

SCIENCE EDUCATION

Are We Missing Something?

-Saranya P.S.

2004 was observed as the year of science awareness. A lot of programmes were organised in various parts of the world, including our country to create science awareness among people. It may sound very funny. In this era of technology, when we explore far beyond galaxies, why does someone think we lack science awareness? Doesn't it seem very trivial for us, so proud of being in such an advanced world, where the world is just on our fingertips? But if the United Nations had to decide for such a programme, it was not merely a thoughtless product, rather it came from an extremely serious concern about our future, the very existence of humanity on earth.

The thoughts about science awareness have led me to the problems in our science education. From certain viewpoints, this may look odd; or seem like a rather outdated story, but the harsh realities are too evident to be mere stories. The time has arrived for us to renew our thoughts and conventions.

Yes! We are in a proud position!

Science and technology have proved to be an essential part of our progress. We are proud, and very much excited about our splendid discoveries. Ancient people would not have even dreamt that the world would come so close to us, just a mouse click away. The beauty of the night sky and the moon had always fascinated them. The reflection of the moon in the wavy water had always inspired them to take the moon in hand, but they would never have expected stepping onto that heavenly body and exploring nature there. The dreams of flying in the sky came true, when the Wright brothers made "The Flyer". The journey from 'flyer' to hypersonic flight has shown us that dreams can turn into realities. Information technology, medicine, agriculture, engineering fields, wherever we see we have stories of splendid progress.

The other side of the coin.....

The fruits of scientific research come to society through technology. A large group of people from the government sector to the different levels of society make use of various technologies, and here come a lot of concerning issues.

Most of the people are well aware of the technological applications popping up day by day. But the same technology is being misused in a variety of ways. For example, the medical field has achieved quite a lot in diagnostic techniques, but the same methods are used to find the sex of a foetus. The increasing female foeticide rate is really alarming.

The influence that the theory of relativity has made in the realm of physics, and science as a whole, is immense. Even the people who have not heard of Albert Einstein's name might have at least heard about the equation $E=mc^2$. Of course, the equation became more famous than its creator, but Einstein would have never thought that his discovery would lead to the destructive idea of a nuclear bomb. The devastating effects caused by 'Little Boy' and 'Fat Man' still haunt the people of Japan even after generations. This is just one of the instances where science was ruled by destructive hands. Nuclear and atomic research is in progress in most of the countries including India. Governments spend large amounts of money only for weapons. The threat of bio-weapons also forces sleepless nights on the common man.

The influence of Information Technology on our society is so intense that we cannot even imagine life without it. But, along with the fruitful effects, IT has opened the door for a large number of cyber crimes. Identity theft, hacking, credit card frauds etc. trap a lot of people. The number of crimes have drastically increased in the last few years, including a lot of terrorist attacks, making use of IT sources. These dark shadows have also engulfed the younger generation. The involvement of the youth in such issues is threatening the social environment.

In all the above issues, governments have a big role in deciding how the technology has to be used. Examples are numerous in our society, where the common man has become a victim of the carelessness of governments. In 2001 there was news from the northern part of Kerala, where due to the use of a pesticide called Endosulfan in cashew fields, different diseases started spreading in the area. The number of deformities and diseases were shocking and consequent investigations revealed that this pesticide had either been restricted or banned in many countries. Still our plantation corporation was using it for years. Whose lack of awareness is this? The government's or the peoples'?

Pesticides, nuclear weapons, different IT sources and many more things are the creations of scientific research. The gases which cause global warming are all generated from our technological applications. The indiscriminate usage of resources can mar the significance of all our good inventions. The ways in which technology is used and misused have a lot of importance.

Where does the problem arise?

Technically, society is achieving new heights, but on the moral front we are really going down. The high flow of information is not accompanied with complementary value based thinking. The new generation which acquires knowledge from various resources, including their institutes is mostly given solely technical education and little awareness on how to use the technology for the well being of our society. In fact scientists who provide the base for technology never expect their theories to be used for destructive purposes. The numerous examples where the governments encourage the misuse of scientific applications show how various sectors of society have to be given proper awareness. The current education system mainly aims at producing students who know only technical language, and gives little importance to how they utilize the knowledge. Especially in India, privatisation in the education sector and the consequent establishment of a huge number of institutes has taken away the concept of value based education. The aim of education has become only fattening pockets and purses.

We have hopes!!

It is really high time to think about what can be done regarding these issues. We have to create awareness amongst the whole generation, which is possible only through our education system. The intense technical education has to be integrated with proper awareness programmes. A strong value base has to be cultivated in our young minds, so that we never misuse technology. In fact we can't say that our government is not doing anything regarding this issue: each year a lot of money is invested in awareness programmes by most countries, including India.

Have we really achieved the purpose? We cannot forget the fact that even now India hasn't completely eradicated polio, for which we invest huge sums every year. This shows that huge funds are never sufficient to make people aware. The mechanistic way of education has to be changed. The growing minds have to be ignited with the thoughts of social welfare. Our education system beginning from the primary education to the highest levels has to be well prepared to instil value based thinking into the young minds. We have to make sure that Hiroshimas and Nagasakis will not repeat. Each and every citizen has their own role to play. The “what can I do alone?” attitude will never succeed.

Keep in mind that a small candle can never enlighten the whole world, but it can give you the light to take the next step.