IMPORTANCE OF SCIENCE LABORATORY IN MAXIMIZING THE LEARNING OF STUDENTS.
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Students learned best when there’s a lot of senses involve in the teaching-learning process. That’s why teachers should be creatively plan for an activity that is aligned to his/her objectives. In teaching the various streams of science like biology, chemistry and physics, it is imperative and highly suggested for schools to have a science laboratory. It is believed that laboratory teaching and experiments that are being conducted, help encourage deep understanding among students. However, schools that have science laboratory have insufficient equipment or materials that’s why it is not functional as the way it should be.

The knowledge that a student’s gain inside the classroom may be deficient and would be less effective, unless, they actually observe, understand and apply scientific method that shows relationship between action and reaction. Effective teaching and learning science involves seeing, handling and manipulating real objects and materials. Science teachers should be capable of planning and implementing hands-on-minds-on activities because it is believe that students are able to retain the knowledge and have a lifelong learning if they see and interact to the experiments being performed in front of their eyes.

Experimentation usually happens in science laboratory. Students and teachers will not properly perform and interact if such experimentation will perform inside the classroom because its allotted space is not design or fitted to perform various experimentation. Science laboratory contains different laboratory apparatuses, chemicals, guidelines and symbols. Science lab equipment or apparatus allow students to deal and interact directly with the gathered data and they become familiarize to its proper usage. Also, students will become aware to the effect of different chemicals and be informed to the guidelines especially to the do’s and don’ts inside the laboratory. More so, they will know the different hazards that may occur if they failed to inform their selves to the different symbols posted inside the laboratory. Thus, performing such laboratory activities will help students to employ scientific methods such as identifying the problem, build hypothesis, perform experiments, analyse and organize, as well as to synthesize data. Their curiosity and awareness will eventually lift and they were be able to understand different scientific theories and concept.

Teacher must have an objectives in performing experiments or any activities so that he/she will have a direction. In the Second Handbook of Research on Teaching (Travers, 1973), there’s a five groups of objectives that may be achieved through the use of the laboratory in science classes:

1. Skills- manipulative, inquiry, investigative, organizational, communicative
2. Concepts- for example, hypothesis, theoretical model, taxonomic category
4. Understanding the nature of science- scientific enterprise, scientists and how they work, existence of a multiplicity of scientific methods, interrelationships between science and technology and among the various disciplines of science.
5. Attitude- for example, curiosity, interest, risk taking, objectivity, precision, confidence, perseverance, satisfaction, responsibility, consensus, collaboration, and liking science.

The purpose of the science laboratory is to provide an experimental foundation for the theoretical concepts introduced in the lectures. It is important that students have an opportunity to verify some of the ideas for themselves. Moreover, it helps the students to become familiarize with experimental apparatus, scientific method and methods of
data analysis. They will be able to display scientific attitudes and values. It set the minds of students to look beyond the books in order for them to understand concepts.

More importantly, school must have the latest science laboratory supplies and equipment because it makes teaching and learning easy both for the teachers, as well as for the students. It makes science interesting not frustrating subject. Hence, if we have a conducive laboratory, students are encourage to make significant contributions in the field of physics, biology, chemistry, and other streams of science later in life.

References: