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CORRELATION OF THE PERFORMANCE OF NATIONAL DIPLOMA (ND) I STUDENTS WHO ATTEMPT AND THOSE WHO DID NOT ATTEMPT PHYSICS AT O' LEVEL (A case study of ND 1 students Yobe state college of Agriculture Gujba)

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Abstract
This study was aimed finding out whether this is a relationship between the performances of National Diploma one (ND 1) students in Agricultural Technology (AGT) Department of Yobe state college of Agriculture Gujba who attempted physics and those who did not attempt physics at O' level. 10 out of the 27 students of 2016/2017 academic session were randomly selected. From the result of a physics test that had a reliability of 91%, a correlation analysis r ~ 0.4 showed that the is a relationship between the performance of student at ND one who attempted physics at O' level and vis vasa. Using Chi square, the analysis of the scores of both set of students were confirmed at the level of 8 df X_C greater than X_{Ct}= 15.5. It was therefore concluded that student at ND one will perform better in physics if they attempted physics at O' level.

Introduction
Physics is one of the weighted requirements for the admission into the National Diploma Programme. More precisely, physics is considered as the cornerstone to the study of agricultural technology

No doubt, any teacher of physics is faced with a multiplicity of problems. Those problems are the type that exist in most institutions that offer physics, and these problems have been traced to the background of students admitted to read physics or physics related programmes. There is no scientific evidence to dispute the claim that only the exceptionally gifted students who are well – grounded in science can undertake courses that are heavily

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abstract.in other words, there is no scientific evidence to dispute the claim that only exceptionally gifted students who are well grounded in physics can undertake agricultural technology at national diploma level.

Thus admission of candidates into programmes they do not have pre knowledge of have posed a serious problem in the teaching and learning of physics.

The federal government in its bid to provide functional education so as to achieve self-reliance rejuvenated and modified the educational system through the National Policy on Education. The government accorded technical education a befitting recognition. Hence the establishment of many polytechnics, College of Education (Technical) and Agriculture, Universities of technology and Agriculture.in other words, the government revolutionised its educational system in order to achieve self-reliance through technology. In this vein, courses are offered in particular to Colleges of Agriculture, in order to make to make the graduates of their institution self-reliant.

To this effect, Joint Admission Matriculation Board (JAMB) has therefore stipulated a standard entry requirement into colleges of higher learning for all applicants in order to attaining an acceptable performance at Matriculation Examination. The minimum entry requirement prescribed by JAMB (2015) includes:

i. O level credit passes in at least five subjects at two sittings.
ii. TC II with credits or merit passes in at least three subjects for technical colleges; subjects must include Mathematics and two physical Science subjects.
iii. City and Guild/WASC, Technical/craft/intermediate part II/Course B Certificate in building and woodwork, mechanical or electrical trades respectively with at least four credit passes in mathematics, science, English Language and Social Studies.

Having studied the admission policy into various institutions of higher learning, it is appropriate at this juncture to focus our attention on the focus of this write up, for a College of Agriculture, the minimum requirement for

admission includes credit passes in Mathematics, Biology, Physics, Chemistry, Agricultural Science, and at least a pass in English Language. But when contrary to this admission is given to candidates who have no pre-knowledge in any of the stipulated requirements say physics, such candidate will not only make the teaching and learning of physics difficult, it is also going to require a lot of explanation to make a given concept clear.

It is therefore pertinent to point out that the result of the placement of students in programmes they do not have pre-knowledge of is disastrous, as such students would keep performing below average. It is on this note that Apeabu (1998) comments that our present educational system demands that talent should be placed in appropriate learning programmes.

PURPOSE OF THE STUDY

The main purpose of this study is to examine the relationship between the performance of students who attempted and those who did not attempt physics at O' Level in ND I Physics

THE RESEARCH QUESTION

From the statement of the purpose of the study, one research question was formulated to guild the study, viz:-

i. Students who attempted physics at O' level, perform better than those who did not in ND I physics

Hypothesis:

In order to answer this question, the following hypotheses was postulated:
There is no significant relationship between the performance of students who attempted and those who did not attempt physics at O' level in ND I physics

Method of study

1. The Population;

The population of the study consists of 27 students in Agricultural Technology department of college of Agricultural Technology (AGT), department of College of Agriculture GuJba (COAG) admitted into the college in 2016/2017 academic session.

Sample of the Study

Out of the 27 students in A.G.T department of the C.O.A.G, 10 students were randomly selected for the purposes of this study.

Instrument of the study

The instrument for this study is a test for physics which consists of 10 questions which had 86 percent reliability, the test was scored maximum of 100 marks. The instrument was validated by two teachers of physics so as to establish its content validity. The criticisms of the reviewers were used in preparing a final draft of the instrument

Method of data collection

The O' Level Results of the students were examined and the results of the students in physics were sifted out. The test score (result) of the same students at ND I were equally collected. These formed the data for the study.

Method of Data Analysis

The statistical tool employed in analysing the data collected in the correlation coefficient (person) which was used to determine the relationship between the test performances of the students ND I who attempted physics at O' level and those who did not

Analysis of Data

Correlation for the pair of the result of students who attempted and those who didn't attempt physics at O' level in ND I Physics

Table 1: The scores in physics test of both sets of students in ND I

Score of students who did not attempt Physics at O levels									
20	35	50	10	33	10	40	40	45	40

Score of students who attempted Physics at O levels									
30	40	70	40	50	60	50	50	50	60

The distribution plot of the scores of students who attempted and those who did not attempt physics at O' level was plotted.

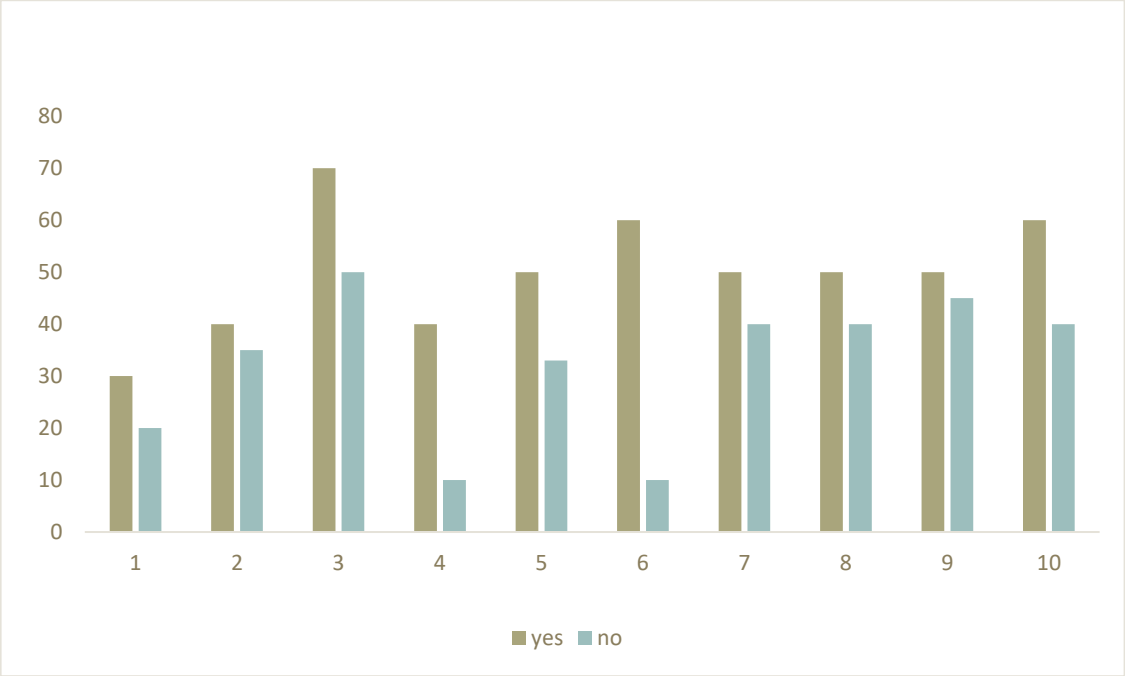

Figure 1. The plot of scores of students who attempted and those who did not attempt physics at O' level.

A scatter plot of the same pair of students was plotted.

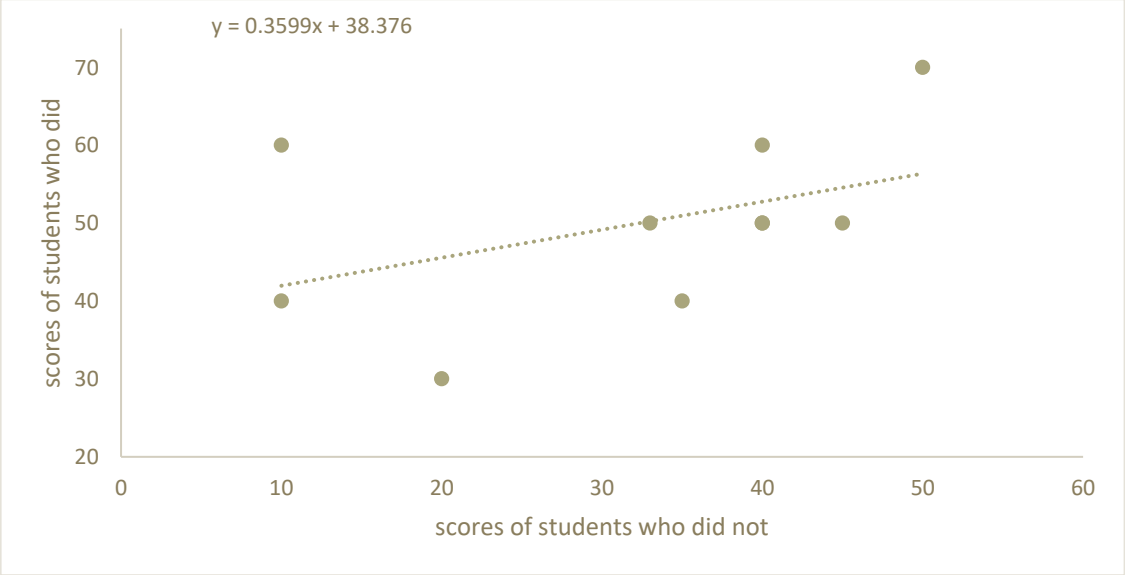

Figure 2. The scatter plot of the scores of same set of students.

Result and discussion

For the scores of the two sets of students, a distribution of their scores was plotted as shown in figure 1, the distribution plot shows that the students who

attempted physics at O' level performed better than students who did not attempt physics at O' level.

A scatter plot of same set of student was also plotted, as shown in figure 2, the plot showed no correlation or weak correlation between the performance of students who attempted physics at O' level and who did not attempt physics at O' level, at r ~ 0.4.

Another statistical tool was used to look at the relationship between same set of students (THE CHI SQUARE ANALYSIS).

Scores of the set of students total											
Yes	30	40	70	40	50	60	50	50	50	60	500
No	20	35	50	10	33	10	40	40	45	40	323
total	50	75	120	50	83	70	90	90	95	100	823

Table 2: the scores of students who attempted physics and those who did not attempt physics at O' level. (Observed value)

Yes stands for the scores of those who attempted physics at O' level

No stands for the scores of those who did not attempt physics at O' level.

yes	30.37	45.56	72.90	30.37	50.42	42.52	54.67	54.67	57.7	60.75
no	19.6	29.4	47.1	19.6	32.6	27.5	35.3	35.3	37.3	39.2
total	50	75	120	50	83	70	90	90	95	100

Table 3; the expected scores of same set of students

= Row Total of observed score x Column Total of observed score/grand total of observed score

Example 1. $500 \times 50/823$ =30.37 and so on

2. $323 \times 20/823$ =19.6 and so on

YES (obs-exp)^2/exp	NO (obs-exp)^2/exp	∈(obs-exp)^2/exp
0.004671	0.008163	0.012834
0.679672742	1.066666667	1.746339409
0.115676	0.178556	0.294233
3.048671	4.702041	7.750712
0.003587	0.004908	0.008495
7.178768	11.13636	18.31513

0.40023	0.625779	1.026009
0.40023	0.625779	1.026009
1.031464	1.589544	2.621008
0.009341	0.016327	0.02566
Total		32.8

Table 4: table of chi square calculated. (Observed scores – expected scores)^2/Expected score

Chi square calculated = 32.8
Chi square critical value at 8 df =15.51
The analysis of questions in relation to the hypothesis of the scores of both set of students were confirmed at the level of 8 df X_C greater than X_{Ct}= 15.5.

Discussion

The students at National Diploma One level who attempted physics at O' level performed better in ND one physics than students at National Diploma one level who did not attempt physics at O' level.
The result from the correlation r ~ 0.4, the linear regression fit which gives y = 0.4 ±11(38.4), and the chi square analysis of the question in the hypothesis was confirmed at the level of 8 df X_C greater then X_t = 15.51 revealed that there was no significant relationship at .05 significant level between the performance of students who attempted physics at O' level and the performance of students who did not attempt physics at O' level in ND one physics. This implies that students who did not attempt physics at O' level did not perform well in ND one physics, and students who attempted physics at O' level performed better.

Conclusion and recommendation.

It's important to note that it is possible for a student to be interested in physics and yet not perform well, this may be due to the fact that he is not cognitively capable and that student's capability depends so much on their background.
From the ongoing it's important to recommend that the basic requirement for students admission in agricultural programmes should include at least a pass in physics, when this is not met there should be a pre preparation class before

the ND program. The attitude of lecturers towards students should be positive, friendly and encouraging. Counsellors in schools of agriculture should abreast their knowledge on basic requirement for admission.

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