



TEACHERS' EXPERIENCE AND QUALIFICATION AS DETERMINANTS OF THEIR EFFECTIVENESS IN COLLEGES OF HEALTH, SCIENCE AND TECHNOLOGY IN SOUTHWEST NIGERIA

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Abstract

This study investigated the influence of teachers' experience and qualification as determinants of their effectiveness in Colleges of Health, Science and Technology in South-West Nigeria. The purpose of the study was to determine the influence of teachers' qualification and experience on their effectiveness in the class and also to determine the influence that teachers' attitude would have on their effectiveness in the class in colleges of health, science and technology in southwest Nigeria. The study adopted descriptive research design of the survey type. The population consisted of all teachers in public colleges of health, science and technology in southwest Nigeria. The sample of this study was 315 teachers in public colleges of health, science and technology in southwest Nigeria which was selected through multi stage sampling procedure. Two instruments were used for this study which were; "Teachers' Attitudinal Scale (TAC)" and "Teachers' Effectiveness Questionnaire (TEQ). Face, content and construct validities of the instruments were ascertained by experts in Science Education, Basic Medical Science and Test,

Measurement and Evaluation, corrections made were properly incorporated into the instrument to make it the final version. The reliability of the instruments were determined using Kuder Richardson and the reliability coefficient of 0.80 and 0.72 were obtained for TAC and TEQ respectively, these coefficients were considered relatively high enough to be used for the study. Data collected were analyzed appropriately; hypotheses 1 and 2 were analyzed with Analysis of Variance (ANOVA). Hypothesis 3 was tested with Pearson Product Moment Correlation. The three hypotheses were tested at 0.05 level of significance. The result showed that there is significant influence of teachers' experience on their effectiveness, that there is significant influence of teachers' qualification on their effectiveness and also that there is significant influence of attitude of teachers on their effectiveness in Colleges of Health, science and Technology in Southwest Nigeria.. Based on the findings of the study, it was concluded that teachers' experience is a determinant to their effectiveness in the class. It was also concluded that teachers' qualification contributes significantly to their effectiveness during teaching and learning in the class and finally that teachers' attitude determined their effectiveness in colleges of health, science and technology Nigeria. It was therefore recommended that Teachers with more years of experience should be encouraged so as to be retained in colleges. Government and college management should allow teachers in Colleges of Health, science and Technology to attend in- service trainings, seminars, conferences and workshops on teachers' attitude in order to improve their effectiveness in the class.

Keywords: Teachers' Experience, Teachers' Qualification, Teachers' Effectiveness, teachers' Attitude and Colleges of Health, Science and Technology.

Introduction

Science is an organized body of knowledge which is in form of concepts, laws, theory and generalization. Muzah, (2011) defined science as the applied knowledge. Science has been crucial and a bedrock of knowledge to the process of solving problems in the society. Science is of tremendous important because of its ability to shed light on so many natural phenomenon and it plays a central role in the world's current technological development. It could also be seen as backbone to the measurement by which developed countries such as Japan achieved their eminence in the world of automobile and communication.

It is therefore necessary that in a developing country like Nigeria, more efforts should be made towards authentic development of Science and Technology by equally emphasizing science teaching and learning in schools especially in Colleges of Health Science and Technology where compound or complex science concepts, laws, theory and generalization are taught and applied in order to be able to solve problems in the society.

In recent times, there has been a growing public anxiety about the teaching and learning of science in Nigeria Schools. Studies showed that large number of students seem to learn very little science at school as learning tends to be by rote which makes students find learning to be difficult (Akpan, 2015). The quality of science teaching and learning has also been questioned over time by parents, Science educators and the general public, even the government.

Science teaching in Nigerian schools has been criticized because of the poor performance of Nigerian students in science subjects relative to their counterparts in other countries. This was one of the reasons why the Science Teachers Association of Nigeria (STAN) revealed that, in the area of Science, Technology, Engineering and Mathematics (STEM). Nations have continued to invest resources in other to find new and better ways to improve students' learning outcomes, (Njoku, 2016). In Nigeria, there are studies that showed efforts at identifying factors responsible for students' poor acquisition of scientific skills and performance which could be as a result of science teachers' effectiveness during teaching and learning process.

Science teachers could have major influence on the way students learn and develop themselves in science especially in Colleges of Health, Science and Technology which is the tertiary institution where students obtain education and instructions in science healthcare, technology and Management, evaluation and presentation by teachers which supposed to be through a range of teaching tutorials, through pragmatic strategies in different fields of health science and technology to include workshops and group discussions as well as case studies and examples, to develop lecture topics and the students' problem-solving skills.

Teachers who have positive impact on students' lives are those who are effective in the class during teaching and learning. Teachers' effectiveness could be seen as the ability of the teaching and learning in the class to be appropriate and meaningful in relation to the set aims and objectives of the subject matter. Effectiveness of teachers is paramount in other to make science

in Nigeria to be at the front and also to make it answerable to the students and the society at large through the use of science as a tool to advance technology in the nation. Effective teaching in Colleges of Health, science and Technology could make it strong enough to serve its purpose as the main or major yardstick for measuring the development of a nation around the globe because health is wealth.

As teachers' effectiveness is essential to be able to achieve the stated goal and objectives of the institution, it seems teachers' effectiveness could be influenced by some factors such as gender and teachers' year of experience. According to Adedeji (2016) who identified teachers' characteristics as a factor that affect teachers' effectiveness in science education which is widely studied under six headings which include personality, attitudes, experience, aptitude / achievement, gender, and training as measured by the certificate obtained. The same Ajaja and Ayeni, (2013) proved that all these characteristics have many sub-characteristics under them.

Researcher also observed that teachers' years of experience could be a major factor that can influence effectiveness of teaching in Colleges of Health, Science and Technology. Years of experience is the time spent by a teacher in the teaching and learning activities or in the profession which could be a source of teachers' accumulation of more knowledge or skills that result from direct participation in the activities of teaching and learning. With the passage of time, teachers get more command of their area of specialization and become more effective in the art of teaching through experience. In other words, years of experience in teaching improves the teaching skills and adoption of more effective methodologies in the teaching and learning either in the class or in laboratory. Oguniyi (2015) posited that teachers with lesser years of experience teach on abstract, thereby making learning to be boring and the students find it difficult to grasp some scientific concept, skills and principles.

The researcher observed that teachers' qualification could also influence the effectiveness of teachers in the class. Teachers' qualification refers to the certificate, knowledge as regarding

the area of specialization; the indicators of teachers' qualification which were used in this study are academic qualification and professional qualification. Basic skills and knowledge of subject matter in an area of specialization could be developed through professional training especially teachers teaching in Colleges of Science, Health and Technology. Abe (2014) revealed that there is significant difference existed in the achievement of students taught by higher qualified teachers and lower qualified teachers in science.

The researcher also observed that some of the teachers handling courses in many Colleges of Health, science and Technology are not specialized in the department they are to teach, but the institution or the head of the department guess they could handle courses allocated to them because of the nearness of their area of specialization. There is no way that such teacher could effectively teach students, change their attitude towards the course and this will eventually reduce their level of academic achievement.

Another teacher's characteristics that could influence the effectiveness of teachers in the class could also be the attitude of the teacher. The attitude of some teachers in Nigeria Colleges of Health, science and Technology appears to be discouraging students in their department. Some teachers believed that students must be stressed before they could achieve significantly in a given course or department. Experience has also shown that some teachers in Colleges of Health, science and Technology believe that such institutions are for exceptional students, and instead of encouraging students who are not brilliant to learn, such teachers are found of passing abusive words which could discourage students and eventually influencing the teacher's effectiveness in the class. Some **teachers** in Colleges of Health, Science and Technology **don't** know that mode of their conduct and their disposition to situations during teaching and learning process could directly or indirectly influence their effectiveness in the class. As a result of the above and looking at the imperativeness of Colleges of Health, Science and Technology and it's contributions to the development of any nation makes the researcher to research into influence of

years of experience and qualification as determinants of teachers' effectiveness in colleges of health, science and technology in southwest Nigeria.

Purpose of the Study

The purpose of the study was to;

- a. investigate the influence of teachers' years of experience on their effectiveness in Colleges of Health, Science and Technology in Nigeria
- b. also to determine the influence that both teachers' attitude and qualification would have on their effectiveness in Colleges of Health, Science and Technology in Nigeria

Research Hypotheses

Three research hypotheses were postulated in this study.

1. There is no significant difference in teachers' experience and their effectiveness in Colleges of Health, Science and Technology
2. There is no significant difference in teachers' qualification and their effectiveness in Colleges of Health, Science and Technology
3. There is no significant influence of attitude of teachers on their effectiveness in difference in Colleges of Health, Science and Technology

Research Design

The study design was a descriptive of survey type, this was adopted because the investigation concerned with describing and interpreting current issues on teachers' years of

experience and qualification as determinants of their effectiveness among colleges of health, science and technology teachers in southwest Nigeria.

Population

The population consisted of all teachers in public colleges of health, science and technology in southwest Nigeria. The states in South-West of Nigeria are Lagos, Ogun, Oyo, Osun, Ondo and Ekiti.

Sample and Sampling Technique

The sample of this study was 315 teachers in public colleges of health, science and technology in southwest Nigeria which was selected through multi-stage sampling procedure. In stage one, three states were selected through simple random sampling technique. The second stage involved the selection of a public Colleges of Health, science and Technology from each state selected through simple random sampling technique. In stage three, 105 students were selected from each Colleges of Health, science and Technology using stratified sampling technique.

Research Instruments

This study made use of two instruments which were “Teachers’ Attitudinal Scale (TAC)” and “Teachers’ Effectiveness Questionnaire (TEQ)”. TAC was developed to measure the attitude of teachers towards learning in the class. The instrument had two sections; A and B. Section A consisted of the personal data of the teachers (their age, years of teaching experience and qualification). Section B comprised of 20 items intended to measure the teachers’ attitude towards learning. Teachers’ Effectiveness Questionnaire (TEQ) also comprised of two sections where section A elicited bio-data information from the teachers (their age, years of teaching

experience and qualification). Section B also comprised of 20 items to measure the teachers' effectiveness. The responses of the two instruments were four point Liker-type scale of Strong Agree (4 points), Agree (3 points), Disagree (2 points) and Agree (1 point).

Validity of the Instruments

Face, content and construct validities of the instruments were ascertained by experts in Science Education, Basic Medical Science and Test, Measurement and Evaluation. Corrections made were properly incorporated into the instrument to make it the final and corrected version.

Reliability of the Instruments

The reliability of the instruments were determined using Kuder Richardson and the reliability coefficient of 0.80 and 0.72 were obtained for TAC and TEQ respectively These coefficients were considered relatively high enough to be used for the study.

Administration of the Instruments

The researcher visited the sampled Colleges of Health, Science and Technology one by one with the copies of the questionnaires and the Head of the Departments were contacted through the Rectors of the Institutions who gave permission to the researcher. The teachers were well informed about the focus of the researcher and thereafter the questionnaires were administered to them with the help of the research assistants.

Data Analysis

Data collected were analyzed appropriately; hypotheses 1 and 2 were analyzed with Analysis of Variance (ANOVA). Hypothesis 3 was tested with Pearson Product Moment Correlation. The three hypotheses were tested at 0.05 level of significant.

Results and Discussion

Hypothesis 1:

There is no significant difference in teachers' experience and their effectiveness in Colleges of Health, Science and Technology..

In order to test the hypothesis, scores relating to teachers' experience and teachers' effectiveness on 'Teachers' effectiveness Questionnaire (TEQ)' were computed and subsequently subjected for statistical analysis using ANOVA statistics at 0.05 levels of significant. The result is presented in Table 1.

Table 1:

ANOVA showing teachers' effectiveness in Colleges of Health, Science and Technology by teachers' experience

| Source | SS | Df | MS | F | Sig |
|-------------------|------------|-----|----------|-------|------|
| Between the Group | 8112.4124 | 2 | 4056.206 | 3.101 | 0.51 |
| Within Group | 408141.022 | 312 | 1308.144 | | |
| Total | 48926. | 314 | | | |

p> 0.05

The result revealed that F-value of 3.101 is significant at 0.05 level of significant (P-value of 0.05). This implies that the null hypothesis is rejected. Hence, there is significant influence of teachers’ experience on their effectiveness in Colleges of Health, science and Technology.

Hypothesis 2

There is no significant difference in teachers’ qualification and their effectiveness in Colleges of Health, Science and Technology.

In order to test the hypothesis, scores relating to teachers’ qualification and teachers’ effectiveness on ‘Teachers’ effectiveness Questionnaire (TEQ)’ were computed and subsequently subjected to statistical analysis using ANOVA statistics at 0.05 levels of significant. The result is presented in Table 2.

Table 2:

ANOVA showing teachers’ qualification in Colleges of Health, science and Technology by teachers’ experience

| Source | SS | Df | MS | F | Sig |
|-------------------|------------|-----|-----------|--------|-------|
| Between the Group | 36754.612 | 2 | 18377.306 | 14.317 | 0.001 |
| Within Group | 400313.714 | 312 | 1283.057 | | |
| Total | 423997.543 | 314 | | | |

p> 0.05

The result in Table 2 revealed that F-value of 4.317 is significant at 0.05 level of significant (P-value of 0.01). This implies that the null hypothesis is rejected. Hence, there is significant influence of teachers' qualification on their effectiveness in Colleges of Health, science and Technology.

Hypothesis 3

There is no significant influence of attitude of teachers on their effectiveness in difference in Colleges of Health, Science and Technology

In order to test the hypothesis, scores on teachers' attitude on Teachers' Attitudinal Scale (TAC) and teachers' effectiveness on Teachers' effectiveness Questionnaire (TEQ) were computed and subsequently subjected for statistical analysis using Pearson Product Moment Correlation statistic at 0.05 levels of significant. The result is presented in Table 3

Table 3:

Pearson Correlation Analysis of attitude of teachers and their effectiveness in Colleges of Health, Science and Technology

| Variable | No | Mean | SD | r-cal | Sig | Remark |
|-------------------------|-----|--------|--------|--------|-------|-------------|
| Attitude of Teachers | 315 | 14.25 | 5.183 | 0.512* | 0.195 | Significant |
| Teachers' Effectiveness | 314 | 171.32 | 28.347 | | | |

$P < 0.05$

The result in Table 3 showed that r-cal value of 0.647 is significant because P value (0.195) < 0.05 level of significant.. The null hypothesis is rejected. Hence, this implies that there is significant influence of attitude of teachers on their effectiveness in Colleges of Health, science and Technology.

Discussion

The finding of this study showed that there was significant influence of teachers' experience on their effectiveness in Colleges of Health, science and Technology. This could be that experience got from teaching could bust teachers' knowledge in subject matter and thereby improves teachers' effectiveness in the class. This finding is in agreement with that of Ajaja and Eravwoke (2013) who claimed that teachers' experience is a determinant of teachers' effectiveness.

The study also showed that there was significant influence of teachers' qualification on their effectiveness in Colleges of Health, science and Technology. This could be that as a teacher acquires additional qualification there is tendency that the teacher would be improve the more on his or her competency and there will be improvement in the knowledge of the subject matter leading to the teachers' effectiveness.

The findings also showed that there is significant influence of attitude of teachers on their effectiveness in Colleges of Health, science and Technology. Attitude of some teachers appear to discourage students from learning and this makes students to lose grip on the subject matter. This finding is in support of Ajiboye and Afolabi (2012) who opined that the attitude of teachers correlates with their effectiveness in the class.

Conclusion

From the findings of this study, it is concluded that teachers' experience is a determinant to their effectiveness in the class. It was also concluded that teachers' qualification significantly contributed to their effectiveness during teaching and learning in the class and finally, it was concluded that teachers' attitude determined the level of their effectiveness.

Recommendation

Based on the findings of this study, the following recommendations were made:

1. Both government and school management should allow teachers in Colleges of Health, science and Technology to attend in- service trainings, seminars, conferences and workshops on teachers' attitude and effectiveness to give room for their improvement.
2. Teachers with more years of experience should encourage so as retaining them in the school.
3. Government should employ only qualified teachers to teach in Colleges of Health, science and Technology.

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