

29/01/2000

The problem with science in schools

Dr Abu Bakar Abdul Majeed

A RECENT report in a newspaper quoted the Education Minister as saying it was time to bring back quality into the education system.

Although the revelation by Tan Sri Musa Mohamad that there was a host of problems with the system was not exactly letting the cat out of the bag, his candour at least brings fresh hope to the future of education in this country.

The litmus test for the Education Minister is perhaps the curriculum. Since the establishment of a credible education system in this country in the 19th century, major strides have been made in curriculum development.

The curriculum was modified at the start of the 20th century. To keep up with time two new subjects were added, gardening and embroidery.

The firm foundation of the education system was laid with the formulation of the Razak and Rahman Talib reports in 1956 and 1960 respectively.

Education, according to these reports, should not be for education's sake.

Its overriding aim was to preserve political and social stability, to ensure that the multiracial people of the young nation could prosper together.

This spirit that was articulated so well by our founding fathers had been retained in all subsequent education policies.

The curriculum, however, has been changed a number of times.

An issue that keeps cropping up in many contemporary discourses on the level of scientific literacy and competency of Malaysians is the effectiveness of our science education.

Generally, there is a feeling of discomfort on the apathy of the younger generation towards science and technology. It is not uncommon to find students of science who are actually not interested in this field.

There is currently a shortage of science students. The nation's aim of having a science and technical-to-arts student ratio of 60:40 by this year has not materialised.

Looking at last year's Penilaian Menengah Rendah examination results where the percentage of passes in the science paper with Grades A, B, and C was only about 47 per cent, the situation does not look favourable. We need a passing rate of more than 80 per cent to achieve the 60:40 target.

Why have we not been able to get young people to be more science-inclined?

Science actually suffered during one of the curriculum revamps in the last 20 years.

When the Kurikulum Baru Sekolah Rendah was introduced in 1983, science was eliminated.

When the rationale for this was questioned, the response was that science was dealt with in many other subjects. But in actual sense, it was hardly visible.

The move was probably triggered by the fear at the time that science education might weaken the religious beliefs of the young. Several studies carried out overseas seemed to point towards this.

For example, it was found that many American scientists expressed disbelief or doubt in the existence of God. This was despite the fact that only 10 per cent of the general public felt the same.

An Oxford scientist then commented: "You clearly can be a scientist and

have religious beliefs. But I don't think you can be a real scientist in the deepest sense of the word because they are such alien categories of knowledge."

The rebuttal was, however, swift. Another scientist from the same university countered: "The essence of science, and moreover of the human mind, makes the process of acquiring knowledge infinite.

"It is always tempting to ask new questions, which means that scientists are ultimately faced with a huge number of unanswered questions, and with the fact that each answer will probably create more doubts than it will solve.

"Once we realise that it is impossible to answer all the questions, there are two options: to accept this fact or to attribute the 'answer' to an almighty being - a God."

At about the time of the introduction of the KBSR, a movement was started to Islamise, first knowledge, and then the various areas of science such as chemistry, biology, physics and mathematics.

No doubt the effort was vital in providing the right platform for religiously correct science, or value-based science, to be promulgated. But we should realise that there is indeed a place for religious scientists.

To sceptical of science, be assured that unlike capitalism, communism or nazism, science is not an ideology. Otherwise, it surely would have died a natural death, like the rest of the 'isms'.

Several years ago, science was brought back into the Standard Four curriculum. Many scientists, though, feel that it should be taught from Standard One.

The pedagogy too, must be looked at creatively. Many would argue that their science teachers were the ones who made them love or hate the subject. An educational visit to a swamp, for example, is worth hours of classroom teaching on the topic of "biodiversity".

Years ago, an international magazine opined that being a doctor, Prime Minister Datuk Seri Dr Mahathir Mohamad preferred surgery in dealing with the malaise that affected society.

Being a pharmacist, Musa should be expected to dispense bitter pills to cure maladies. The announcement on bahasa baku is one example. It seems clear not many are willing to swallow the medicine.