

# **INTRODUCING DUPONT'S SAFETY TRAINING OBSERVATION PROGRAMME (STOP) IN NIGERIAN SECONDARY SCHOOL LABORATORIES AND WORKSHOPS**

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## **Abstract**

Dupont's safety training observation programme (STOP) is behaviour based safety-training programme designed for work supervisors in all types of work environment. The programme is aimed at modifying the behaviour of people at work through a positive reinforcement of safe work behaviour and correction of at-risk behaviour as a basis for achieving safety excellence in work areas. The programme is introduced to science and technology teachers for adoption and application in Nigeria secondary school laboratories and workshops to improve student's safety awareness and reduce accidents in the laboratories, workshops and other environments.

## **Introduction**

'STOP' is an acronym for Safety Training Observation Programme. It is a behaviour based safety observation programme developed by Dupont safety and environmental management services (1995) to give line managers of virtually every organization what is needed to achieve safety excellence. The programme seeks to develop in the operators the ability to take actions that will change workers behaviour with regard to safety through the application of STOP safety principles and observation techniques. It also develops in the operators' observation and communication skills, which enable them effectively, address safe and at-risk behaviour in their work area. Effective application of STOP safety principles and observation techniques leads to an improved safety performance and better communication in a work area.

In the secondary school laboratories and workshops, as it is in the industries, teachers and students are exposed to hazards as a result of complex processes arising from the interaction of personnel, machines, materials, equipment, and space and so on (Ekpa, 1996; Abdullahi, 1979). Therefore teachers and students need to maintain high safety standard to prevent accidents while working in laboratories and workshops. Reports from researches on the status of safety in our secondary school laboratories conducted in various parts of the Country indicate that the safety standards in our secondary school laboratories and workshops are not encouraging (Ezeliora, 1997). Many authors have actually identified areas that need to be addressed such as the development of safety policies for students, safety education for students, appointment of safety officers and safety supervisory Committee in schools, maintenance of equipment and infrastructures (Ezeliora, 1997; Ekpo, 1992; Fadiran, 1990; Abdullahi, 1979).

Unfortunately most of the reports centered on the situation of physical facilities and infrastructures, materials, space, policies etc in the laboratories and workshops with little or no attention given to the behaviour of the people working with these facilities, which is more critical to safety.

It must be pointed out that safe and unsafe acts are highly related to behaviour and actions of people. Virtually all accidents at home, road, industry, laboratories, workshops and others are traceable to the behaviour or actions of people. Results from a ten year Dupont study showed that Injuries caused by unsafe acts constituted about 96% of the total injuries (Dupont Safety and Environmental Management Services, 1995). This implies that for any safety intervention to yield expected results, that is reduce or minimize accidents, it should aim at modifying at-risk behaviours of people or reinforce their safe work behaviours. Safety training observation programme (STOP) has prescribed a very practical and result oriented approach to addressing at-risk behaviours and reinforcing safe work behaviours to achieve overall safety in a work area. It is therefore expected that if these safety principles and observation techniques are introduced and carefully adapted to our secondary school laboratory and workshop teaching programme it will yield positive results, as it has done in other organizations, by creating safety awareness early enough in our students.

## **Stop Safety Principles**

STOP programme is based on the following safety principles:

- All injuries and occupational illnesses can be prevented
- Safety is every ones responsibility
- Management is directly accountable for preventing injuries and occupational illnesses.
- Safety is a condition of employment
- Training is an essential element for safe work places.
- Safety audits must be conducted.
- Safe work practices should be reinforced and all unsafe acts and unsafe conditions must be corrected promptly.
- It is essential to investigate injuries and occupational illnesses, as well as incidents with the potential for danger.
- Safety off the job is an important element of the overall safety effort.
- Preventing injuries and occupational illnesses is good business.
- People are the most critical element in the success of a safety and health programme (Dupont Safety and Environmental Management Services, 1995).

Irrespective of the type of workplace, the basic principles for working safely are the same. The STOP principles are comprehensive and adequate to take care of virtually all situations that may be encountered in a work area such as the secondary school science laboratories and workshops.

### Stop Safety Observation Cycle and Techniques

STOP safety observation cycle is an organized step-by-step approach to safety observation of people at work. The basic steps in the observation cycle are Decide, Stop, Observe, Act and Report.

- **Decide:** This is the first and a very important step in any safety observation. It requires that the person wishing to make a safety observation should first take a decision to make safety observation. This is necessary because most people need to make a decision to think about safety. Therefore, it is important to set aside time to do safety observations.
- **Stop:** This requires that the person making safety observation should stop near the person to be observed and look carefully at what the person is doing. You are likely to miss important details of the person's actions or reactions, which are good guides to determine whether the person is working safe or not if you fail to stop while observing the person at work.
- **Observe:** Observe a person at work in a careful and systematic way. Look at everything the person is doing, focusing on the safe and unsafe behaviour. The safety observation checklist on the safety observation card (see appendix 1) will guide you chose what to observe.
- **Act:** Having observed the person at work you then have to act. This involves talking with the person either to reinforce safe work practices or to address at-risk behaviours. Addressing at-risk

behaviours involves talking to the person to see the danger or risk in his or her actions or behaviour and accepting to change or accepting an alternative approach which is safe. • **Report:** After you have taken corrective action by talking with the person, you report on your observation and actions (see appendix 2 for what to report). It is advisable to make your reports when you are away from the person you observed. This is because STOP techniques are not used for punishments but are used to effect a change in behaviour only.

### How to Acquire 'STOP' Observation Skills

STOP observation skills are acquired through self-study, group discussions and on-the-job-training:

- ✓ **Self-Study:** This involves reading through STOP literature materials specially prepared to help the users gain knowledge of the key ideas behind the safety principles as well as practice the observation techniques. This provides the foundation a supervisor needs to develop the skills needed to help himself and others work safely. For a quick and effective result he may need the supervision of an experienced STOP leader.
- ✓ **Group Discussion:** Group discussions are held under the supervision of a STOP leader to give participating supervisors the chance to ask questions and to talk about the principles and

techniques learnt and to hear what others have to say. Such group discussions help the participants to understand how to apply STOP principles and techniques on the job.

- ✓ **On-The-Job-Training:** This gives participants a chance to practice what has been learnt. The participants are expected to make safety observation every day as part of their regular work. During such safety observations they learn how to apply the STOP safety principles and observation techniques learnt to their work environment. At the end of each STOP training unit the participants will be required to take part in a joint safety observation tour with their STOP leader. This will help participating supervisors develop the skills needed to conduct STOP safety audits which are essential to the overall success of the entire safety effort.

By applying STOP principles and techniques regularly in a work area, the supervisor develops the habit of observing and addressing safe and unsafe behaviour which plays an important part in preventing injuries, improving overall safety in a work area, and encouraging good safety performance.

### **'STOP' in Secondary School Laboratories and Workshops**

In the secondary school laboratory and workshop, the teacher is the work supervisor. Therefore, he is accountable for the safety performance of students in the laboratory and workshop as well as assistants, teachers and others who may enter the laboratory or workshop. He is therefore, expected to set and maintain high safety standard by reinforcing safe work practices and correcting at-risk behaviour in the laboratory and workshop. When he actively addresses safe and unsafe behaviours, he sends a signal to the students around that safety is important to him. On the other hand, if he sees an unsafe behaviour and fails to address it, the students may think that they are performing satisfactorily and may not have any reason to change, and their safety performance may deteriorate.

The safety performance of the teacher will improve if he adopts the STOP safety observation principles and techniques for addressing safe and unsafe behaviours of students in the laboratories and workshops. This requires that the teacher must decide to carry out safety observation of his students using the prescribed safety observation cycle.

The head of science and technology in the school could arrange periodic joint safety observation tour of the laboratories and workshops by all the teachers. At the end of the tour they could hold a group discussion where the teachers should be given chance to ask questions, review what they know and share their experiences about STOP principles and techniques. This no doubt will contribute to the improvement of their safety observation skills and thereby improve their safety performance.

### **Some Benefits Derivable from the Application of 'STOP' In the Laboratories and Workshops**

Application of STOP safety principles and observation techniques in secondary school laboratories and workshops is expected to lead to increased safety awareness among teachers and students. As teachers constantly talk with students to reinforce safe work practices or correct unsafe behaviours students will gradually change their unsafe behaviours and adopt safe approaches to work thereby improving on their safety performance. With the safety performance of students improved accidents on our roads, homes and schools will reduce.

### **Some Likely Constraints to the Application of 'STOP' in the Laboratories and Workshops**

Some of the factors that may pose obstacles to the application of STOP safety principles and observation techniques in our secondary school laboratories and workshops include:

- **Lack of Teachers with Knowledge of "STOP":** An effective application of the STOP system to secondary school laboratories and workshops will require teachers who have good knowledge of the STOP safety principles and observation techniques of the; our secondary schools lack such caliber of teachers now.
- **Poor Infrastructure and Facilities:** Abdullahi (1979) and Ezeliora (1997) have reported the poor state of infrastructures and facilities in our secondary school laboratories and workshops. In most cases the relevant laboratory and workshop facilities are not available, and where they

are available, they are either inadequate or lack maintenance. This makes it difficult for students to actually carry out practical work in the laboratories and workshops. In such situation it will be difficult to actually operate the STOP system.

- **Administrative Bottle Necks:** Usually after a safety audit, all unsafe conditions are reported to the authorities for correction. For an effective application of the STOP system all such unsafe conditions must be corrected promptly. But it is known that the administrative set up in Nigeria secondary school system lacks the empowerment and sensitivity to act promptly on safety reports.

### **Recommendations**

The following recommendations are therefore put forward:

- 1) Government should as a matter of policy adopt the STOP system as part of the laboratory and workshop teaching programme in secondary schools.
- 2) A safety audit committee should be set up in all secondary schools with at least a staff representing each of the science and technology disciplines taught in the schools with the head of science or technology as the head of the committee. The duties of the committee should include; the conduct of periodic safety audits of the science laboratories and workshops in the school, organization of group safety discussion and seminars for staff and students, and to ensure that all reported cases of unsafe conditions are corrected promptly by the appropriate authorities.
- 3) A safety supervisory committee should be formed at the state level (Ezeliora, 1997) and in addition to duties already recommended for such committees; they should supervise the implementation of STOP system by the school safety audit committee.
- 4) Safety should be made a condition for admission of teachers, students, laboratory and workshop assistants and other personnel into laboratories and workshops.
- 5) Workshops should be organized regularly for teachers to introduce them to the STOP principles and techniques of safety observation so that they in turn can apply the system effectively in their laboratory and workshops teaching work schedules.

### **Conclusion**

The STOP safety principles and observation techniques are identified as a very powerful and a practical approach to helping line managers, supervisors, work leaders such as science and technology teachers develop the habit of observing and addressing safe and unsafe behaviours of people at work, which is critical to safety.

The application of the STOP System to various types of organizations is known to have resulted in significant reduction in injuries and incidents, increased safety awareness among workers and improved their communication skills. Therefore, the introduction of the STOP system to secondary school science laboratories and workshops will improve the overall safety awareness and safety performance of students, which could lead to a reduction in accidents in our homes, roads, and industries.

### **References**

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