers' Age Questionnaire (ELTAQ) and the English Language Achievement Test (ELAT). Data was collected and analyzed using the one-way ANOVA and t-test. Alpha level set at 0.05 level of significance. The findings of the study revealed that students' academic achievement was significantly influenced by teachers' age.

Arbuckle and Williams, (2003) in their study investigated the relationship between college students' perceptions of teachers' implicit age. Three hundred and fifty-two male and female students watched slides of an age-neutral stick figure and listened to a neutral voice presenting a lecture, and then evaluated it on teacher evaluation forms that indicated 1 of 4 different age condition ("old," and "young"). Main and interaction effects indicated that students rated the "young" male teacher

higher than they did the “young” female, “old” male, and “old” female teachers on speaking enthusiastically and using a meaningful voice tone during the class lecture regardless of the identical manner in which the material was presented.

Rhodes (2004) opined that there was a strong and significant difference between older and younger adults in performance on a test battery measuring individuals' executive functions, that is, monitoring and controlling attention, suppressing irrelevant information, utilizing analytical reasoning, and updating information in working memory. Older individuals were found to perform much more poorly on this test battery than their younger counterparts. In general, Rhodes's results suggest that older individuals may have more difficulties with complex tasks that require a high level of executive functioning. Indeed, there is also cumulative evidence to indicate that older individuals do not do as well as younger individuals when performing multiple complex tasks simultaneously. On this note, the older teachers handling subjects into which EE concept are infused may not be effective in their classroom teaching.

Tweed (2013) carried out a quantitative study to identify the combination of factors that pertain to the implementation of new technologies and teaching in the classroom. Specifically, the study was an analysis of the age of the teacher to examine the manner in which this factor relates to implementing new technologies and teaching in the classroom. Participants in this study were located in 2 different school districts in East Tennessee. All data were collected through an online survey distributed to K-5 teachers by way of email from school principals. The analysis of data was based on the responses of 124 teachers from these 2 school districts. Research revealed that teachers' age did not play a significant role in the self-efficacy by teachers. Findings also indicated that teachers' age did not play a significant role in the classroom teaching of technology.

Research by Thomas and Feldman (2008) provides an expanded meta-analysis on the relationship between age and teaching job performance that included 10 dimensions of job performance: core task performance, creativity, performance in training programs, organizational citizenship behaviors, safety performance, general counterproductive work behaviors, workplace aggression, on-the-job substance use, tiredness, and absenteeism. Results showed that although age was largely unrelated to core task performance, creativity, and performance in training programs, it demonstrated stronger relationships with the other seven performance dimensions. Results also highlighted that the relationships of age with core task performance and with counterproductive work behaviors are curvilinear in nature and that several sample characteristics and data collection characteristics moderate age performance relationships.

According to the American Bureau of Labor Statistics (2007), the median age of the American workforce has been increasing over the last 30 years—35 years old in 1980, 37 years old in 1990, 39 years old in 2000, and 41 years old in 2006. This trend is also evident world-wide. For instance, International Labor Organization (2005), statistics indicate that young adults between the ages of 20 and 24 were the largest segment of the teaching population in 1980. However, by 1990 the 30–34 age group was the largest segment of the teaching population, and today the largest segment of the world's teaching population is the age 40–44 cohort. Older teachers are becoming an increasingly important concern for schools for reasons beyond their sheer numbers. The shift to older workforce has caused many organizations to spend

more money on succession planning, pension benefits, health insurance, and medical benefits (Beehr & Bowling, 2002). In addition, numerous schools have concerns (and/or stereotypes) that older teachers may exhibit poor academic performance (Remery, Schippers, & Ekamper, 2003). Comparing younger teachers with older teachers, it is believed that older teachers are stereotyped and less physically capable. The older teachers are more likely to have problems getting along with students, as they prefer to invest more time in their families than in their teaching jobs (Fung, Lai, & Ng, 2001). The meaning of “old” depends, to some extent, on the demographic profiles of a civil service or occupation (Shore, Cleveland, & Goldberg, 2003).

Schutte, (2011) researched on 'Effects' of teacher characteristics on project ABC outcome in Niger and provides the results of an impact evaluation measuring the effects of observable teacher characteristics with a focus on teachers age on project ABC outcomes. Project ABC is a randomized mobile phone adult education programme which taught participant basic mobile phone skills along with traditional literacy and math classes in two regions of Niger. For teacher age, it was observed that younger teachers are better at teaching technology (target age for teacher is 28 to 33 years old) in ABC literacy classes whereas older teachers (target age is 37 to 45 years old) are better at teaching ABC math which uses more traditional methods. High cut off ages are used to make fine distinctions between the “young elderly” and “old elderly” (e.g., under and over age 85), scholars in the organizational sciences are particularly attuned to the fact that the age range in the active workforce is typically 16–65 years old (International Labor Organization, 2005). Sturman's (2003) meta-analysis hypothesized that the relationships of performance with three age-related variables (chronological age, job experience, and organizational tenure) were in the form of an inverted-U shape. With respect to the age–performance relationship, Sturman (2003) found that the corrected effect size across 115 empirical studies was .03. Although this effect size is very small, he did find that this relationship was indeed an inverted-U shape. That is, age was positively related to job performance when age was low but was negatively related to job performance when age was high (49 years old). More recently researchers have been examining the ways in which age can facilitate task performance or, at the minimum, not adversely affect it (Ebner, Freund, & Baltes, 2006; Kanfer & Ackerman, 2004).

Rodriguez and Zavodny, (2003) found that there was a strong and significant difference between older and younger adults in performance on a test battery measuring individuals' executive functions, that is, monitoring and controlling attention, suppressing irrelevant information, utilizing analytical reasoning, and updating information in working memory. Older individuals were found to perform much more poorly on this test battery than their younger counterparts. In general, Rodriguez and Zavodny results suggested that older teachers may have more difficulties with complex teaching tasks that require a high level of functioning such as the teaching of EE concept in UBE curriculum. Indeed, there is also cumulative empirical evidence to indicate that older teachers do not do as well as younger teachers when performing multiple complex classroom tasks simultaneously (Verhaeghen, Steitz, Sliwinski, & Cerella, 2003).

Mugaloglus' and Bayrams' (2009) study aimed at the associations between prospective science teachers' religious values and their classroom teaching of science. Cross-sectional research design was used. Science Teaching Attitude Scale-

II and Allport-Vernon-Lindzey Values Test were used for assessing prospective science teachers' attitudes toward classroom teaching of science and their values respectively. As a result of list-wise deletion, the sample appeared to be 281 prospective science teachers. Regression analysis showed that religious value of prospective science teachers was a significant predictor of their attitudes toward classroom teaching of science ($F(1, 279) = 14.787, p < .01$). In order to neutralize the possible negative impacts of religious values, it was suggested that science teachers must be aware that religion and science are two different ways of knowing.

Cobern and Loving (2006) suggested that 'science interest might be improved by more contextual teaching approaches that seek to develop the valuation of science within religion context. Within this idea, the general speculation that prospective science teacher values including "Religious" values are associated with their attitudes toward science teaching. Moreover, science teachers' attitudes toward science teaching refer to hypothetical constructs that represent science teachers' like or dislike for science teaching. In this respect, science teachers can hold positive, negative or neutral attitudes towards science teaching, which are highly likely to be effective on their science teaching.

Mansour (2008) concluded that "teachers' religious beliefs are among the major constructs that drive teachers' ways of thinking and classroom practices about scientific issues related to Environmental Education and religion. Cobern (2000) opined that most of the teachers believe on the aesthetics aspects and religious ideas associated with nature and some teachers "affirm, in relatively strong terms, a connection or association between religion and education. Moreover, Mansour (2008) highlighted "the powerful influence of teachers' religious beliefs in dealing with or gaining new knowledge". So, religious beliefs are closely related to the ways of thinking and practices of the teachers in the context of classroom teaching.

One way of overcoming any potential interference of science teachers' religious values with science teaching could be ensuring coexistence of science and religion as two distinct ways of knowing. On the one hand, science asks questions about the physical world around us and comes to conclusions through observation, experiment and reasoning. On the other hand, religion asks questions about supernatural world and comes to conclusions through revelation, practice, and faith. In this sense, classroom teaching of infused EE concept in different subjects and religion ask different questions and use different methods to make sense of the physical and supernatural world, and therefore, they are not opposing ways of knowing (Zimmerman, 2011). Not fully appreciating these distinctions between religion and science may result in interference of personal religious values of science teachers on their effectiveness towards classroom teaching of infused Environmental Education themes. So, it therefore implies that science teachers must be aware that religion and science are two different ways of knowing, and therefore, their effectiveness toward infused science teaching and practices in classroom has to be unrelated to their religious beliefs.

In another development, Brickhouse, Dagher, Letts and Shipman (2000) recommended inclusion of the teaching of science themes and religion in college-level science courses so as to prevent comparison of scientific explanations and religious views. They also stated that it should not be treated as an unqualified recommendation, for the religious beliefs of some teachers or their institutional settings might well preclude an effective intervention.

Following the introduction of Environmental Education (EE) into the Nigerian education system, based on the philosophy of education contained in the National Policy on Education (2013), the nine year basic education curriculum was reviewed to infuse EE into several subjects. It is believed that the infusion of Environmental Education into different U.B.E. subjects will help learners develop knowledge, skills and positive attitudes towards the environment from a very early stage.

Although Environmental Education has been included in the school curriculum in Nigeria as a whole and in Cross River State in particular, the condition within the school environment in particular in terms of littering of waste, mismanagement of schools' waste bin, filthy school toilets, walking and making a pathway on school fields (the green area), dirty classrooms, noise making (pollution), personal hygiene among others have not improved. Evidence of these problems can still be observed in many schools and also in the communities around the schools. The school is part of the community within where it is situated, therefore it is expected that what the teachers teach in schools, should be reflected in the society. This suggests, in this context, that there is a problem as far as the teaching of Environmental Education is concerned. In other words, it is an indication that there is a vacuum between theory and practice.

Therefore, the problem which this study seeks to address may be encapsulated in the following questions: what influence do teachers' age and teachers' religion have on teaching of Environmental Education at the UBE level?

Purpose of the study

The main purpose of this study is to investigate how teacher variables influence teaching of environmental education at the UBE level in Cross River State, Nigeria. Specifically, this study is designed to investigate;

1. How teachers' age influence teaching of Environmental Education.
2. How teachers' religion influence teaching of Environmental Education.

Statement of hypotheses

For the purpose of this study, the following null hypotheses were proposed:

- 1) Teachers' age does not significantly influence teaching of Environmental Education.
- 2) Teachers' religion does not significantly influence teaching of Environmental Education.

Methodology

The population of the study was 14,717 male and female UBE teachers in the study area. Proportionate stratified random sampling techniques drawn from 15 primary and secondary schools in the study area. The sample size of the study consisted of 450 UBE teachers across the three education zones of the state. A self-developed questionnaire was used as instrument for data collection titled "Teachers variables and teaching of environmental education questionnaire (TVTEEQ) designed by the researcher. The instrument has two sections A and B, section A has respondents demographic information while section B had 40 items in the form of four likert point scale of strongly agree – SA, Agree – A, Disagree – D and Strongly Disagree – SD was designed to elicit information from the respondents to indicate

their level of agreement or disagreement with the items. The instrument was dully validated by three experts in measurement and evaluation while Cronbach Alpha was used to test the reliability and the coefficient yielded 0.74 to 0.87. The copies of the questionnaire were administered personally by the researcher with three research assistants trained for the purposed. For ease of data preparation, codes were designed to each item and a coding schedule was prepared by developing a key for the each of constructs of the instrument. The data collected for the study were analyzed using one-way analysis of variance (ANOVA) and independent t-test.

Presentation of results

Teachers' age does not significantly influence teaching of EE. The independent variable in this hypothesis is teachers' age categorized into below 30years, 30-40years and 41 years and above while the dependent variable is teaching of EE in terms of communicative competence, knowledge of subject matter, classroom management, capacity to work with students and evaluation capacity. To test this hypothesis, the three age categories of teachers' age were compared with their teaching of EE in terms of the 5 sub-variables; and the analysis of variance (One-way) was employed and the result is presented in Table 1.

TABLE 1

Analysis of variance of influence of age on teaching of Environmental Education

Sub variables of teaching behavior at the UBE level	Group	N	Mean	SD
Teacher communicative competence (TCC)	1. Below 30 years	163	23.18	1.98
	2. 30-40 years	213	23.49	2.76
	3. 41 years and above	74	25.66	2.27
	Total	450	23.73	2.57
Knowledge of the subject matter (KSM)	1. Below 30 years	163	20.08	2.06
	2. 30-40 years	213	20.09	2.09
	3. 41 years and above	74	22.36	1.70
	Total	450	20.47	2.18
Teacher classroom management (TCM)	4. Below 30 years	163	21.43	1.53
	5. 30-40 years	213	21.38	1.72
	6. 41 years and above	74	22.16	1.08
	Total	450	21.53	1.58
Teachers capacity to work with students (TCWS)	7. Below 30 years	163	17.33	1.92
	8. 30-40 years	213	17.61	1.48
	1. 41 years and above	74	18.97	1.35
	Total	450	17.73	1.73
Teachers' evaluation capacity (TEC)	9. Below 30 years	163	22.85	1.19
	10. 30-40 years	213	21.40	2.17
	1. 41 years and above	74	23.02	1.41
	Total	450	22.20	1.90

Sub variables of teaching behavior at the UBE level	Source of variation	Sum of squares	Df	Mean square	F-ratio
Teacher communicative competence	Between groups	338.38	2	169.192	28.76*
	Within groups	2629.61	447	5.883	
	Total	2968.00	449		
Knowledge of the subject matter	Between groups	319.12	2	159.562	38.91*
	Within groups	1832.87	447	4.10	
	Total	2152.00	449		
Teacher classroom management	Between groups	35.21	2	17.60	7.17*
	Within groups	1096.78	447	2.45	
	Total	1132.00	449		
Teachers capacity to work with students	Between groups	143.28	2	71.643	26.58*
	Within groups	1204.71	447	2.69	
	Total	1348.00	449		
Teachers' evaluation capacity	Between groups	254.83	2	127.41	41.35*
	Within groups	1377.16	447	3.08	
	Total	1632.00	449		

*P < .05; critical F_{2, 447} = 3.02

The upper part of Table 1 shows the size, mean and standard deviations for the three groups of teachers based on their ages. The actual results of ANOVA show calculated F-ratios at .05 level as follows; communicative competence (28.76*), knowledge of subject matter (38.91*), classroom management (7.17*), capacity to work with students (26.58*) and evaluation capacity (41.35*).

From the obtained results, the calculated F-ratios of the five sub-variables of all the five sub-variables are each higher than the critical F-ratios of 3.02 at .05 alpha level with 2 and 447 degrees of freedom. With these results, the null hypotheses are therefore rejected for each of the sub-variables of communicative competence, knowledge of subject matter, classroom management, capacity to work with students and evaluation capacity. This means that there is a significant influence of age on the teaching of EE in all the five sub-variables of the dependent variable.

Given the significant F-ratios for the five sub-variables, a multiple comparison analysis Fisher's Least Square Difference (LSD) was done to determine exactly which group below 30years, 30-40years and 41years and above differed significantly from others in terms of all the sub-variables. The result of the analysis is presented in Table 2.

TABLE 2

Result of Fisher's least significant difference (LSD) multiple comparison analysis of the significant influence of teachers' ages on their teaching of Environmental Education EE at the UBE level (Knowledge of the subject matter, Teacher classroom management and Teachers' evaluation capacity)

Multiple Comparisons
LSD

Dependent variable	(I) AG	(J) AG	Mean difference (I-J)	Std Error	Sig.
TCC	Below 30 yrs	30-40 yrs	-.31035	.25241	.220
		41 yrs and above	-2.48425(*)	.33998	.000
	30-40 yrs	Below 30 yrs	.31035	.25241	.220
KSM	41 yrs and above	41 yrs and above	-2.48425(*)	.32729	.000
		Below 30 yrs	2.48425(*)	.33998	.000
	Below 30 yrs	30-40 yrs	2.17390(*)	.32729	.000
TCM	Below 30 yrs	30-40 yrs	-.01270	.21073	.952
		41 yrs and above	-2.27898(*)	.28384	.000
	30-40 yrs	Below 30 yrs	.01270	.21073	.952
TCWS	41 yrs and above	41 yrs and above	-2.26627(*)	.27324	.000
		Below 30 yrs	2.27898(*)	.28384	.000
	Below 30 yrs	30-40 yrs	2.26627(*)	.27324	.000
TEC	Below 30 yrs	30-40 yrs	.04591	.16301	.778
		41 yrs and above	-.72658(*)	.21957	.001
	30-40 yrs	Below 30 yrs	-.04591	.16301	.778
TEC	41 yrs and above	41 yrs and above	-.77249(*)	.21137	.000
		Below 30 yrs	.72658(*)	.21957	.001
	Below 30 yrs	30-40 yrs	.77249(*)	.21137	.000
TEC	Below 30 yrs	30-40 yrs	-.27904	.17084	.103
		41 yrs and above	-1.64168(*)	.23012	.000
	30-40 yrs	Below 30 yrs	.27904	.17084	.103
TEC	41 yrs and above	41 yrs and above	-1.36264(*)	.22153	.000
		Below 30 yrs	1.64168(*)	.23012	.000
	Below 30 yrs	30-40 yrs	1.36264(*)	.22153	.000
TEC	Below 30 yrs	30-40 yrs	1.45045(*)	.18266	.000
		41 yrs and above	-.16813	.24604	.495
	30-40 yrs	Below 30 yrs	-1.45045(*)	.18266	.000
TEC	41 yrs and above	41 yrs and above	-1.61858(*)	.23685	.000
		Below 30 yrs	.16813	.24604	.495
	30-40 yrs	Below 30 yrs	1.61858(*)	.23685	.000

* The mean difference is significant at the .05 level.

The pattern of the influence of age on the teaching of EE is as follows:

I. TCC

The significant mean difference values of 2.48425 and 2.17390 indicate that teaching of EE with respect to communicative competence for teachers with age level of 41 years and above is significantly higher than the teaching of EE for teachers where age level is below 30 years and 30-40 years. These with age level below 30 years and 31-40 years do not differ significantly in their teaching of EE.

ii. KSM

The significant mean difference of 2.27898 and 2.26627 indicate that the teaching of EE with respect to KSM for teachers with age level of 41 years and above is significantly higher than those of below 30 years and 30-40 years. Those with age level of below 30 years and 31-40 years do not differ significantly in their teaching of EE.

iii. TCM

The significant mean difference of 0.72658 and 0.77249 indicate that the teaching of EE with respect to TCM for teachers of age level 40years and above is significantly higher than those of age level below 30years and those of 30-40years. Those with age level of below 30years and 30-40years do not differ significantly in their teaching of EE.

iv. TCWS

The significant mean difference of 1.64168 and 1.36264 indicate that the teaching of EE with respect to TCWS for teachers of age level 40years and above is significantly higher than those of age level of below 30years and those of 30-40years. Those with age level of below 30years and 30-40years do not differ significantly in their teaching of EE.

v. TEC

The significant mean difference of 1.45045 and 1.61858 indicate that the teaching of EE with respect to TEC for teachers of age level of 30-40years is significantly higher than those of age level of below 30-41years and above. Those with age level of below 30years and 41years and above do not differ significantly in their teaching of EE.

Teachers' religion does not significantly influence teaching of EE. The independent variable in this hypothesis is religion, which is categorized into Christianity and Islam/others. The dependent variable is teaching of EE in terms of TCC, KSM, TCM, TCWS and TEC. To test this hypothesis, the 2 categories of the independent variable were compared on the five sub-variables of the dependent variable using the independent t-test. The result is presented in Table 3.

TABLE 3
Independent t-test analysis of the influence of Teachers' religion on teaching of Environmental Education (N=450)

Sub variables of teaching behavior at the UBE level	Teachers' religion	N	\bar{X}	SD	t-value
Teacher communicative competence	Christianity	292	23.69	2.69	-.389
	Islam/others	158	23.79	2.33	
Knowledge of the subject matter	Christianity	292	20.10	2.39	-4.92*
	Islam/others	158	21.14	1.56	

	Christianity	292	21.13		
Teacher classroom management	Islam/others	158	22.28		
Teachers capacity to work with students	Christianity	292	17.52		
	Islam/others	158	18.13	1.59	
Teachers' evaluation capacity	Christianity	292	22.59	1.67	6.24*
	Islam/others	158	21.47	2.09	

*Significant at .05 level, critical $t=1.98$, $df = 1040$

The result of the analysis in Table 3 reveals various mean values for Christian and Muslim/others teachers' teaching of EE on the five sub-variables of TCC, KSM, TCWS, TCM and TEC. From Table 10, the absolute value of the calculated t-values for TCC (.389) is lower than the critical t-value of 1.96 at .05 alpha level with 448 degrees of freedom. The null hypothesis was therefore retained for TCC. It therefore means there is no a significant difference between Christian teachers and Muslim/other teachers in their teaching of EE in terms of TCC.

On the other hand, the calculated t-values of KSM, TCWS and TEC are each higher than the critical t-values of 1.96 at .05 alpha level with 448 degrees of freedom. The null hypothesis was therefore rejected for KSM, TCM, TCWS and TEC. This means that there is a significant difference between Christian teachers and Muslim/other teacher in their teaching of EE in terms of KSM, TCM, TCWS and TEC.

The direction of significance is in favour of Muslim teachers for KSM, TCM and TCWS, whereas the direction of significance was in favor of Christian teachers for only TEC. This implies that Muslim teachers' teaching of EE with regard to KSM ($X=21.14$), TCM ($X=22.28$) and TCWS ($X=21.14$) is significantly higher than those of Christian teachers on the same sub-variables of KSM ($X=20.10$), TCM ($X=21.13$) and TCWS (17.52). However, Christian teachers' teaching of the EE with regard to TEC ($X=22.59$) is significantly higher than those of Muslim/other teachers ($X=21.47$).

Conclusion

Based on the findings of the study, teacher's age and religion has a positive significant influence on teaching of environmental education. The data generated from this study point to the critical role of teacher variables in determining of environmental education. However, on teachers religion differences in value and belief may cause

some teachers to make inaccurate judgment regarding the values of EE they have to teach.

Recommendations

One the basis of the findings of this study, the following recommendations were made

1. Compared with younger teachers, older teachers are stereotyped as being less physically capable, likely preferring to invest more time in their families than in their teaching jobs. On this note, Government should ensure that teachers should not exceed the normal retirement age set for civil service.
2. Also teachers' retirement age must be monitored and age declaration harmonized in a common server to avoid multiple declarations to ensure that the system does not harbor over aged teachers which can likely affect the efficiency of the system.
3. A psychological training should be organized for teachers to understand individual student' histories and ideologies regarding education and learning as well as the cultural pattern and beliefs of groups.
4. Government should intensify efforts in effective supervision of teachers to acquaint them with new ideas in the implementation of the universal basic education programme.
5. Lack of teachers' training on distinction between religion and science may result in interference of personal religious values of UBE teachers on their attitude towards the teaching of EE.
6. UBE teachers must be aware that religion and the concept of EE are two different ways of knowing, and therefore, their attitudes towards the teaching of EE have to be unrelated to their religious beliefs.

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