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The science agenda

THE Government is striving to promote science among schoolchildren and their parents.

The Higher Education Ministry, Education Ministry, Science, Technology and Innovation Ministry, Malaysian Industry Government Group for High Technology (Might) and Academy of Sciences Malaysia are working together to stem the declining interest.

And universities, polytechnics and community colleges are actively working closely with schools to support the **science, technology, engineering and mathematics (STEM) agenda**.

“University students from these higher education institutions conduct workshops, seminars and programmes for students to increase their interest in the sciences.

“At polytechnic and community colleges, there’s more focus on technology and engineering, where the Government has created more opportunities. For example, community colleges are offering programmes in gamification, tunnel drilling, and 3D animation.

“School science facilities are also being improved through collaboration among schools, universities and the industry. Here, higher education staff and students work with schools to physically rebuild science labs and, thereafter, volunteer their time to come and teach,” the Higher Education Ministry says.

Prior to the 1990s, excellent Malaysian students had to take science subjects, leading to the high ratio of science to arts students. But in the 1990s, Malaysian upper secondary students were allowed to pursue their stream of choice.

This led to the ratio of science to art students in upper secondary schools narrowing, but now more students are taking a mix of science and other subjects, like accountancy and electrical design, the ministry explains.

“As our universities move ahead, students will have more opportunities to take non-science subjects as part of their courses. **Flexible education is the future of higher education**, and universities will be required to enable their students to be multi-disciplinary. We want to produce scientists who are good in philosophy, and engineers who are qualified in accounting.”

The Institution of Engineers Malaysia (IEM) has been supporting government agencies in building awareness on science and mathematics programmes. The institution conducts career awareness talks, competitions and exhibitions in schools, its president Datuk Lim Chow Hock says. To educate the public on engineering opportunities, IEM will organise a construction career fair in April.

Job prospects for engineering graduates are bright as we become an industrial nation, he observes, pointing to how government allocation for infrastructure development has supported the country's demand for engineers.

Careers aren't limited to civil, mechanical, electrical, electronic and chemical engineering. Many new disciplines like aeronautical, environmental, maritime, mining, oil and gas engineering have emerged, he says.

But, to meet the industry's evolving demand, engineering graduates must stay on top of new developments. Quality graduates are important as engineers are increasingly required to take on managerial responsibility requiring leadership and communication skills, he notes.

"There are indications that the Government – as the largest employer in the country – is incorporating a structured pathway for all science-based professionals, including engineers, to fill high positions in the civil service," he says, adding that prospects to reach the top, high remuneration and status recognition, will motivate students to take up STEM education and pursue a career in engineering.

But it's not all gloom, senior professor of Inorganic Chemistry at Universiti Kebangsaan Malaysia Dr Yang Farina Abdul Aziz says, pointing to the setting up of the Malaysian Board of Technologists (MBOT) under the Science, Technology and Innovation Ministry last year.

The statutory body will be tasked with setting up a training and teaching syllabus to enable 30,000 technicians and technologists to be recognised as professionals. The aim is to produce 384,300 technologists and technicians by 2020 following low percentage of professionals in the workforce. She feels that more technicians, rather than full-fledged engineers, are needed.

"But the industries and academia must have a healthy platform for discussions. Industries know the issues and what they want. Academia has the expertise," she says.

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