

## *Some thoughts on Education*

**Andrew Yip, M.Ed**

In any human society, it is education that provides the impetus for progress. This applies to any field of human endeavour. Though mankind has expanded the frontiers of human knowledge and made leaps and bounds in scientific and technological achievements, it is education per se that provides the foundations for the personal development of an individual and all areas of growth and achievements in any human organization, be it a business entity, a community, a nation or any international grouping in the world arena. It is not too far-fetched to say that the rise and fall of empires are largely determined by the place of learning and the spread of education.

Imagine the existence of a community, which specializes only in a branch of knowledge like computer science, to the exclusion of everything else. Imagine schooling comprises only computer subjects such as typing with the use of the keyboard, use and maintenance of hardware, software and other computer peripherals, and knowledge is restricted to a computer vocabulary and programming. In such a scenario, the end product of such an “educative” process is a person whose knowledge is so specialized and narrow, that he is unable to understand anything else other than the tool, that is, the computer he is trained to handle.

Here lies the essential difference – the difference between Education and Training. We are talking about Education, a lifelong process of the full development of an individual human being, making him the only God’s creation endowed not just with an intellect, but also with complete panoply of values and learning relating to his physical, social, emotional, and cultural development. In other words, we are concerned with the realization of the full potential of the whole man. Training only refers to the acquisition of specific skills for a particular job or activity.

Purpose of Education:

“True education,” says Mahatma Gandhi, “is that which draws out and stimulates the spiritual, intellectual and physical faculties of the children.” Gandhi also stated “We must be doing what we want the world to be.” From the history of education, we can derive much from the thinking of great philosophers and educators, but most of them laid emphasis on their particular environment and cultures or even civilizations with political objectives of their own, providing a range of systems from platonic education, the education of Isocrates, Humanism, Confucianism, to the Nazi social-reconstructionist education system. Modern education must have as its aim the development of the full potentialities of every individual, in accordance with the general good of the community and the world at large.

The objective of developing an individual whose social efficiency extends to the world setting, takes into cognizance that in this shrinking world, an individual cannot be conceived in isolation to the world community. In this sense, he must have a character in consonance with civilized living and devoid of all the shams, jingoism and barbarisms, based on political, cultural and religious lapses, bigotry or just perversion and cruelty in its manifold disguise. It is not too much an idle dream to get UNESCO to prescribe some educational ideals to world communities based on the following:

- *Vision of the world to be*
- *Universal brotherhood*
- *International understanding*
- *A sense of common destiny as world citizens*
- *Universal values of tolerance, compassion, justice, equality, mutual respect.*

## The need for change

In most parts of the world, the system of education puts a great deal of emphasis on preparation for work and specialization to meet the needs of professional and managerial expertise. As a result, the paper chase is on – and at a high intensity. Ideally, we should have an educational system, which brings out the best in an individual. It will refine people and make them thinkers and be able to appreciate the achievements of mankind. There should also be more room for individual expression which is something well entrenched at all levels in the American system of education.

### New directions in education

With rapid globalization in our economic endeavours and the technological developments in this shrinking world, education must provide for the development of the whole man. It must provide each individual with a balanced education, and nurture good citizens by developing a sense of responsibility to family, society and country.

To put this succinctly, the new directions in education should feature the following areas for emphasis:

- *Education for world peace and understanding incorporating the ideals of universal brotherhood;*
- *Greater emphasis on national education with the aim of enhancing patriotism, a sense of common identity and common purpose, knowledge of national history and impact of world history and events on our destiny and social integration;*
- *Greater emphasis on religious education, ethics, and civics or moral education in school. Education must be seen as the harmonious development of the physical, mental, and the spiritual powers. It prepares the student for the joy of service in this world and for the higher joy of wider service in the world to come. A re-look at some of the world models on moral education may be needed to give greater emphasis in education with the aim of building harmonious multi-racial and multi-religious communities.*

- *Some preparatory programmes must be made available for students to pursue tertiary courses in bioinformatics. As a subject, bioinformatics is a combination of biology and computer science including mathematics.*
- *More fundamentally, the process of streaming will have to be fine-tuned to enhance the process of national integration. The school curriculum will also have to be adapted or changed in keeping with the requirements of the economy as it moves into specialized services and high technology, and as the demand for specialized skills and advanced certification increases in the future. It is this new challenge that education will be called to face in the next decade, and it promises thus to be an exciting educational future.*

In suggesting greater emphasis on education for world understanding, it is hoped that students will learn to recognize humanity wherever they encounter it. They must understand common aims, aspirations and values of peoples in other countries. They must understand that we live in a world in which the destinies of nations are closely intertwined. If we want to build Singapore into a global city, we must develop global knowledge and have global planning, and get our young to realize we have a shared future with the rest of the world.

## A glimpse of education in Singapore

Singapore's education is characterised by change. A glimpse of the changes in education since the post-war years is given here. This will give a bird's eye view of the determined efforts by successive educational authorities to charter a course for education in keeping with the aspirations of the people to achieve peace, progress and prosperity for the community.

During the first decade (1945-1955), the Aftermath of the Colonial era, the emphasis was the provision of free primary education. Like all emerging societies, the eradication of illiteracy was given top priority as part of the social programmes to eliminate poverty and ignorance and to improve social order and respect for the law. Primary education was provided in the mother tongue in Malay, Tamil, English and Chinese, with the teaching of English as a subject from the third year in non-English medium schools. The system allowed for a later phase of what is now called "Integration". In essence, the system was intended to foster the intermingling of races in the classroom, which was regarded as of prime importance.

This period was followed by the implementation of a "Ten Year Plan" which led to the rapid expansion of English education and the spread of the English language. Deliberate attempts were made to draw pupils away from the vernacular schools, which then existed. The intention was to launch a two-pronged attack on vernacular schools: "re-orientation" of Malay schools, and "bi-lingual education" for the Chinese.

However, certain inadequacies of the Ten Year Plan became more apparent after a few years. The social gap between the English-educated and the Chinese-education widened. The situation became worse after it was discovered that there was unrest

and ferment and some communist subversion in the Chinese schools. It culminated in the appointment of a committee in May 1955 to investigate “the situation in Chinese schools.” The Committee recommended inter alia, the parity of treatment for the four streams of education. Indeed for the first time in the history of education in Singapore, parity of treatment was given to the four language streams. Languages and the learning of them during the second decade, 1956 – 1966, posed formidable problems. The Committee, though fully aware of the difficulties involved, settled for bi-lingualism in the primary and tri-lingualism in the secondary stage. The intermingling of races, treated as of paramount importance during the previous decade, was to be fostered through extra-mural activities.

The Third Decade, from 1967 was a decade of economic and professional challenge. At the outset, there was a sense of urgency as Singapore became independent. Following this, Singapore’s economy faced considerable difficulties in view of the British military withdrawal from the region. It was envisaged that one of the priorities of education was the training of productive manpower “to meet the economic challenge” of “the crucial years ahead”. The first task was to re-organise educational structure paving the way for the setting up of industrial training centres and vocational institutes and the establishment of a Technical Education Department. All boys and 50% of the girls in Secondary One and Two were required to take technical subjects in school. The rapid transformations in technical education were somewhat bewildering. After the Singapore Technical Institute opened in 1969 on borrowed premises, the introduction of the Module System in 1970 and the changing of the Industrial Training Centres into Vocational Training Institutes in 1971, the Technical Education Department took its exit after just four years of existence, leaving the teaching of technical subjects with the Ministry of Education, and industrial training with the newly created Industrial Training Board. The success and failure of the changes in technical education still remain unevaluated.

In the late 1960s, attempts were made to teach science and mathematics in English in non-English medium schools, and civics and history in the second language in English-medium schools. This was to ensure wider opportunities for higher education and employment in a multi-racial society. This move also reinforced the position of English as a dominant common language, especially in the field of science and technology.

Some educationists, however, felt that the concept of the dual-medium schools appeared to have flaws. According to them, such a concept could lead to balanced bilingualism on one extreme, and a failure to learn either language on the other, given the fact that individuals vary greatly in the experiential background, their personality make-up, their capacity to learn and opportunity to use a language or languages.

Further structural transformations of education became inevitable during the last thirty years. The main thrust of the changes involved fine tuning of language teaching and social integration in schools.

In the late Seventies, non-English medium schools were re-structured to become Integrated Schools, paving the way, for English to be used as the major medium of instruction in all schools in 1987. In retrospect, it seems clear that there was little chance for the four stream model of education to survive. The Malay and Tamil streams were always small and not highly regarded as avenues to social mobility. As Singapore developed through rapid and large-scale economic and technological transformations, as more and more foreign multi-national corporations set up operations and as the Singapore economy geared closely into the world economy, it became clear to everybody that a strong command in the English Language was essential for communication purposes and for the acquisition of high technology skills.

Since then, all schools in Singapore are bi-lingual, with English to be used as a common language uniting all groups. Proficiency in English is considered important as it enables Singaporeans to reach out beyond the confines of the country's geographical boundaries in all fields of endeavour. Singaporeans are aware that English is an important tool for obtaining modern, scientific and technological knowledge which will be of great help to the country in its development. The promotion of the use of mother tongues is also given priority in all schools to ensure that Singaporeans know their roots and heritage and are able to identify with traditional cultures. There was a growing realization that a knowledge and understanding of culture and heritage will prevent de-culturization, which may occur as a consequence of rapid modernisation.

Early streaming of primary school children is practised, following one of the major recommendations for reform in the Goh Report (1978). The Goh Report led to the creation of sub-streams at both the primary and secondary levels. Pupils are allocated to various streams on the basis of school-based assessments, which rely heavily on language ability. The streaming is done at the end of primary Four. A school child thus goes through the Foundation Stage (Primary 1 – 4) pursuing a common curriculum for a firm foundation in English, mother tongue and mathematics. At the Orientation Stage (Primary 5 – 6), all pupils advance to one of three language streams, namely EM1, EM2 and EM3. Pupils in EM1 and EM2 streams take English, mother tongue, mathematics and science. EM1 pupils may do higher Chinese/Malay/Tamil as mother tongue. EM3 pupils take Foundation English, basic mother tongue and Foundation Mathematics. At the end of primary six, pupils sit for the Primary School Leaving Examination (PSLE), which assesses their abilities for placements in a secondary school course that suits their learning pace and aptitude. From the end of 2004, EM1 and EM2 streams will be merged, based on the Ministry of Education's decision to remove the distinction between EM1 and EM2 in primary schools. One of the reasons for this change is the fact that EM1 students only offer one subject that is different. Also, there is considerable overlap in abilities of students taking EM1 and EM2. Schools will be given the flexibility to use their own assessments of students' performance to identify their capabilities.

It is observed that the system of streaming in primary schools has certain advantages. It allows students of different capabilities to study together. It allows weaker students to go much further, and there is less stress for them to follow a particular course of study. Stronger students can achieve strong outcomes, without

being dragged down by weaker students in their classes. Gifted children can also be given special Gifted Education programme, which provides a different curriculum and teaching methods for exceptionally bright students. The disadvantage of such a system of early streaming is the unpleasant psychological effects of being labelled as slow learners felt by some weaker students. There is also the danger of streaming at too early a stage for late intellectual developers, or mistakes made in streaming based purely on examination results and formal assessment procedures, leading to some students missing out on educational opportunities for fuller development of their potentialities. To overcome this, primary schools cannot rely on assessments of students' performance alone; they must also have a good system of educational guidance conducted by trained guidance counsellors or school psychologists to help them

In place of streaming which was first introduced in 1978 after the Goh Report, some countries adopted a system of options or electives for language studies. Such a selection system is buttressed by an intricate system of educational guidance and testing programmes, with the guidance counsellor playing a crucial role. Other than making selections on the basis of language aptitude and acquired language proficiency, other criteria such as the individual's aspirations and vocational interests, also come into play.

· At the Secondary stage, pupils attend Special and Express courses and prepare for the GCE 'O' level Examination in four years. Pupils who attend the Normal course take the GCE 'N' level Examination in the fourth year, and those who do well, may qualify to do the GCE 'O' level in the fifth year.

The A-level education system was later revamped to give greater focus to thinking and communication skills. This was to be the first major change to the A-level curriculum after 30 years, as announced on 25<sup>th</sup> October, 2002. Students would be required to offer subjects in both the arts / humanities and mathematics and science, besides General Paper, project work and mother tongue. Breadth will also be achieved through the introduction of new inter-disciplinary subjects such as biochemistry, biophysics and history of science. A new elective known as Knowledge and Inquiry can be taken in lieu of the General Paper. Under the revised system, which will become effective from 2006, students will study a minimum of seven subjects, two more than the present, including a subject outside their area of specialisation.

At the close of the twentieth century, Singapore's important role in world trade became more evident in view of its strong economic and social links with China, which steadily grows as an economic power-house in the world since the country adopted an open door policy in almost all fields of endeavour.

Following this, it became apparent that certain inadequacies existed in the way Chinese was taught in both the primary and secondary schools. Fortunately for Singapore, the ground-work to produce a generation of young people proficient in speaking Mandarin had been laid through various campaigns to promote the use of Mandarin. This provided for immersion in the Chinese language on a nation-wide basis. However, much more needs to be done for immersion in the language in the

school situation, and for curriculum and teaching methodology to be refined to produce effective bilingualism in schools. It is also hoped that students who have an aptitude to master the Chinese language, can be given special enrichment programmes to prepare them to for a high level of reading and writing proficiency in the Chinese language and know Chinese culture in depth. Certain changes have been initiated in schools in 2004. It is hoped that this will pave the way for more effective teaching of Chinese at all levels of the school system.

Tertiary education was re-structured during the period 1978 to 1980. A major change was the merger of the Nanyang University with the University of Singapore, leading to the establishment of the National University of Singapore (NUS) in August 1980, and the setting up of the Nanyang Technological Institute (NTI) in 1981. Some people believed that the Nanyang University (NU) which used to be the only Chinese University in Southeast Asia was producing an unending stream of frustrated Chinese-educated graduates who could not obtain suitable jobs in modern Singapore which has become an international commercial and financial centre constantly adapting itself to the demands of economic integration on a world scale and globalisation of more and more of its business and industrial activities. However, others felt that with recent emphasis on Singapore's close links, especially in business and industry with China, there was a need to revive the spirit of the former Nanyang University to foster an elite group of citizens with full mastery over Chinese Language and Literature. According to them, it is still not too late to build the infrastructures within the new Nanyang Technological University (NTU) as well as the Singapore Management University (SMU) so as to provide for enrichment Chinese courses thus providing for the development of an elite core of intellectuals who have a solid and strong foundation in Chinese, fitting them for their entrepreneurial and other roles with China and the world community which require their special expertise and outlook.

On 1<sup>st</sup> July 1991, the Nanyang Technological University (NTU) was established . The new University was set up for the training of leaders, professionals and entrepreneurs for Singapore and the advancement of R&D activities in both academic and professional disciplines. A third University, the Singapore Management University, which originated from the former Singapore Institute of Management, was recently established. The former Teachers' Training College was also converted as the National Institute of Education (NIE) as an institute of the Nanyang Technological University for the training of teachers.

Apart from the universities, Singapore can boast of its various Polytechnics for quality training of technologists. These include the Singapore Polytechnic, the Ngee Ann Polytechnic, the Temasek Polytechnic and the Nanyang Polytechnic.

The Singapore system of education is based to a large extent on the British system of education. The British system puts a great deal of emphasis on preparation for work and specialisation to meet the needs of professional and managerial expertise. As a result, the paper chase is on – and at a high intensity. Ideally, we should have an educational system, which brings out the best in an individual. It will refine people and make them thinkers and be able to appreciate the achievements of

mankind. There should also be more room for individual expression which is something well entrenched at all levels in the American system of education.

The new challenge in the 21<sup>st</sup> Century necessitates a quantum leap in educational endeavours. Looking ahead, Singaporeans can rest assured that the future of education is bright with so much effort being put into the process of refining the system, improving the curriculum and teaching methods and upgrading the skills of teachers.

**By Andrew W.K. Yip, M.Ed**