

LEAD PAPERS

EDUCATION IN A CHANGING SOCIETY

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Although Africa has for long been referred to as a "dark continent", it defies any simple definition or description. Dark, jungle, bushy, call it what you will, the continent has sufficient variety. From where we are now only a five minutes drive will put you right in our bush - where animals and men apparently live happily together. This is our National Park. If you miss our national parks during your brief stay here, I am sure you will live to regret it. You will find our "bush" very welcoming.

Let us now turn to our subject matter - "Education in a Changing Society". In tackling this subject, I will, as much as possible, concentrate on problems that affect mostly the developing nations of the Commonwealth.

As you all know, change is a word that offers plenty. It implies and assumes a clear understanding of the nature and structure of modern society and the content of change. It also implies a proper understanding of the part that education can play in this change.

The world around us changes so rapidly that most of us are overtaken by events. It is often said that as you grow older and "square" you find change too much to comprehend. What we, who are seriously heading towards this stage, need do is to appreciate the changes, guide them so that the changes are for the better, and try as much as possible to be "with it".

Whether one lives in a highly developed society with powerful scientific and technological advances, or in poorer nations like ours in Africa, trying to find a place in modern jet-age society, change is always taking place. Look at the Commonwealth as an institution. The changes that have taken place during the last decade are tremendous. It has expanded in membership and activities beyond imagination.

Problems that face developing nations of the Commonwealth are many and varied. Most of them have their roots in our historical background. First, we had a traditional society unspoiled with modern scientific and technological discoveries.

Then we had the intervention of colonial powers with their western culture, which branded our traditional life "primitive". With western oriented religious influence, our traditional life was spoiled and whatever educational influence our traditional society offered largely disappeared through a powerful western culture.

We have so far passed through two world wars in the twentieth century, and one hopes the present international climate will continue improving so that we avoid a third world war. We have also witnessed numerous regional and national confrontations, and bitter tribal conflicts, which have considerably changed the shape of the Commonwealth.

The appearance of new nations and the struggle for new kinds of influence and relationships have produced new problems often in more subtle ways. The new nations are realising more and more that political power alone is inadequate in achieving the kind of socio-economic aspirations their own peoples hoped for on the eve of independence.

Many Commonwealth nations faced with this problem find it difficult to tackle. Some employ revolutionary methods and others try the more evolutionary ways allowing change to suit the prevailing climate. Sometimes political power is manipulated to force economic control into the hands of the indigenous people.

All these and other changes have great implications for education. There is no doubt that education is capable of changing man and the society around him. Education is capable of influencing political, economic and social change. What we need to ask ourselves is: What should be the aim of education? What form of education do we need in a rapidly changing world? Are our schools taking enough notice of the factors that influence the changing world?

Not only does man face a future that is open and unknown, but so is the future of education open and uncertain. What we need to aim at in education is to produce a mature individual who will be ready and capable of guiding the change that takes place and influencing its direction. Education must produce an individual able to form his own judgement and able to exercise a critical capacity. He must be a productive individual.

Our children must be instructed and educated more in areas of knowledge which will shape our future. They must be made aware of the thought processes and research methods that produce knowledge in its changing forms.

Schools must, from very early stages, provide scope for development of maturity, creativity and critical faculties. The methods we use must be such that arouse, cultivate and establish in a child these qualities at a very early stage.

Our political background has been a set back to the development of these individual qualities. Colonial powers had well-defined objectives which did not include producing an objective man out of the colonised. The British aimed at advancing their colonies and protectorates to self-governing nations within the Commonwealth at the same time acquiring economic benefits from the process.

The French, on their part, worked with a remarkable philosophy of regarding their colonies as part of France. This French colonial policy of assimilation guided French educational policy which made Africans in French territories cherish French culture to the detriment of their own cultural heritage.

The Belgians pursued a paternalistic and condescending political, economic and social policy which kept Africans in their colonies away from the government machinery, thereby keeping them ignorant of political responsibility that would in time face them.

The European powers with colonies in Africa introduced and maintained an educational system with curricula which had European cultural objectives. We are now just beginning to realise the extent to which these

educational systems gradually became subtle and indirect tools for the implementation of European long-term political and economic objectives.

Hence our current struggle and the often subtle opposition against efforts to free ourselves from the past colonial practices, whether these be educational or otherwise. Those of us engaged in designing educational systems suitable for our countries must clearly understand the underlying causes of our current dilemmas.

If the colonial "school curricula" was formulated, fashioned and relished with western ideals and values with very little, if any, traditional social and physical ecology and cultural values, how free can the Commonwealth be in examining and encouraging educational systems which must rebel against the past order?

We have been left in a situation where great emphasis was put on formal education which was tailored to produce a small elite suitable only for white-collar jobs. We have been left with a huge problem of producing thousands of half-baked, semi-educated young men and women, ignorant of their past heritage and unprepared for life. These products of our present education are largely unfit to face problems of modern society. They are neither western nor traditional. Our education system has made them nothing! Colonialism deadened the colonial people and destroyed their initiative and self respect, producing a passive attitude of mind, a sense of inferiority and a low achievement level.

Our primary schools throw onto the streets thousands of youngsters who cannot be accommodated in secondary schools and who cannot find a job - let alone do it. Products of our secondary schools are rapidly becoming a burden to the nation. There are no jobs for most of them, no training facilities and very few get places in institutions of higher learning. Our university graduates will shortly be faced with this problem - the problem of jobless graduates!

We do really need a change - an educational change that will serve the needs of our societies. Educational reform is a long, difficult and painful process. Whatever type of reform we embark upon, we have to realise that there will be painful and disappointing moments. The burden of deciding which method of change we have to employ - whether revolutionary or evolutionary - lies entirely on our different countries. Our duty now is to map out ways that we think would be suitable.

In this exercise, let us bear in mind that re-adjustment on the part of former colonial powers can be painful. A more complete change apparently affects them as profoundly as it affects us, who want to bring about the change. It is not difficult to understand, since they based a substantial part of their whole existence on the possession of colonies.

What we need are new patterns of relationships, and the Commonwealth is a very good base for formulation of the changes. This is somewhat an irony. Our duty now is to perpetuate a common heritage, rather than start completely new ones, as this might be detrimental to our apparent stability and even our existence! The Commonwealth, I am sure, believes in and respects the principle of Unity in Diversity. We are called upon to produce a system of education that will produce suitable citizens in our respective countries - people who will contribute effectively to the development of our countries.

If we are not prepared to do so, what we say and plan will have only limited results. Our coming together has value only if we look at it as providing a rich variety of experience and resources from which we can each draw as befits our individual states.

Our membership of the Commonwealth has great advantages for us but this should not blind us to possible advantages which may be available to us on our own initiatives or by other associations. If we accept this view and boldly attack our problems as independent, though co-operating, states, there will be no sound basis for looking back and blaming others for what happened before independence. We can only blame ourselves for not transforming our education systems into what we want them to be.

There is no need for me to hammer further the fact of a strong **relationship** between society and education or between education and culture. Education is part and parcel of a society's destiny. As Chike Onwauch says:

"....as one goes from one culture to another, one sees different ideals and desires clearly dominating the scene. These ideals act as goals. They serve as lodestars by which Culture behaviours are channeled through acceptable grooves. In any culture-contact situation, the values of the cultures in contact do invariably change considerably resulting in somewhat new cultures. The new cultures, or ways of life must, however, have a realistic relationship to the ongoing patterns of existence if they are to be meaningful and beneficial. In other words, the new cultural values must be properly woven into the existing fabrics of the culture."

The emergent wage-economies and the consequent uprooting of the African wage-earner from the rural areas leads to collapse of peasant agriculture and growth of commercial agriculture. These changes have led to greater and more regular population movements to longer distances, aided by improvements in means of communications.

Faith in formal education as a means of bringing about socio-economic change has grown to unbelievable height, especially in the developing world. Those of us involved more directly in the education enterprise are beginning to wonder whether this faith has not been exaggerated! Hence the need to re-examine this faith put in "schooling" as a means of educating a people.

This reminds me of a letter in one of Kenya's daily newspapers - The Daily Nation - of May 6th, 1970, in which the writer called for the "abolition of education". He argued that those who were being educated were not getting employment and therefore the whole enterprise was a waste of time and money!

The writer of the letter was definitely referring to formal education in institutions we call "schools". In that short lament, the writer touched the heart of a great perennial problem. He was disillusioned by the present results of our schools. We therefore have to ask ourselves: What is education? Why do we educate? Why do we have schools? etc.

Modern formal education in most, if not all, of our developing states, was founded alongside the Christian church during the colonial era. The early Christian missionaries took their adherents away from traditional societies and created new Christian groupings who lived around a church where they would not be able to mingle with the non-converts. All African customs and traditions were considered unworthy of a Christian and therefore "sinful".

The schools were used as powerful agents of change - breaking down African traditional society.

Our task today is to re-discover ourselves and to develop new cultures in which, apart from "schooling", there may be other means of education, which could accommodate some of the "forgotten" past alongside the modern.

Development involves many other factors, which, although they also depend on education, have to be considered independently. Schools help if they provide the kind of education which immediately helps to improve agriculture, commerce, social services, communications and other important tools of development.

If schools are to be of value to a society, they must produce persons with attitudes, knowledge and skills that are needed for the general development of the society. Education must not be a one-track instrument.

To achieve this objective, there must be co-operation between those involved in education and social workers, agriculturists, administrators, health workers and all those involved in the development projects.

At the OAU-UNESCO sponsored conference on Education and Training in Africa held in August, 1968, in Nairobi, speaker after speaker lamented the fact that education practised in their respective countries was largely irrelevant; that, in spite of great strides which had been made by some states in quantitative terms, quality was becoming more and more questionable. The rapid increase in population neutralises any strides made in numbers. More emphasis was put on "ruralisation" of education to the extent that I began to wonder whether or not we were going to forget the rapidly growing urban sector of our communities.

To illustrate the above point, you will permit me to cite a few examples of the situation in Kenya as far as the numbers are concerned about school enrolment.

At primary school level enrolment has practically doubled from a total of 891,553 in 1963 to 1,525,500 pupils in 1971. Of the 1971 total, 881,007 were boys and 644,491 girls. In 1972 the figures rose to 1,675,919. Of the 1972 total there were 956,620 boys and 719,299 girls. At the end of the previous year (1970) 166,912 candidates had sat the Certificate of Primary Education Examination of whom only 19,700 were admitted into Government Maintained and Assisted Schools. About 26,500 pupils were admitted into Unaided Secondary Schools - mainly Harambee Secondary Schools - a total of about 45,000 leaving well over 121,000 pupils aged around 14 years to join a largely non-existent or inactive labour market.

Secondary School enrolment also shows impressive increases:

YEAR	BOYS	GIRLS	TOTAL
1963	20,553	9,567	30,120
1964	25,211	10,710	35,921
1965	34,720	13,256	47,976
1966	46,802	16,391	63,193
1967	66,392	22,387	88,779
1968	75,202	26,159	101,361
1969	83,086	32,160	115,246
1970	89,327	37,528	126,855
1971	97,979	42,743	140,722
1972	107,743	47,847	157,590

The situation with regard to teachers was as follows:

A. PRIMARY SCHOOLS

<u>Year</u>	<u>With some or all Secondary Educ.</u>	<u>Without Sec. Education</u>	<u>Untrained</u>	<u>Total</u>
1963	2,301	15,089		22,772
1970				41,479
1971	20,932	28,464	11,779	49,396
1972			12,025	53,751

In primary education only a little over 2,300 teachers had some or all secondary education in 1963 out of a total of 22,772. In 1971 the figure had risen to 20,932 out of a total of 49,396 teachers. Of this total 11,779 were untrained. By 1972 there were 53,751 teachers in primary schools of whom 12,025 were untrained.

At secondary level there were 1,530 teachers in 1963. This figure rose to 5,881 of whom 2,200 were unqualified and 3,631 professionally qualified. In 1971 for which figures are more complete there were 6,371 teachers of whom 3,907 were professionally qualified and 2,464 unqualified. Of this total 3,747 were citizens and 2,624 were non-citizens. Again this number included 2,523 graduates of whom 597 were citizen graduates. There were 3,848 non-graduates, the majority of whom were citizen non-graduates.

Only a few years ago there were "not enough candidates" for Secondary School places. Now there are more than can be accommodated in secondary schools and thousands repeat standard seven or even a lower class in order to have a second chance at the C.P.E. with an eye on a secondary place.

At the Secondary School level ("O" level) there are now more leavers than can be admitted into Sixth Form classes, post-"O" level training schemes and available employment opportunities. We have unemployed secondary school leavers, and there are signs that graduates, especially Arts graduates, will soon be affected.

What kind of education should be provided at the Primary School level where formal education is terminal for the majority? Many will argue that no more than training in language and computational skills should be tried; they will also probably argue that the Primary School should foster attitudes and skills which the young children need for effective living and for adjusting themselves to the challenges of a modern changing society. i.e. strength and flexibility and creativeness and inventiveness.

This again raises the question of how to prepare the teacher who will be able to fulfil this task in our changing society. We have already noted earlier the kinds of qualities which must be in the forefront of our education, i.e. maturity, creativity and critical faculties, factors that are essential for the pioneering spirit which is required in new developing nation and which will initiate entrepreneurship and true independence.

Speaking on "Crisis and Change in Teacher Education" Joseph Lauwerys, the Director of the Atlantic Institute of Education, Halifax, Nova Scotia, Canada says:

"Citizens in general express dissatisfaction with the ways schools and colleges are doing their job and teachers are harsh about the performance of colleges of education. There is a feeling that urgent social problems are being neglected, and that much of what is taught is irrelevant, that the aims and objectives pursued are as out of date as the methods of teaching used."¹

Lauwerys suggests that this public reaction springs from disappointment since "the wildest and most exaggerated hopes were pinned to the expansion of education. Universal literacy in our new countries and universal secondary education in older lands would bring plenty to all and peace to the whole world."² I am optimistic enough to state positively that it is this exaggeration of school education which makes us humbler and ready to examine other means and ways of educating youth.

¹ Joseph Lauwerys, "Crisis and Change in Teacher Education," in Teacher Education, 1971, ICET One Dupont Circle, Washington DC 20036/USA p.3.

² *ibid*, p.3.

Indigenous education in Africa as elsewhere, before the formalized, schematized system took over was mainly informal. Children were educated through the "on going" process of life in their traditional customs and values.

Grandmothers and grandfathers were readily available to teach ethical codes of behaviour and social relationships. Through certain religious rituals and practices, communal attainment of spiritual ideals were established.

These spiritual ideals laid the foundation for the respect which the children must have to their parents and elders, respect of the political and social institutions, love, obedience, and the restraints from the perpetration of evil from the society.

Through some form of apprenticeship, and cultural participation, children acquired the techniques of communication and making a living, as well as those of creative expressions within the culture. These informal techniques, apprenticeships and the direct participation in the general process of life constituted the pedagogical tools in the indigenous African societies.³

Traditional African education stressed physical development, character building and moral uprightness as the main aims of education in addition to some intellectual development. Education was collective in nature, and available to all. There was not as much a case of "educated" versus "uneducated" as one of "well educated" versus "badly educated" or brought up.

One of the basic tasks before us today is how to create kinds of acceptable marriages between various aspects of the western regimental schematized system of education and the indigenous cultures and practices.

One approach which deserves our attention is that of the "community school" concept. As an example Kenya's self-help (Harambee) Secondary Schools could perhaps lead the way in this direction for Kenya rather than imitation of the traditional Secondary School in toto. For Harambee Schools are schools established and managed by local communities. The community school concept challenges the notion that an adequate education can be carried out within the four walls of a traditional school building.

If we accept the principle that we learn through experiences and that learning takes place more effectively in as natural and as lifelike an environment as possible, then the total educational environment of the child encompasses far more than the confines of the classrooms.

It covers the entire community that makes up the normal living activities of the learner. Learning in its dynamic nature includes what the learner experiences in the normal processes of living.

It takes place within the learner's community living environment whether it be wholesome or undesirable learning. This points to the need to keep the quality of the community as high and as wholesome as possible. Nelson L. Bossing, writing on the concepts of the Community School, says:

3. P. Chike Onwauchi, op. cit. p. 242.

"The School therefore, becomes inextricably involved in the educational possibilities of the total community environment, and the community in turn becomes involved in the educative process because the community environment becomes the basis of the child's education since it is the media of his living."4.

The second approach in our effort to meet the challenge of examining non-formal educational practices and what they can offer to modern society is the Village Polytechnic movement which is now gaining some momentum in Kenya.5.

Village Polytechnics were initiated in Kenya by the National Christian Council of Kenya, but are now officially backed by the Government, 60 directly and 27 indirectly through the NCCCK. These Village Polytechnics provide arts and craft training and elementary agricultural knowledge. Some of them provide homecraft training for girls. Those who enrol for this kind of training are primary school leavers, who fail to get places in secondary schools or other training institutions.

The training takes about two years, with the aim of providing skills that will enable the products to find something useful to do on their own in the rural areas. One problem which is already being felt is that of employment. Many of these youngsters would rather be employed by someone else than become self-employed.

However, I think it is only a matter of time when many will see the need to acquire knowledge and skills that enable one to make a living. Some of the Polytechnics use methods which encourage self-employment by making the home of every trainee an institution where the trainee can apply the knowledge given in a practical way by say, working on a farm, making tools for the home and such like.

Apprenticeship is a method that man has used throughout history and which was perhaps perfected by the Romans during their heyday which strongly influenced the development of what we call western education. Has apprenticeship anything to offer to teacher education? What problems would the practice raise especially in our developing states?

In some parts of the world today, the apprenticeship concept has brought a new practice into teacher education - that of clinical experience.

Education as practised today is becoming such an expensive commodity that if it is going to be continued, particularly in the younger and poorer nations, it is likely to jeopardize provision of other equally important and

4. Bossing, Nelson L., (Editor) Principles of Secondary Education
2nd Edition, Prentice Hall of India
Private Limited, New Delhi 1966,
p. 479.

5. There are now 87 Village Polytechnics scattered throughout Kenya. Of these 60 are "National" Government supported and 27 are under the National Christian Council of Kenya. There are a dozen or so others in the pipeline of becoming "national". All train youths in carpentry, masonry, tailoring and dressmaking. A number have domestic science or home economics, general agriculture, knitting, baking, welding, tinsmith, book-keeping and typing, leather craft and electric engineering.

deserving social services, such as health.

The belief that schools are the only institutions which can carry out the functions of education must be attacked and corrected. The family influence, the church, the village and the community to which the individual belongs have a very important contribution to make to the education of children and youth. These institutions must be exploited fully in the light of ever-changing circumstances.

The history of the "Child in Society" is interesting though it contains many contradictions and turn-about. We have no time to go deeper into this aspect, but we should realise that in creating the school as a means of safeguarding children from the vagaries of society, the pendulum seems to have swung too far. This has tended to minimize the functioning of other institutions which we know for sure do considerably influence the growth, knowledge, skills and aptitudes of all of us.

Even such great pioneers of modern education as Jean Jacques Rousseau began their educational theories that took the child outside all entangling social influences - not realising perhaps that they were taking the child into society which they had defined for the child themselves!

In establishing schools as special institutions of education, they have at times become like monasteries and lost touch with the communities they are supposed to serve. Hence the spate of educational literature advocating a new look at the educational agency called "school" and the need to redefine its functions in society. There is no doubt that there are other kinds of knowledge which can best be handled in a school.

The most important tool to use in changing the society's outlook on education is the teacher. The teacher must not only be educated in a way that prepares him to handle pupils in a school, but must also know how to handle and influence the community. Teachers must have a very clear understanding of traditional methods of education and must have respect for and be conversant with the cultural heritage of the society in which they live and work.

We at the University of Nairobi are trying in a small way to emphasise this new approach in a variety of ways. We have emphasised the study of the basic principles and practices of indigenous education in Africa as a basis for the evaluation and selection of educational principles that may guide their decision making in teaching.

However, much more than this is required to counter attitudes and values which were inculcated by an education system that alienated our people from our traditional culture - an attitude of contempt for and indifference to it. The Institute of African Studies at the University of Nairobi was established to undertake relevant research and to create and increase an awareness of and interest in traditional cultural heritage. Great efforts in this direction have also been made recently by students and staff through drama both in theatres and T.V. and the result is that T.V. viewing has become a great pleasure.

We are attempting to let our prospective teachers have an idea of the basic principles and procedures of adult education in the hope that as secondary school and college teachers, they will become closely involved in adult education programmes whenever possible.

We cannot expect the home and the village community to participate in the education of children in the modern world if we do not add to their stock of wisdom aspects of the changing society they need. We have to alter the concept that once children have been sent to school the teachers will do everything and that there is nothing in the home or in the community that is of educational value. Basically this means in one way developing pride in our indigenous culture.

We must help the adult to appreciate the fact that schooling does not mean preparing every child in the primary school to enter a secondary school and go to a university. Unless attitudes to education and schooling are changed among the adults, we will have a hard task convincing our pupils that not everyone needs to go to university and that they should take advantage of other available facilities for bettering their knowledge. We must emphasise the importance of village polytechnics and institutes of technology, etc.

Our reward system must also be changed. We do not always reward technical skills as much as we do general educational achievements. Our salary structure must recognize the importance of technical skills if attitudes to technical and manual work are to change.

The enterprise of education is becoming so huge that some kind of specialisation is needed. There is a limit to which an ordinary school teacher can be expected to participate in community or out-of-school activities. There is a clear area that will take the teacher in the community more directly. The extent to which the teacher uses the community as a resource both in human, spiritual and material senses will break the walls that have confined the pupils to the classroom, giving the impression that education is only received in "school buildings".

Nevertheless, there must be other people who would deal with those aspects of schooling which will relieve the teacher of certain of his duties and permit him to participate more in the education of young adults. Needed are such specialists as teachers of exceptional children, teachers of art, home science, traditional culture, music (both modern and traditional), psychologists, counsellors and such like.

The availability of these and other specialists would not necessarily mean the teacher would not be involved in these in some way, but it will considerably lessen his load in these directions and enable him to participate in other school/community activities.

Management can be such that allows such personnel with specialised knowledge to be shared by schools in proximity to each other. Unless this is done, we cannot expect either to add to their present load of teaching or to participate actively in the improvement of learning and updating of content.

In a report made for one of the member-states with us today, this principle has been recognized thus:

" The principles of differentiated staffing and functional specialisation should be applied to school staffing so that teachers undertake different and more specialised roles and so that different positions of responsibility in schools will emerge and will call for a variety of leadership and skills".⁶.

Further, the report says:

"The number and type of ancillary staff in all schools should be increased with special attention being given to such positions as the school bursar and para-professional staff working directly with teachers in the classroom and in the design, selection and preparation of learning materials."⁷.

This kind of approach which recognizes the role of the teacher not only as an organizer of learning experiences of pupils in schools but also an agent of community development calls for improved school administration and management.

Headmasters need to be given opportunities to acquire the necessary administrative and managerial skills that recognize the school or the educational system as an enterprise which calls for considerable knowledge and skills if it is to produce the results expected of it.

Pre-service teacher education, whatever efforts we put into it, does not produce accomplished teachers. Nor will it produce accomplished administrators in various capacities of the education service. We must indeed give some training in educational planning and administration at pre-service level.

The University of Nairobi, recognising the importance of this aspect of training, has created a Department of Educational Administration and Curriculum Development which gives training in planning and educational administration. The Department has planned for and is willing to provide short in-service courses to educational administrators.

There must be an elaborate system of in-service training to help our educational administrators to meet the growing challenge of educational administration. Pre-service introduction to school administration is particularly desirable in developing countries where graduates find themselves heading secondary schools either directly from the university or within a year or two after completing their university education.

6. Neal, W. D. and Radford, W. C. "Teachers for Commonwealth Schools"; in Education News, Vol. 13 No. 11. October, 1972, p. 21 - A report to the Australian Government on the organisation of Commonwealth Teaching Service.

7. Ibid p. 21.

Shortage of funds for in-service courses emphasises the need for basic pre-service training in educational planning, administration and curriculum development.

Another negative factor is the fact that school organisation can be too remote from the schools. Remote control in education is bad. It does not allow for effective supervision of the schools. Responsibility must be delegated to "people on the spot" so that they can take decision on the administration of education in their respective areas. What is more is that the whole concept of school inspection and supervision needs to be re-examined so that the supervisor can become a great source of advice and support to the teacher. He can only do so with training and if the area he covers is manageable.

These, ladies and gentlemen, are salient points, of the steps that we should take in order to effect change in our educational system, change that remoulds our society, and change that will give our countries a new outlook, new hope and new perspective.

This change calls for the involvement of everybody concerned - the teacher, the pupil, the parents, the whole community and the society at large. As I said at the onset, we live in a rapidly changing world. Let us all be attuned to this change, and help in shaping and guiding the change, so that we may be useful members of the society in which we live.

I commend to you these points, hoping that we shall, together discuss them and come to a suitable solution to problems that face our countries.

THE ROLE OF THE TEACHER IN EDUCATIONAL DEVELOPMENT

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Introduction

The fabled Sphinx of Grecian legend had the annoying custom of asking a riddle and then devouring forthwith the wayfarer who had no solution to it. Had the Sphinx asked Oedipus the riddle implied in the topic of this paper, it would be alive and well today. What the role of the teacher is in educational development depends very much upon the answer to another question.¹ That is, what is the role of the teacher? I am not at all sure that there is much consensus about the present or future role of teachers. We are looking at the shape of the future through a glass darkly - a future which is moving toward us at a dizzying pace. Of one thing we can be sure, the past is not going to be of much assistance to us in formulating what teachers must be and do to serve effectively henceforth. Thus, tantalizingly, the riddle is presented, but the writer is under no illusion that he will win Cleon's crown.

The major thesis of this paper is that effective participation by teachers in educational development is much more a matter of teacher attitude than of teacher knowledge and skill. The expression, professional attitude, though much abused by educators, conveys best what I have in mind. Not until teachers believe that they are professionals and are accorded the rights and duties of professionals will they be really free to learn. And freedom to learn is what educational development is all about.

Hindrances to Teacher Participation in Educational Development

At present classroom teachers play only a minor role in educational development. They have never really been expected to participate fully in so critical an enterprise as designing learning experiences for their pupils. By and large teachers have attempted to carry out the prescriptions of others, and pre-service and in-service training programs have tended to reinforce the notion that teachers are interpreters, not originators, of school programs and practices. Apparently, the development of educational programs and practices requires the kind of expertise that is best acquired by many years out of the classroom.

It is commonly observed that the classroom teacher is the most important person in the whole educational process. As the teacher, so goes the school is a cliché in educational circles, and beyond. And yet, the typical classroom teacher at all levels (though for different reasons) is unequal to his present pedagogical and social responsibilities. He lacks fundamental knowledge, has only a superficial understanding of how anyone learns anything, and has little capacity for analyzing critically his own performance, let alone the performance of his pupils and students.² He has been given a mélange of teaching methods and routines by college instructors based chiefly on their own experience, intertwined with conventional wisdom and educational mythology.

¹ In this paper the parameters of educational development are limited to those suggested in the Draft Agenda and Draft Annotated Agenda, Commonwealth Conference on Teacher Education, 1973.

² Fundamental knowledge in the sense of the structure of the discipline.

Once in service the classroom teacher tends to become a mindless automaton acted upon by countless 'expert' bureaucrats who presume to know what teachers need. The classroom teacher is rarely a self-initiating and self-directing professional who acts for himself in the resolution of his own problems.

The incapacity of most classroom teachers to act effectively on their own initiative in matters affecting the conditions for learning in their own classrooms is the chief obstacle to productive teacher participation in educational development, now and in the foreseeable future.

There are many historical and sociological reasons for the professional paralysis which seems to afflict so many otherwise creative people. Who becomes a teacher and why he becomes a teacher, and under whose auspices he becomes one and continues to be one represent a plethora of Gordian knots which this brief paper will not attempt to unravel. However, teacher training programs themselves are largely responsible for the inferior performance of teachers in today's schools.¹ They have failed miserably in setting teachers free from the traps of crippling conformity and obsequious practicality. Training programs for teachers tend to perpetuate many of the worst aspects of contemporary school education by providing experiences which are not only obsolescent but which are theoretically indefensible.

Teacher training programs have failed to recognize and act upon individual differences among student teachers; failed to engage student teachers in problem-solving activities and experiences related to teaching and learning in schools; failed to bring educational theory and practice into a symbiotic relationship; failed to assist student teachers in developing educational models for their own use in planning, constructing, implementing and evaluating learning experiences; failed to emphasize the importance of self-motivation and self-direction in learning; failed to use effectively the understandings, experiences and activities of the teacher training programs themselves for the intellectual and personal development of student teachers; and failed to encourage student teachers to participate in the learning process throughout their own program at the teachers colleges.

Such a harsh indictment of training programs may be presumptuous on my part but I believe there is evidence to support my contentions. Educational programs at teachers' colleges should represent the best models of teaching and learning to be found anywhere throughout the entire school system. Unfortunately, this is not often the case. Physician, heal thyself, is an injunction which teachers' colleges and colleges of education would do well to take seriously. Here, best does not refer to low staff-student ratios, modern and copious physical facilities, or the latest educational hardware, but rather to those professional attitudes and practices which correspond with the most up-to-date knowledge about teaching and learning which we possess.

Assuming that the failures cited above describe reasonably well the conditions which prevail in most teacher training programs and that these failures frustrate the development of effective teachers, particularly with respect to their role in educational development, then corrective measures are urgently needed in teacher training programs themselves. That is, teacher training programs must become in the truest sense of the expression - teacher education programs. Objections will undoubtedly be raised

¹ There is very little reason to dignify most programs for teachers as "teacher education" programs.

that many of these alleged failures cannot be remedied because of uncontrollable factors. Many student teachers have academic deficiencies which are difficult to overcome. Working conditions in training colleges are far from ideal with demanding teaching assignments and impossible physical conditions. Students are too immature and poorly-motivated or are too old and battle weary. Teacher colleges must emphasize practical concerns because student teachers want tips and gimmicks to help them survive. Professional studies in education have a low payoff in terms of intellectual stimulation, excitement and fulfillment. And so on.

Although such objections should not be dismissed lightly as mere rationalizations, it is incumbent upon teachers of teachers to devise ways and means of coping with adverse conditions and to practise education skilfully in spite of them. If it is impossible to employ sound educational principles and practices except in ideal school conditions, then serious consideration should be given to disbanding teachers colleges altogether and finding an alternate method of conducting pre-service teacher education. Otherwise, the Shavian barb that those who cannot teach, teach teachers, will continue to nettle.

Setting Teachers Free

To return to my main thesis, until teachers are set free from their servility to the educational bureaucracy and capacitated for competent, self-initiated action, then their contribution to educational development, particularly school program development will be inhibited.¹ And if teachers are prevented from full and continuous participation in school program development, then our schools will fail to meet adequately the educational needs of children in a changing world.

Throughout the 1960's school reform addressed itself to the following questions:

How can school programs be made more relevant to the learner?

How can school programs be individualized?

How can continuous progress be provided for?

How can learning outcomes be made more explicit?

How can school programs inculcate the habit of self-directed learning?

How can a larger measure of integration be achieved among school personnel and among school subjects?

¹ I prefer program development to curriculum development as a generic term covering the activities which result in the creation of learning experiences. Assuming that the purpose of education is to bring about a discernible change in human behaviour as from point 'a' to point 'b' over time, then program represents all those activities, experiences and structures between 'a' and 'b' which were purposely designed to bring about the behavioural change. The time lapse between 'a' and 'b' can be as small as a few minutes or as large as several years. Program development is both the design and the implementation of learning experiences or episodes which have been arranged to bring about anticipated changes in human behaviour.

Taken together, these concerns reflect a dramatic shift away from the assumptions underlying traditional education in purpose, form and content. In retrospect the 1960's will probably be considered a watershed dividing between the old and the new in educational development. And in spite of the discouragements attending the initial efforts to translate these concerns into educational practices there is little likelihood that education in the schools will ever revert to its previous mode.

How is the above discussion about school reform related to the role of the teacher in educational development activities? Educational development must begin in the teachers' colleges themselves. We must make participation in educational development a clear expectation of the teacher's role from the beginning his professional experience. The beginning teacher must be himself part of a process of self-renewal, part of a process of developing. That is, teacher education programs must be based upon the concepts inherent in the expression, educational development, for the expression implies an evolving, continuing process which focusses directly on the point of learning.

To begin the process of setting teachers free we must find an altogether different fulcrum for our teacher education programs. This different fulcrum must be a commitment in the programs to learning, rather than teaching. And this is more than a semantic difference. In relatively static times emphasis on the teacher and teaching met satisfactorily the needs of society because a teacher-centred educational system identified well with the regular and predictable patterns in human affairs. But a high teacher profile means a low learner profile in the schools. And if teachers are the primary initiators of school activities, then only reflex responses remain for the learners. Fluid times demand less clearly defined formal roles and more clearly defined tasks and functions. Intellectual versatility and spontaneity are more important than intellectual insularity and linearity in an age when solutions are often tentative.

Teachers colleges must become communities of learners and centres for learning. The arbitrary distinction between instructor and instructed must be muted. Teacher educators would do well to ponder Nietzsche's remark that true educators are liberators.

Where the Action is

It is quite astonishing that training programs are so far removed from where the action is in education. Lesson plans, subject content, tips for teachers, and some gadgetry are acquired in a setting vastly dissimilar from the one in which they will be employed. To promote genuine education for teachers let the experience of learning itself be the focal point of induction into the profession.

Perhaps we should begin the process of educational development by involving the beginning teacher in designing, developing, and implementing learning episodes which evolve from interaction with pupils and teachers in the school themselves. The creation of learning episodes is probably the most vital activity in which any teacher can engage because each learning episode is the school's instrument for bringing about changes in human behaviour. Moreover, designing learning episodes for children in schools unites all of the present elements of training programs in a comprehensive, meaningful and practical way. It confronts the designers with problems of learning, problems of organization, problems of interpersonal relations,

problems of establishing educational priorities, problems of defining learning outcomes, problems of logistics and many other basic issues in schools. Creating programs, large and small, engage the participants in philosophical and ethical considerations within the context of the real world of the school.

Learning about learning through the production of small and large learning episodes involves the participants in a network of activities and experiences, all of which offer enormous intellectual challenge and require the exercise of the best creative powers and energies of the developers. The activities themselves constitute both a rationale and a framework for pre-service and in-service educational development.

The following activities must be rooted in actual school experience, growing out of and feeding back into the life of the school:

Identifying factors (economic, psychological, sociological, etc.) which influence learning in school

Data of these sorts do not need to be organized formally by subject disciplines at the beginning. Conditions which either facilitate or inhibit learning in an actual situation are commonly within the range of observation. Judgements can be formed about their probable effects on learning, and appropriate adjustments made in the learning process. As teachers gain experience through observation and reflection, more disciplined, formal studies might then be advantageous.

Designing simple models of program development

Teachers should attempt to conceptualize the processes involved in bringing the learner and the planned learning environment together. Models are useful abstractions for expressing the arrangement of and the inter-relationships among the elements in this central function of the school. Developing models from observation and analysis of actual school experiences gives the teacher a deeper understanding of what is taking place in the classroom.

Specifying learning outcomes

Without specifying learning outcomes in advance, educators and the practice of education become highly suspect, if not blatantly fraudulent. Our reluctance to spell out explicitly what we are trying to accomplish may be attributed to the fact that often we do not really know what we are trying to do, except intuitively. Glittering generalities are rampant among educators and motherhood statements cover the educational landscape like heavy mist. Preparing instructional objectives is difficult, time-consuming labour, admittedly not suited equally to every learning situation in the classroom, but deserving of far more effort than is currently manifested in most schools and classrooms.

Selecting and organizing subject content

The question, what knowledge is of most worth, still haunts us. Each society must work out its own salvation in this area.

Within the guidelines decided upon by a community teachers do their job of transmitting subject matter which is too often organized simplistically on a "topic-sub-topic-detail" schema. Constructing learning episodes, whether they be for ten minutes or ten weeks or ten months in duration, confronts the designers with the immediate problems of selecting and organizing subject content related directly to the needs of a particular group of learners in an actual on-going learning situation. Under such conditions the matter of relevance ceases to be an academic question and individual differences becomes a dramatic reality.

Matching learning strategies with learning outcomes

It is common sense that there is no single best way to bring the learner and the learning experience together. One of the most significant decisions that designers of learning episodes must make is the learning mode or strategy which is best suited to bring about the desired objective.

Devising and employing instructional materials

In most instances the best instructional materials are not supplied by vendors of books and machines. They are near at hand, yet commonly overlooked. Myriads of fascinating phenomena are within reach of our ordinary senses, waiting to become the critical mass of genuine learning. For many years educators have insisted that genuine education comes through experience, but we tend to resist this idea. Apparently, the immediacy, the availability, and the meaningfulness of experience foredooms its usefulness in the schools.

Testing and evaluating production efforts

Classroom teachers must become researchers, even if it is amateur research. Educational development cannot progress without an army of front-line research workers. Classroom teachers must be the shock troops of educational advance through classroom research.

Some Critical Elements in Educational Development

I believe the following elements are critical in achieving both short and long-term objectives in educational development:

1. Classroom teachers, beginning and experienced, must be given the primary responsibility for educational development in the schools.
2. Constructing learning episodes which are directly related to the needs of the learners and the community must be the paramount activity.
3. The subject content required for the production of viable learning episodes can be acquired by teachers concurrently with program development itself.

4. This central activity must be supported by a carefully planned learning system for teachers involving pertinent reading material, study questions, taped discussions, visuals, and so on, for individual and group study.
5. Program teams should consist of college personnel, practising teachers and beginning teachers.
6. Academic specialists in various disciplines should be available to the teams on a part-time basis.
7. The program teams should do most of their work in classrooms, schools and teacher centres.
8. No distinction should be made between educational theory and practice.
9. All participants should be encouraged to think aggressively and imaginatively.

In sum, educational development must take place in schools and classrooms with beginning and experienced teachers working together on the creation of learning episodes related to the needs of the pupil and community.

Grassroots Movement Needed in Educational Development

In recent years large outlays of public and private funds have been spent on educational development activities. In the 1960's research and development were the twin gods of promise and progress in education. Unfortunately for all of us these gods have been a disappointment. Uncritical devotion, moreover, has been costly in terms of mis-spent funds and the present disillusionment on the part of the public and teachers alike. The vast outlays of money built a gigantic edifice, replete with clergy and liturgy, but empty of converts with conviction.

Will we ever learn that the important people in the educational pyramid are at the bottom? Admittedly, university personnel and government agencies and agents have a part to play in the process, but the teaching fraternity itself must bear the ultimate responsibility for their own and the school's development. We must look to teachers organizations for the needed initiative in pushing out the boundaries of educational improvement in the schools. Teacher power is precisely what we need at this time and one of the most hopeful signs in the professionalization of teachers is the development of teacher centers in many places.

Concluding Statement

Give the teachers a chance to demonstrate what they can do for themselves and for the schools. Strengthen the hands of teachers organizations so that they can become learning societies in their respective communities. Allow the teachers to do the job of developing education which other groups have tried to do but with so little success. Oedipus resolved the riddle of the Sphinx by relating the riddle to the stages of human development. Perhaps the riddle of educational development can be resolved by letting teachers walk upright.

THE MAKING OF THE TEACHER

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If you ask what makes a teacher you are really asking two questions, not one, for the word 'makes' is ambiguous. If we ask what makes a man we mean, what qualities are distinctive of a man ideally. So we might ask what qualities characterise a teacher as we would like him or her to be. But since few if any people are born teachers, and we need teachers every year in great numbers, then, with whatever human material we have, we do in another sense have to 'make' them. That is to say, we have to take a great number of young people, some of whom want to teach so much that they would not think of doing anything else, some of whom like the thought well enough but really see teaching primarily as a way into a more clerkly and respected way of life, and some of whom accept it for lack of the opportunity or capacity to do anything else. Of these two ways of looking at the subject I shall spend most of my time on the second, for this is the problem that concerns all of us most pressingly. But I don't think we can consider that task wisely unless we first look a little at the subject in the first way.

I am not going to spend time drawing a picture of an unreal ideal teacher, delightful though that might be. But we do have to have in our minds a notion of what makes a good teacher if we are to know what we are doing when we select people for recruitment to the profession and if we are to plan their education and training in such a way as to bring into operation the qualities that in a teacher we think to be the most important. A report on the establishment of a medical school in an African university some years ago began, I am told, with an attempt to answer the question as to what sort of professional person was wanted in a doctor for that country. It was, I think, a good way to begin.

It is often supposed that young people go into teaching because, as the phrase goes, they 'like children'. This may be so, but the observation is not very sophisticated. If of course you just can't stand them then no doubt you are in the wrong job, though there are some teachers who have a marked distaste for young children but can be very happy with older ones. What is more important than just 'liking' children is satisfaction in being with them and feeling that you can be free of their world. With most teachers, however, this is not a matter of simple happiness. It gets modulated in a professional way. Just as an actor who tries to live his part every single night he is on the stage is almost certain to act badly, so that he has to distance his own emotions from the part he is playing till his professional technique rather than his mere emotion is what carries him through, so a teacher needs a personal involvement with his class that is professionally distanced and modulated. He or she must be personally interested and concerned, but not simply - rather, as one might put it, half way between the involvement of a parent and that of a doctor. Interest and concern, yes; intense emotional involvement, no.

There is, I believe, something much more profound and much simpler about the drive that keeps a teacher going. It is that he just likes teaching.

Now you may begin your career because you do; but if you are doing it badly, and know you are, your feelings will change. No less important, if you begin by doing it badly and gradually get on top of the job, you may find that you do like it much more than you supposed. That is immensely important for those of us who are concerned with the training of teachers, and perhaps still more with their first years in the work. I would never refuse to admit someone who told me honestly that he was only mildly interested in being a teacher. The numbers who do come in are so large that this is inevitably going to be true of a goodish proportion. The point about a good course of professional training is that it will get nine persons out of ten professionally interested and involved - and the tenth should of course be encouraged to leave.

I am not psychologist enough to know where the roots of this lie, but of the fact there can be no doubt. Nearly every one, in some degree, gets pleasure in showing some one else how something can be done, and sharing with him some pieces of information that he needs to have. And many people do surprise themselves by discovering that they can do this rather well. During the last war many people who had not thought of themselves as teachers discovered in the Forces that they were rather good at it, if only in showing recruits how a machine gun worked. And in the United Kingdom our Emergency Teacher Training Scheme after the war owed almost everything, for its recruitment, to this kind of discovery. People have this satisfaction, as they have the natural skills in it, in different degree; but very many people do have it, and it is what we should build on in teacher-training. A routine and stereotyped course of training may kill the interest of the teacher, and just leave him or her to kill the interest of their pupils later. The good teacher is like Chaucer's Clerk of Oxenford (and I don't apologise for the much-used quotation) 'and gladly would be lerne, and gladly teche'.

Not only 'gladly teche', but also 'gladly lerne'. Even if a teacher has rather little knowledge and is perhaps a little vain about it, the vanity is a noble foible. A well-educated man may smile at the traditional village schoolteacher. His pride in his modest accomplishments gives him his moments with his young and even with their parents, as Goldsmith observed.

And still they gazed, and still the wonder grew,
That one small head could carry all he knew.

That of course was a long time ago. The teacher is no longer one of the two or three literate people in the village. His head is expected to carry far more now, and indeed does, to say nothing of the heads of our subject specialists in the secondary schools. But though you may think me naive I would say that the root of the matter is still the same. At least I know it is in myself. Like every other teacher I am glad that I have some knowledge, that I have learned something, and I find pleasure (at least with those who want to learn) in trying to pass it on.

The trouble is that the notion is still extant that to teach a teacher just needs a kind of stock of learning. He learned it once, and once for all. This is not at all what Chaucer described in his Clerk. He would still 'gladly lerne'. Now what happens to our teachers when they leave their training college or university? I would say, in spite of the quite surprising number who do come for in-service courses and try to keep themselves up to date, that on the whole there are more who will still gladly teach than there are who will still gladly learn. Of course they have to teach. They do not, in quite the same sense, have to learn. But if they do not, and if their young do not see that they are themselves eager to learn, then they will not be the

good teachers we are trying to set before us as reasonably attainable models. The question we have to ask ourselves is what we can do to make this possible, for in the world of today's schools it can never be easy.

How far, in front of his children, can the teacher carry a demonstration that he too is a learner? We all know the stock advice. If the teacher does not know something about which a child asks a question he should say so and add 'Let us look it up' or 'Let us do an experiment and find out'. This, no doubt, is basically right. But it is not quite as easy in practice as all that. A friend of mine tells how he was once visiting a West African school and found that the lesson was on the Eskimos (heaven knows why). 'Please, sir,' said a boy, 'What do they eat?' 'Bananas', said that teacher, not batting an eyelid. It wasn't a very inspired guess, but my friend said nothing. Afterwards he did ask the teacher if he really thought Eskimos lived on bananas. 'No', said the teacher, 'I am sure they don't. But I didn't know what they did live on and I had to say something or I should have lost the respect of the class.' I expect my friend asked the teacher what respect the class would have for him when they found out what an absurdity he had indulged in, but my information stops at that point.

This is rather an extreme story, though the teller of it is a truthful man. But there is something to consider here. There is often no shame at all in having to admit ignorance of something. But there is a limit, and it is rather shameful being caught out in ignorance of something you really ought to know. The only remedy, I am afraid, is being sure that you do know what you ought to know. If the way a question is put enables you to escape without fabricating and at the same time without revealing the fullness of your ignorance, thank your lucky stars, look it up afterwards, and be sure you are prepared if the question comes at you more directly next time.

The point I wish to make is that in some social contexts it is easy to admit ignorance and start finding out, whereas in others it is hard. If a teacher has been reared on memorised textbooks and been himself the prisoner of a routine education he is bound before long to be caught out. This is where modern methods, whereby the teacher is the leader of the young in discovering things, are such an improvement on the older authoritarian style of delivery from the chair. But it is no use supposing that a completely unstructured question session will do: there will be too many questions to which no teacher can know the answer, or quickly find out.

This leads me to something much more complicated. So far I have been dwelling on the simplicities of the subject. I do not apologise, for I think these simplicities are at the heart of the matter. But what makes a teacher a professional, or if that term is too high, at least a patently trained person in his work? However hard it may be to define, a visitor to a class (and still more the children or youngsters in it) can detect this almost at once. I remember when I was in the lower forms of my secondary school during the first world war and many teachers were away at the Front we had two or three elementary teachers in to make up. In those days few secondary school teachers in England (as distinct from elementary school teachers) were professionally trained. For part of my time I had mathematics teaching from one of these untrained masters, a delightful person and a good mathematician. The boys who were good at mathematics got along well. The rest of us, myself included, got rather stuck. But part of the time we had an elementary school-teacher who had been trained to teach, and we felt it at once. He probably knew less mathematics, but we learned more.

Now in what does the difference lie? In three things, I think. First the trained teacher has learned how to order his material, to 'programme' it, if you like. This, in the 'micro' sense, means how to order each lesson or learning period; and in the 'macro' sense how to place it in relation to his knowledge of the stage of development of the age-group or the individual child. Secondly, the trained teacher has learned how to balance his teaching with the child's learning, realising that the teaching is to help the learning to take place more effectively. Thirdly, he knows, as the phrase goes, how to handle a class. Now the untrained or the half-trained teacher may do all these things well, but he has had to learn entirely on the job, and that means at his pupils' expense in the first few years. Being a professional means that you can do these things competently, and be felt to be competent in doing them.

These then are the things I would aim at in my ideal, but certainly not idealised, teacher. He should be some one who finds satisfaction in what he is doing, because he enjoys passing on what he knows and especially to the age group he is teaching, be it very young children or older boys or girls, university students or adults in continuing education. He must be some one who has the impulse to go on learning himself, whose own intellectual curiosity is very much alive and who values learning. And he must be a trained person, a professional in his work, knowing how to order his material, how to teach it in relation to the age-group that he teaches, and able to be in control of the situation without being an authoritarian.

Are these simple aims either too modest on the one hand, or on the other too much to expect? I hope you will agree with me that as statements of what we want in our teachers they are about right. Now how do we set about getting them, 'making' teachers of this kind?

First we must be realistic enough to recognise that although there may be universal aims there are no universal rules for achieving them. The levels from which different countries start are different: the level of education from which young men and women enter on their teacher training, the general level of further education and professional training existing at present, perhaps above all the level of financing that can be accepted even by a Finance Ministry disposed to be generous to the claims of educational development. Perhaps no less important are those differences that come about because some educational systems are within the broad stream of national consciousness whereas in other countries an immense effort has to be made, on the basis of institutions, and syllabuses and examinations and modes of practice inherited from alien administrations, to transform everything so that it serves the needs of newly independent peoples in search both of their own traditional identity and of equipment for modern life.

Nor must we forget what Dr. C.E. Beeby pointed out in his book 'The Quality of Education in Developing Countries', that the methods a Ministry adopts must vary greatly according to the degree of education and training of its teachers. Great devolution, a marked reliance upon the independent initiative of teachers, is one thing where they are well-educated and well-trained, quite another where in one or both these things the teaching force is seriously deficient. The possibilities in teacher training vary no less. Centralised support for the teacher in the schools, and training to a recognisable and assimilable pattern, are both more necessary in an earlier stage of educational development than they need to be later.

I am concerned here less with the quantitative aspects of educational planning than with qualitative factors, but the latter without the former will not have very much chance. In general the relating of educational development to manpower planning is now seen to be less easy than was uncritically supposed a decade ago. Yet a government can estimate closely enough, in relation to demographic data, what the potential primary school population will be a few years ahead. It should know, again in broad terms, what proportion of that population it will be able to get into the primary schools, and then into the secondary schools. Given the assumptions it makes about the staff-pupil ratio it can afford, it will therefore know nearly enough what number of teachers it will need in five years time, and if it makes a ten-year forecast it should not be too far out. That means that it should have a reasonably firm basis for setting the level of entry to the profession, that is to say (allowing a little for wastage) for the size of its student-teacher population in the colleges and universities. It then has to decide how much of its educational budget to spend on teacher training.

Our chemistry master when I was at school used to say to us in the laboratory, 'Take as much of the substance as you think you need, and then put nine-tenths back. My conservative advice to Ministers of Education would be, 'Set aside as much as you think proper for teacher training, and then add at least one-tenth'.

I know that you cannot ignore the pressures to get into school, the need for buildings, the salary claims of existing teachers, and so on. But if the quality of what is done is really going to improve teacher-training is the key to everything. You can have your reports on curriculum development, and they may be very wise reports, but if you do not have teachers trained to carry these reforms into action you have wasted your money.

When a decision has been made as to how much is needed and how much can be spent on teacher training important policy decisions have to be made as to how to allocate it. The first of these concerns the two related questions of the length of time for initial training and the role of in-service training. In countries where any serious number of practising teachers have not had training at all there must obviously be in-service training, either while they are in post or by seconding them for a period (or by a mixture of both), as a purely remedial measure. Where initial training has been of the skimpiest the same argument applies, in only somewhat less degree. Beyond this, wherever a changed curriculum is proposed or new methods are being introduced there must be training to do this. I know how important serious initial training can be, but in situations of urgency like those I am describing in-service courses are even more important.

Nevertheless it is initial training that sets the patterns of professional thinking and behaviour for the teacher. What can be done in initial training to make the kind of teacher I have described?

First a word about selection. If the problem is that too few young people want to take up teaching then there is one problem - and a government had better consider an all round and significant increase in salaries as the first sensible step to meet it. But I suppose that in most countries there is a greater number of candidates to enter teacher training than there are places, and some sort of selection must take place. On what criteria?

A common statement is that a teacher should have carried his own education at least one stage further than the stage at which he will teach. The primary school teacher should have had at least lower secondary school education, the upper secondary school teacher complete secondary education, and the upper secondary teacher a university education or its near equivalent. This is not too bad a working rule. But should one think of a high qualification in previous education (in the sense of a high pass at the agreed stage) or only of a minimum hurdle, leaving other factors to count more once this has been achieved? I am frankly in favour of the second policy, strong as I am in my desire that teachers should be educated persons. I say this for two reasons. In the first place I have a very imperfect faith in our examinations as measures either of present intellectual ability or still more of capacity for future intellectual growth. They are not to be ignored, but I am certain that in practically all respects we place a faith in them that is excessive. Secondly, I am sure that many more things are necessary in a teacher than his own acquired knowledge, important though this is. In the higher reaches of the secondary school, and of course at the university, it is a great thing for a young man or woman to come into regular contact with a first-rate mind. But in general in our education systems it is frequently the case that a man or woman with a certain level of academic achievement (as we measure these things formally) may become a better teacher than an apparently more brilliant person whose temperament, sympathies and devotion are less appropriate to teaching. I repeat, I am not asking for an uneducated profession. We commonly draw on the top twenty-five per cent, if you judge by measured intelligence quotients, for our teachers, and I am simply saying that I would not worry if a candidate were at the twenty per cent level rather than the fifteen per cent level if in terms of his or her other qualities it looked pretty certain that he would make a better teacher. Who knows? At the end of his initial training, to say nothing of later in life, he may well have outstripped in intellectual achievement and vitality the person who was placed above him at the age of eighteen.

How are we to judge these other qualities? There are aptitude and personality tests, and if they were available I would be willing to use them with a certain caution. In the end I suspect that we shall not easily find a substitute for skilled personal judgment by the authorities of the admitting institution. This must of course be as objective as possible, and it ought to be a judgment by more than one person. It should be supported by such evidence as there is, not least from the candidate's own teachers. If he or she has been active in quasi-teaching situations, in certain kinds of community service, for instance, that will be relevant. If (as is not so uncommon) he has already tried his hand at teaching in an auxiliary way and has taken to it that is the best evidence of all.

I emphasise this point about other qualities because I have often come across cases of people who have taught, and by all the evidence taught well for a number of years in situations where a training qualification was not compulsory. Then, as in the United Kingdom, it becomes compulsory, and the teacher is driven out or reduced to ill-paid auxiliary work. I am thinking of some infant teachers or of teachers of art or music in particular. Sometimes they cannot match up to the formal academic requirements. I suppose it has to be so. No responsible person could oppose the movement to insist increasingly on a proper training; yet there have been hard cases and losses of good people to the schools. It is not just 'O' and 'A' levels that make a teacher, and I often wish that we had been a little more flexible.

Well, we have our successful entrants. What do we do with them, and what should we do with them, in their course of initial training? Obviously, several things have to go on together. If the entrant already has a university degree we shall not be concerned (in theory at least) with his continuing education. We assume, charitably it may be, that he has the history or the mathematics or whatever it is that he needs to teach, and our problem will be to help him to teach what he already knows. But for the great majority of intending teachers, who go to college from school rather than from the university, this is not so, and we have to continue their own education while at the same time giving them professional training. How can we do this, for the double task is obviously not easy?

One thing you need is time. When the total length of the training course in England was extended from two years to three nearly every one saw this as an opportunity to make the training colleges more genuinely educational places. There are so many things that a new teacher is expected to know and to be able to do on his first day in school that his own education gets crowded out if you are ruthlessly pressed for time. I still think that, even in our relatively favoured circumstances, we do badly in this in my own country. Few of our colleges give (or perhaps I should say more fairly are able to give) genuine higher education as I understand it. To me this means the ability to tackle a problem hard, with the resources that libraries and laboratories give you and with help and advice, but basically on your own. And, secondly it means developing the interests and tastes of a civilised man or woman. This means having time through the week to tackle a problem that excites and interests you; going hard at perhaps the master-work on the subject, reading it right through, making notes as you go, really knowing what it says and what you think about it when you have finished; it means knowing how to go to the library not to read through but to tear the heart out of or read in the relevant parts half a dozen books that bear on the same subject; it means writing down systematically your own account of the problem with which you are involved; and lastly it means arguing your case with your tutors and fellow students interested in the same thing. And, when you have done this, it means putting it aside and enjoying other activities, from good talk to music or games, and seeing it all in a setting of civilised tastes, and humane humour. Give me the young man or woman willing to work (that is the one essential condition) and who did not have a strikingly good examination career at school, and I will help him or her to become a better educated person than your better coached schoolboy who merely repeats routines at the college or university level.

The old Oxbridge ideal, you may say? Well, none the worse for that. But although you do need some resources, libraries, laboratories, above all enough people on your staff, you emphatically do not need all the plush facilities before you can start. It depends chiefly on what you think is needed to make an educated man or woman. If this concept were firmly understood there is no reason at all why teachers colleges should not come much nearer to giving us educated teachers than they do. You have to free their staff from a lot of shackles first, and then they have to take an initiative that they must be ready, indeed zealous, to take.

To go into detail in a conference from many different countries would be more perplexing than helpful. But I will make one generalisation. There is no need - as is still largely the case in the United Kingdom - to make such a formal separation between professional education and training and what is quaintly called 'education for one's own personal sake'. The two

can be brought together much more happily than they are now. But of course that means re-casting a syllabus or two, and overturning a time-table or two, and these things we know are too often almost sacred to those who drew them up years ago.

Now we come to the more strictly professional part of the course, and here too there are problems that no country yet has satisfactorily solved. The great question is over the relation of theory to practice. This is commonly misunderstood because too few people have thought out what they mean by 'theory' in a course of preparation for a profession. It can mean two different, but related things. Education is an applied field of study, and the word 'theory' is applied to the subjects of study that are logically basic to it: psychology, sociology, philosophy, and history. In the second place it means any body of provisionally accepted hypotheses, drawn from the basic disciplines and from experience, that relates to an educational activity, whether it be the maintenance of discipline, learning to read or the curriculum. (This, it will be noted, is not 'theory' in the sense in which that word is used in the sciences, meaning a summation of particular data, giving them the force of a generalisation, as in the theory of evolution, the atomic theory and so on; it is rather what has been called 'working theory', a framework of concepts which enables you to understand better what you have to do.)

There can be no doubt about two things in relation to 'theory' in the first of these two senses. First, that in the time at our disposal for the initial training of teachers we cannot make them into real philosophers, psychologists, sociologists and educational historians. What we can do, and all that we can do, is to show them what light can be thrown on education and the work of the teacher by these disciplines. If a teacher talks about equality in education, or the rights of children or parents, or the basis of his authority, he ought to know what philosophers have said about the meanings of these terms. If he wants his teaching to be suited to his pupils he must know something about the intellectual and moral development of children, as the psychologists have studied it - to say nothing of the tests they have devised. If he wants to understand the school in its social setting he must know something of the study of the school and society by sociologists. He will not be able to go far in any of these studies, and probably the best kind of course is one that is centred on the actual problems of the school and the classroom rather than a potted version of a general course in each of the disciplines. But without something of this the teacher will never understand what he is doing.

In the second sense 'theory' is necessary to give the new teacher a framework of ideas without which he will flounder in his practice. They are not final truths, but reasonably well-based working assumptions. It is of no use saying, for instance, 'Forget all that theory, just train teachers to teach children how to read' (or whatever it may be). There is no one method of teaching reading. There is no one cause for failure to learn to read. A teacher has to be prepared to deal with a whole series of problems that may arise when Johnny can't read. The explanation may be physical, poor eyesight or defective hearing. The materials may be unsuitable to his age and interests. There may be emotional disturbance. As soon as you begin to analyse these situations you are in the realm of working 'theory'. If you say 'Throw theory out of the window' you are asking for a teacher who does not think about what he is doing, and you are leaving him to fail in his work.

But how do you blend this theory with practice? Not in an arid textbook way, but by relating the theory and the practice to each other at every conceivable point. What the student does or fails to do in his practice teaching, what he notices in the classroom or the school or the neighbourhood, should lead as directly as possible to what has been said or written about such experiences; and what is read by the student should similarly relate at every possible point to these experiences in the school. The tutor should be with the student frequently in his practice school - if he has a video tape of a lesson, better still - and should take up his experience and comment on it in this way. To be in charge of a class alone can be a traumatic experience. If it is not to be, the practice teaching, with help if necessary at hand, is indispensable. It is here that the student really does discover whether he is likely to find teaching satisfying or not, and whether he is or is not likely to make a good teacher.

When the initial training is over can any one say that now we have 'made' a teacher? Only in the rarest examples. Teachers tell me that they did not feel they could get reasonably on top of their job for perhaps as long as five years after starting. The first year of experience is very important, therefore, and it is absolutely wrong (though it happens) to give the new recruit the largest or most difficult class, or indeed to give him as full a time table as the rest. This is an 'induction' year, and the school (especially his head teacher and senior colleagues) have a great deal to teach him that he could not have learned in his initial training. And, as I said earlier, refresher courses (both in content and method) will be necessary all the way through his career.

Well, now perhaps we can say we have 'made' our teacher. He finds his work satisfying, he knows he stands for knowledge and against ignorance in the community, he continues learning himself, he really is a professional person. This is not just an idealised picture. There are many teachers in our countries who do come pretty near to this ideal. And, alas great numbers that do not. When we have so improved the education and training of teachers that there are few of the latter left and the average comes reasonably near to what I have described, there is one thing that society should remember. If you have a man or a woman, educated and trained well enough to look after your children like this, then the least you can do is to pay him a living wage.

THE TEACHER EDUCATOR

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Much thought has been given in recent years to the elusive concept of quality in education and how this can be achieved. Beeby and others have asserted, with reason, that quality in education depends largely on the quality of teachers, but this observation has not been extended to the proposition that quality teachers emerge from institutions where high quality teacher educators are to be found. Indeed, it is frequently argued that some of the most effective teachers achieve their success despite the influence of their colleges and their tutors.

But while the guerilla warfare continues between schools and colleges, with the schools criticising the operation given to student teachers, and the relevance and usefulness of the work of teacher educators, there is evidence to suggest that serious efforts are being made in several countries to upgrade the quality of teacher educators. This is being done with faith and with the hope that if more competent teacher educators are provided, the quality of teaching in schools will improve. It is recognised, of course, that improvements will have to be made on several fronts simultaneously, if quality teaching is to take place, and where the desired results are not obtained, it is with charity, perhaps, that the accusing finger is pointed in other directions. Nonetheless, it is firmly believed that one crucial factor in the total effort is the teacher of teachers.

It is common knowledge that there is considerable uncertainty about the content and methodology which would be most valuable for training teachers. The uncertainty increases significantly when an attempt is made to consider how teacher educators should be prepared. It is true that here and there a glimmer of light breaks through but to the best of my knowledge, no taxonomy exists of the skills, knowledge, attitudes, dispositions and attributes which characterise successful teacher educators. This is not to suggest that a definitive taxonomy is desirable or even possible, and the various "mixes" seen among those deemed to be successful are quite astounding, but there could be value in attempting to identify some of the basic "talents" and qualities, so that where these can be developed through specific forms of training or experience or exposure, they might be provided for. I shall return to this later but for the present it may be useful to consider whom we are talking about when we refer to the teacher educator.

The annotated agenda refers to the following groups:

- (1) Those concerned with the teaching of academic knowledge and skills relevant to specific subjects in the school curriculum;
- (2) Those concerned with theoretical issues related to learning and teaching, e.g. child development, sociology, psychology, philosophy, etc.;
- (3) Those concerned with the more strictly professional knowledge and skills of the teacher;

- (4) Those concerned with the organisation and administration of programmes of teacher education.

Whereas the first three groups relate more directly to institutions where teachers are prepared, the fourth suggests the inclusion of educational personnel who may be involved from outside the institutions, as it were, that is, from Ministries, Curriculum Development Centres, the Inspectorate, and so on. It is clear that the title "teacher educator" cannot be restricted to the tutorial staff of teacher education establishments, although for purposes of discussion it may be useful to consider such personnel separately, since they probably constitute the largest number of those directly involved. The convenience suggested for discussion purposes, however, does not gainsay the fact that all teacher educators need to appreciate the totality of the situation, to have an overview and a clear understanding of what are the objectives of the whole teacher education programme. Too often, it is the absence of this perspective which gives rise to distortions induced by sectoral or vested interests.

Students in training, not infrequently, have to learn the "zig-zag" dance, if they are to survive, and in responding to the music it is often the loudest beat that they react to rather than the most tuneful. If orchestration is in fact to be accomplished and if the students are to experience a rhythmic development, it is essential that the band of musicians should keep their eyes on the overall score and that at times they should practise and rehearse together. They should all be able to read and understand at least the rudiments of music. Regrettably, too many are prepared only to play "by ear" and, if things do not quite work out, there is nothing of a really fundamental nature on which to fall back.

In addition to a general awareness of the overall task and what the teacher education programmes are about, then, teacher educators need to have increased sensitivity to the ways in which the tasks of teacher education differ from those which they have been performing in other sectors of the educational service. This is equally valid whether they come into teacher education from primary schools or secondary schools, from headships, from the inspectorate, from the staff of universities, or elsewhere. There is no doubt that there will be much in their previous backgrounds that will be of use but the way in which this is utilised is extremely important. New styles will have to be adopted in most cases, and a reappraisal of one's role is absolutely essential. It might well be that in certain situations the adaptation required is too great and serious personality problems may arise. In this connection it might be worth examining whether for some individuals prolonged service in a particular position may not increase the difficulty when the time comes for them to make radical adjustments.

One of the most important areas of adjustment relates to the situation whereby those to be taught are adults, at different stages of maturity and sometimes from a very wide variety of backgrounds. Most of those new to teacher education have had experience in dealing with children or adolescents. Several move from a position of dominance and authority to a situation of equals, partners and colleagues; from a position of having answers to one of having to learn what questions to ask.

There are indeed several important considerations which it may be worth exploring in connection with those who are new to the teacher education scene. If it is assumed, as it usually is, that by and large, such

people have had a good general education (even if they are not graduates) and some teaching experience, it still remains to be decided whether this is adequate, even at the start. Is a formal professional course necessary? In many places, it is believed that a degree plus a professional course in education and, as a bonus, some teaching experience, is an adequate "package" of training and experience. Perhaps it would be useful to remember that the professional course referred to is usually an initial course of training as a teacher and that, whereas it may be appropriate for primary and possibly secondary schools (depending on its original design), it does not constitute even an initial course for work in teacher training institutions. One does not doubt its value and the fact that it may provide some insights into the teaching-learning processes but it appears to me that much more is required and that what is required is of a different nature.

Earlier in the paper I referred to some skills, knowledges, attributes, etc., which teacher educators should have. Perhaps some of these can now be considered.

The new tutor is unlikely to be familiar with the particular techniques which are appropriate for educating adults. He might well be faced with the difficult problem of trying to effect a degree of reconciliation between the manner in which he teaches his students and the way he wants them to teach their pupils. If he treats the students as youngsters, they may resent it, so he treats them as adults and encourages them to handle children differently. The power of imitation, however, is great and the new tutor walks a tight-rope in this area.

In so far as "human relations" skills are concerned, he is also likely to be somewhat inadequate, especially if he comes directly from the school system. Some of the principles of group dynamics should be studied and an understanding of the interests, needs and aspirations of his students - especially in the light of the societal changes impinging on them - would be invaluable.

Whereas he might not have been secure in his own knowledge of a particular field and was not strongly motivated to go deeper into it, in his new role he will certainly have to do so and to demonstrate his interest in continuing to grow in scholarship. He should also be assisted in seeking and finding links between subject matter and method and he ought to have a systematic introduction to the best in theory and practice. In many ways, he should be discovering a new zest for learning and he should be able to communicate his enthusiasm to his students.

The new tutor will also need to develop an understanding of how integration is effected within the system and of the relationships between central government local authorities, the inspectorate, social and community workers, and so on. But this must reach beyond knowing, he must be assisted to interact with each and to tap the wide variety of resources available among such groups in enhancing his performance as a teacher educator.

The new tutor must also come to appreciate that he will be expected to function in various roles, for example as a lecturer, a guide, an initiator, a collaborator, a supervisor, an assessor or a listener. Each of these will demand different skills, techniques and attitudes and

although it would not be reasonable to expect mastery in each role, he should, at least, have recognised the differences and acquired some of the basic techniques required for discharging them with some measure of competence and confidence.

One of the areas in which many new tutors appear to be weakest is what can loosely be called educational investigation and research. Teacher education establishments should be places of experimentation and innovation, and all tutors should have an orientation and a commitment to this sort of activity. While it is not anticipated that all will engage in high level research, each tutor should be equipped with the fundamentals of measurement and evaluation and some of the basic techniques which are applicable in the social sciences. In my view, this is a most important requirement, for if they are unable to evaluate their own efforts in a systematic way it would be difficult for them to communicate to the students either the skills or the spirit and their teaching can easily degenerate into a conservative, if not dogmatic, type of operation. In the same way that an unexamined life may lead nowhere, unevaluated practices may result in sterility.

So far attention has been drawn to some competencies and attributes which those who are new to teacher education should have if they are to cope. Not all who are recruited will require additional training or experience in each dimension, however, for in a system where there is a well-structured in-service programme for teachers, some new tutors would enter teacher training institutions when they were further along the continuum, as it were. Indeed, there have been situations in some countries where the trainees have been further along the continuum of professional growth than tutors who, for a variety of reasons, joined the staff through different routes.

Such situations raise two issues. First, should people be allowed to practise as teacher educators before they have had at least an orientation course? Secondly, should there be a variety of orientation courses for new tutors who enter from different points in the professional continuum? I am inclined to the view that no one should begin to function as a tutor until he has had at least an orientation course including some of the elements mentioned earlier. In the structuring of the orientation courses, it would also be useful to offer differentiated programme which take cognisance of the professional experience of the prospective tutors, thus highlighting individual differences and the need to take the concept seriously - not merely talk about it.

Perhaps at this stage a comment on professional experience may not be inappropriate. In many countries experience is often equated with years of service. While not wishing to minimize the importance and value of the passing years and their mellowing influence, ten years' experience in some situations can well be one year's experience ten times over. A variety of experiences within education and related services, while not totalling a large number of years, may be even more important, especially for teacher educators in rapidly changing societies. The practice of appointing to teacher training establishments the so-called very "experienced" may need to be re-examined in this light.

An attempt has been made to consider some of the professional skills and experiences which teacher educators appear to need and attention has been focussed on new tutors and their orientation. But orientation is not

enough. The continuing professional growth of the teacher educators must also be considered.

There are not many well-known courses for those who have done a degree and possibly an initial professional course and who wish to pursue studies that would equip them to teach in teacher training establishments. Some people in this situation proceed to do higher degrees, many of which, by their very structure, are not likely to meet the real need. In those systems where some higher degrees include some course work, there are certain electives which could provide relevant foundations. On the whole, however, the situation is not a very satisfactory one for the developing countries particularly, and prospective teacher educators may be better served by selecting from the available courses those elements which are likely to be of most use. This may mean that they would not follow any single programme fully, but by the careful selection of specific elements and the variety of the experiences gained, perhaps a more adequate preparation which result. While the issue of qualification will no doubt arise, there may be ways of coping with this and there may be merit in examining how some current scholarship programme intended for teacher educators may be made more flexible to accommodate the model described. It should be pointed out here that this is not a substitute for well-designed courses specially prepared for teacher educators and established in particular institutions possibly at a regional level.

Turning to the continuing professional growth of teacher educators, it should be noted that the need exists whether tutors have had intensive pre-service training or orientation courses, including the elements referred to previously. The "not so new" tutors will require strengthening in particular aspects and much of this can probably be provided locally or through short courses abroad, but apart altogether from the range of in-service offerings, professional growth can be enhanced by arranging for closer interaction between teacher educators and the inspectorate. These are two of the main groups concerned with ensuring that educational development takes place along the agreed lines and in many places it is particularly striking that there is very little contact between them. The interchangeability of tutors and inspectors should be encouraged, even for short periods, and each should also return from time to time to the schoolroom so as to keep in touch with the realities.

Throughout this paper the focus has been on the teacher educator's concern with schooling and the improvement of the quality of teaching within the formal system. Some thought must now be given to his role in the non-formal or out-of-school area. In many countries the teacher coming out of the training institution will be expected not only to perform competently within the classroom but to participate in a wide range of activities that relate to the life of the community. His training must enable him to perform this role as well and he will need to have more than a few ideas for carrying out certain activities. His training will have to make him aware of the sociological context within which he is operating and give him the tools further to analyse the community so that he might better serve it, with a clearer understanding of the social milieu and his expected role. This has implications for the teacher educator, too, for unless he can help his students to see themselves not only as classroom practitioners but as teachers in a wider sense, and possibly as leaders, especially in the non-formal area, he would not have done the job really well. It is a tall order but not one that he can neglect.

At the beginning of this paper I indicated that uncertainty about the content and methods as these relate to the preparation of teacher educators was of no mean order. I have highlighted certain aspects and attempted to elucidate them so that, in given circumstances, they may be more readily tackled and, hopefully, resolved. But I have also omitted many which, partly for reasons of time and partly because of my own inadequacies, I did not attempt to treat even cursorily. I am sure that you would wish to give consideration to them and it is in the hope that they may be taken up in the discussions that I now wish to refer briefly to a few of them.

In many countries, staff for teacher training institutions is being sought from the same pool that supplies the universities and other tertiary level institutions, government agencies, and others. The quality of most of those "left over" and who make their way into teacher training is not particularly high and although many may have the basic academic qualifications, and even some professional experience, the personal qualities which appear necessary among teacher educators are not often in evidence. In such circumstances, any training programmes which may be developed should seek to compensate where possible.

Another matter worth noting is concerned with part-time tutors, particularly in small colleges. Many of the part-timers are specialists who have some responsibility in another part of the education-system. Where this is the case, the work in the training establishment and that in the schools can be more readily articulated but it should be remembered that many of these part-timers also need to have the overview and an appreciation of what the whole training programme is all about and it would be useful for them to be oriented and, as far as possible, integrated into the institution's staffing.

In most teacher training programmes, arrangements are made for resource people from other services and agencies to participate in the work. Some of this is ad hoc and in many cases the real potential remains unrealised. It may be useful to adopt a more systematic programming and where possible use a team approach so that the inter-relationships are more clearly seen rather than merely have visitors talk about what they do in their own field, useful as this might be.

Another aspect of the operations in teacher training institutions which probably merits discussion concerns the use of the institution's staff as a team. Only infrequently do we find a thematic approach being adopted in which several members of staff combine their talents in bringing to bear on a particular subject or topic their respective disciplines and orientations. Many, many students leave their training institution with a fair amount of knowledge in a variety of fields, but a great deal of this remains discrete and compartmentalised. Perhaps the approach described will help them, as well as the tutors concerned, to see more easily the wholeness of the experience and the inter-relationships which exist. It is recognised that many tutors resist such operational styles. but the resistance often stems from insecurity and, while it will undoubtedly take time, it could be introduced into orientation courses and systematically worked at.

Within recent times many more universities have begun to organise in-service courses for their staff in an effort to improve the quality of teaching. More institutions concerned with teacher preparation should do

likewise and it would be of considerable interest to see what is included in both cases in the various courses which are organised. The perceptions of what will lead to improved practice might be a good project on which to embark. It may also be of interest to examine the role which Faculties of Education are playing in both the formulation and the implementation of such courses.

Whatever we do, however, in our attempts to improve the quality of teacher educators and their competence, let it be remembered that at the heart of the matter lies the image which is held of the teacher educator, by the universities if he happens to be at a college, by the Ministry if he is in either university or college, by the inspectorate, by professional bodies, and so on. Allied to this is the image which he has of himself and how he stands in relation to others engaged in the total educational effort. While his training may help him to clarify his own image of himself and to increase his competence, the way that he is perceived by others will influence his motivations and the way he carries out his crucial and demanding job.

It will be appreciated that I have not interpreted a lead paper to be one that points the way. Rather I have regarded it as of having value only in as far as it provides a framework within which discussions may enlighten the paths along which we can possibly travel.

THE COSTS OF EDUCATION AND THE SUPPLY OF TEACHERS

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The Costs of Education :

Within the financial frame of the educational enterprise, distinctions must be made between educational investment, educational expenditures and education costs. In the educational enterprise, there are also incomes comparable to those of other business undertakings, though such educational incomes are not the subject of analysis in this note.

Investment : Investment in education is the global resources from the State, foreign aid, non-governmental bodies and individual citizens put into the educational enterprise. It is usually expressed as a percentage of the Gross National Product (GNP) as a post hoc exercise, as an instrument for analysing and regulating intersectoral allocations within a national plan, as a means for inter-country comparisons of the comparative educational effort, and as a norm or desirable target of the educational contribution to national development. Most of the affluent countries are investing well above 6 per cent of their GNP in education. The developing countries who started the sixties with around 3 per cent of their GNP invested in education have now moved up to 4 to 5 per cent. In terms of the proportion of the State budget allocated to education, the sixties have averaged a 13-15 per cent increase in such allocation. This investment approach to educational outlays is basically sound, as it is a reminder that educated and trained persons are a production factor like physical capital, that they are a produced means of production and that the economic and social machine cannot run without this human capital, any more than it can without land, water, machines and other inputs. This argues that more of a place should be given to the norm or target aspect of educational investment in national development than planners are willing or accustomed to give. The use of the investment tool expressed as a percentage of GNP for inter-country comparison purposes involves using the correction formula for distortions introduced by unreliable or incomplete statistics, the exchange rate unrealities and the differing stages of national development that each country represents. On the other hand its use in inter-sectoral comparisons within a country's economy raises sharply the question as to whether a straight unilinear increase of educational investment in the seventies based on the justified trend of the sixties will make for national development or whether it will act as a bottleneck to such development. In my own State in India, the education sector of the twelve year perspective Plan has some prophetic words on this point: "The State of Tamil Nadu has increased its education budget from Rs.150 millions in 1961 to Rs.890 millions in 1972, entailing a rate of increase of over 45 per cent per annum, while the State Net Domestic Product increased at a compound rate of 3.5 per cent over the same period. The State cannot continue this rate of educational investment over the Perspective Plan period without education becoming a constraint on development." In fact all evidence that we have at hand points to a slowing down in the past rates of increase. The UNESCO Education Commission points to the fall in the rate of increase of education allocation for 1967-68 compared with the mean annual increase rate for the period 1960-68, to 9.2 from 10.0 in Africa, 10.8 from 11.3 in Latin America, and 12.1 from 14.1 in Asia. The moral of this declining current and future trend in educational investments in the poor countries is the need to assess carefully our educational cost structure and redeploy our expenditures in order to move towards a low cost and increasingly productive structure.

Expenditures : Expenditures in education refer to the resources flow into and out of the education sector and are the financial tool that governments and ministries of education are most familiar with. Expenditures are usually divided into capital and recurrent, into direct and indirect and by level and form. The particular expenditure classification adopted is empirical, based on history and experience and is usually a part of the country's accounting conventions. One country may class libraries under capital, another recurrent. Research, inspection and evaluation costs are in some cases classed under direct expenditures and in other under indirect. Accounting conventions usually place the retirement benefits to be paid during the year to retired education staff under recurrent and direct and indirect expenditures, while that relating to those in service is not included under any item. Similarly replacement of furniture and equipment appears under recurring and direct and indirect expenditures as do maintenance of and repair of buildings and equipment. But the depreciation charges for the latter group usually appear nowhere. Capital expenditures usually cover the expenditures on land, survey and design charges, the expenses of buildings and works and all durable furniture and equipment.

These classifications are used in public expenditures on education. That is, they refer usually only to the expenditures incurred by State through the Ministry of Education. And in this regard the ministry is required to compute the public expenditure trend for five or six years ahead to fit into the medium term plan of the country. For such computational purposes, simple formulae are usually adopted. One such is to establish the expenditure per pupil at each level of education, which would be a function of the average annual salary of a teacher (a), the pupil teacher ratio (t), and the expenditure on all non-teacher items expressed as a percentages of the average annual salary of a teacher (r), so that the expenditure per pupil = $\frac{a(1+r)}{t}$. The total expenditure for any year would then be the sum of the enrolment multiplied by the per student expenditure for each level and type. In using formulae like this to compute future public educational expenditures, allowance must be made for changes in prices and changes in each of the quantities used in the formula. This latter group of changes - increase in teachers' salaries and retirement benefits, larger school meals, changes in text books and equipment, and the teacher pupil ratio - is in one sense given and in another represents alternatives between which deliberate choices can be made in determining the quantum of future expenditures. For the State education budget in any given year, however, these elaborate calculations are not necessary in establishing the various expenditure heads. From one educational year to the next the expenditures are committed for the most part - 90 to 95 per cent - for teachers, maintenance of building and equipment, mid-day meals, transport, inspection and teacher training, so that it is only with regard to 5-10 per cent of the estimates of expenditures that there are some limited choices for variations or innovations available to the authority. It is therefore essential that public educational expenditures should be planned for fairly long periods of time - well beyond the normal medium term state plan of 5 or 6 years - for periods of 15 to 20 years in order to increase the range of choices. This points to the other use of the formula employed in public educational expenditure computations which is to provide some rough and ready indicators of the mix of the various factors and levels and forms of education in the immediate past as a guide to possible or desirable changes in future expenditure patterns. It could indicate the desirability in the future expenditure estimates of increasing non-teacher costs and/or diverting more resources to certain levels - primary or secondary, and forms - pre-vocational, vocational and non-formal. Whatever be the classification formulae adopted in public expenditure estimates,

one of the most difficult tasks is to arrive at a precise and comprehensive set of figures concerning all educational expenditures. The educational expenditures incurred by the other departments of government including the military and the police, the local authorities such as village panchayats, and district boards, by voluntary bodies such as the Moslem, Christian, Buddhist and Hindu educational agencies, by business undertakings and above all by parents and guardians are difficult to collect and collate and even more difficult to fit into any known expenditure classification without running into the kind of problems that are faced when dealing with the non-monetized sector and those involved in double counting. And yet given the financial constraints that education is facing that were referred to earlier, it is necessary to establish a precise national table of educational expenditure by all involved - the State government, local authorities, non-governmental bodies and parents and guardians - as the only means of undertaking expenditure utilisation and effectiveness analysis, going on to disaggregated cost benefit studies. Such studies aimed at increasing the productivity of education could be the major means of stretching all available resources to the maximum. The moral of this review of the second element in education's financial frame - expenditures - is that governments must prepare two annual and plan period expenditure statements - one, as it does at present, the outflow of the State resources into educational ministry's budget and the other a comprehensive expenditure table of all educational expenditures by other government departments, local bodies, business firms, private agencies and individuals.

Costs : Educational costs are the costs of not producing more and better food which our people desperately need, minimum housing which our people do not have, as well as the incomes and wages given up by those in full time school attendance. This import of educational costs was partially referred to in the discussion on investment, is the technique used when analysing education as a sub-system of the economic and social system, and could be the basis of determining the productivity of and allocation to the educational sector in relation to those of the other sectors of the national economy. From this point of view if the increasing rate of drop-outs from in-school system and the crisis of educated unemployment are taken as over simplified indicators of the efficiency of the education system, it seems probable that the marginal productivity of education is declining compared to that of the other sectors, that the ratio between the costs of education and its contribution to national development is falling.

Correlative to this wider definition of educational costs, is an internal definition of the costs of an educational programme based on a chosen unit. On the basis of either the public expenditure or the comprehensive expenditure table discussed earlier, it is essential to establish the unit for costing purposes. These units could be the teacher unit cost varying with the teacher pupil ratio, teaching hours, salary and enrolment levels; text books and teaching materials unit cost depending on the quantity, quality and prices of books and school equipment; school meals and health unit costs varying with level of poverty of the parents and population density; maintenance of building and equipment unit costs depending on the quality and the number of buildings involved; building and equipment unit costs varying with land, design and construction costs and rate of utilization; and administrative unit costs, varying with the management system and the wage structure. There are many refinements and complexities in developing this unit cost tool. Such unit cost computation can be simplified into per student cost, per class cost or per school cost, or can be computed more comprehensively as in the UNESCO Asian Education Model. In the model the per

student recurrent cost for any level of education is $N = N_a + N_b + N_c + N_d + N_e + N_f + N_g + N_h + N_i$, where N_a = per student teacher salary cost, N_b = per student personal cost other than teacher salary, N_c = per student cost of general administration, N_d = per student cost of maintenance of buildings and equipment, N_e = per student cost of books, N_f = per student cost of school meals, school health, N_g = per student cost of transport, N_h = per student scholarships costs, N_i = per student cost of sports and other educational supplies and expendable equipment. In establishing any of these units, assumptions must be made for each of the constituents in relation to the conditions of the country. The major purpose of this type of unit cost instrument is to test the internal efficiency of the education system and use the results in arriving at some approximation of the cost benefit relationship in the system. Whatever the unit adopted and used, it will be found, that the key variable in all educational cost analysis is the number of teachers and their total emoluments followed by the number of students and the cost of building. The fact that the teachers costs are the preponderant element in the educational cost structure, amounting in non-professional education to over 80 per cent, can be illustrated by the fact that in a country like India capital-expenditure in school education which is currently 2.2 per cent of total educational expenditure is expected to rise only to 2.5 per cent in 10 years from now. Similarly non-teacher costs vary from 11 per cent in primary schools to 42 per cent in colleges. It is only in vocational and professional education at the secondary and tertiary levels that the teacher and non-teacher costs are equally divided. So too capital costs in higher education are around two to three times that of school education. More generally the capital costs in all countries is a fraction of total educational costs. In China it is 14.4 per cent, Ceylon 4.9 per cent, U.S.A. 19.7 per cent, U.K. 18 per cent, with Japan and the Federal Republic of Germany having the highest at 24 and 29.3 per cent respectively. The moral of this rather brief discussion of educational costs is that the major cost constituent at all levels and forms of education is the cost of teacher.

Supply of Teachers :

For all countries and particularly for the developing countries, the future trend is likely to be a tight teacher supply position and rising teacher costs. The teacher supply position will worsen because of the acceleration principle which operates in the educational area. That is, the increasing enrolments that the countries face due to the population explosion of the fifties and sixties together with the increasing social demand for education mean that if annual enrolments increase by 5 per cent, a teacher's service averages 35 years and retirement and death average 5 per cent of the teaching force, the supply of teachers will have to increase by 50 per cent to meet the 5 per cent increase in enrolment. On the other hand the rising teacher cost factor is not only a consequence of the acceleration principle in relation to teacher supply, it is even more due to the structural problem that developing countries face. First there is the problem of the relation between teachers' salaries and the average wages in the country, not to speak of its per capita income. Second the high price which educated manpower commands in the countries relative to the per capita national product limits its employment market. The education sector like the health system is an area where only educated manpower can be used, making that sector much more expensive than the primary or secondary sector of the country's economy. Third the high wages of the teacher is an indicator of the under-supply of teachers and the high cost of producing teachers. (The rate of return on any form of education always tends to equal the ratio of present

value of wages due to education to the cost of producing the educated person.) In this view rising teacher costs in the coming years must be taken as a given element in educational planning.

These two features - teacher supply and teacher costs - need some further comment.

Teacher Supply : The UNESCO Education Commission points out that the teacher supply rate during the sixties has been larger than even the education explosion of that period, which ranged from 33 per cent at the primary to 107 per cent at the tertiary levels. During 1960-68 the school enrolment rate increased on an average by 4.5 per cent annually, while the teaching corps increased at an annual average of 4.7 per cent. The total number of teachers increased by 50 per cent from 12.6 million to 18.2 million during this period. Two comments must be made about this teacher supply phenomena. First this increased teacher supply was a wasteful increase. During this period the percentage of students who rejected or were kept out of the education offered to them was large, and in some countries accelerating. In many countries there are more children out-of-school than in-school, and at current rates of wastage and rejection there will be 230 million children of the age group 5 -14 not attending school in 1980. The illiteracy situation where the percentage of decrease is around one quarter of the percentage increase of the teaching force is another indicator of unproductivity of the teacher increase. This comment allows for the fact that there are also other social and economic factors which account for the wastages, irrelevance and low product output of the education system. A second comment is that the teacher in-take now absorbs about one third to one half of second level graduates in all countries. In Europe in 1967 there were 300,000 second level graduates, and 100,000 entered the teaching profession in 1969. The comparable figures for Africa are 50,000 and 30,000 and for Asia 300,000 and 200,000. (This presentation juxtaposes the two figures of second level graduation and the increase in the teaching force. They are not functionally inter-related.) If past and current educational mixes of teacher and non-teacher ratios are continued into the future, the teacher corps will absorb an even larger percentage of second level graduates, reducing the supply potential of other developmental personnel for farming, fishing, dairying, forestry, small and medium and large industries management, research, and health and other services.

Teacher Costs : The teaching costs have been increasing both absolutely and as a proportion of recurring costs. The UNESCO statistical year book for 1970 provides the information on the absolute increase of teacher costs in all countries - both affluent and poor. But the percentage magnitudes and increase of these costs as a total of recurring costs over the years are substantially limited to the poor countries. Thus, while the magnitude or level of teacher costs percentage is around the fifties for Canada, the Soviet Union, Australia, Austria, Czechoslovakia, Japan, United Kingdom etc. (with France and Germany forming important exceptions), it is around the eighties for Africa, Asia and Latin America (with some exceptions like India). Equally, while the percentage share of teacher costs has tended to decline between 1956 and 1968 from 69.6 to 56.5 for Canada, from 56.3 to 54.3 for Japan, from 51.6 to 49.8 for the U.K., from 59.4 to 51.4 for the U.S.S.R. and so on, for the poor countries it has risen from the seventies to the eighties or has remained more or less stationary at this high level. To this must be added the teacher supply aid which in 1968 according to OECD annual report amounted to 56,183 teachers from DAC countries to Africa (42,344), Latin America (4,552), and Asia (6,625). Over 60 per cent of this total teacher supply was from France, which may

explain the exceptional position of that country in the comparative teacher cost table. Allowing for the fact that countries at the early stage of development have a high cost education structure compared to the cost of producing other capital goods, and that within this frame teacher costs will represent a large percentage magnitude and at the initial stages a growing proportion, the present and future teacher cost trends in the poor countries allow little room for improved school performance. Such performance demands a continuing rise in the non-teacher cost element in the future, - a demand which is negated by the prospective inescapable increases in teacher costs. This teacher cost increase is also a corollary of educational development, wherein the percentage of low paid teachers declines, while those at higher levels of remuneration increase. Between 1960 and 67, in Europe the percentage of first level teachers declined from 64 to 53, while it increased for the second level from 31 to 40 and for the third level from 4.7 to 6.4. The first level declined for Africa from 86 to 77, for Latin America from 70 to 63 and for Asia from 73 to 58. The second and third levels on the other hand increased for Africa from 12 to 20, and 1.7 to 3.1 for Latin America from 26 to 30 and 4.3 to 6.7 and for Asia from 24 to 38 and 2.7 to 4.6.

Some Suggestions : Faced with this double constraint of the limits to teacher supply in relation to the growing future demand and of the certainty of increasing teacher costs in the years ahead, it is necessary to examine somewhat fearlessly the ways and means of meeting these constraints and providing the work based quality education that the economy and society demand. In this note certain suggestions are made as a basis for further reflection and discussion on this issue.

First, within the existing system the teacher-student ratio and teacher qualification requirements can be varied so as to live within an initial ceiling of say a maximum of one third of second level graduates entering the teaching profession declining later to a quarter. The student-pupil ratio for various levels of education is no sacred cow. It can be stretched with no decrease in the quality of teaching and learning as the Japanese experience shows. I have seen some primary schools there with a ratio of 1 : 50 maintaining high standards of learning achievement, where the quality of knowledge dispensed is very near equal to that acquired and where the drop-out rate is zero. This performance was due to the personal and professional qualities of the teacher, the equipment of the school and the cultural mores of the local community. The usual formula used for computing the teacher supply where N_t = the number of teachers of grade g in the target year, N_o = the number of teachers of grade g in service at the base year D , r = the annual attrition of teachers of the grade, Y_t = target year and Y_o = base year, with the result that the addition to teacher supply for any target year is $\frac{(N_t) - (N_o)}{Y_t - Y_o} + \frac{(N_t + N_o)}{2} (r)$ provides all the flexibility needed for varying the qualifications of teachers at various levels and forms of education. For example the graduate teachers may be 2 or 3 or 4 per cent, grade I teachers may be 20 or 22 or 24 per cent, grade II teachers may be 28, 30 or 32 per cent, grade III teachers may be similarly anything between 40-55 per cent. The mix of teacher qualification can be fitted to meet the teacher supply and teacher cost constraints as Ethiopia is planning to adopt in its Educational Reform Plan.

Second, it is possible to revise the learning programme in the school as the U.S.S.R. and some other countries have done so that the hours and years of schooling are shortened. There can then be a greater turn around and in-take of students without a commensurate increase in teacher supply.

Such a shortened school programme has also resulted in an improved school performance. Here the effective teaching hours can be increased - even doubled - with only a marginal increase in the number of teachers.

Third, the learning process can be increasingly centred on self learning techniques under which each person can follow his own learning path, aptitudes and interest. The techniques used would be self study, group discussion and the various audio and visual means and media of self instruction, which are such powerful instruments of cultural and social development and integration in society today. These techniques are being tried out in several countries on a pilot basis. They must now be generalised. These supplements to the teacher and his direct instructional function will also reduce the total requirement for teachers.

Fourth, the additional educational resources that will become available in the future should be increasingly deployed in the new type of learning materials and teaching technologies centred around the work situation in which the majority of school age children who are not in school and the illiterate and semi-illiterate adults are involved. Similarly expenditures on vocationalised education at all levels of school education will help close the current gap between formal and non-formal education (which is always vocational) and in the process give relevance and fitness to the entire learning process in the school system. This development will not reduce the demand for teachers but will demand a new type of pedagogue who will straddle in-school and out-of-school education.

Fifth, the teacher must be formed, through restructured pre-service training for those entering the profession and through annual and continuous in-service training for those in the profession, into a new kind of stimulator, guide and learner which the teacher must become. This recognises that the teacher is no longer the only provider of knowledge, since the library, the film, the radio, T.V., magazines and newspapers, youth clubs and early access to all forms of knowledge and life compete with him. He himself has to be competitive, attractive, widely conversant with all aspects of life. He can no longer teach in an authoritarian and magisterial manner, or even in an authoritative one, since he can not claim universal knowledge, or final certainty in any field or subject, at a time when our truths of today become the untruths of tomorrow. So he is the guide who learns along with his pupils where and how to cull the new knowledge that is to be found everywhere in our growingly complex world rather than the transmittor of knowledge already gained. He is the one who develops the spirit of inquiry among students, which means that he himself will be constantly questioned by them. His training will not centre around methods of instruction and teaching methodologies but on developing techniques, qualities and insights which will make him an educational catalyst, an educator of others and a constant and continual learner. Whether he be a subject specialist or one developing teaching materials, self learning equipment and technologies, he will cover learning in all its forms and places - in-school and out-of-school - and learning to help his pupils to live in the 21st century which is just around the corner. This will raise the costs of teachers and those of the new kind of teacher training while reducing the number of teachers involved. Ivory Coast, Nigeria and Ghana are moving in this direction using the U.S. - U.K. model. So too is Indonesia with the help of Australia, as India is planning to do in the Fifth Plan.

Sixth, the teaching profession must be widened to include businessmen, farm leaders, engineers, architects, doctors and all those who are

involved in the world of work who are anxious and willing to participate in teaching, and who will be a major means of closing the gap between the world of learning and the world of work, between the schools and society. This is already happening in out-of-school programmes and is one of the innovations being planned by some countries to bring a sense of relevance into university education. The same demand to participate in teaching comes from the large numbers of para-educational persons - panchayat union presidents, municipal council members, women's organisation members, student groups and a whole host of auxiliaries who are available for sharing in the teaching work load. The teaching profession must shed its growing closed circle isolation and make its teacher training colleges permanent all the year round training institutions where these groups of potential educators can be given short courses ranging from 1 week to 3 months, so that the educational enterprise can be enriched by their service and the load on the current and future supply of teachers lightened.

Finally, underlying all these suggestions is the reality of education as being way beyond what is acquired within the four walls of the school or the university, what is acquired at any one period of time of say between the age of 5+ to 18+. Education is learning, learning how to learn, learning anywhere and everywhere where a learning experience is to be had. The place may be a school, may be a hospital, or a co-operative farm, or a tele club, or a church or mosque or the home library, factory, garden or kitchen or a political party. The means may be a priest, a broadcaster, a teacher, a book, a group discussion. In this view the school loses its false prestige as the only or major temple of learning. The teacher loses his unbecoming monopoly as the only purveyor of knowledge. The school becomes disaggregated and structured with multiple entry, exit and reentry points to enable its denizens, both students and teachers, to move freely between the school, the home, and the market place, because all these are at the same time learning experiences and working places. There will then be no false and forced distinction between in-school learning and out-of-school learning. There will be just learning, learning which is continuous, lasting over one's life, learning which is never ending because every day and in every way something new is happening, learning which is comprehensive because it recognises no age - child and adult, no sex - men and women, and no profession - teacher and taught. All are learners all the time. It is in this direction that all our societies including our educational sub-systems must move and it is that that we must now turn into programmes, structures and systems.