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SPEECH BY DR TONY TAN KENG YAM, SENIOR MINISTER OF STATE FOR EDUCATION, AT THE OPENING CEREMONY OF THE SINGAPORE YOUTH SCIENCE FORTNIGHT AT THE RAFFLES INSTITUTION ON FRIDAY, 23RD MAY 1980, AT 10.00 AM.

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It gives me great pleasure to be present to-day to officiate at the Opening Ceremony of the Singapore Youth Science Fortnight which begins to-day and will last till June 8.

The Science Fortnight is a tangible sign of the high standard of science teaching in our schools. It is a purely voluntary activity but it provides a means of informal learning that is a valuable supplement to the formal school curriculum. Such extra-curricular activity has an impact on students which goes beyond their textbooks and exams. Science becomes real and relevant and the students experience at first hand the personal satisfaction which comes from understanding and applying the laws of Nature.

I note from the programme that a wide range of activities has been organised. The highlights include the Science Fiction Writing Competition for Primary-School Children, the Science Fair for Secondary and Pre-U students, the Science Olympiad and Science Camp for Pre-U students. In addition, there will be a Science Circus which will, no doubt, delight children of all ages. An innovation this year is the Apparatus Workshop for Primary-School Teachers where they will be shown how to make simple apparatus useful for teaching purposes. To round up the Fortnight, there will be a Science Fiction Films Festival, which, I am sure, will be well patronised.

A lot of planning and hard work has therefore gone into the organisation of the Fortnight and I should like to thank the

Organising Committee and all helpers for their dedicated and imaginative efforts.

One of the major tasks of the Education Ministry is to continually review the curriculum in our schools in order to ensure that what our children learn is up-to-date and relevant to their interests and needs. This is particularly necessary in the case of science where new facts and theories are churned out at such a rate that intelligent synthesis and integration are necessary if we are not to be swamped by the knowledge explosion. Teachers and educators at all levels, from primary school to University, must sift through the mountain of facts and theories in order to decide what should be taught and what can be safely left for the students to find out for themselves.

This morning I would like to mention two measures which the Education Ministry will be taking to provide more flexibility and variety in science teaching in schools.

Re-introduction of Physics and Chemistry

With effect from 1981, the Ministry will re-introduce Physics and Chemistry as separate science subjects for the GCE 'O' Level Examination in addition to the existing options of General Science, Physical Science, Biology and Human and Social Biology.

Let me add a word of caution and advice. While the re-introduction of Physics and Chemistry is intended to broaden the science curriculum, it is not our intention to encourage students to over-specialise in science. Our main aim remains the provision of a reasonably broad-based education for students at 'O' level so that they will have the widest latitude in choosing their special fields of study at 'A' level and, later on, at University.

The Education Ministry will monitor closely the enrolment in the various science subjects to make sure that there is no over-concentration in a small number of fields. The criteria for admission to Pre-University will remain unchanged so that students

who enrol for Physics and Chemistry will not have an undue advantage over those who choose Physical Science.

With this wider choice, science teachers will have the added responsibility of advising and counselling students (and parents where necessary) concerning the correct choice of subjects at Secondary Three and Four. Schools will also have to adjust their time-tables to include the teaching of Physics and Chemistry alongside Physical Science.

Computer Appreciation Course

Since January this year, Computer Science has been introduced as an A-level examination subject at the National Junior College. This course will be offered in all the junior colleges and Raffles Institution in 1981. To complement this measure and to acquaint students with computers at a younger age, we will introduce Computer Appreciation Courses as an extra-curricular activity for Secondary Three and Four pupils starting next year.

The Computer Appreciation Course will have the following objectives:

- (a) to develop students' interest in computers and their applications.
- (b) to impart some knowledge of computer software so that interested pupils can write simple programmes on micro-computers.

The Course will stretch over two years and will not be examinable. It will include the history of computers, the elementary components of a computer system and their functions, applications of computers, simple computer languages, and practical work.

The speed at which we can make the Computer Appreciation Course available in secondary schools depends on how fast we can train the teachers that are required to conduct the Course. At least two trained teachers will be required in each school — one to look after the Secondary Three students and the other to look

after the Secondary Four students. As we have 128 secondary schools, we will need at least 256 teachers who have undergone the training course.

A first batch of 32 teachers from 16 specially-chosen schools (see attached list) will be put through a 100-hour in-service course in August this year so that they can return to their schools to conduct the Computer Appreciation Course from January 1981. The number of teachers to be trained will be expanded to 120 per annum in 1981 and 1982, and by 1983 we will have a sufficient number of trained teachers to make the Computer Appreciation Course available in all secondary schools.

As part of the programme, every secondary school will be supplied with at least one micro-computer for students to use and every Junior College ^{will be} developed into a regional computer centre to provide additional services to the secondary schools in its vicinity. It will take us three years to complete the implementation schedule.

Conclusion

The future for science education in our schools is exciting with many challenges yet to come. You can be assured that the Ministry will give every support to teachers and schools in their efforts to improve the teaching and learning of science in Singapore. In this way, we will help our students to realise their aspirations and reach their full potential.

And now, ladies and gentlemen, it is my pleasant duty to declare open the Singapore Youth Science Fortnight 1980. I wish you success and many hours of absorbing interest in the days ahead.

**SCHOOLS WHERE COMPUTER APPRECIATION COURSE
WILL BE INTRODUCED IN 1981**

- 1 Durman High School
- 2 Catholic High School
- 3 Anglican High School
- 4 Chinese High School
- 5 Maris Stella High School
- 6 St Nicholas' Girls' School
- 7 River Valley High School
- 8 Chung Cheng High (Main) School
- 9 Nanyang Girls' High School
- 10 CHIJ Secondary School
- 11 Singapore Chinese Girls' School
- 12 Cedar Girls' Secondary School
- 13 Raffles Girls' Secondary School
- 14 Raffles Institution
- 15 Anglo-Chinese Secondary School
- 16 Gan Eng Seng School