Out of the rote mode

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The world is experiencing a revolution in the means of transfer of information and in human communication. Indeed, the world is itself being transformed, albeit in an unstructured and even disturbing way, by the rapid spread of electronic communications. Development of computer and network technology has reached a stage at which technologically-induced improvements in education are evident and measurable in those societies that have been able to introduce, employ and refine advanced systems and methods in the space of a mere decade. Pakistan has lagged behind, but still has the opportunity to take advantage of information and communication technology (ICT) that will benefit the country's youth through revitalisation of the education system.

Mr Vajpayee's words to President Musharraf in his letter of May 25 inviting him to visit India are apposite: "Our common enemy is poverty," he wrote, which was reiteration of his words at the SAARC meeting before the nuclear bombs were exploded and the Kargil war took place, when he said, "Let us grow rich together." He is so right: let India and Pakistan cooperate, for they have everything to gain by that: and for cooperation to prosper, there is a requirement for both countries to concentrate on education. So let us look at the future for Pakistan, which lies in devoting a higher percentage of GNP to having its children properly educated. And by that I do not mean sitting in rows, chanting in unison words they are required to memorise without knowing what they mean. Education must encourage 'Understanding'. Pushing information into a human brain, using threats, or emphasising unthinking spiritual benefit, does not facilitate independent thought. This sort of 'teaching' encourages intellectual slavery. It produces robots who are of no use to anyone but the person who programmes the unfortunate subject.

This is why so many so-called teachers in Pakistan object to real teaching which encourages independent thought, objectivity and even - shudder - the examination of dictums that are not intended to be questioned. The young people of Pakistan are its most precious asset. For the nation to nurture and develop them with the objective of maximising their potential it is necessary to make use of the most effective means of education, of which information and communications technology is an essential element. Education should improve individual quality of life while adding to the effectiveness of citizens' input to national development, and ICT learning is a means of achieving these goals.

A digital divide has emerged between rich and poor nations regarding use of computers and ICT in education. Certainly, both India and Pakistan have a highly literate 'techno-class' - India rather more so - but they are hardly representative of the nations' overall standards of education. In the wider sphere there is the danger that, if uncorrected, this divide will widen and the world will be further polarised, with poor nations becoming even poorer as their education systems decline in effectiveness and relevance. The information technology revolution is improving education in many countries, but has also placed new barriers to achievement of progress in nations that have been unable or unwilling to adapt to change.

International research shows that "schools with good ICT resources outperform those with unsatisfactory resources" (the UK's Minister for Education, January 10, 2001), and it is important that Pakistan mobilises its technological and intellectual assets to integrate and employ ICT within the education system and thus improve the future of its children and development of the nation as a whole. There should be no bar to advancement in the world workplace that is caused by lack of exposure to information and communications technology. In relation to expansion and availability of overall education, *The Economist* of June 23 carried a remarkable box showing that "Education pays off handsomely in higher earnings across the rich world" and there is no reason why education should not pay off handsomely in the less-rich world, if only governments would devote more effort to it.

Familiarity with computer systems and expertise in use of programmes and techniques 'computer literacy', in other words, is vital for young people if they are to succeed in the 21st Century. There are few spheres in employment beyond manual labour in which computer skills are not required, and they will become fewer in the near future. There are those who claim that this is regrettable, as it will encourage an even greater divide between rich and poor people within countries, but the argument against this is that improved education benefits all citizens, simply because the general level of production, and hence prosperity, can be raised throughout a nation, and an economic grouping of nations. In this politically-correct age of inanities it is unpopular to make it clear that there are unpleasant aspects of life to be faced, and one of them is that "the poor always have ye with you." This is an unavoidable fact, but, regrettable as it is, it is no reason for failing to try to improve the lot of as many of the poor as can be reached. There will always be an underclass, but it is the duty of the educated to do their best to reduce its number.

The ICT learning process should encourage computer literacy at an early stage of intellectual development and ensure that exposure to the worldwide web is ongoing while enabling computer skills to be imparted in a natural, unthreatening and comfortable fashion. The emphasis should be on ease of assimilation, in order that computer use becomes second nature, thus enabling flexibility in future employment. Youth is ambitious and questing by nature, and the challenge of computer learning has been eagerly embraced throughout the world. It is in Pakistan's best interests to adopt a system of ICT education that is appropriate and affordable for its own circumstances.

The Aim of ICT in education in Pakistan should be to prepare young people for the future by improving educational development using the most up-to-date computer techniques and systems that are available and affordable. A conception central to development of ICT education is that of a National Grid for Learning, through which maximisation of resources can be effected.

The existing national curriculum is subject to ad hoc amendment and deviation (and some textbooks are truly appalling) and it is essential there be nation-wide consistency. There will have to be much more emphasis on 'Basic' education to ensure that an ICT learning scheme can be introduced and implemented without waste. It is emphasised that this is not a means of establishing and maximising central control of learning, but rather a comprehensive and systematic method of ensuring economy of effort and best use of scarce resources in dissemination of what is to be taught. The Ministry of Education is the essential focal point and co-ordinator for this national initiative, with the Ministry of Science and Technology providing technical expertise in association with commercial providers.

A computer-based information and communications technology programme for education in Pakistan should be phased in accordance with national priorities and perceptions. A main priority is the instruction of teachers, some of whom, of course, are already computer-aware and even expert. Long-term development of ICT education will require extensive support and resources, but this should not be difficult to obtain, providing a pilot scheme could be shown to have worked. Individual donors, the Asian Development Bank, World Bank, and the International Monetary Fund can be approached at an early stage to obtain 'in principle' support, refining to commitment once demonstrable achievement has been achieved. The challenge of introducing country-wide ICT learning is considerable, but the benefits will be immense in individual and national terms. Education is vital for national development, and Information and Communications Technology is a major element in the way ahead to revitalising the education system.

For Pakistan to succeed in the international market place it is imperative its young people be well-educated and computer-literate. ICT is a major part of the solution. The government has many priorities, but few can be as important as improving education.

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