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## Forum on

## MEETING EDUCATIONAL CHANGE: EXPECTATIONS AND REALITIES

The educational system is a subsystem of the social system. Certain changes within it are an inevitable concomitant of social change, because the education provided has to remain relevant to society's needs. Thus, in keeping with the move from elitism to the egalitarian ideal pronounced at Karachi in the fifties, enough places in school had to be made available for as many as desired then. In some countries, this has become a problem of formidable size, more particularly when accompanied by a population explosion whose impact has yet to be contained. School populations, on this account, embrace increasingly a much more normally heterogeneous spread of abilities and expectations than in the days of my childhood, with all that means in terms of the demands in both human and material resources. To this day, many developing countries are still in the throes of attempting to meet this change.

Educational change, just as any other change, therefore, introduces a disturbing force within the system. With every change, the system has to seek a new position of equilibrium. This takes time, depending in the size of the force. Also the capacity to absorb depends on the resources the system has already acquired. It is almost trite to add that several minor changes which merely carry implications by way of material resource development are easier to accommodate than a single change which requires the rapid provision of human resources. A decision could be made, for example, for all schools to be equipped with TV sets, OHPs, tape recorders, dustless chalk, etc... - so long as the material resources are available- with the ostensible purpose of providing tools for more creative and healthy instruction in the classroom. This could be followed by another to make all school children adopt the same uniform (this did happen in a certain country); or, for good measure, a third change could be introduced with the provision of midday meals for all undernourished children. These changes can be quite deliberately planned, even as a succession of events, and implemented with some anticipation of success, because the specialist human resources required to support these decisions are minimal. But, the single change, introducing bilingual education for every child, is much more difficult to meet, as we have found in our own situation, because of its implications, both quantitative and qualitative, in terms of teacher power.

Within the educational system, there are three main areas of concern: pupils, teachers and the curriculum. Change in any one of these necessarily adumbrates changes in the others. It falls to my lot this evening to dwell on the aspect of teachers. It is so far as the teacher variable is concerned, the regulation of supply and demand is one problem, and the control of quality is another.

First, the problem of supply and demand. Supply generally lags behind demand, because the gestation period during which a teacher acquires the necessary academic preparation and professional training is long.

There is also the fact that the same market which supplies the teachers supplies other skilled manpower as well - doctors, engineers, managers, etc... At the GCE A level, many prefer to enter university rather than take up teacher training; at the GCE O level, the Polytechnic, the Ngee Ann Technical College and other technical institutions have greater drawing power, since they are perceived as providing avenues for higher monetary rewards. Graduates in Science and Arts prefer a try first in the private sector, where promotion is rapid for those with administrative or managerial skills. This is reflected in the number of University of Singapore applicants who withdraw even before they enrol for the training course. The statistics for July 1975 shows 25% of Science and 16.7% of Arts graduate applicants who withdraw before enrolment. The tale of Technical teachers is even sorrier. The Institute of Education offered admission to 60 and, to date, only 21 have enrolled. Such is the situation, despite the payment of allowances to those who pursue the course. To many young school leavers and University graduates, teaching has become synonymous with a calling of multiple and complex roles and heavy demands. It offers a last resort - and that, only when every attempt for some other job has failed.

Over the years, the number of young men coming into the profession has dwindled significantly and has become but a mere trickle. From a high ratio of 3 men to 2 women in the early sixties, men to women in the preservice student population now stands at 1 to 25. The psychological implications of this trend for successive generations of young boys to come need to be anticipated, more especially in modern, technological society whose work schedules and school routines have changed. The authority of the father is seldom in evidence when the child most needs it at home.

The delicate balance between supply and demand is most sensitive to change. As a case in point, the policy of whether certain subjects or all subjects should be taught in one language or the other immediately creates shortage and surpluses. New time quotas set for subjects in the curriculum, or old one reversed, inevitably upset the usefulness of existing teacher quota. The whole system undergoes a minor tremor with a simple stroke of the pen that alters a ration, a number there.

Qualitatively speaking, human resource development for the educational service is difficult to control. This is so because part of the teacher's early life is in the care of institutions other than the one training them. When they enrol for training, they will have already imbibed certain values from home and peers and they will have sampled an academic smorgasbord meant for a general clientele rather than for the preparation of the teacher population. What attitudes they have acquired and the courses they have pursued are not always in consonance with the requirements and expectations of the system. The work ethics of the teacher, for example, are open to the gaze of at least forty-four pairs of eyes each day. If a teacher can get by without marking the pupil's work, the pupil also decides he can escape detection without doing his homework.

In respect of courses, students at the University are generally the kinds who want to pass examinations. They are astute enough to choose those about which they feel a certain confidence. On what rests this confidence I have yet to find out, but interest in a particular subject seldom has a stake. Over the years, from 1965-1975, the statistics of applicants show concentration in certain fields – in Science, Botany and Zoology and, more recently, Chemistry, while in Arts the favourites are History, Sociology and Economics. Obviously, there is as much need for physicists, mathematicians and language specialists. Any suggestion, calling for some counselling for the first year University students, draws the counter suggestion, "But they do not ever think of becoming teachers in the first year!"

University policies regarding the offering of courses necessarily take note of the wider demands of a technological society. Also, once a student is enrolled, he is considered quite capable of looking after his own interests. But these policies do affect the teaching service which has to make the best of what falls into its catchment pool. There are persons who are highly specialised in only a single subject (a few years ago, the University of Singapore had a short spell with the so-called single-subject degree). Such persons feel inadequate when called upon to teach other subject besides the specialist one at Upper secondary or pre-university level, where the need for graduates is greatest. Then there are those specialising in mathematics or chemistry who seem to have been able to achieve scholastically with a modicum of English – not necessarily of an acceptable standard. Of those who applied for admission in July about 10% of applicants from the University of Singapore and 16.7% of those from other English-medium universities had to be diverted to an intensive 6-month, English language pre-training course. These figures do not include science applicants from non-English streams.

Sometimes, educational change at school level outstrips that at university level. The policy was introduced this year for the teaching of Physical Science and Mathematics as a single subject with statistics. To teach the first adequately, a teacher should be knowledgeable in both Physics and Chemistry, but most university graduates have pursued Physics with Pure Mathematics, or Chemistry with Pure Mathematics. Mathematics as a single subject requires knowledge of pure and applied mathematics as well as statistics: modern Mathematics also has to be a component. Thus the person with the Chemistry-Pure Mathematics combination can teach neither physical science nor mathematics satisfactorily at upper secondary or pre-university level. The University has taken note of the change, but it will be another three years before the graduates, made to size, become available. In the meantime, for the pre-service training course, an additional remedial component for the teaching of missing subjects has to be added.

In the field, thanks to teachers who are now quite adapt at performing educational acrobatics, the work goes on.

The question may be asked, "Is it so very important to scrutinise language skills or be fussy about academic detail when manpower needs are crying out to be met?" The answer depends on whether the teacher should be merely regarded as custodian and dispensing machine or one who has an active part in lighting the fires of intellect. Learning comprises the acceptance of information and the meaningful application of knowledge. Too often what happens in the classroom is a mindless purveyance of bits of information, formulae (numerical or verbal), total mambo-jumbo. The learning equation is left devoid of meaning and significance in the arid atmosphere of desultory teaching.

Another confounding factor in so far as quality is concerned lays the disparity between recruitment expectations and job specifications. At one time, honours degree graduates in Economics were admitted as teachers because they were graduates, but no vacancies were available, they were diverted to the teaching of other subjects and made to accept the remuneration of pass degree graduates. The adaptable were always able

to respond to the call of duty. Whether the response was of an acceptable quality was a different matter.

Sometimes expectations change without recall of what happened in the past. In the sixties, many teachers were "crashed" into existence. At that time, the preoccupation was with getting the numbers, manning the classrooms, making good the promise of giving every child the schooling to which he was entitled. The expectation regarding the teacher was low – a School Certificate with a pass in oral English and a minimum three credits, with or without a pass in written language. One could have an array of three credits without mathematics, science and language. Yet all were admitted to a course which prepared them to be general purpose teachers, that is, teachers who taught all subjects, without their having evidence of a relevant academic background.

As the years passed, expectations made further shifts. Teachers who were not adequate in language were expected to produce good language skills in their children: Children with poor models of speech were expected to pick up good speech. In the initial attempt to implement the policy of bilingualism, any teacher who opted to undergo a crash in-service course in second language teaching in English was offered a bonus on completion of the course and then diverted to the teaching of EL2. It was personal choice, not language aptitude which was the criterion of suitability for such training. The bonus carrot was offered, but among those induced were persons who, while lacking proficiency in the language as a first language, became teachers of it as a second. There was some idea at the time that teaching second language required less understanding and mastery of the language than in the case of teaching language as first language.

The examples which I have given at some length show that reality does not always support expectation, that expectation has frequently been found to shift in focus. So long as the quantitative problem exists, the qualitative supply will continue to be affected. This is not to say that we have not attempted new approaches to these problems. The Institute has established a pattern of bi-annual recruitment. There is some evidence to show that those not caught on the crest of academic success at the end of the University year and have had a try at working in the private sector, tend to be more convinced about their calling and more committed to teaching, when they eventually choose a teaching career. Remedial academic courses and in-service courses relevant to new policies have become the order of the day. Teachers, according to Harbison, are engaged in a "seed-corn" occupation. They disseminate, bring to life. It is our duty when referring to teachers to consider them as live humans with potential for good or evil rather than as digits to fulfil numerical quotas within a given system.