



# IMPACT OF ATTIRES ON STUDENTS' AND TEACHERS' PERFORMANCE IN SCIENCE LABORATORIES

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## Abstract

This paper describes how some of the students' and teachers' dressing styles effectively constitute a factor that impacts the teaching and learning of science and the safety of the students involved. In this research, students, teachers and some parents were targeted. They were either observed, interviewed or given questionnaires to obtain their views and experiences on this issue of dressing styles and safety in teaching science. Results showed that inappropriate attires were, to a greater extent, responsible for a variety of accidents that occurred in the science classes, thereby impacting students performance in science classes.

## Introduction

The best and most effective way to learn science is through observation, hands-on, and interactive learning activities. Learning the science usually takes place either in a regular classroom setting, science laboratories, or by going on field trips. Unlike in many other disciplines, learning of science involves many potential hazards - fire, corrosive chemicals, broken glassware, sharp-pointed objects, and pathogenic specimens. Safety is therefore a priority in science learning milieus requiring appropriate equipment, well-disciplined students in suitable attires for lab sessions. This safety expects that students comply with the science rules and laboratory policies. That is, these hazards can be dangerous and may even worsen if not handled properly and if the students are not well disciplined in all ways including appropriate science attire.

## Research Methodology

Descriptive research or survey approach method was used for the systematic data collection. Students and teachers alike, in both secondary and tertiary levels, were either observed, interviewed or given questionnaires to obtain their views and experiences on the impact of dressing styles, general comportment on safety and learning of science, and the enforcement of dress codes in schools. Respondents were also given unstructured questionnaires for comments on their experiences in attire-related accidents in science classes. Follow up questions were asked for respondents to elucidate their answers. More data was obtained from notes the researcher had been taking in this regard from visiting and observing faculty and students in various institutions here and abroad. More data was taken from documents describing the respective school safety codes in particular and science teaching policies in general. The respondents were assured of their confidentiality. The main purpose of collecting this data was to be able to describe and interpret personal encounters or existing conditions and prevailing practices and impacts of dressing attire. In sum, the objective was to get information as to how each part of the students' dress or attire affected participation, safety and learning in the science class.

## Results

This investigation revealed and many teachers and students confirmed that a d number of the accidents in the laboratory were caused by students who were inappropriately or indecently dressed. Particular areas of dressings noticed in this research included loose clothing, dangling jewelry, headscarves, hijaabs, headbands and inappropriate shoes, as well as long hair/ braids, exposed body parts, vulgar or violent tattoos and particular ear/nose/tongue and lip rings. Students were seen wearing rings, watches and bracelets with absorbent bands which trapped chemicals under them that irritated the skin and damaged the jewelry itself. It was noted that these metal jewelry and finger rings affected the results of magnetism experiments

A case was quoted of a student's long hair that dripped into or was drawn through a kidney-basin containing bio-chemicals during a mid-term assignment. This corrosive chemical soaked through her clothes and started burning her skin when she repositioned her soiled hair on her back. Michele Dufault, a Yale University student, was killed at the Sterling Chemistry Laboratory, when her long loose hair was pulled into a lathe in the machine shop. One student's oversized jewelry or a long necklace, hooked on the edge of a lab table causing the destruction of chemicals, specimens and glassware on that table. In escaping from this scene of commotion, other students sustained bruises and deep cuts especially those who wore open-toed shoes. One boy's 'flying' shirt was reported to have caught fire when he bent down near a burning Bunsen burner.

Teachers pointed out that rings won on noses, tongues, lips and, of course ears, as well as hijaabs blocked or impaired hearing and oral communication. Students failed to take note of non-verbal or visual cues from the teacher due to hijaabs. Also it was difficult to wear protective goggles due to nose and large ear rings. According to one teacher, tattoos exposed one of his students to gangs that did not encourage learning, and equally provided easy access to microorganisms (pathogens) to the student's body.

Some students claimed that they recorded wrong lab data because they were lustfully distracted by lab partners who were inappropriately or indecently dressed. "Attention getting outfits" that caused this lustful distraction to both students and teachers from their class work included dressing provokingly, exposing a lot of certain body parts, visual display of under wears and boys wearing form-fitting shorts without proper support undergarments. These enticing exposed body parts appeared indecent and even offensive some said, not conducive for studying. Some parents observed that teachers themselves, by their inappropriate dressing attires too (torn and faded pants, dungarees, sweatpants, jogging suits and excessively thigh revealing shorts), failed to demonstrate professional demeanors that create positive role models but instead constituted a major source of obstruction and distraction in science learning. Some complained that their biology teacher caused laughter and distraction each time she bent down or wrote on the board because she often wore extraordinarily short miniskirts and loose and wide-open short sleeve blouses. One unique case was a male student who commented about an exposed tattoo on a female student's lower back in class. This comment earned for this male student a dismissal from the school for sexual harassment.

In sum, it was evident that all these cases of obstruction and distraction by inappropriate dressing created a negative impact on students and teachers' performance in science classes.

## Recommendation

Here are prudent practices that could go a long way to minimize these undesirable impediments in the science teaching environment.

- Need to discuss and scrupulously enforce dress codes in learning institutions while considerations ranging from what is considered professional attire to cultural and generational preferences are, to a certain extent, taken into account.
- Avoiding loose clothing in the lab that can knock over containers on the work bench or drag or dip into chemicals or flames.
- Requiring dressing which covers and protects the chest, belly, sides, back, shoulders and upper arms.
- Designing a dress code policy which corresponds to safety in the science laboratory.
- Avoiding loose sleeves and when necessary, wearing elbow-length biochemical resistant gloves to protect bare arms and hands.
- Students and their teachers wearing well-designed long lab coats, aprons and gloves made of non-absorbable materials to protect their exposed body parts.
- Having restrainers that control long loose hair, ties and long jewelry from dangling into chemicals or flames
- Discouraging strong perfumes and cologne that easily irritate and distract people in classrooms.
- Not applying flammable hair sprays, gels, hair mousses in the laboratory or directly before coming to class.
- Properly covering or strongly discouraging attractive piercings and tattoos that can distract lab partners from their work and prevent poisonous chemical absorption into the body when possible.
- Teachers to dress responsibly, not wearing enticing and distracting clothing
- Prohibiting profanity, obscene or suggestive language on clothing that may distract students.
- Remodeling certain cultural or religious attires to facilitate teaching/studying science successfully and safely without distracting or being distracted and without obstructing or being obstructed by the dressing style of a given lab partner.

## Conclusion

Inappropriate dressing styles are, to a greater extent, responsible for a variety of accidents and incidents that occur in the science classes. Some of the attires actually obstruct the smooth running of science sessions. Students wearing face-caps, hats, baggy pants and loose T-shirts and blouses, metal rings and bangles, and long jewelry may obstruct, in many ways, and make it hard to comfortably carry out certain lab activities. It is evident that provoking or 'attention getting' attires which include indecent attires by unduly exposing certain parts of the body distract both teachers and students from concentrating in their work. Safety in each case is compromised. Enforcement of prudent practices in dress codes has been highly required to create a healthy learning environment so that lab users have the opportunity of teaching/learning without distracting or being distracted and without obstructing or being obstructed. That is, appropriate measures are necessary for students and teachers to maximize their performance in science while living safer, healthier and longer lives.