



A REVIEW THE CAUSES OF POOR PERFORMANCE IN ADVANCED LEVEL

PHYSICS: THE WAY OUT

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Abstract

The causes of poor performance in advanced level physics is attributed to a multiplicity of factors, the factors could either emanate from teachers or the students. Thus this paper examines these factors and

recommendations are made on how these factors can be

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Mastery

eliminated or reduced to the barest level.

INTRODUCTION

The success or otherwise of the teachers efforts is sometimes measured through the standard of effectiveness of the teaching learning process in the classroom and the performance of the students

The knowledge of physics has made remarkable contributions to our health, comfort and well-being. Physics knowledge is an index of technological advancement of any nation that aspires to catch up with the computer age. The application of the law and principle of physics have made most technological development to be born. Physics principles and laws integrate the world on the same plane of technological advancement. Many people have ambivalent attitude towards the teaching and learning of physics this paper explores the possible causes of poor performance in advanced level physics.

Physics has been looked at as mysterious and difficult to learn subject and many people believe that physics is learned by only special students. This is because physics unlike other branches of science is mathematical

in nature. Mathematics is used rigorously in physics to model laws and principles. That is it used is in solving problem. A lot of students have been reported to have expressed the feelings, that they dread mathematics (Lazza, 1984) many students have ill feelings towards physics this is because the society enormously believes that physics is the most difficult subject to learn. In most cases, the fear of physics as a subject is passed to the students by the teachers, and the fear stays with them for the rest of their education and affects performance.

According to Gbamanja, (1991), fear for science subjects leads to all sorts of attitudes towards the subject and this subsequently affects the performance of the learner in the particular subject. This fear makes students loose interest in physics.

In another parlace it is asserted that physics is heavily abstract in scope and nature, this leads to the feeling that it is difficult to learn. This misconceptions have affected the performance of students in physics it is therefore important to state that the poor performance of students in advanced level physics is caused by a series of factors.

FACTORS RESPONSIBLE FOR POOR PERFORMANCE IN PHYSICS

Many factors could be responsible for the poor performances of students in physics, prominent among these are:

1. Negative Attitude of the Society towards Physics.

Several researchers have forward that negative or positive attitude of both students and teachers is a very strong determinant of student's performance as it results to neglect and despise which bring about poor performance (Kazeem, 2000 and Gbamanja, 1991).

Despite all the comfort physics has brought to man, it is still relegated, in fact most people see it as the course meant for people who have no other place to fall to. This negative attitude of people makes physics students feel that they may not have a place in the Labour market after graduation and thus their learning ability is affected.

2. Misconceptions

Physics has been looked at upon as a mysterious and difficult subject to learn. This is because the society erroneously believe

that physics is the most difficult subject in physical science. In most cases the fear of physics is as a result of the wrong notion passed unto students by their fellow students who are lazy, this fear stays with them for the rest of their education according to Gbamanya, (1991).

“Fear for science subject Lead to all sorts of Attitude, mostly negative attitude towards the subject and then subsequently affects the performance of the learner in the particular subject”

3. Poor Background of student in sciences:

Students who have background especially in science may likely have problem of advanced physics concepts. Poor intelligence as a result of poor background could constitute hindrance to effective teaching and learning.

Mills, (1982): as cited in Kazeen, (2002) comments that:

No matter how skilled an instructor may be, learning is essentially the task of the learner and can be accomplished only through the effort of the learner who must be in a responsive frame of mind. He must have the ability to learn, which is associated with intelligence and also the desire to learn. If a man has no pre-knowledge or does not want to learn, you can use every known artifice on him and he will learn nothing.

The admission of candidates into programs they do not have pre-knowledge, a good background, or not qualified to study have posed a serious problem in the teaching and learning of physics. It is therefore pertinent to point out that the result of the placement of students in programs they do not have pre knowledge is disastrous, as such the student will 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 programs.

4. Lack of Mastery of Subject Matter

An effective teacher is expected to be dynamic and keeping abreast with the latest development in his area of specialization so that he could impart knowledge that are current to his/her students, but when reverse is the case, such teacher is bound to impart outdated knowledge. There could equally be a problem in the performance

of students when the authorities allow a non-specialist to handle a course or subject such a teacher is definitely going to fumble because he knows little or nothing in such area.

Okoh, (1983) as cited in Kazeen, (2000) argues that a good teacher must know his subject otherwise he/she will be teaching students wrong inaccurate or outdated facts or worse still, he will merely be plastering on thin materials that will easily crack, or fall

5. Poor teaching techniques:

Even when the teacher has a mastery in his subject matter, his teaching style could still mar effective learning/teaching process in the classroom. Poor teaching techniques could occur when the teacher chooses a wrong method to explain a given concept or when the process of teaching fails to consider the intellectual level of the students and the student's age.

Omotoso, (1975) as cited in Kazeem, (2000) says that knowing what to teach is only half of the problem, knowing how to teach is equally very important, the process of knowing how to teach involves a study of whom to teach and the best approach to reaching his mind.

It is not just enough to know what to teach the teacher has to be grounded in methods as well. The expression, 'he knows his stuff but cannot put it across' is a familiar one, subject mastery is not the ultimate of teaching, Method of teaching thus have an important bearing on effective teaching (Alaezi, 1990). This problem of poor teaching techniques affects the performance of students as it makes the understanding of some physics concept difficult for them.

6. Lack of Student Motivation

Effective teaching/Learning process could be hampered by failure of the teacher to motivate the student. When a teacher in the place of motivation inflicts fear and pain on the students or fails to create an enabling environment that will stimulate students' interest, the students are bound to lose interest in learning, the students may not put in their best when the teacher fails to motivate them through rewards, award of marks and praises to a commendable jobs (good academic work)

7. Lack of Laboratory Facilities

Laboratory is where the students can become involved with their environment in such a way that the theories and principles encountered and discussed in the content or lecture portion of the course acquire a physical meaning. One of the major factors affecting the performance of physics students is the lack of equipped laboratories. Research work shows that learners do better when they hear, see and feel what they heard, thus 87% of what is learnt comes from the sense of sight. In schools where there are no laboratories the students depend only on theoretical work and they end up not being well rooted in the course.

8. Insufficient Physics Teachers:

Physics is characterized by poor performance, low involvement and lack of interest on the part of learners as a result of this, most students dread physics and don't go into tertiary institutions to study it there by creating an acute shortage of both physics teachers and physicists. In most schools, graduates of physics related courses are assigned to teach physics because of lack of physics teachers, and these teachers who are not specialists end up transferring incomplete ideas to students thereby making them dread the course or perform poorly

9. Lack of Motivation for Physics Teachers

Motivation is an internal drive that makes an organization to move towards the achievement of set goals. There is no doubt that teachers are productive in their jobs when they are happy and encouraged. Productivity gives rise to good performance, Lassa (1996) captured it all

“the teaching profession in Nigeria has become stagnated with perpetual neglect and spite due to irregular payment of salaries and deprivation that engender dissatisfaction in occupational disposition, consequently, many youth manifest aversion for teaching as a carrier, the implication is that majority of the people who are recruited into teaching are either birds of passage or those who have nothing as a better option. Even those who have been trained as professional teachers readily veer with the slightest

opportunity into customs, Immigration, banking, insurance, and trading. Time was when teachers worked with such dedication and commitment that a large reward awaits them in heaven”

THE WAY OUT

The following recommendation would go a long way in improving the performance of physics students.

i. To Address the Negative Societal Attitude Toward Physics

There is need for government to enlighten the public on the importance of physics, and that it is not designed for drop-outs who were not able to go into their originally desired course of study. In view of this, Government should improve the status of physics teachers so that people would no longer look down on them. When their status is improved, the enrolment figure would also improve.

ii. Provision of Adequate Laboratory Facilities

The laboratory is where the student can become involved with his environment in such a way that the theories and principles encountered and discussed in the lecture position of the course acquire a physical meaning. One of the Laboratory functions is to provide the student with the required skill for the generation of knowledge (Hittle, *et al.*, 1973). To buttress this argument, Akagwu, (2002) says:

“They (school authorities) should always keep laboratories and workshops well supplied with equipment, tools and chemicals necessary for repetition in practical experience as recommended for good performance.

iii. School administrators should ensure that they do not yield to any pressure to wrongly place students on programs which they have not demonstrated competence.

iv. Teaching method adopted by teachers should be relevant to the concept in question. The individual difference of the students should be taken into consideration when teaching. Teachers should diversify their teaching methods to make teaching and learning interesting.

v. Motivation of Physics Teachers and Students

Motivation brings about hard work toward achieving a set objective, therefore, if physics teachers are motivated by way

of physics teacher's allowances in service training, etc, they will do everything possible to advance in physics innovation. If physics students are equally given some incentive such as scholarship, token, allowances and are sure of jobs upon graduation, then more students will enroll into physics programs. These incentives if attended to will to a large extent enhance the performance of physics students.

- vi. Only qualified persons should be considered for employment as physics teacher/lecturer. Teachers who are physics graduates who teach scientific facts and techniques and inculcates the spirit of science and the attitude of inquiry in the minds of students should be recruited.

CONCLUSION

Physics as the base of all other science subjects needs to be attended to. There is need to carefully handle the subjects by experts. It is also important to state that the poor performance of physics students as enumerated above can be reduced if all the factors responsible are addressed.

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