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SPEECH BY THE MINISTER FOR EDUCATION, MR. ONG
PANG BOON, ON 12 DECEMBER 1968 AT THE RESUMED DEBATE
ON THE ANNUAL BUDGET STATEMENT OF THE MINISTER
FOR FINANCE

I should like, first of all, to draw the attention of the House to certain salient features in the 1969 estimates of educational expenditure -

Members would have noticed that for the first time in the history of the Republic's budget, Education has dropped to second place behind Defence as the State's biggest spender. This does not mean that we are spending less on Education in order to spend more on Defence. It does show, however, that there are other and more urgent demands on the public purse than Education and the order of priorities has, at least for the time being, changed.

The 1969 estimates of educational expenditure are presented, also for the first time, under two main departments: General Education Department and Technical Education Department, each with its own P.E., O.C.A.R., O.C.S.E., and development estimates. This reflects the importance which my Ministry places on technical education, and the separate administrative machinery which has been created to implement the new policy.

The ordinary estimates for my Ministry totals \$198.8 million for the next 15 months. On a proportionate basis, this works out to \$159 million for 12 months or 4.8% increase over 1968 estimates. Compared with previous years, the 1969 provision represents a very small increase indeed - for example in 1965, the percentage increase was 13.8%, 1966 - 19.7%, 1967 - 11%, and 1968 the percentage increase was 5.8%. Much of the increase in 1969 is due to normal increments in the personal emoluments of existing posts. Of the 362 new posts created for 1969, 336 are for the Technical Education Department and only 26 for the General Education Department. This again underscores the new emphasis on technical and vocational education.

Similarly, out of the total provision of \$30.9 million in the development estimates for my Ministry for the next 15 months, \$21 million, or slightly more than two-thirds of the total, is earmarked for the Technical Education Department, leaving only \$9.9 million for the General Education Department. The Technical Education Department will have sufficient funds to carry out major development projects to provide the necessary facilities for the massive expansion of technical and vocational education. On the General Education side, only minor provision is made for replacements and extensions of existing schools. On an overall basis, there will still be enough places in primary schools for a number of years to come, although the population shift to new satellite towns and major housing estates has created shortages in certain areas and consequently it will not be possible for all primary school pupils to be admitted to schools near their homes.

As the estimates reflect the changes in educational policy, I should like to take this opportunity to outline what these changes are, and to explain briefly the rationale behind the changes:-

- (a) The present vocational schools will be abolished. As from next year, those who are not successful in the Primary School Leaving Examination and who are 14 years of age and above, will not be posted to Vocational Schools. However, they will be given the opportunity to apply for admission to special classes which will be organised by the Adult Education Board. These classes will provide intensive instruction in languages and training in certain basic skills to enable them to seek employment or further vocational training in the various new types of training establishments set up by the Technical Education Department. Pupils who are in Vocational I this year will, however, continue with Vocational II next year.
- (b) The secondary school system will be re-structured so as to direct a much larger number of pupils than at present to technical education. Beginning with Secondary I classes next year, a new common curriculum will be introduced for all Secondary I and II pupils in all types of schools and in all four language streams. This new curriculum provides for all boys and 50% of the girls to take a combination of academic and technical subjects, including workshop practice. Domestic Science will be a compulsory subject for all girls. However, for girls who are also taking technical subjects, Domestic Science will not be an examination subject and a modified syllabus will be followed.

The introduction of this new curriculum for Secondary I and II will mean that the streaming of students into academic, technical, or commercial education will not be undertaken until Secondary III. The objections which have been raised hitherto against streaming from Secondary I have thereby been removed.

- (c) After completion of Secondary II students will either proceed to Secondary III and IV and then on to Pre-University as at present, or branch off to a variety of new educational establishments to train as craftsmen and technicians. For students who branch off to technical training after completing secondary II, 4 industrial training centres will be established to provide courses in electrical, building and metal trades. These courses, varying in duration between 6 months and 2 years, will concentrate on the acquisition of a specialised skill through practical work. Each course

will lead to the award of a Trade Certificate, and the acquisition of a number of Trade certificates will qualify the holder for the Craft Certificate awarded by the vocational institutes. Students who have completed Secondary II can also compete for direct entry into vocational institutes of which 2 more will be established by 1970.

A National Technical Institute will also be established by 1970 to train industrial technicians. It will provide advanced craft courses for those who have completed courses in vocational institutes.

The changes which I have just listed call for a heavy outlay in new plant and conversion of existing facilities. Four new vocational institutes will be established, two of them to function in their new premises in 1969 and the other two in 1970. Six vocational schools will be paired with six academic schools within the same compound with improved workshop facilities to provide for a technical stream. Three other vocational schools will be converted to industrial training centres to provide a variety of short-term trade courses and another industrial-training centre will be established at Telok Blangah, making four centres in all. Twenty units of centralized workshops will be created to provide practical training for all the boys and 50% of the girls in Secondary I and II, and additional machinery will be installed in three of the nine existing technical schools to convert them into technical high schools offering courses from Secondary III to Pre-U classes. Pending the construction of its own building, the nucleus of the proposed National Technical Institute will be housed temporarily in the Singapore Vocational Institute in 1969 to provide courses in advanced mechanical engineering practice and shipbuilding. The Singapore Vocational Institute itself will be expanded with the addition of a three-storey building to provide for an enrolment of 2,500 as compared with the present capacity of 2,000.

To provide the necessary teachers for the swing towards technical education, a massive training and retraining scheme is already underway. In August this year, 371 general education teachers began their 36-week part-time re-training to become craft teachers in one of three subjects: Metalwork, Woodwork and Basic Electricity. Another batch of 85 general education teachers have been selected to undergo full-time re-training conducted by the Economic Industrial Development Agency. At this point I must add that teachers have responded admirably to the re-training scheme. The training programme will move into top gear next year with the expansion of the technical wing of the Teachers' Training College. This will be carried out with the assistance of the United Nations Development Programme.

Members are no doubt aware that the Government has emphasised technical and vocational education since 1960. These changes in technical education have been proposed so that education can meet more effectively the manpower needs of our industrialisation programme. It is widely recognised that the present predominantly academic type of education has produced an inadequate number of skilled workers and technicians. The shift to an education with a larger technical content and practical training will cut down the number of unemployable secondary school-leavers and increase the inflow of skilled manpower to our rapidly expanding industries.

Changes in other aspects of educational policy will also be made. The emphasis on the improvement of the quality of education at all levels will continue. Steps have and will be taken to improve school curricula, textbooks, teaching aids and techniques, teacher training and further training, educational testing, health education and extra-curricular activities.

Greater stress will be laid on bilingualism in schools. Increasing use will be made of the second language as the medium of instruction in certain subjects. In 1966, mathematics was taught in English in Government Primary I Chinese-medium classes on an experimental basis. As the experiment proved successful, it was extended to Primary II classes. This year, English is used for teaching mathematics in Government Chinese Primary I, II and III classes, and in Malay and Tamil Primary I classes. The same language is used this year for teaching science in Government Chinese Primary I classes and in all Malay and most of the Tamil Primary I classes. The use of English to teach science and mathematics in non-English medium schools will thus be extended gradually to Primary VI and it is expected that the same gradual process will be introduced in Government aided non-English medium schools beginning in 1970. On the other hand, a start has been made this year to use Chinese as the medium of instruction for civics in English-medium primary classes for pupils whose second language is Chinese. It is intended that the same arrangement will apply to History by 1970. As an added measure to increase language proficiency oral tests in the second language will be introduced next year in the Primary School Leaving Examination.

Bilingualism must be emphasised in schools if we are to build a multi-racial society with a national identity. It should be obvious that a small community of 2 million people cannot survive in 4 water-tight language compartments, with no common language of communication. In the past, our efforts to promote bilingualism were confined to increasing the allocation of time to the second language and improving teaching methods. It has become clear that these measures by themselves are not enough to produce the desired results. This is because children have little opportunity to use the second language outside the periods allotted to it on the timetable.

By using the second language as a medium of instruction, children would be exposed to that language for a much longer period and, moreover, would be compelled to speak it, write it and use it as a tool of communication. For those children whose second language is English, it is logical to use that language for teaching Mathematics, Science and eventually technical subjects, since English has long been accepted as an international language in these fields. For the other children whose second language is Chinese or Malay or Tamil, it is equally logical to use the second language for teaching subjects which have affinities with their own language and culture, subjects such as History and Civics.

Some doubts have been expressed in the press on the wisdom of using the second language as a medium of instruction. The critics fear that the teachers who are called upon to teach Mathematics and Science in English in non-English medium schools may not themselves have a sufficiently good command of English. I should like to give the assurance that everything possible will be done to avoid such a situation. The changes in language medium of instructions in certain subjects will be carried out in gradual stages. As many English medium trained teachers as we can spare will be sent to non-English medium schools to teach Mathematics and Science. In addition, intensive three-year courses in English with a scientific language bias will be organised for those teachers who are currently teaching Mathematics and Science in the Chinese, Malay or Tamil language medium to enable them to attain proficiency in the English language for teaching these subjects. Another nagging fear is that the use of the second language as a medium of instruction might lead to a lowering of standards in the first language and in the subjects taught in the second language. On this point, surveys conducted by my Ministry have shown that there is no basis for such fears. For example, English was first used in 1966 to teach mathematics in certain Government Chinese-medium Primary I classes. A survey conducted at the end of a year revealed that these children had gained fluency in English without any loss in their standard of attainment in Mathematics and Chinese. Moreover, the use of the second language as a medium of instruction is introduced gradually, beginning with Primary I, and every effort is made to ensure that syllabuses and textbooks are carefully graded and chosen.

A suggestion has been made that a Regional Chinese Language Centre should be set up similar to the Regional English Language Centre established in Singapore under the auspices of the Southeast Asian Ministers of Education Council. I welcome this suggestion as a means of further improving the teaching of Chinese both as a first and as a second language. However, I must point out that the Regional English Language Centre was established with substantial foreign aid, amounting to 50% of the total capital cost and recurrent cost for 5 years. If similar financial assistance is available for a Regional Chinese Language Centre from private sources, particularly from the large Chinese dailies and publishers who have a vested interest in

more readers of Chinese publications, I am sure that the Government will be only too willing to consider such a project.

All these changes pose a challenge to both teachers and pupils, but it is a challenge that has to be taken up. Bilingualism in our schools must succeed if we are to build a cohesive yet tolerant society, and technical education must also succeed if we are to keep pace with the new status of Singapore as an independent and forward-looking State moving towards rapid industrialisation and urbanisation. With the co-operation of teachers, pupils and parents, succeed we shall.

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