

Problems Relating to the Acquisition of Practical Laboratory Skills in Physics and Associated Cognitive Learning in College of Health Technology, Calabar, Cross River State, Nigeria

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Abstract

The purpose of this study was to Problems Relating to the Acquisition of Practical Laboratory Skills in Physics and Associated Cognitive Learning in College of Health Technology, Calabar, Calabar, Nigeria. In pursuance of this purpose, three research questions were raised from which three null hypotheses were formulated. Ex-post-facto design was adopted for the study. The population of the study consisted of 165 Physics year one students from three departments in the College of Health Technology, Calabar of Cross River State. A simple random sampling technique was used to select 83 physics students from the three departments and three physics lecturers was also select using purposive sampling technique. Two research-designed instruments were used in this study for data collection: Practical Physics Achievement Test (PPAT) and a structured questionnaire titled “Problems Relating to the Acquisition of Practical Laboratory Skills in Physics (PRAPLSIP)”. This was developed by the researcher and validated by two experts in measurement and subject matter content. All the analysis was performed using SPSS version 22 computer programme and all the hypotheses were tested at .05 level of significance. Independent t - test and one-way analysis of variance (ANOVA) was used for the data analysis. The following findings were obtained: teachers’ motivation of teachers do significantly influence the acquisition of physics laboratory practical skills, There was significant difference between teachers with high, moderate and low motivation ($p = 0.006$, $p < 0.05$), on the acquisition of physics laboratory practical skills. Student’s absenteeism do significantly influence the acquisition of physics laboratory practical skills, Student’s absenteeism ($p = 0.003$, $p < 0.05$) do significantly influence the acquisition of physics laboratory practical skills and Laboratory learning Space do significantly influence ($p = 0.006$, $p > 0.05$) the acquisition of physics laboratory practical skills. The major implication in this study is that, the acquisition of physics laboratory practical skills can be improved through teacher’s motivation, provision of functional equipment in the college physics laboratory and provision of a good laboratory with enough learning space. Based on the findings, government and school authorities should provide colleges with spacious and good standard physics laboratory.

Keywords: Skills Acquisition; Physics; Motivation; Laboratory

1. Introduction

Physics is a branch of natural science that deals with the study of matter, energy & motion and their inter-relationship through space and time. The general goals of teaching and learning Physics include: to equip learners with basic knowledge on scientific enquiry methods and to foster problem solving skills through practical work.

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Physics is one of the main science subjects that is majorly learnt through practical work. Practical work is a unique source of teaching and learning physics because students are able to observe, manipulate and demonstrate certain aspects of the subject matter which has been learnt in class using laboratory materials [1]. Science education literature articulates that laboratory work enhances student's attitudes, stimulating interest and enjoyment, and motivating students to learn. Practical work provides physics students with opportunities to employ different methods in order to investigate and also make inquiry. [33] noted that laboratory practical works have been observed to be significant to the teaching and learning of physics, this is because it helps to develop scientific investigation, motivates and creates curiosity among teachers and students.

Most teachers and students appreciate physics through laboratory practical method in solving problem [2]. A research conducted by [13] on the effectiveness of individualized approach to general education science laboratory, indicated students report on laboratory work was the most effective instructional method for promoting their interest in physics. The use of the laboratory as a method of teaching and learning of physics helps the students to develop manipulative skills. It leads to better retention of information and also development of favourable attitudes towards physics as a subject. Physics laboratory method makes the students to become familiar with such mental processes as observing, inferring, classifying, and measuring and data interpretation. Learning becomes interesting as a result of using concrete materials and this leads to better performance of physics among the students. The use of the laboratory also enhances good space management and teacher's effectiveness. [5].

[25] identified some problems of practical work in schools as experienced by the teachers and students in both developed and developing countries. These problems include the lack of equipment and resources, safety precautions in the laboratory, absenteeism, lack of motivations, lack of good practical supervision, lack of practical manuals., Inadequate qualified physics teachers, poor laboratory condition, limited laboratory space, setting apparatus, lack of relating physics practical with physics theory and lack of Interest, Demonstration of experiment is important for understanding the principles of physics. However, performing experiments by one's own hand is far more important because it involves learning by doing. It is necessary to emphasize that, for a systematic and scientific training of young minds, a genuine laboratory practice is necessary [37].

Practical work for school Science classes might be very expensive in money and time and human resources. Third world countries have not been reluctant in designing their science curricula to accept the challenge of using practical-based approaches to science learning. However, many problems then arise. How can equipment be obtained? Can the teachers make use of it? How can it be stored? How can large classes experience activities when only one set of equipment is available? [25].

2. Theoretical framework

The theoretical framework of this study is anchored on Bandura's Social Learning Theory.

The social learning theory was propounded by Bandura Albert. This theory assumed that a large amount of human learning is based on inner process and environmental forces. This theory stresses that learning takes place through observation of one person making skilled responses by trying to imitate a model.

According to the theory, psychological functioning is best understood in terms of continuous reciprocal interaction among behavioral, cognitive and environmental influences. This implies that behavior, personal factors and social forces all operate as interlocking determinants to one another. Bandura places primary emphasis on the role of observation learning in behavioral acquisition. This means that most of our behavior is learned by observing other people and modeling our behavior after theirs.

The implication of this theory is that children usually watch carefully behaviors of adults, peers, mentors and classmates whom they considered as their models. Whatever form of behavior displayed by these preferred models are looked at by the children as appropriate and worthy of imitation. For instance, if models refuse to provide social or educational needs, love and affection, the children will certainly copy these types of behaviors because to them this could be a perfect way of life which must be followed strictly. This will in turn influence the way they see education as well as their academic achievement in school.

2.1. Statement of the Problem

Despite the emphasis of laboratory practical approach of teaching and learning Physics in colleges, teachers and students still faced with number of challenges that render physics ineffective. The ways practical physics is handled in

most of our colleges (Health Technology), indicates that probably students were made to understand physics as a collection of procedures. However, it is assumed that proper conduct and involvement of students in physics practical has become less valued. Physics students are made to be passive listeners even during laboratory practical, as they watch teachers carry out the teaching theoretically or without carrying out demonstration or experiments. Various studies show that teachers and students are faced with some challenges in the process of teaching and learning of physics practical, these challenges are: Absenteeism; limited space in the laboratory; lack of inadequacy of laboratory resources, Lack of practical equipment for conducting effective physics practical have been identified as the source of stress in some part of the world [6], [20], lack of time allocation to physics practical in the college lesson time table, this constitutes an enormous problem to the proper conduct of physics practical in the colleges [32]. Physics teachers and students also encountered lack of motivation by the authorities; Lack of good practical supervision; Lack of practical manuals; problems in setting apparatus. My experience in teaching physics in the college, lots of problems were observed in the teaching and learning of physics. So, it is necessary to study these challenges that affected the teaching and learning of physics practical. Hence, these challenges need special attention to get reliable solutions. Thus, the researchers extremely interested to identity challenges such as limited laboratory learning space, teachers' motivation and students' absenteeism in teaching and learning of physics practicals in College of Health Technology, Calabar and to suggest possible solutions and recommendations.

2.2. Significance of the Study

This study may be of benefit to government, curriculum planners, principals, physics teachers, students and researchers. The finding of this study may equip government with useful information about the Problems Relating to the Acquisition of Practical Laboratory Skills in Physics. This study may also provide information to curriculum planners and designers to design physics curriculum in order to suit with the problems facing the acquisition of physics laboratory practical Skills College of Health Technology.

2.3. Purpose of the Study

Generally, the purpose of this study was to determine the problems facing the acquisition of physics laboratory practical Skills College of Health Technology in Cross River State. Specifically, this study intended to determine influence of:

- Teacher's motivation on the students' acquisition of physics laboratory practical skills.
- Students' absenteeism on the acquisition of physics laboratory practical skills.
- Limited laboratory learning Space on the acquisition of physics laboratory practical skills.

2.4. Research questions

On the basis of the specific purposes, the following research questions were raised

- Does Teachers' motivation affect the acquisition of physics laboratory practical skills?
- Does absenteeism affect the acquisition of physics laboratory practical skills?
- Does Limited laboratory learning Space affect the acquisition of physics laboratory practical skills?

2.5. Statement of Hypotheses

On the basis of the research questions posed, the following null hypotheses were formulated to guide the study.

- Teachers' motivation do not significantly influence the acquisition of physics laboratory practical skills.
- Students' Absenteeism do not significantly influence the acquisition of physics laboratory practical skills.
- Limited laboratory learning Space do not significantly influence the acquisition of physics laboratory practical skills.

3. Literature Review

3.1. Teachers' motivation and the Acquisition of Physics Laboratory Practical Skills.

The term motivation is derived from a Latin word "mover", which means to move into action. This means that motivation is simply the cause and why of human behavior. [35] defined teacher motivation in terms of attraction, retention and concentration as something that determines 'what attracts individuals to teaching, how long they remain in their initial teacher education courses and subsequently the teaching profession, and the extent to which they engage with their courses and the teaching profession. Motivation is defined as "an internal state that arouses, directs and maintains

behavior". Motivation can be divided into intrinsic or extrinsic motivation; extrinsic motivation being motivation caused by external factors other than the task at hand. With intrinsic motivation being motivation caused by interest in the task at hand. Research shows that teacher motivation is very important towards the academic achievement of a learner, as it motivates the learners because a motivated teacher has a passion for his/her job

[3] stated that monetary rewards can be a very powerful determinant of teacher' motivation and achievement which, in turn, can advance to important returns in terms of student's performance improvement [27]. [10] point out that traineeship is continuing to grow. As summarized by [31], monetary incentive acts as a stimulus for greater action and inculcates zeal and enthusiasm towards work, it helps an employee in recognition of achievement. Likewise, [9] discussed that monetary incentives used to build a positive environment and maintain a job interest, which is consistent among the employee and offer a spur or zeal in the employees for better performance. For reason, monetary incentive motivate employees and enhance commitment in work performance, and psychologically satisfy a person and leads to job satisfaction, and shape the behavior or outlook of subordinate toward work in the organization.

A study by [28] organizations had the duty to appreciate the employee from time to time and offer other form of benefits such as payment, which will help in employee motivation. Likewise, [24] define appreciation as the abstract of immaterial incentives; "employees giving immaterial incentives (appreciation, respect etc.) as much as material incentives with working department" shows employees do not agree with this behavioral statement. As per [38] if an employee perceives they will be getting rewards for good work and their job is a secured one, the performance will automatically be better.

A study by [18] identified that perceptions of promotion systems affect job satisfaction and even academic achievement in schools. Likewise, [26] specified that promotions are desirable for most employees, only because they work harder to compensate for their "incompetence." As a result, promotion at regular interval of time has an optimistic approach behind and they are generally given to satisfy the psychological requirements of employees in the organization.

Study conducted by [16] on the influence of teacher motivation to Academic Performance of Pupils in Primary Schools in Kenya concluded that the teacher motivation had a significant influence to academic performance of standard eight pupils in K.C.P.E. This study investigated the influence of teacher motivation to the academic performance of pupils in primary schools in Nyamira South Sub-County. The population of study was 147 head teachers and 836 teachers in Nyamira South Sub-County. Stratified sampling was used to get a sample of 84 teachers and 15 head teachers .A mixed method design was adopted for this study that used qualitative and quantitative approaches in collecting and analyzing data concurrently. A questionnaire was used to collect data from the teachers while an interview schedule collected from head teachers. Quantitative data was analyzed using both descriptive and inferential statistics. The descriptive statistic was used to describe and summarize the data inform of frequencies and percentages. Pearson correlation analysis was used to establish the relationship between the independent and dependent variable with the aid of Statistical Package for Social Sciences (SPSS). The correlation analysis established a positive but weak ($r = .439$; $p = .000 < .05$ correlation between teacher motivation and pupils academic performance.

Furthermore, the research also found that science teachers enjoyed no incentive in their profession. [4] investigated the relationship between motivational factors and teachers performance on the job. A sample of 150 teachers was randomly drawn from 10 secondary schools in Ogba Egbema Ndoni Local Government Area of Rivers State. The study made use of correlational research design. The result shows that, there was a significant relationship between allowances and teachers promotion. A possible explanation for this result is that motivation helps the teachers to perform better on their jobs. Incentives and rewards from school administrators should have contributed to the teachers' job performance. Also the result showed that there is a significant relationship between teachers level of training and prompt payment.

3.2. Students' Absenteeism and the Acquisition of Physics Laboratory Practical Skills.

Absenteeism` is a common feature in schools, it is the number of students who are not in class on a given day. Absenteeism can be defined as when a student or a learner is constantly remains absent from school without any reason or a situation whereby a ward is intentionally avoids attending classes. Absenteeism is defined as the number of days for which a child is absent from school days [8]. According to [11] absenteeism is a constant, usual, and unexplained absence from the school. Cook and Ezenne identified three dimensions of absenteeism: truancy, condoned absenteeism, and school refusal. Whereas [11] identified four major dimensions of absenteeism: truancy, school refusal, school withdrawal, and early leaving. She defines truancy where as a constant absent from school without any reason. Truancy can also be in the form of fractional truancy where students reach school late, leave class earlier or hide from individual classes. In School refusal, students refuse to go to school even when they are encouraged by parents and schools teachers.

Student absenteeism is an issue that has become a complex, educational, political and social problem and caught attention of educators, researchers and policy makers for discussion and solution. For educators, students' absenteeism is a major concern because it falls down the standard of school education system. Since students are the future of a nation thus students' absenteeism should be dealt as a priority because it has big role in children academic career and influence their future [19].

[19] further explain that absenteeism affects both students and teacher and the whole class environment where students feel uncomfortable because they cannot perform well in both internal and external examinations. Chronic absenteeism may result in unwanted outcomes among students such as academic failure, disintegration from school life and difficulty in establishing relationship with other students. Moreover, students who absent themselves from school may have less chance to participate in extracurricular activities and thus fail in the development and acquisition of physics practical and social skills and talents. Students may develop sense of unaccountability, disregard lessons, take school less seriously and may drop out in severe cases. Better attendance lead to higher academic achievement among all children especially among those who belong to lower socio-economic status. From quality perspective, absenteeism leads to wastage of educational resources, time and human potential where teacher needs to re-teach and individually work with the absentee students, it also take the time of the students who regularly attend their classes. Moreover, absent students will miss upon the valuable information that result from discussion among peers what cannot be replicated when teacher teach absent students in isolation.

According [36] absenteeism affects students' learning, their test scores and social development. William (2000) cited in [19] is also of the same view and according to him, students who stay absent suffer academically and socially. Absenteeism not only affects the absent students but also impact the dynamics of the whole school/class. It affects teachers' ability to adopt the curriculum requirements and instructional activities both for the present and absent students [19].

Many researchers are hesitant to provide a definition of student success because there is a lack of agreement as to what constitutes academic achievement. However, student achievement in terms of acquisition of skills is sometimes defined as the extent to which a school or a student is able to achieve their short and long-term academic objectives [39]. High level of absenteeism is associated with poor academic success, as found by many researchers.

Research has found that a high level of absenteeism is detrimental to educational achievements. [30] conducted a study that has examined how excessive absenteeism and student grades are related. The study was focused on African American children with asthmatic illness, who regularly absent from school. The researchers used a sample of 3812 students whose ages were between 8 and 17, who took the Missouri Assessment Program (MAP), a standardized test, in 2003. Having analyzed the results using statistical models, the researchers concluded that there was a significant inverse relationship between student performance on the MAP and absenteeism, after adjustment for covariates. This means the higher the absenteeism, the lower the MAP score and conversely, the lower the absenteeism, the higher the MAP scores [30]. While this study has shown the importance of student attendance to improve their academic achievement, it investigated students who had a health issue that prevented them from attending school regularly. The study was also situated in urban American schools; hence, the study context was different from the current study.

3.3. Limited Laboratory Learning Space and the Acquisition of Physics Laboratory Practical Skills

Studies show that, some schools had comparatively smaller laboratories that could not accommodate a standard class of up to forty students. Colleges or school's laboratories' should be big enough to allow practical activities to be done by all students at the same time other than doing it shifts in the case of smaller laboratories. The room of available common laboratories are too small to hold all students and not suitable to laboratory practical, lack of ventilation leads to hot temperature, which make the acquisition of practical skills difficult. In some schools even the rooms are not built for laboratory purpose, but such rooms are being converted to laboratory.

Limited laboratory learning space is seen as one the factors that affect both teacher and students output. If a standard laboratory is built, then teachers can manage and assess the student's practical work. In contrary, poorly designed and limited learning laboratory has detrimental impact on teacher and student morale and engagement, and impact negatively on aggregate student outcomes [17]. Collectively, these factors impact on teachers' work, attitudes and behaviours, and in turn have flow on effects on student learning skills [14] conducted a study to examine whether physical learning spaces encourage students. This study shows that students perform better when proper tools such as efficient environmental spaces and inviting learning places are provided. [12] and [34] note that environmental conditions in school facilities affect student performance.

4. Methodology

4.1. Research Design

The study adopted “ex post facto” design. “Ex post facto” design is also called causal comparative study, a research design that does not permit the control of the independent variable by the investigator.

4.2. Area of the Study

This study was carried out in College of Health Technology, Calabar of Cross River State, Nigeria.

4.3. Population of the Study

The population of the study consisted of 165 physics year one students from three departments and all the physics lecturers in the College of Health Technology, Calabar of Cross River State.

4.4. Sampling technique

A sampling random sampling technique was used to select three departments (Environmental Health, Pharmacy and Radiography) for the study. Three physics lecturers was also selected using purposive sampling technique. A simple random sampling technique was also used to select 83 physics students from the three departments and this was done by putting the entire population in a bag, shake thoroughly and then select randomly eighty-three students from the population.

4.5. Sample

The sample size comprised of eighty- three (83) year one physics students drawn from the three departments and three physics lecturers in College of Health Technology, Calabar.

4.6. Instrumentation

Two research-designed instruments were used in this study for data collection, Practical Physics Achievement Test (PPAT), and a structured questionnaire titled “Problems Relating to the Acquisition of Practical Laboratory Skills in Physics (PRAPLSIP)”, which consists of two sections A and B. Section B consists of 20 items, Each statement, indicated Strongly Agree (SA), Agree (A) Disagree (D) and Strongly Disagree (SD). These instruments was developed by the researcher to measure teachers’ motivation, absenteeism of students and laboratory learning space. Practical Physics Achievement Test (PPAT) which comprises of two practical questions prepared from the concepts of simple pendulum and optics was to measure the skill acquisition in physics laboratory practical’s.

4.7. Validity of the Instruments

In this study, face and content validity was established. The instruments were presented to two experts in Physics Education and two experts in Educational Measurement at Cross River University of Technology, Calabar, Calabar. The experts determined whether the items were internally consistent enough for use in the study. They also assessed whether the items in the questionnaire adequately represented the concepts they intended to measure. The experts made relevant modifications to the instruments and ultimately certified the instruments adequate for use for the study.

4.8. Reliability of the instrument

The Cronbach Alpha (K-R₂₁) method was used to test the reliability of PPAT and the calculated reliability coefficient for PPAT is 0.70 and PRAPLSIP is 0.874

4.9. Procedure for Data Collection

The researcher visited the selected departments and informed the heads of department the intention to take inventory on physics laboratory equipment. Thereafter, the sampled year one physics students in each of the selected departments were gathered in the physics laboratory and then administered PPAT to the sampled students by the researcher with the assistance from other physics lecturers. Problems Relating to the Acquisition of Practical Laboratory Skills in Physics questionnaire (PRAPLSIPQ) was also administered to same students after the completion of the PPAT. At the end of the process, the researcher personally collected the completed test and questionnaires were collected, marked, scored and collated data for analysis.

4.10. Data Analysis / Discussion

Data collected were analyzed using independent t-test and descriptive statistics, and each hypothesis was tested at 0.05 level of significance. Results of the findings were presented in and discussed.

5. Results

5.1. Hypothesis 1

There is no significantly difference between teacher with high motivation, moderate motivation and teachers with low motivation on the acquisition of physics laboratory practical skills. To test the hypothesis, one way analysis of variance (One-Way ANOVA) was performed using SPSS version 22 computer programme. The results from the analysis are presented in Table 1.

The result in Table 1 with p-value of 0.006 was found to be smaller than 0.05 level of significance and at 18 degree of freedom for the two-tailed test. The result also shows the means score and standard deviation of high motivated teachers with (Mean = 1.0000, SD = 1.0000), moderate motivated teachers with (Mean = 1.1429 and SD = 0.37796) and low motivated teachers with (Mean = 2.7143 and SD = 1.25357). From the result, the mean score and standard deviation of low motivated teachers was found greater compare to high and moderate motivated teachers. With this result, the null hypothesis was rejected, meaning that there is significant difference between teachers with high, moderate and low motivation on the acquisition of physics laboratory practical skills. This also implies that teachers were lowly motivated.

Table 1 Summary of Results of One-Way Analysis of variance showing significant difference between high, moderate and low motivated teachers on the acquisition of physics laboratory practical skills

ANOVA					
Teachers' Motivation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.667	2	6.333		
Within Groups	16.286	18	0.905	7.000	0.006
Total	28.952	20			

5.2. Hypothesis 2

Students 'Absenteeism does not significantly influence the acquisition of physics laboratory practical skills.

To test the hypothesis, independent-t test was performed using SPSS version 22 computer programmer. The results from the analysis are presented in Table 2.

The result in Table 2 with p-value of 0.003 was found to be smaller than 0.05 level of significance and at 81 degree of freedom for the two-tailed test. The result also shows the means score and standard deviation of student absent with (Mean = 3.0465 and SD = 1.41343) and student not absent with (Mean = 2.1250, SD = 1.36227). From the result, the mean score of student absent was found greater than student not absent. With this result, the null hypothesis was rejected, meaning that student's absenteeism do significantly influence the acquisition of physics laboratory practical skills. This also implies that greater number of students do stay away from physics laboratory practical class.

Table 2 Summary of Results of Independent t-test Analysis of significant influence of absenteeism on the acquisition of physics laboratory practical skills

Absenteeism	N	\bar{x}	SD	tcal	Df	Sig(2 - tailed)
Absent	43	3.0465	1.41343	3.020	81	0.003
Not absent	40	2.1250	1.36227			
Total	83					

* P < 0.05, df= 81, p-value =0.003

5.3. Hypothesis 3

Laboratory learning Space do not significantly influence on the acquisition of physics laboratory practical skills. To test the hypothesis, independent-t test was performed using SPSS version 22 computer programme. The results from the analysis are presented in Table 3.

The result in Table 3 with p-value of 0.006 was found to be less than 0.05 level of significance and at 81 degree of freedom for the two-tailed test. The result also shows the means score of laboratory with learning Space (Mean = 2.0488 and SD= 1.35925) and s laboratory without learning Space (Mean = 2.8810 and SD = 1.34713). From the result, the mean score of laboratory without learning Space was found greater than laboratory learning with Space. With this result, the null hypothesis was rejected, meaning that, laboratory learning Space significantly influence the acquisition of physics laboratory practical skills. This also implies that there was no enough learning space in the laboratory for the acquisition of physics skill.

Table 3 Summary of Results of Independent t-test Analysis of significant influence of laboratory learning space on the acquisition of physics laboratory practical skills

Laboratory learning space	N	\bar{x}	SD	t_{cal}	Df	Sig (2- tailed)
With Sufficient space	42	2.0488	1.35925	2.801	81	0.006
Without sufficient space	41	2.8810	1.34713			
Total	83					

* P < 0.05, df= 81, p-value =0.006

6. Discussion

6.1. Teacher's Motivation of and the Acquisition of Physics Laboratory Practical skills.

The finding obtained from the analysis and testing of hypothesis two shows that there was significant difference between teachers with high, moderate and low motivation ($p = 0.006$, $p < 0.05$), on the acquisition of physics laboratory practical skills. The mean score of teachers with low motivation was found to be greater than teacher with high and moderate motivations. This also implies that teachers were lowly motivated.

This finding is in line with the findings reported by Elizabeth, Nyakundi, Raburu, Michael and Okwara (2019). Study Contrary to a study conducted in New York City in the department of education shows that, providing incentives to teachers to improve student's academic achievement did not increase student's achievement in any statistically meaningful way. This implies that teachers were not motivated. The findings of this study is also supported by the study of [18] who shows that teachers motivation should include and identified the of promotion systems. As confirmed by a study conducted by [26] specified that promotions are pleasing for most teachers. As a result, promotion at regular interval of time has a positive approach. Promotion as a source of motivation to teachers encourages and energies them to work without grumbling. But most a time, promotion of teachers and some other professionals are seen only on paper, without financial benefits. Then let us think over it, if it is reasonable to promote on paper while the financial pay is not seen.

This study shows teachers need to be appreciated and awarded in terms of money as support by [3]. In school system today, a lot of people believed that teachers reward is in heaven, so they feel that teacher should not be rewarded, but in some cases teacher's motivation is been swept under the carpet by those that supervised (authority) them. That is why the school authority may or may not even care about teacher's motivation.

A good working environment and conditions of service as seen from a study conducted by [21], can also motivate teachers and thereby increase his or her job satisfaction. So, a good and sensible teacher will try to give his or her best if the working conditions are favourable. Therefore, teachers need to be motivated in many ways in order to boost their moral.

6.2. Student's Absenteeism and the Acquisition of Physics Laboratory Practical Skills

The finding obtained from the analysis and testing of hypothesis two shows that, student's absenteeism do significantly influence the acquisition of physics laboratory practical skills. The result also shows the mean score and standard

deviation of students absent with (Mean = 3.0465 and SD = 1.41343) and student not absent with (Mean = 2.1250, SD = 1.36227). From the result, the mean score of students absent was found greater than the mean score of student not absent. This also implies that greater number of students do stay away from physics laboratory practical class.

This finding is in line with the findings reported by [30]. In their study, they found out that a high level of absenteeism is detrimental to educational achievements. The study examined how excessive absenteeism and student grades are related. [19] also support this finding by reporting that absenteeism affects both students and teacher and even the entire class environment where students are made to feel uncomfortable. Absenteeism affects not only the absent students, but also has a negative impact or influence on the dynamics of the whole school or class. It affects teachers' ability to implement the curriculum requirements and to adopt instructional activities for both present and absent students. Students' absent may be because of some punishment.

Some student that are absent from school is due to some environmental factors such as harassment, bullying, snow, rain and lack of transport. Punishment for absenteeism further aggravates the situation and sometimes students stay away from school altogether to avoid the sanctions associated with late arrival and absenteeism [7].

[36], [29] also agree with this study, that absenteeism affects students' skills acquisition, social development and their test scores. William (2000) cited in [19] also had the same view in support of this research work, according to him, students who stay away from school suffer academically and socially. According to [23], physical punishment is one of the causes of student's absent. He said punishment leave a negative effects on students and cause children to remain absent and some leave school before completing their education level. Beside punishment, children avoid to attend classes due to fear that they will be evaluated on certain occasions such as examinations, oral presentation, and recitals in the presence of other students [22].

6.3. Laboratory Learning Space and Acquisition of Physics Laboratory Practical Skills

Laboratory learning Space do significantly influence ($p = 0.006$, $p > 0.05$) the acquisition of physics laboratory practical skills.

The result shows that, the mean score (Mean = 2.8810 and SD = 1.34713) of laboratory without learning Space was found greater than the mean score (Mean = 2.0488 and SD = 1.35925) of laboratory learning with Space. With this result, the null hypothesis was rejected, meaning that, laboratory learning Space significantly influence the acquisition of physics laboratory practical skills. This also implies that there was no enough learning space in the laboratory for the acquisition of physics skill. This finding is in line with the findings conducted by [14] to examine whether physical learning spaces encourage students. This study shows that students perform better when proper tools such as efficient environmental spaces. This implies that, learning space affects student's academic achievement. [12] and [34] added that environmental conditions in school facilities affect student performance. Finding from this study is supported by [34], his study shows that, healthy and comfortable learning spaces are strong factors for successful learning.

Similarly, a study conducted by [15] shows that, building in which students' spends their time learning, influence their achievement and how well they learn. From this my finding, laboratory learning space affects the acquisition of practical skills in physics.

7. Conclusion

The data obtained in this study and findings shows that teachers were lowly motivated, student's absenteeism and laboratory learning space do significantly inference the acquisition of physics laboratory practical skills.

Recommendations

Based on the above findings and conclusions, the following recommendations are made:

- Practical physics in colleges and schools should be handled in such a way that teachers and students are motivated. Implementation of promotion to the teachers in other to increase their morale in carrying out their duties.
- Attendance of students should be checked properly by the teacher and the school authority.
- Government and school authority should provide colleges with spacious and good standard physics laboratory.

Suggestions for further work

- The replication of this study considering other problems that may affect the acquisition of laboratory practical (such as Availability of Laboratory Equipment, students' attitude, students' interest, school climate, teacher development in terms of training and laboratory technician qualification) is suggested.

The replication of this study on other science subjects like chemistry and biology is also suggested.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of informed consent

Informed consent was sorted from physics students in the various department used in this work to complete the questionnaire.

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