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**Research Article**

# THE INFLUENCE OF AGE AND GENDER ON ACADEMIC ACHIEVEMENT SCORES OF STUDENTS: A CASE STUDY ANALYSIS OF UTAGBA-OGBE TECHNICAL COLLEGE, KWALE DELTA STATE, NIGERIA

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**Abstract**

Academic achievement of students have attracted attention of scholars, parents, policy makers and planners. The major goal of the school is to work towards attainment of academic excellence by students. It was belief that academic success could be strongly and positively related to students' age at entrance to school. Thus the study investigated the influence of age and gender on academic achievement scores of students: A case study analysis of Utagba-Ogbe technical college, Kwale, Delta State. Three research questions was formulated and one research hypothesis tested at 0.05 level of significance guided the study. The survey research design was adopted and the study was conducted in Delta state, Nigeria. The target population was 106 students from both the sexes (63 males and 43 females) 2019/2020 graduates of a technical college. The National Business and Technical Examination Board (NABTEB) final year results, showing age and gender were collected from the school Principal's office, Utagba–Ogbe Technical College, Kwale, and was used for the study. Multiple Regression, ANOVA and Chi Square were statistical tools used for data analysis. Findings of the study revealed that a relationship does not exist between the two predictor variables and the technical college students' academic achievement scores and that their combined contribution is insignificant. However, the study revealed differences in the students' academic achievement scores as a result of chronological age and gender quality. Based on the empirical outcomes of the study, the researcher concluded that age and gender have positive influence on the academic achievement scores of technical college students. The researcher recommended that teachers, teaching in technical college should adopt practical oriented teaching methods that would be of great benefit to the students not minding their gender or age differences. Also, the stakeholders of education should make available necessary instructional devices needed to ensure efficiency in teaching and permanency in learning technical subjects among students of different age and gender.

**Keywords:** Age, Gender, Technical Vocational Education, Academic Achievement Scoresand Technical College.

## INTRODUCTION

Engineering trade is one of the Technical Vocational Education and Training (TVET) programmes offered in technical college for the purpose of producing craft skilled manpower required for the Nigeria's economic and technological development. These trained craftsmen will be enterprising and self-reliant in any of the engineering trade areas (NBTE, 2003) necessary for solving industrial and economic problem of the nation (Federal Republic of Nigeria FRN, 2013). This is done by incorporating into the curriculum the necessary practical skills work (up to 70%) to enable the students create job by using their abilities, knowledge, initiatives and creativity for self-reliance. The main trust at this level of education involves practical training using newer methodologies of applying science, materials, tools, devices, equipment, machinery, and other resources to enable competent workers solve practical problems. Thus educational institutions have no worth without students. Hence, students are essential asset for any school, colleges and University. The social and economic development of the country is directly linked with students' academic achievement. The students' academic achievement plays an important role in producing the best quality graduates who will become great leaders and manpower for the country. Academic achievement is used in the school to refer to students' success in learning specified curriculum content as revealed by continuous assessment and examination.

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According to Ali, (2013), academic achievement is a measure of the degree of success in performing specific tasks in a subject or area of study by students after a learning experience. It is the outcome of education that indicates how well a student or class of students achieved academically. Therefore, measuring academic achievement is a significant part of the education process and informs educators of student ability and progress toward educational goals. Likewise, academic achievement is a major issue to teachers, students, parents and guardians as well as other stakeholders in the education industry. This concern cuts across all school subjects and all levels in the education system including primary, secondary and tertiary. A high academic achievement for students could be an indication of teaching/learning effectiveness. Consequently, poor academic achievement, on the other hand, could be an indication that the teaching/learning processes are very effective and efficient. There is, therefore, need to determine factors that could affect the academic achievement of students generally and especially those in technical colleges programme. This is important for proper vocational guidance of students' career choice in TVE given its potential of turning out graduates who could contribute positively to the fight against unemployment and poverty in the country. There have been numerous studies conducted to determine the effect of several demographic variables on students' achievement. This study looked specifically at age and gender. The results from prior studies about the effect of age on academic achievement are mixed. David, Keane, Shelton, and Calkins, (2011) studies revealed that as students become older, the correlation between age and school achievement diminishes. Grissom (2004) studied concluded that the negative relationship between age and achievement remains constant over time. Accordingly,

Ebenuwa-Okoh, (2010) stated that schools provided equalizing experiences, and thus the longer students stay in the schooling process, the more the impact of age on student achievement is diminished. In addition, as the students move up the age there would more students drop out of school, thus reducing the magnitude of the correlation. On the other hand, results from longitudinal studies have contradicted Ebenuwa-Okoh's results, by demonstrating that there is a gap in student achievements as students get older (Duncan, Brooks-Gunn, & Klebanov, 1994). John, Jackson and Simiyu, (2015) lamented that the chronological age of a students had a significant bearing on his/her academic performance such that the youngest one had the potential of having higher score than his/her oldest counterpart in the teacher made test. Abubakar and Adegboyega, (2012) established a positive correlation between age-academic achievement and gender-academic achievement in Mathematics among students of Colleges of Education. However, age and gender were insignificant in academic achievement of the students but age was reported of being the better contributor to academic achievement

Gender refers to the biological and physiological reality of being male or female (Igbo, Onu & Obiyo, 2015). Igbo et al, described gender as a behaviour pattern and attitude perceived as a masculine and feminine within a culture. Furthermore, Frimpong, Emmanuel, and Amoako, (2017) described gender as a psychological term, which describes behaviours and attributes expected of individuals on the basis of being a male or female. It is a social and cultural construct which distinguishes the difference in the attributes of men and women, boys and girls and accordingly refers to the roles of men and women Mushtaq and Shabana, (2012). Over the years, education has focused on closing the enrolment gap between male and female students in technical colleges, while insufficient attention has been paid to the differences in their achievement. Adopting an approach that takes into account the relationship between male and female students in technical colleges will not only lead to improving equality of students' enrolment, but will also address equality of educational outcomes among male and female students in technical colleges. It will also ensure improved quality of both male and female students in core technical subject area.

Significant study have indicated that gender plays a part in the student academic achievement. For example, researchers have found significant differences between male and female students in science achievement. In a meta-analysis of 77 studies conducted between 1980 and 1991 among middle and high school students, DeBaz, (1994), Lee and Burkam, (1996) found a large advantage for males on the physical science subtest and a modest advantage for females on the life science subtest. Blosser. (1990) concluded that male students were more likely than female students to report having attempted to fix electrical or mechanical devices. Conversely, females were more likely than males to have attempted diagnosing problems with an unhealthy plant or animal. However, certain studies indicated that gender differences generally are small or non-existent. Aransi, (2017) found that in science, boys outperform girls, but in reading and writing girls have the advantage.

Coley, (2001) studied gender differences within ethnic groups of varying ages and it revealed more similarities than differences. On most measures, gender differences did not vary much from one ethnic group to another. Furthermore, Coley found that (i) females scored higher than males in reading and writing across all ethnic and age groups. This gap widened for most groups as the students progressed through school; (ii) there was no gender gap for any group of 8$^{th}$ and 12th graders in math achievement; and (iii) twelfth grade Hispanic females outscored like aged Hispanic males in social studies achievement. The other groups demonstrated no gender difference in social studies achievement.

Weaver-Hightower, (2003) showed evidence of a growing gender gap in educational achievement in a number of developed countries. Educational statistics have indicated that females are outperforming males at all levels of the school system, attaining more school and post-school qualifications, and attending university in higher numbers (Alton-Lee & Praat 2001); (Mullis, Martin, Gonzalez, & Kennedy. 2003).Therefore, more research on age and gender differences in academic achievement is needed to make conclusive implications of the impact of age and gender could have on students' academic achievement scores.

**Review of Related Literature**

The related literature to the research topic under study was reviewed under the following sub-headings:

**Technical and Vocational Education**

TVE is a programme of study designed to equip students with practical skills in different occupational fields which will help them become self-reliant in the face of paucity of paid employment. Vocational also means the efforts of an organization to produce students who have the knowledge, basic skills and also prepare them to become skilled workers in future. When a skilled employee is recognized as a skilled worker, indirectly this group will be responsible to forming and produce a new skilled worker. TVE is a programme of instruction offered at different levels of the education system to prepare people for specific jobs, crafts and careers at various levels. Akaninwo, (2004) described TVE as a types of education designed to prepare the recipients to be self-reliant. Contributing, Uwaifo and Uwaifo, (2009) and Ordu, (2012) explained TVE programme as that type of education to prepare individuals for gainful employment as semi-skilled or skilled workers or to their present or future occupations. The National Council for College of Education, (2003) outlined the sub units of TVE to include business education agricultural education, computer education, fine and applied arts, home economics education and technical education. Consequently, Ekpenyong, (2008) highlighted the occupational areas as technical education covering engineering trades such as, electrical/electronic technology, building technology, and automobile engineering; business education covering secretarial studies/office and accounting.

The Federal Republic of Nigeria (2004) referred to technical and vocational education as the form of education which can be obtained in technical colleges while Ihekwoaba, (2007) explained that vocational education has vocational has vocational and technical aspects which are acquired at different places under different conditions. Furthermore, Ihekwoaba stated that, TVE begins at the junior secondary school level where the vocational component is taught as introductory Technology'. However, actual TVE begins at the senior secondary level to post-secondary and tertiary levels in vocational centres, colleges of technology, polytechnics and universities.

In line with the scope of TVE highlighted above, major objectives of the programmes are (a) to provide training in engineering, other technologies, applied sciences, business and management and (b) to provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria (FRN, 2009). Ebenuwa-Okoh, (2010) and Eze, (2013) affirmed that TVE is one of the manpower training programmes currently emphasized in various countries around the world and is a popular means of producing trained manpower for economic and industrial growth of both developed and developing countries. They further observed that TVE is integrated in almost all educational levels; primary, secondary and tertiary in developed countries of the world due to its relevance. Supporting, Ezenwafor, Okeke and Okoye, (2014) posited that TVE is capable of tacking the menace of unemployment and poverty in Nigeria by equipping students with practical skills for self-employment.

Dike, (2006) observed that TVE has a long history and has thrived in many societies like the USA, India and the Asian Tigers who could not have become what they are without massive investment in that area of manpower training and development. The author, however, regretted that the neglect of the programme in Nigeria is responsible for the lack of skilled workers in different fields, rising youth unemployment and other social vices in the country. In Nigeria, TVE teachers are usually trained in two categories of tertiary institution, namely, colleges of education (technical) and universities to use the brain, hand and mind effectively for the development of self and the society and the graduates are awarded the Nigerian Certificate in Education (NCE) and Bachelor of Science (B.Sc.) degree and higher degrees.

**The Role of Technical and Vocational Education**

The primary purpose of technology education is useful employment for adults and young who are preparing to enter occupations in agriculture, business, and home-making, industrial and technical fields. Technical and vocational education played a vital role in national development which include the followings:

- **Generation of employment/creation of job opportunities**: Technical and Vocational Education helps to reduce the rate of drop outs and unemployment in the society. Technical/Vocational Education could be used to developed marketable skills in students/youths so that they can become easily employable. It makes an individual to become an asset to him and the nation and also prevent him from being a liability to the society.
- **Industrial development**: Technical and Vocational Education helps a nation develop technologically and industrially by producing people competent and capable of developing and utilizing technologies for industrial and economic development. It is a tool that can be used to develop and sustain the manpower needs of any nation.
- **Entrepreneurship strategy**: Technical and Vocational Education offers the beneficiary the ability to be self-reliant, to be job creators and employers of labour.
- **Poverty alleviation**: Many who are fortunate to graduate in a regular school system and excel in various fields of leaning fall back to the skills acquired in technical and vocational institutions in time of employment crisis. This has been proven right in recent time when workers of various categories were retrenched in both public and private sectors due to the deteriorating state of our economy. Such workers who possessed skills other than that for which they were previously employed had something else to fall back on and better off financially than those who had no other skills.
- **Promotion of the Nigerian Economy**: It promotes the national economy through foreign exchange by exporting our products. The knowledge of technical and vocational education could help in the conversion of local raw materials, this reduces the importation of foreign goods which lessen our

**Factors Affecting Students' Academic Achievement Scores**

Academic achievement of students especially at the technical college level is not only a pointer to the effectiveness but a major determinant of the future of youths in particular and the nation in general. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to untangle factors that militate against good academic performance Hanan, Marie-Anne and Lori, (2015). Academic achievement of learners has attracted attention of scholars, parents, policymakers and planners. Adeyemo, (2001) opined that the major goal of the school is to work towards attainment of academic excellence by students. Adeyemo further stated that the school may have other peripheral objectives but emphasis is always placed on the achievement of sound scholarship. Besides, virtually everybody concerned with education places premium on academic achievement; excellent academic achievement of children is often the expectation of parents (John, Jackson & Simiyu, 2015).

Ali, (2013) stated that academic achievement is the outcome of education that indicates how well a student or class of students is doing academically. Furthermore, Trow in Ganai and Muhammad, (2013) defined academic achievement as knowledge attaining ability or degree of competence in school tasks usually measures by standardize tests and expressed in a grade or unit based on pupils' performance. Students' academic achievement can be high or low (good or poor). Bakare, (1994) explained poor academic achievement as achievement that falls below the expected standard. On the other hand, high academic achievement is achievement that measures up to or above the standard expected depending on the subjective yardstick of an examiner or examining body. Kooi and Ping, (2009); Ali, (2013) and Ganai and Muhammad, (2013) observed that students' academic achievement is affected by a host of factors which include and household characteristics such as student's ability and motivation, age and gender, quality of lecturers and their instructional strategies, class size, location and such environmental characteristics as lighting and ventilation, among others. Other factors mentioned include childhood training and experience, attitudinal differences, parental and teacher expectations and behaviors as well as differential course taking. Crosnoe, Monica and Glen, (2004) and Ocho, (2005) classified the foregoing factors as teacher factors, environmental factors, economic factors and student factors. Anagbogu, (2002) observed that there is a general belief that boys are superior to girls in terms of cognition and local reasoning and even in academic performance. Supporting, Okeke, (2003) asserted that factors that affect student's academic achievement in science subjects include sex role stereotype, masculine image

and female socialization process and inability to withstand stress. The influence of home environment on students' academic achievement at the individual level is still prevalent, but less strong in much of the literature. There is an awareness of the importance of the home environment or family structure on student's academic achievement. The home has a great influence on the students' psychological, emotional, social and economic state. In the view of Ajila and Olutola, (2000), the state of the home affects the individual since the parents are the first socializing agents in an individual's life. This is because the family background and context of a child affect his reaction to life situations and his level of performance. Although, the school is responsible for the experiences that make up the individual's life during school periods, yet parents and the individual's experiences at home play tremendous roles in building the personality of the child and making the child what he is. Thus, Jacob and Linus, (2017) concluded that the environment in which the student comes from can greatly influence his performance in school. The state of the home may affect individual since the parents are the first socializing agents in an individual's life. This is because the family background and context of a child affect his reaction to life situations and his level of academic achievement. Since no nation can rise above the level of education of her citizens.

Several studies have been conducted on the effect of age and gender on the academic achievement of students particularly in mathematics, science and computer utilization which, according to Eze, Ezenwafor and Obi, (2015), reveal certain stereotypes perpetuated by the society, school and family. Some of these studies reported that the two independent variables (age and gender) have effects on the dependent variable (academic achievement). For instance, the review conducted by McEwen, (2004) on age trends indicted that girls showed slight superiority in computation in elementary and middle school while differences favouring males emerged in high school and college. Further, the authors reported that gender differences were smallest and actually favoured females in samples of the general population but larger with increasing selective samples. They, therefore, concluded that gender differences in Mathematics achievement are small but exist none existent with female students achieving less and male student achieving more.

Supporting the above, Ogunboyede, (2001); Agboola (2006); Owolabi and Etuk-Irien, (2009); Zember and Blume, (2011) reported gender difference favouring males while Ali, (2013) reported that age was among other factors that significantly affected academic performance of graduate students. However, Abubakar and Adegboyega, (2012) studied the effects of age and gender on academic achievement in college Mathematics using the cumulative point average of student as the dependent variable. The study revealed that a linear relationship exist between the dependent variable (GGPA) and the independent variables (age and gender) but gender did not have any significant effect on the academic achievement of the students. Ganai and Muhammed, (2013), in a comparative study on adjustment and academic performance of college students found that although male and female students differed significantly in mental health where the males were favoured, they did not showed any difference in academic achievement. The effort of parents and government are putting into the education of students is to ensure that both male and female acquire expected knowledge and skills that will make them useful to themselves and their society at large. In Nigeria, there is no gender and age discrimination in the enrolment of students. This is to give equal educational opportunity to all students irrespective of their age and gender. However, despite the fact that both parents and government want students(male and female) to excel in school, significant relationship still exist among age, gender and academic performance of students in many school subjects. These differences have been established by many researchers. Even, we still find other researchers who did not find significant differences among age, gender and students' achievement in school subjects. Thus, investigation into the effects of age and gender on the academic performance still requires the attention of researchers. Therefore, this study stands to investigate the influence of age and gender on the academic achievement scores of students'. A case study analysis of Utagba - Ogbe Technical College, Kwale. Delta State.

**Statement of the Problem**

In the technical college under study and others in Delta State, Nigeria persistent gender disparity in students' enrolment in technical college programmes (business and technical) has been observed with more females than males in the business programme and more males than females in the technical programme. The students are close in age brackets with a few isolated cases. This enrolment pattern gives the impression that gender and age are predictors of students' choice of career in TVE (Eze, Ezenwafor and Obi, 2015).Various researchers have indicated that gender quality and chronological age have effects on the academic achievement of students in different school subjects but particularly in Mathematics, science and computer usage (Zember and Blume, 2011; Jabor, Kungu, Bumfat, Nordin and Machtimes, 2011; Abubakar and Adegboyega, 2012). Since, the effects of age and gender on the academic performance still requires the attention of researchers. This prompted the researcher to conduct this investigation to determine whether chronological age and gender have any influence especially on students' academic achievement scores in a technical college in order to fill the existing gap in literature.

**Purpose of the Study**

The purposes of this study was to investigate the influence of age and gender on the students' achievement scores in a technical college. The rationale for the study was to determine if age and gender could contribute to the academic achievement of students in a technical college. Specifically the study determine:

- The relationships between ages, gender attribute on the academic achievement scores of students' of a technical college.
- Individual contributions of each of the two predictor variable (gender and age) on the academic achievement scores of students' of a technical college.
- the contributions of the two predictor variables (gender and age) on the academic achievement scores of students' of a technical college

**Research Questions**

- What are the relationships between ages, gender attributes on the academic achievement scores of students' of a technical college?

- What is the individual contributions of each of the two predictor variable (gender and age) on the academic achievement scores of students' of a technical college?
- What are the contributions of the two predictor variables (gender and age) on the academic achievement scores of students' of a technical college?

**Hypothesis**

- There is no significant difference in the academic achievement of gender (gender and age) of a technical college students.

## METHODS

The design used for this study was the survey research design. According to Nworgu (2015) a survey research design is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. Nworgu further said that in survey research design the sample selected is normally large while the variable(s) studied is (are) limited. The target population was 106 (63 males and 43 females) 2019/2020 graduates of the Utagba-Ogbe Technical College Kwale, Delta State, Nigeria. The final year NABTEB result comprising the age, gender which reflects the overall academic performance of each student was collected from the office of the school principal, Utagba Ogbe Technical College, Kwale. The subject areas of each student was divided into three sections: trade course(s), trade related course(s) and general education course(s). The final grade(s) ranging from distinction, credit, pass and fail respectively. The students' age ranged from 15-17 years. Students' final grade was used as measure of academic achievement scores (Y), age was obtained in years ($X_1$) while gender was coded with 1 for male and 0 for female making up the second variable ($X_2$). The three variables were used to run a multiple regression and from the outputs. The data collected was analyzed using Multiple Regression Analysis, ANOVA and Chi Square at 0.05 level of significance. In testing the hypotheses, if p-value was less than the level of significance (0.05), the null hypothesis was rejected but if the p-value was greater than or equal to the level of significance at (0.05), the null hypothesis was accepted. Data analysis was done using Statistical Package for the Social Sciences (SPSS) version 20.

## ANALYSIS OF THE RESULTS

**Research Question 1:** What are the relationships between gender and ages on the academic achievement scores of students' of a technical college?

**Table 1. Multiple Regression Model Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t-cal | Sig. |
|---|---|---|---|---|---|
| | B | SD Error | Beta | | |
| (Constant) | 3.821 | 564 | | | |
| Age | -.016 | .025 | -.076 | 5.473 | .000 |
| Gender | .185 | .119 | .164 | - | |
| | | | | .818 | .456 |
| | | | | 1.646 | .126 |

Dependent variable. Final Grade (FG)

Table I indicates that the multiple regression model estimates is Y = 3.821, $X_1$= -.016 and $X_2$ = .185. ANOVA was used to test the model aptness (that is how well the dependent variable (Y) relate to the independent variables ($X_1$ and $D_2$).

**Research Question 2**

What is the individual contribution of each of the two predictor variables (gender quality and chronological age) on the academic achievement scores of students' of a technical college?

**Table 2. Analysis of Variance (ANOVA) on the relationship between chronological age, gender quality and academic achievement scores of students' in technical college**

| Model | Sum of Squares | Df | Mean Squares | F | P-Value |
|---|---|---|---|---|---|
| Regression | 1.011 | 2 | .505 | 1.239 | .265 |
| Residual | 43.030 | 104 | .377 | | |
| Total | 44.041 | 106 | .377 | | |

- Predictor (Constant): Age and Gender
- Independent variable: Final Grade (FG)

Table 2 shows that the p-value of .266 is greater than the significance value of 0.050, hence it was concluded that the model does not show a significant relationship. To address this research question, (Table 1) was used which indicates the coefficients for age and gender as -.017 and .813 with p-values of .475 and .125 respectively each of which is greater than the significant level of 0.05. This shows that the coefficient are both insignificant and should not be used for any Linear Regression relationship and implies that none of the two predictor variables contribute to academic achievement scores of the students.

**Research Question 3**:

What are the combined contributions of the two predictor variables (gender quality and chronological age) on the academic achievement scores of students' in a technical college?

A model summary as presented in Table 3 was used to treat this research question.

**Table 3. Model summary on the combined contributions of gender quality and chronological age)on the academic achievement scores of technical college. Students'**

| Model | R | R Square | Adjusted R Square | SD Error of the Estimate |
|---|---|---|---|---|
| 1 | .152[a] | .033 | .008 | .268 |

- Predictors (constant): gender quality and chronological age.

Table 3 shows that a coefficient of determination value (R Square) of .033 was obtained which shows that only 3.4 percent of changes in grades can be attached to age and gender as captured by the Regression Analysis. The R Square value is low to be useful, therefore, the combined contribution of these two variables to academic achievement of the students is, virtually, non-existent (3.4 percent).

**Hypothesis**

There is no significant difference in the academic achievement scores of male and female technical college students. Chi Square was used to test whether gender has any significant influence on the academic achievement scores of students and a calculated value of 7.47 was obtained. Using the Chi Square test for association procedure, the expected frequencies are calculated and placed in parenthesis. The obtained data were on the contingency Table 4.

**Table 4. Cross–tabulation (Contingency) table on gender and achievement scores of the males and females technical college students**

| | Academic Achievement Scores | | | | |
|---|---|---|---|---|---|
| Gender | $2^1$ | $2^2$ | 3rd | Total | |
| Males | 42(20) | 21 (15.9) | 0.(3.1) | 63 | |
| Females | 28(38) | 13(28.1) | 1(1.0) | 43 | |
| Total | 70 | 34 | 1 | | 106 |

Table 4 shows that male students performed better than female students since the proportion of male students who had $2^1$ and $2^2$is slightly more than females and no male student had a 3rd class. Since the calculated Chi Square value of 7.47 is greater than the tabulated value of 6.90, it means that there is relationship between academic achievement scores and gender and the hypothesis is rejected. Finally, analysis for non-regression relationship was carried out between academic achievement scores and age and the result shows that there was relationship between the students' age and their academic achievement.

## DISCUSSION OF FINDINGS

Findings of the study revealed that linear relationship does not exist between the two predictor variables in the study (age and gender) and academic achievement of a technical college students and that their combined contribution is insignificant or virtually none existent. However the study revealed significant difference in students' academic achievement as a result of age and gender. This means that relationship exists between the academic achievement scores of the technical college students and their age and gender. The findings agreed with Agboola, (2006), Owolabi and Ekuk-Irien, (2009), Zember and Blume (2011), among others who reported that age and gender have effects on academic achievement of students in mathematics, science subjects and ICT. The findings disagreed with Abubakar and Adegboyega, (2012) and Ganai and Muhammad, (2013) which revealed that linear relationship exist between the independent variable (students' final grades) and the dependent variables (age and gender) and that gender did not have any significant effect on the students' academic achievement scores.

### Significance of the Study

The study was really helpful for both students, teachers, policy makers and parents. The study helps to create awareness among students about their rights and responsibilities to achieve quality education. It helps the teachers to consider individual differences among learners between age and gender to improve their overall academic achievement. It also help the college administration to design and implement the policies to improve the students' achievement and the quality of education by changing the attitude of students towards learning, facilitating students and improving the teaching procedures. The results of the study would provide empirical evidence for the value of age and gender as predictors to students' academic achievement. Finally, parents would also use the outcomes of the study to solve the students' academic challenges in subsequent examination.

### Conclusion

Based on the empirical outcomes of the study, the researcher concluded that age and gender have positive influence on the academic achievement scores of technical college students, which was as a result of the fact that the technical college programme involves Mathematics, Physics, Chemistry and ICT as reported by earlier researchers in previous studies.

### Recommendations

Based on the findings and conclusion of the study, the researcher recommend that.

- Teachers, most especially, those teaching technical courses should adopt combination of teaching methods that would be of great benefit to the students not minding their gender or age.
- Stakeholders of education such as parents, government and non-government organizations should work either individually or jointly in providing relevant instructional materials to schools as this would facilitate effectiveness in teaching on the part of technical teachers and encourage permanency in learning on the part of students irrespective of the age and gender.

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