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Education, Development and Research

by Ruth H.K. Wong

That education and development are somehow inextricably linked in a positive correlation has been an article of faith too frequently accepted without a closer look at the basis for belief. Further, in this connection, education is generally viewed as synonymous with schooling, that is, it is taken to mean that particular set of influences, organised either through the efforts of government or a determined group of persons for a stipulated part of the individual's life and, ostensibly, for his ultimate benefit as well as that of society.

About these concepts, two fallacies persist and have common currency in many countries to-day. The first is that the quality of education is measurable by the quantum received in terms of packaged knowledge and number of years spent in acquiring it; the second is that the dispensing of education, as understood in these terms, to as many as possible will cause certain influences to "take" and produce desirable outcomes which will correct many of the social and economic ills of contemporary man.

It needs little elaboration to show that the first is very much taken for granted. When a child enters school at the age of six he is considered raw material to be shaped. He is made to do sums and read texts which cram him with bits of information (whether relevant or irrelevant seems beside the point). As he laps up his various series of graded texts so he becomes increasingly educated. Naturally more bits of knowledge require more time to consume.

This volumetric approach to education suggests that an individual with a university honours degree is better than one with a pass degree, the distinction between them being the eligibility of the former for more specialised book-learning which the latter is deemed unworthy to receive by virtue of his inability to "produce" at examinations. For the same reason, a university degree is rated better than a school certificate and a secondary school education better than a primary school education. Out

of this basic fallacy, therefore, arises the problem of educated unemployables; and these are not limited to any one level of education.

What is wrong here is that the quantum of education given may be entirely irrelevant to the needs of development. Besides, the number of years spent in consuming knowledge does not always imply that the right knowledge has been consumed. Those who leave at primary school level have been known to lapse into illiteracy and ignorance without supportive follow-up services; those who leave later may never have acquired the mental and other skills supposedly imparted, because an unimpeded escalation through the school years based on a continuous, automatic and mass promotion effort has long left them behind in the understanding of what they are supposed to have learnt.

There are suggestions that the curriculum should be made relevant to needs – that subjects such as health education, technical education, consumer education, population studies and the study of environment should have their place on the curriculum, in as much as they are more meaningful for our society to-day. But accretions tend to be advocated without an examination of what may be deleted from an already overcrowded time-table. The removal of hallowed traditional subjects raises a howl of public protest. Parents, while not admitting it, prefer the tried paths toward the examination and are generally suspicious of whatever is new. Their main preoccupation is not with the relevance of education but with the paper qualification which will admit their children to the next stage of the educational progression. Teachers are immediately insecure with new subjects, as traditional training has not made them perpetual, independent learners. New subjects imply the need for mass re-training of teachers. Then, there are the specialists who feel indirectly threatened by the removal of the spotlight from their traditional concerns.

With nothing to give and everything to take, for a schedule limited by time, the logical consequence is that children in schools learn more and more about less and less. They cannot see the trees for the wood. Schooling becomes drudgery with much to cram and, whatever others may say of relevance, the victims of the schoolhouse see none.

The present malaise affecting schools, of which disenchanted and dissociated learners are common products, arises, therefore, out of society's mistaken concern for quantity and its strong tendency to conservatism. While the changing environment is pointing more and more to the need for a value-oriented curriculum, school-subject curricula are increasingly content-heavy. But, if any prediction may be made about

the type of individual required for the society of the future (almost the immediate future as well), it is certainly not the bookworm. He will have to be an individual possessed of the art of self-education who does not consider his efforts at learning to have ceased at the point of leaving a formal institution of education; he will keep himself well-informed on the changing issues of life; he will have to be a good decision-maker, aware of the alternatives which multiply in a technological-consumer context, and be perceptive enough not to be dominated by the gimmickry and the mechanics of quick "sell".

As a case in point, let me cite what the Prime Minister said to Singapore Polytechnic students⁽¹⁾ :

"At the end of it all, we have to ask ourselves: what is the optimum that you put into economic growth as against the social cost of economic growth? ..."

Elaborating upon the alternatives which are open for development, and the need for a cut-off point for the less desirable ones, he continued:

"Well, I think we can only make part of these momentous decisions immediately. And perhaps by 1980 a younger generation with more data to decide what is in the best interest of the population, of the people, of the country, of the society, will decide whether they have reached cut-off point.

Meanwhile, of course, there are certain things which we do not want to do. You know that the great thing now is pollution or what they call in Japan 'public nuisance'. So there are countries which would like to export all this industries which cause 'public nuisance' ...

But I think some of these problems will be very difficult to resolve. The temptation, the thrill, the enthusiasm that you generate within a machine – whether it is the Economic Development Board and its promotion officers, whether it is the Finance Ministry to say: 'Well why shouldn't we have a real big iron and steel mill with five million tons capacity. Never mind the pollution. Sited at the eastern end of the island where the prevailing winds will blow it away and miss us. Or put it in Pulau Tekong. Why shouldn't we have an aluminium smelting industry? It will pollute, but it will miss us."

(1) Lee Kuan Yew, "Education and development in new countries", an address delivered to Singapore Polytechnic students, January, 1972.

Can Singapore citizens meet these problems in 1980?

In his much-vaunted technological progress, man has created a vicious circle wherein obsolescence has immediately to be followed by new consumer wants which in turn have to be dampened out to give place to yet another phase of obsolescence and more wants. Increasing exposure to pollution of the environment, subjection to unscrupulous manipulations of consumer tastes, ignorance of the consequences of indiscriminate over-production, multiplication of the hazards to health – all these are derivatives of a vested interest in economic gain and output to the exclusion of other considerations. Man was told to be “fruitful and multiply and replenish the earth”, but man has been fruitful and multiplying, rapaciously despoiling earth, air and human spirit, not replenishing any part at all.

Taking note of this, the central study in schools should be principles of human action based on an understanding that in a shrunken world there has to be a “mutual coercion mutually agreed upon”⁽²⁾. Mutual agreement implies mutually acceptable criteria which students may well do to understand as soon as they are capable of doing so. The study of all other subjects should be related to this central theme. In other words, the other disciplines should be presented from an interdisciplinary viewpoint rather than as isolates providing a great deal of detailed and unrelated data. Each subject studied should yield important basic principles for the building up of positive mental and emotional attitudes while affording those skills in thinking and doing which will enable the individual to develop such attitudes. This does not exclude the sciences nor even the technical education subjects which purport to teach specific manual skills.

In the light of this suggestion, the individual whom we prepare for the future will not be judged by how much of history or geography he has factually accrued, but how much of a glimpse he has caught of the good or ill consequences brought on through the struggles of man with environment, of man with man so that he may learn to avoid those paths which lead to costly destruction and insensitive awareness of man's common destiny.

(2) An apt phrase used by G. Hardin in an article, “The Tragedy of the Commons” published in Environment [Ed. J.W.G. Ivany], Addison-Wesley Pub. Co. Inc. Philippines, 1972.

Likewise, he will not be considered expert for having committed to memory the formulae of science and mathematics (the machine can do that for him), but he will need to know how to use science without consequential tears. Indeed, for him, choices are increasingly difficult to make. For example, should he join in the continued war on pests by seeking to concoct yet stronger pesticides in support of farmers who are struggling to provide food for hungry millions, or should he desist, because he is indirectly helping to bring death to others, both man and beast. He may need to look for alternatives in problem-solving, but the decreasing number of mutually exclusive options open to him makes his task more and more a heavy responsibility.

What of the second fallacy referred to above? Since the meeting of Ministers of Education in Karachi almost twenty years ago⁽³⁾, most of the member countries of UNESCO in Asia have tried their level best to give six years of education to every child in their respective countries. Though a few like Singapore and Malaysia have outstripped the target set at that meeting and re-affirmed later in Tokyo, a number of others like Laos, Cambodia or South Vietnam would find themselves hard put to it to reach the goal by 1980. All, whether ahead or behind, are still frantically intent on expanding their school systems, spending on an average about a fifth or more of the total national budget of education. And still, there are many more yet to be educated and the development take-off not even in sight.

Meanwhile, obsolescence, which characteristically accompanies the constant evolution of technological refinements, also spread its influence over education. Specific skills for which students are trained at any given time are liable to become irrelevant and inadequate within a matter of years. Teachers, who by preparation teach certain subjects, find themselves underprepared for the phenomenal gain in new knowledge made in every subject area; they have to be re-trained for higher levels of attainment and for new needs. Planning in education which seeks,

(3) UNESCO: Report of the Meeting of Ministers of Education of Asian Member States participating in the Karachi Plan, April 1962 p. 25.

at its best, the attainment of certain specific objectives in a long-term perspective, finds itself corrected at almost every turn by rapid, situational changes which too often elude control. There is more that becomes unpredictable than otherwise in the race in which underdeveloped countries attempt to catch up with technologically advanced ones.

It thus happens that education, born of an egalitarian sentiment, in fact still favours the elite few. For the law of the survival of the fittest invariably operates on behalf of those who make it up the educational ladder. In the cause of technological progress, these finish their upward progression sometimes at such sophisticated levels that they become lost eventually to their home countries for lack of opportunity to practise their skills. The mediocre others receive such a thin slice of the educational pie that they wander to and fro on the misty flats, more often than not a drag on the economy, a large undertrained group, a pocket of discontent with heightened expectations and nothing to substantiate their aspirations. Both over-training and under-training are not desirable. Where a country's development lags behind that of the individual, under-utilisation of skills and loss in terms of investment in human potential result. On the other hand, development can hardly begin if individuals with the right sort of skills are not around.

The problems of development stem essentially from a triad of lags – a perception lag, a value lag and an action lag.

The trappings of technology – the machines, the consumer goods, modern transport and even the ubiquitous mass media – do not necessarily imply an understanding of what technology means or does. Take, for example, the person who, having caught a cold, took a treble dose of a certain patent medicine because he thought the strengthening of the dosage would lead to three times as rapid a recovery as he would enjoy through a single dose at a time. Here is a simple case of perception lag. A person such as this one would be difficult to convince about technical prescriptions, do's and don'ts, except perhaps by ceaseless teaching, line upon line and percept upon percept. But so much care over one individual is time-consuming enough: how much more the education of many individuals. Thus in India, population control is extremely difficult to achieve, because many recognise neither the rationale for family-planning nor the techniques for bringing it about.

A setting in of moral turpitude and a prevalent laissez-faire about consequences of actions have resulted in a general lack of moral concern

about the economic motive and the vested interests. Herein lies the value lag.

"Economic 'needs' are among the most widely accepted rationalisations of human behaviour. Not only does alleged economic necessity cover otherwise indefensive projections of self-expression onto the environment; it also 'justifies' exploitive use of the environment in the name of progress, growth or public demand."⁽⁴⁾

There is also the lag of methods and ideas behind needs. This constitutes the action lag. Not that action is not swift enough. Packaged solutions are too readily available. Imported from affluent societies and designed for their cultures, they are frequently beyond the reach of majority needs. Take, for example, the expansion of schooling achieved through the rapid multiplication of buildings and equipment. In every underdeveloped country there are new schools, new universities, new machines. What is offered with the new buildings reinforces the conditions of underdevelopment by introducing a state of mind inimical to development. Underdevelopment, according to Illich⁽⁵⁾ signifies the "surrender of social consciousness to prepackaged solutions." One may impute much of the irrelevance too in education to this cause.

Spread schooling how widely you will, the results of schooling do not necessarily influence the course of development in desirable directions. There are too many variables which do not fit into the packaged solution. Education may be a necessary condition for development and for positive change: it is not, per se, a sufficient condition.

While this conference is specifically concerned over the pollution of the environment, a wider concern is how to bring about an avoidance of continuing pollution. This is, in its turn, but a subsidiary concern to the one of the proper relationship between education and development. To understand these concerns more fully there is need for evaluation and research.

The following are needs which cannot be settled by quick answers. A thorough investigation of their problems would be useful.

(4) Caldwell, L.K., Environment – a challenge to modern society, Anchor Books, Doubleday & Co. Inc. N.Y., 1971, p.112.

(5) Illich, I., "Outwitting the Developed Countries", Church and Society, Nov-Dec., 1970, p.64.

1. There is need to re-examine the basic assumptions about development. Are the economic indices used for the measurement of development valid – the number of households per radio or T.V. set, the number of persons per car, amount of consumer goods, etc.? Has industrial society converted us to the belief that man's needs were shaped by the Creator as demands for the products we have invented? Are we using development as a guise for ensuring a continuing loyalty to the producers who have both created and pandered to our wants? Does social and national development consist merely in economic growth and material affluence or is there now an urgent need to seek diligently the moral-spiritual component that we have not only over-looked, but in every under-developed country sought to remove as a thing of superstition, a hindrance to modernisation. Perhaps we have not looked enough at the possibilities for harnessing this force on which man has relied for so many centuries before our own.
2. Next, there is need to seek new alternatives to solutions. If mass education is required, how should it be organised to produce the best results within the means available. Of what should it comprise? Concomitant with this is the need to evaluate alternatives. Too frequently in a given situation there is nothing entirely right or wrong. The control of environment, for example, is important, but the methods used must be assessed.
3. Thirdly, how do we deal with man himself? How bring him to his senses lest he continues to destroy his own heritage? Whilst psychology and sociology have made a study of human behaviours and needs, they have as yet few answers as to how basic attitudes may be changed, how decision-makers may be trained for intelligent action.
4. Fourthly, there is need to select from the universe of values those most related to our well-being in the future; to find out what of individual liberty would need to be sacrificed for the greater freedom of all, to decide on what values common consensus may rest for the good of the community. This is the most difficult exercise of them all in the slogan-prone world of to-day. We are constantly showered with brave new words which carry but a hollow ring.

5. Last, but not least, is the need for practical and concrete measures and alternatives to support solutions which are a result of studies made. A common failing is to leave mooted solutions at the word-level without practical demonstration of feasibility. Here, the help must come from all who are involved in the day-to-day routine of grappling with significant problems. For example, there are those who are required to attend to waste control. Others there are who have to invent new devices for waste disposal, and so on. On the part of the schools what form of responsibility should the teachers take. Teaching a course on environment and pollution control alone is not sufficient. How should parents and the community be actively involved? What forms of training must be given to change agents whose main problem will be the need to counter basic individualism and selfish unawareness of others?

It is obvious that in the approach to these needs, education cannot go it alone. The research and the practical action have to come from interdisciplinary effort – from theorists and practitioners, from the particularly concerned and the man in the street, from scientists, technologists and humanists – all will have to work together.

But, again, to leave my paper at this point is to leave it to a pious hope. For impact, something immediate has to be started – something specific. This may be in the form of an organisation – perhaps national and regional to begin with – which will have as its main concern the search for means which lead to the proper use of environment within varying contexts and situations in order to foster to be fullest man's potential and a life-style which has quality as a hallmark. With such an organisation there will be firm ground for continued dialogue and concerted action within the region. Problems can be shared, advice put to the test, solutions adapted, controls jointly exercised and benefit disseminated over a wider area.

Already the ravages of ignorance are visible around us. Let us not be counted among those who wake up to find that action has come too late to serve any useful purpose.