

ALTERNATIVE APPROACHES TO TEACHER EDUCATION

Stanley Vivian, Consultant, Commonwealth Secretariat

Part 1

The Case for Alternative Approaches to Teacher Education

CONVENTIONAL PATTERNS OF TEACHER EDUCATION

Although moves to modernize school education have been made in many countries over a period of years it is a curious fact that it is only in quite recent times that the education and training of teachers has been the subject of serious critical examination and experiment. Indeed, teacher education has long appeared to be the most rigid and conservative part of many national education systems and one, it must be said, which has received least priority in educational development planning, with a frequent lack of resources, both physical and human, institutions of teacher education have rarely been challenged - nor have they been able - to re-examine their objectives and programmes in any fundamental way.

The vast majority of those who have been trained as teachers have spent anything from two to five years in rather small, single purpose, institutions following a course which had changed but little over the years. Frequently it was found necessary to devote the first year, or longer, to making up the deficiencies in the students' previous general education; but such work - usually examination-oriented - rarely bore any relation to the student's preparation as a teacher. Academic and professional education were separate and unrelated elements in the total programme. Within the professional area, too, in spite of the often expressed need to bridge the gap between theory and practice, the two have tended to remain poles apart with solid "education" and "method" courses on the one hand and periods of teaching practice on the other. Thus the criticism of the remoteness of teachers' colleges and their courses from the hard realities of life and work in the schools was often justified; the more so, since most of the teachers' colleges were in towns while the majority of schools were in rural areas. Even the periods spent by students in schools, useful though they were, were usually too short to be more than a rather artificial exposure to the job of teaching. The potential value of such school experience was also lessened when guidance and supervision was the sole responsibility of visiting college tutors who themselves were not infrequently short on relevant classroom experience.

A frequently-heard complaint from teachers' colleges has been that there is too much to be done both academically and professionally in the time available. So there has commonly been pressure for the lengthening of courses, a step which many countries are reluctant to take for very good reasons. But such pressure is likely to continue as long as there is little provision for the in-service education of teachers on a regular basis. The objective of initial training should be preparation of competent beginning teachers, and this more limited purpose enables the college curriculum to be redesigned more economically in terms of basic skills and competences. Certainly whole areas of educational theory are more profitably discussed against a background of real experience.

In this context also, the methods of teaching and learning adopted by the colleges are highly relevant. By and large, the attitude has been that there is a body of knowledge, academic and professional, which it is the job of the college to ensure that students acquire. But since this is a large and ever growing body, recourse has had to be made to highly formal methods of instruction - lecturing, note-taking and reading. These leave little time or opportunity for active and independent learning by individuals and small groups. And so the same students who are being exhorted to adopt "activity methods" and "learning by doing" in the schools have themselves little or no experience of such approaches in their own education and training. Yet such approaches which place emphasis on learning how to learn through carefully selected units of study can go a long way to reducing the supposed need to cover lengthy syllabuses. Learning experiences rather than bodies of knowledge thus become the key features of teacher education curricula - which is simple realism in an age when no-one can know it all.

The majority of teacher education programmes have been, and often still are, offered in relatively small, single purpose, educational communities. This arrangement clearly has some advantages. All aspects of the course can be so planned as to focus on professional needs, on the student's future role as a teacher, a role to which, in theory at least, he has already given his commitment. The whole college can develop a unity and singleness of purpose expressed as a professional ethic; and because of its small size a relatively intimate community atmosphere can be created in which all - staff and students - can know each other as individual persons. But the disadvantages of such an institutional context for teacher education relate to the very coherence and separateness which have been claimed as its strengths. The fact that students are all working on the same courses to the same goal means that they are inevitably cut off from contact with and understanding of the many others elsewhere whose education and training is also aimed at the social and economic development of their communities. Thus an unacceptable narrow concept of the role of the teacher in the modern world is promoted and the challenge and variety so important for critical awareness cannot be adequately provided. Staff and students may not only be remote from the realities of the school situation but also from those of the everyday world of work.

Colleges of the kind that have been described were established for the most part at a time when the tasks of the schools were assumed to be both simple and clear-cut, concerned with the acquiring of the basic skills of literacy and numeracy; when syllabuses were clearly laid down and methods were standardized. So colleges have responded accordingly and, being small, have been able to offer only a limited range of courses reflecting existing school curricula rather than seeing themselves as agents of change and development.

The monotechnic institution can be seen to have another weakness when there is a change in the flow of demand, as has been the case in Britain and other developed countries in recent years. A very considerable expansion of teachers' colleges in the 1960s has been followed in a little more than ten years by a major reversal of this process as a result of a declining birth-rate. From an economic point of view, therefore, there is advantage in teacher education being an element, though an important one, in a diversified institution where it is easier to redeploy staff and resources to meet changing demands.

CHANGING NEEDS IN TEACHER EDUCATION

It is a truism to say that in a rapidly changing world education must be ready to change both its content and its methods if it is to fulfil its rightful function. It is, however, not so easy to define at all precisely just what

kinds of change may be called for in the circumstances of any particular country.

In the case of teacher education it may be helpful to consider this matter from the point of view of what would seem likely to be the general trends of change in the role of the teacher, since it is to prepare future teachers that systems of teacher education exist. Where any of these trends can be clearly identified as appropriate and desirable in particular country situations, it will then be the job of teacher educators to reorientate their programmes to match these priorities. For the purpose of this study some trends of change in the role of the teacher are suggested, the first three concerned with the teacher's relationships and four with the performance of his professional role in the classroom. It is not of course implied that these are other than closely inter-related.

The Teacher and the Community

Not only in the developing countries, though more especially there, the school has often been an alien institution, existing in isolation from the everyday life and concerns of the community it should serve. In such a situation the "good teacher" is seen as one who is simply efficient in the conduct of his professional duties within the classroom. It is certainly on this basis that his competence is assessed by those in authority. He may indeed feel threatened by unwelcome intrusions into his world by parents or other members of the community. But such an exclusive, inward-looking, institution is hardly one that the new nations can accept as adequate to their purposes of nation building and the struggles of their peoples for a better way of life. If, however, this is to change; if the school is to interact constructively with the community to their mutual benefit, the teacher will have to see his role as a much wider one. This must mean that initial and later in-service training must prepare him to meet this challenge. Instruction will certainly not be enough for what is frankly recognized as one of the most difficult of the teacher's tasks. Teacher educators have also to be challenged to devise imaginative ways, appropriate to local conditions, in which students can be helped to acquire the necessary understanding and skills. Work of this kind has already been undertaken in a number of countries and one example, from the Bununbu project in Sierra Leone is described more fully in Part 2.

Teachers Together

Traditionally the teacher has worked in isolation from his professional colleagues, both those in his own school as well as others elsewhere. It could very well be that once he has been "trained" and assumed to be competent to teach a class of children he will hardly ever afterwards have the opportunity of observing the work of his fellows or sharing with them in an educational task. The isolation of the classroom can be almost total - even where, as very often in many countries, two or more teachers may share the same space! Nor will the very occasional in-service course greatly affect the matter. But clearly it must be the case that in a situation of this nature any professional growth will be unlikely and, especially when combined with geographical isolation of the school, morale and commitment will suffer.

Fortunately, however, this picture is beginning to change in many countries, although there is still a long way to go before we can describe teaching as a co-operative enterprise. Whether at primary or secondary school level, teachers like pupils have their individual differences, interests and capaci-

ties. These can be harnessed in a number of ways, but perhaps two in particular - joint curriculum planning and a sharing of the teaching task. These may well come together in the planning and execution of a programme of work or project covering anything from a week to a term or longer in length. When such work cuts across the traditional subject boundaries, so much the better, though in larger secondary schools, it may take the form mainly of planning and a form of team teaching by members of a subject department.

What are the implications of this trend for teacher education? Clearly, it would seem that at both pre-service and in-service stages students and teachers should have experiences of working together. At the pre-service stage this can take the form of small group studies and projects in, for example, curriculum studies and shared work by two or three students during the early stages of their school experience. Perhaps even more fruitful can be opportunities for serving teachers on in-service courses and workshops to share experience and to work together on the production of curricula and learning materials geared to their needs. Whatever the precise nature of such co-operative work, pre-service or in-service, it must have the effect of widening teachers' horizons and making them more ready and confident in breaking away from the traditional isolation of the teacher in his classroom.

Teachers and Children

In spite of the increasing role of the various teaching and learning aids, from individualized learning packages to television, it remains true that the personal teacher-learner encounter is still the most potent single factor affecting the educational process. But two changes in particular are significantly affecting the traditional teacher-pupil relationship. The first is our greatly increased awareness of the nature of the learning process and the pupil's active role in it, so that the notion of the teacher as the transmitter of a given body of knowledge and the pupil as a passive receiver is now totally inadequate. Secondly, to the pupil's more active role in the business of learning has been added a growing change in the nature of the relationships between young people and adults. Admittedly this change, marked by much freer and less formal attitudes on the part of the young who no longer necessarily accept adult authority simply because it is adult, is more noticeable in "western" and urban communities than elsewhere; but continuing social and economic change seems certain to ensure the further development of this trend. In any case, where school systems are moving as they increasingly are towards the encouragement of more active "child-centred" approaches to learning, inevitably the teacher is called on to accept a diminution of his traditional authority and, instead, to develop a less formal but active working relationship with his pupils. This can be very difficult for many older teachers, set in their attitudes and approaches to teaching, so that it may well be the new generation of teachers who will best be able to adopt this changing role.

This will clearly be most easily done if in their education and training they have themselves both been active participants in the learning process and at the same time have experienced an informal but stimulating and businesslike relationship with their own teachers. If teacher education colleges are to provide such experiences for their students, it follows that more attention than hitherto will have to be given to well thought out means of preparing their own staffs, since for them also this will often mean a re-orientation of role.

The Teacher and the Learning Process

Reference has already been made to the outdated concept of learning having as its purpose the acquiring, very largely through memorization, of a finite body of knowledge. A significant change in the role of the teacher begins when the speed with which new knowledge accumulates forces us to recognize that real knowledge is infinite and cannot simply be "possessed". Further, that the skills required for its comprehension and successful application to current needs are subject to continuous modification. Attempts in school systems to meet this challenge by producing new packages of knowledge have often proved disappointing simply because teachers have lacked both understanding of their purpose and the skills necessary for their successful use. In his changing role, the teacher can make no claim to a monopoly of knowledge and has to accept the need for continuous learning, including the discarding of obsolete ideas. There is still indeed the need to convey appropriate knowledge clearly and effectively, but this is not necessarily best or most economically done by teacher-dominated methods. The increasing use of materials for individual student learning, to which reference is made later in Case Studies, is a significant development. But the greater use of individual and group approaches to learning requires the teacher to be an organizer of selected learning experiences. This implies skill in identifying appropriate knowledge, and ensuring its availability in usable form when required. He is not so much a source or transmitter of knowledge as an organizer of learning opportunities, a guide to sources and a helper in the techniques of enquiry.

This shift of emphasis from formal teaching to planning and organizing will be a very difficult one for many teachers to make. It is right to acknowledge also that it will be virtually impossible when learning materials in adequate quantities hardly exist, and particularly where this is combined with the large classes which are a common feature in many developing countries. At the same time, it is a fact that it is in the more deprived sector of education in those countries - that is the primary schools rather than the better provided secondary schools - that this change in the role of the teacher has been most evident. Formal examination pressures are, of course, a major constraint on change, although their removal or modification will not necessarily, in the absence of other measures, ensure a move in the desired direction.

We return then to the key function of teacher education, acting in concert with the schools and with educational administrators and advisers, in making such a change in the role of the teacher possible. The need is clear. Teacher education staff must themselves adopt the changing role already described for the teacher.

The physical conditions would usually be no obstacle to this. But above all the students - and this includes teachers on in-service programmes - must have first-hand experience both in college and in school of a variety of approaches to learning and more particularly of those which assist in knowing how knowledge can be sought, validated and used as the basis for further learning.

The Teacher and the Curriculum

In most countries of the world the teacher has had little if any say in the planning of school curricula. His task has been seen to be no more than of the purveyor of curriculum content, including any supporting materials, which has already been decided on elsewhere, often by those far removed from the teaching situation. He is unlikely to be aware of the criteria by which decisions were made about the curriculum (for example the introduction of a

new environmental studies syllabus), or often to be familiar with its content or recommended teaching methods. In such a situation his commitment to it is likely to be weak and it will not be surprising if the actual curriculum - that is what actually goes on in the classroom - is rather different from what the curriculum planners intended. This may still be the case in varying degrees even where supporting learning and teaching materials have been made available and in-service courses run; and this is because the teacher has been allowed no part in the curriculum process although it is on him, more than anyone else, that its successful outcome in better learning will depend. The gap between aspiration and achievement is thus likely to remain wide.

But this is, perhaps, to paint too black a picture of what is already in many countries a changing situation. Curricula are increasingly being devised in more flexible forms, providing teachers with opportunities to make their own contributions in the light of local needs and circumstances. In-service courses which instructed teachers what to do and how and when are giving way to workshops in which they are participating in curriculum building along with colleagues. This is sound educational sense both in terms of the teacher's professional development and effective curriculum implementation.

The trend then, towards more teacher responsibility and participation in the process of curriculum development has already been set and seems certain to continue and be further extended. It follows therefore that teachers' colleges have a role to play in preparing their students for such activities. Ways of doing this will vary but may include: study of the curriculum process, critical examination of existing curricula and, perhaps most important, production by students, individually or in groups, of sample teaching and learning materials which they will themselves use and evaluate during their periods of practice in schools.

The Teacher and the Individual Pupil

Educationists have for long been talking about individual differences and it has become the subject of a standard question in teachers' examinations; but relatively little has been done in any systematic way to apply the concept in practice. Now, however, there is a steady move towards individualized programmes in schools particularly by the use of work cards and assignment sheets which allow pupils both choice of activity and the opportunity to move ahead at their own speed. This trend does not mean less work for the teacher; if anything rather more. He will often need or wish to devise his own materials or to adopt others and he will certainly be busy in checking progress and giving help to individual pupils when needed.

Teachers' colleges are also therefore finding an important place in their curricula for the use of individualized learning materials, often of a self-instructional nature. An example is provided in one of the later Case Studies. The preparation of such materials is the responsibility of individuals and groups in the staff and can be a very effective means of identifying key content and an economic way of catering for its learning.

The Teacher and Educational Technology

There was a time when there was a great surge of interest in audio-visual aids to education. In practice the results have generally been disappointing, even where money and materials have been available. Some enthusiasts have shown more interest in the "hardware" than in the uses to which it might best be put. Most teachers have found the practical difficulties of using machines to outweigh their advantages. They have also found that visual materials - produced

elsewhere - have often not been such as to fit their curriculum needs. In any case when used, as they usually were, simply as extensions to chalk and talk they were likely to entrench even more firmly the passivity of the student. The significant change that has occurred more recently is the result of the realization that there is more value in producing audio-visual aids than in simply using them; so that with the overhead projector, the cassette recorder and the slide projector (the last two not very expensive) both teachers and students can be engaged in making their own visual materials.

The opening up of these possibilities in the field of teacher education provides further opportunities for student participation in the production of learning materials of a much more exciting kind than previously. At their best, what is produced is not just semi-detached 'aids' but audio-visual material integrated learning units, often of a self-instructional nature.

Another powerful user of educational technology, and one which is gaining wide acceptance in teacher education is micro-teaching. The "hardware" here is the television camera, video recorder and monitor screen enabling "mini lessons" aimed at practising specific skills to be played back for the purpose of analysis leading to further practice. In fact micro-teaching can take place without the benefit of VTR, using other means of recording, although the audio-visual playback is certainly the most complete and effective. The part played by micro-teaching in a teacher education programme will be described in a later Case Study and its advantages and limitations discussed.

NEW OBJECTIVES FOR TEACHER EDUCATION

Having considered some of the main characteristics of conventional approaches to teacher education and a number of important trends of change in the role of the teacher, and consequent demands made on teacher educators to re-orientate their programmes, it may now be appropriate to attempt a re-definition of the overall objectives.

A Continuing Process

The most fundamental change in thinking about teacher education in recent decades has been that which now accepts that it must be a continuing, career-long, process of which initial training is only the first phase. This, of course, is paralleled by the wider concept of lifelong education for all to meet the demands of a changing world. For the teacher the new complexity of his role, the ever-changing educational scene and the inability of initial training to provide all the skills and knowledge which he will need throughout more than 30 years of his career provide a sufficient justification for this major objective. Teacher education, it is therefore argued, must be planned as one comprehensive and well-articulated process, within which initial training will have a rather different role from that which it formerly exercised. It must be thought of as a bridge into a professional life which will be reinforced by regular and probably compulsory periods of in-service education and training. It is significant, in this context, that many teachers' colleges are now playing an increasing and regular part in in-service training, and an example of this trend will be described in a later Case Study.

Adaptability

In this changing situation the need is no longer for teachers who have been

"trained" to teach a static curriculum by pre-determined "methods": what has been well termed the "tram line" approach which leaves little or nothing to the teachers' initiative or imagination and encourages fixed habits and attitudes. For teachers, as for others, adaptability is now of more importance as an objective than the acquiring of a set body of knowledge. This has obvious implications for teacher education (rather than "training") which must provide scope for students' initiative and choice as well as focusing on the development of skills by means of which new situations can be tackled with confidence. The rising standard of entry into teachers' colleges provides the opportunity of re-orienting programmes of work in this direction.

Teaching Skills

Recent criticism of teacher education has been directed against the vagueness of aims - where these are stated at all - and the assumption as to outcomes. Instead, it is argued that we should first make a careful and realistic assessment of precisely what teachers have to be able to do in order to carry out their professional task and then to set these performance objectives as clear goals for teacher education. This is what has been termed "competency-based teacher education", which sets out systematically to develop such skills as planning learning experiences, preparing worksheets, questioning and management, pupil participation creating and using aids, evaluating, pupil control, etc. The idea of the student mastering basic concepts and skills and out of them developing an individual teaching style is a radical departure from the "model the master teacher" approach which stands for imitation rather than analysis.

Integration

As already suggested, conventional teacher training has often consisted of a number of relatively unrelated elements: academic studies; the study of "education" or its component disciplines - psychology, sociology, philosophy; methods of teaching; periods of teaching practice. Increasingly now the move is towards a unifying of the teacher education curriculum with the teaching studies and skills as the nucleus of which the other studies contribute. It needs to be said, however, that such a development demands a highly professional teacher education staff who are prepared to work as a team regularly monitoring, evaluating and as necessary modifying the curriculum in the context of clearly defined objectives.

Economy

Almost all developing countries share the basic problem of a shortage of qualified teachers and thus the need to train considerable numbers as quickly and economically as possible. There are no easy solutions. However the moves indicated in "Teaching Skills" above together with a re-definition of the function of initial teacher training in the context of a career-long process suggest the practicability of a slimming down of the time - and thus the costs - of college-based courses. Indeed the trend in both initial and in-service training is towards making it more firmly school-focused and school-based. Examples from the Case Studies indicate also how the training programmes themselves can help to alleviate the teacher shortage.

Community Concerns

The responsibility of teacher education in the preparation of teachers to participate actively and constructively in matters of community concern has been referred to earlier in discussing the changing role of the teacher. It need only be added at this point that this aspect of the teacher's preparation, if it is to be effective, should be seen as a major objective rather than, as sometimes, a marginal activity. Undoubtedly the more teacher education is school-based the more realistic such an objective becomes as an integral part of the total exercise.

NIGERIA: A SANDWICH APPROACH TO INITIAL TRAINING

This course was first mounted by the Institute of Education of Ahmadu Bello University, Zaria in July 1972. It has continued each year since then.

The Context

The rapid growth of population and with it of school enrolments in the northern states of Nigeria especially in the last ten years led to an acute shortage of qualified teachers. At secondary school level in 1972 there were 795 graduates without teaching qualifications working in the schools. Against this, the one year, full-time postgraduate diploma course at the University was able to recruit only 24 students in the 1971/72 session - and a third of these were from the southern states. At the same time it was recognized that a full-time course presented problems both to older unqualified teachers with family responsibilities and to the schools who would have to do without their services for a whole year. Thus was developed the concept of an alternative approach by which the teachers could be retained in their schools during term time and undergo their professional training during the long school summer holidays. It was also felt that such a new pattern would not only prove attractive to the teachers concerned, but would also provide an opportunity to devise a more relevant professional preparation. After lengthy and careful preparation and discussion with all those involved in the University and the State Ministries of education - the new course was launched in the 1972 summer vacation.

The Programme

The pattern indicated in 1972 and still retained is for a course in three parts:

- Phase 1: the teachers follow a ten week course of preparation at the University;
- Phase 2: comprises a full year's teaching in schools during which the teachers are supervised but retain their full conditions of service;
- Phase 3: a second ten weeks' course at the University leading to certification 15 months after first enrolment.

To obtain the Diploma the teachers must pass in three areas: theory, practical teaching and a research study based on an investigation carried out during their year in schools and completed during phase 3.

For the first course there were 228 applications for the 45 places available. Within two years the number of applicants reached 400 and the number of places available 75. By 1976 120 students were being enrolled, including a considerable number (44%) of 'self-sponsored' i.e. those from southern states teaching in northern schools but not eligible for official assistance.

Most had two to six years of teaching experience. In earlier years a small number of qualified, but untrained staff of the Kaduna Polytechnic were amongst those admitted to the course.

Well qualified and experienced staff are essential to any teacher education programme. The Ahmadu Bello project has been fortunate in being able to draw in local staff from its own Institute of Education and the three Advanced Teachers' Colleges in the region - thus ensuring the vital factor of continuity. It has also been able, through the Inter-University Council in Britain, to obtain the services of experienced British personnel, although this element is now phased out. The supervision needed in Phase 2 of the programme was first provided by local sources, including head teachers, inspectors and others. However this has not proved very satisfactory in practice and field supervision is now the sole responsibility of Institute staff. An important factor in effective staffing has been the University's policy of offering financial inducement to its own and other staff involved in the postgraduate diploma and other summer courses.

The Curriculum

The curriculum of the new sandwich-type, diploma course had to have coherence and be seen as academically and professionally valid. At the same time it had to be so shaped as to take the maximum advantage of the three-phase programme in which more time was to be spent in schools than in the Institute. Further it had to be recognized as being relevant to the real needs and experience of the students and their schools.

The curriculum for the two residential phases (i.e. 1 and 3) after evaluation and modification in 1974 consists of four main blocks of study: methods of teaching; an integrated foundations of education course run in parallel with courses on psychology and educational administration; research methods and a number of options; measurement; sociology; philosophy; guidance; statistics; speech training and teacher education, (one option to be chosen). As the course developed, lectures gave way increasingly to a seminar and workshop approach with subject methodology being done almost wholly on a workshop basis with maximum student participation.

The research project has been the most innovative feature of the course. It is planned during Phase 1 against the background of the research methodology course, carried out during the year in school and finally presented during Phase 3.

Students need guidance on the selection of practicable topics for investigation and also assistance from their supervisors during its execution.

Such active research is seen as valuable not only for the student himself but also providing data of practical use to others in educational planning and development.

The year of practical teaching avoids the artificial nature of conventional teaching practice since the teacher is doing a full-time job in his own school. The preparation for the year in school is done in Phase 1, the student keeps a full record of his work in school and this is seen and assessed by his supervisor and head teacher.

Final assessment is a combination of continuous assessment and examination which together account for 60% of the total. The research paper and practical teaching count for 20% each.

Administration and Costs

As already indicated, a programme of the kind initiated and further developed over the years has involved a very considerable administrative load. It has been essential to establish and maintain communication and co-operation with all those concerned, in the University, State Ministries of Education, schools and individual students. Without such efficient administration the course could have had its effectiveness seriously weakened. The full-time post of course co-ordinator within the Institute was thus an important element in the overall strategy. It is a mistake to assume that a vacation course can be tackled in any way less seriously than a conventional full-time one.

It has been difficult to assess the costs of this sandwich-type programme compared with a conventional one, though the view is that on balance the former is somewhat cheaper. Some aspects are difficult to quantify, but it is clearly a gain, for example, for the University to use the same resources over a longer period to serve more students. The Ministries can train more teachers without having to replace them. Students have to attend at the University for only two terms instead of the usual three and the response of private, self-sponsored students demonstrates the value they place on the course. Whereas staffing costs were less than on a conventional course, the cost of the considerable amount of supervision of teaching practice and research projects was probably somewhat higher.

Evaluation

Those responsible for the course accepted from the first the need for an on-going process of evaluation so that necessary modifications could be made. Evaluation was carried out in a number of ways: through informal contact with employers and schools, reports from external examiners, staff and staff/student meetings and questionnaires to all students. As a result, initial overloading of timetables and students' assignments have been rectified, fuller prior information on the nature of the course made available to students, the integrated 'Foundations of Education' curriculum re-designed and changes made in the arrangements for supervision of practical teaching.

To Sum Up

Experience of the Ahmadu Bello course since 1972 indicates that it has a number of clear advantages.

- It maximizes the use of resources, physical and human.
- It makes possible training without removing staff from their jobs.
- It provides a more favourable situation for the linking of theory and practice.
- It provides a more professional context for training.

The acceptability of the sandwich approach has been demonstrated further by its adoption elsewhere in Nigeria, at Lagos, Ife and Nsukka, and by its extension at Ahmadu Bello into a number of other sandwich courses: for the National Certificate in Education, the teaching of Hausa and of Arabic and the new Bachelors and Masters programme.

SIERRA LEONE: THE BUNUMBU EXPERIMENT

The Context

In 1973 a national review of education was undertaken under the auspices of the University of Sierra Leone and the final report was published in 1976 under the title "Education Review: All our Future". The report highlighted the unsatisfactory situation in primary education, pointing out that only about 40% of children of primary school age were enrolled in school and that there was a high drop-out rate. Further, the curriculum was largely academic and formal in style, taking little account of the child's social and cultural background. The traditional and formal systems of education, it was thought, were in an unhealthy state of alienation and conflict. Little also was being done for the older age group who had not attended school or who had dropped out.

The need for alternative approaches was thus recognized so that the educational base might be widened and at the same time the orientation might be shifted from an academic to a broadly based curriculum emphasizing pre-vocational and cultural subjects. This should go along with a determined effort to 'bring schooling and traditional life into a co-operative, mutually beneficial relationship'. Such developments would require both an expansion and particularly a reform of teacher education. Thus came into being the Bunumbu project and associated Community Education Centres (CECs).

The Community Education Centre Concept

A major development priority of the Sierra Leone Government is to raise the standards of living of people in the rural areas. This implies programmes of rural development which will in turn require the introduction and diffusion of new skills, including literacy, among the rural population. It is felt that this can best be achieved by a multi-disciplinary approach through which teachers, agricultural extension workers, community development workers, co-operative organizers, local craftsmen and women, traditional leaders and voluntary bodies work in co-operation to common goals. In this context the Community Education Centre is seen as the hub from which will radiate all community development activities. They will make use of resources in the local community enabling skilled local people to contribute to teaching and learning, and they will stimulate traditional societies to engage in the development process.

The CECs will serve three groups: adolescents who have had no schooling; adults who have had no schooling; and primary school "leavers" many of whom will have had only a few years in school. Although the CEC concept is as yet not fully crystallized it is likely that it will take two forms:

- (i) a single community school to serve both school children and adolescents/adults;

- (ii) A separate entity (where there is no primary school) serving the needs only of the older group.

In the context of the Bunumba project, it is the single community school - cum - community education centre which is the focus of effort. However, the long-term aim is for a national network of CECs in both rural and urban areas operating under the overall supervision of an inter-Ministerial National Advisory Committee.

The Role and Training of Teachers for the Community School

The immediate objective is to utilize 20 pilot primary schools within a 20 mile radius of Bunumbu Teachers' College as Community Education Centres in addition to their normal role of providing education for children. These schools will make use of the new school curriculum being developed at the College and will also serve the community through courses in adult education, woodwork and handicrafts, home economics, nutrition, health education and agriculture. The teacher, trained at Bunumbu, is seen not only as a teacher of children but also as the leader of the team of workers operating in and from the Centre. This leadership role, although demanding much from the teacher, is seen as essential since he is likely to remain as the only permanent agent for rural development in village communities. Other extension workers will necessarily have a wider area of responsibility.

In this context the College offers training programmes at a number of levels:

- (i) Pilot school staff.
Headteachers and teachers of the 20 pilot schools have attended a series of in-service courses aimed at orienting them to the community education centre concept and improving their teaching skills with youths and adults.
- (ii) Local craftsmen.
Short courses have been run to help local weavers, carpenters and carvers both to improve their skills and acquire some expertise in teaching others.
- (iii) Teacher trainees.
Training takes place at two levels (each of three years); the Teachers' Certificate and Higher Teachers' Certificate, the second with a somewhat higher academic level of entry and both including a number of serving teachers. The essential elements in the curriculum for both courses, apart from the usual academic and professional studies, are a course in rural community development studies including adult teaching and extended periods of school teaching and participation in community development programmes. Students in the HTC course are expected to assume a significant leadership role and they produce at the end of the course a directed research report based on their experience in the field. The practice periods are spent "on site" living with the people in the pilot school villages. Additional incremental credit is given to head-teachers and teachers in the pilot schools. Some financial inducement is also provided for local craftsmen and others who work at the Centres.

Successful community development must include a strong element of self-help. It is reported that each of the pilot school communities has provided building materials and labour for the renovation and construction of their school.

TANZANIA: A SCHOOL-BASED TEACHER TRAINING PROGRAMME

The Context

Tanzania is a large but economically poor country of some 15 million people. In spite of massive efforts in post-independence years, by 1974 only about 50% of the children of primary school age were enrolled in schools. In the same year the "Musoma Directive" laid down the target of Universal Primary Education to be achieved in the shortest possible time. The primary teaching force then numbered some 29,000 (of whom about 11,000 were unqualified), but an additional 26,000 teachers would, it was estimated, be needed if 100% enrolment was to be achieved. To carry out this very large additional training programme solely by conventional means, i.e. by the expansion of teacher training colleges, was financially impossible. The number of colleges was, in fact, increased from 22 in 1974 to 33 in 1977, but this by itself would be quite inadequate. Consequently a combined policy of reducing the length of conventional college-based courses and developing a quite new alternative programme of teacher training was decided on.

The Colleges

There are two main levels of teacher training for primary school work; the Grade A course with a school certificate entry and the Grade C course with entry following on six years of primary schooling. The Grade A course has been reduced in length from two years to one year followed by one year of supervised internship. The Grade C course has been reduced from three years to two years followed also by one year's supervised internship. Thus there will be financial savings and teachers will enter service in schools more quickly. Such a change has made it necessary to revise the college curricula so as to prune them to essentials. At the same time, however, the task of supervising the internship year effectively is a major one, demanding maximum effort from the available manpower.

The School-based Programme

This has been, and is, a radical and imaginative approach to an emergency situation. In 1976, 15,000 students were enrolled in the first stage of the three year programme, learning "on-the-job". All had to have completed primary school not less than two years previously and done a variety of jobs since then. The minimum age accepted was 18 years. A basic educational test for selection purposes was devised by the Ministry of Education, but recruitment itself was carried out by local committees who were familiar with the applicants and who gave considerable weight to an assessment of suitability based on character. The students then moved into their local school to begin their training. The teacher-trainees (the concept is not far removed from the old one of the "pupil-teacher") teach about 15 periods per week, that is about half-time, and at the same time carry out a study programme based on correspondence materials devised by the Ministry's Institute of Education. These cover both subject content and teaching methods and concentrate on language (Swahili) and mathematics. A radio unit in the Ministry of Education provides regular broadcasts aimed at the trainees. They teach in either Standard 3 or 4 on the premise that more experienced teachers are needed for younger children and more academically able teachers for the upper primary classes (5, 6 and 7).

Clearly the effectiveness of a programme of this nature depends very much on the quantity and quality of the help and supervision the trainees receive on

the job. To some extent this can be provided by headteachers, but this in itself would not be adequate. Thus the resources of the widespread Adult Education network in Tanzania have been utilized. Some 2,000 local-level adult education co-ordinators, most of them ex-school teachers, were given a crash two month course in Swahili, mathematics and the principles and practice of teaching to prepare them to work as tutors to the trainees in their schools. Each tutor is responsible for about 15 trainees and has the task of giving his charges practical help and guidance in the classroom. He should also hold regular meetings with them as a group. Inspectors and teacher training college staff also assist when possible by visits to the schools.

Since they work in their local school, trainees live at home and are paid a small salary, considerably below that of a qualified teacher. The localizing of the training process will, it is hoped, ensure that when qualified these teachers will remain to teach in their own areas and not be attracted to move away in search of jobs in urban centres. During their first year trainees spend two weeks in residence at a college and it is planned that in their third year of training they will, in their study programme, concentrate on upgrading their subject knowledge, choosing two subject options for this purpose. At the end of the three year period they will spend one month in a training college as a finishing off process and a final assessment will then be made. Successful candidates will then rate as full Grade C teachers.

Evaluation

Since the first entry of 15,000 trainees in 1976 have not yet completed their three year programme, it is too soon to attempt any evaluation of the whole project, although it is known that there was a 10% drop-out from the first group. Since then a further 15,000 were enrolled in 1977 and 8,000 in 1978. What is clear is that a programme on this large scale has demanded a high level of administrative effort under considerable pressure - one in which the Institute of Adult Education as well as the Ministry of Education has been closely involved. This, together with the effectiveness of field supervision, is likely very largely to determine the final outcome.

It has been estimated - though at this stage it must be only a very tentative estimate - that the training costs per student will total about 3,000 shillings compared with 25,000 shillings per head in a conventional college-based programme. If this estimate proves to be anywhere near accurate then, in terms of economy, the project will have been shown to be well worthwhile. Any qualitative assessment must await the entry of the new group of teachers into full participation in the teaching situation.

SWAZILAND: AN IN-SERVICE PRIMARY TEACHER TRAINING PROJECT

The Context

Like many developing countries Swaziland found itself, in the early 1970's, in a situation requiring urgent action in the field of teacher training. The normal output from its teacher training colleges was insufficient to keep pace with the rapid growth of primary school enrolments. As a result there were not only many under-qualified teachers in service but also more unqualified teachers were continuing to be employed. The conventional process of teacher training was both too slow and too expensive as a solution to the problem and teacher trainers were hard to come by. Thus developed the idea of an in-service approach using a mixture of face to face and distance teaching

methods. A similar scheme had already operated over a period of three years in Botswana and, benefiting from this experience, a project was drawn up for Swaziland.

Objectives

The original intention was to upgrade over 600 "sub-qualified teachers". But it was soon found that, with continued expansion of the primary school system about 200 unqualified teachers were being added to the teaching force each year, so that many of these too were later drawn into the project. The final stated objectives were:

- to improve the teaching strength of the country by training some 600 primary teachers (later extended to 1,200);
- to inculcate modern methods, not only for use by the trainees, but also as a medium for change in others;
- to organize the training in such a way as to cause the minimum disruption to the staffing of the schools.

Whilst curriculum change was not envisaged as a function of the project, constructive change did in fact result from the involvement of the in-service staff with teachers and their schools.

Resources

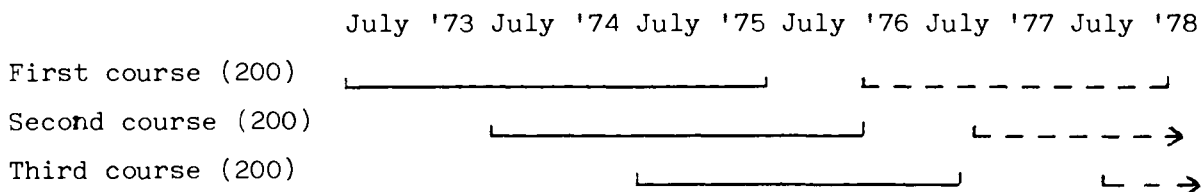
The project has been a joint effort by several agencies cooperating with the Swaziland Government. Finance and staff have been provided by UNDP, UNESCO, UNICEF and the British Government in addition to the Swaziland Ministry of Education. The staff has been made up of a Project Manager, Head of the Correspondence Unit, ten tutors and supporting staff. In addition a number of teachers provide part-time assistance in the marking of correspondence assignments.

The project was located on the campus of the Government William Pitcher Teacher Training College where additional living and teacher accommodation has been built for the purpose. (More recently the new National Curriculum Development Centre has also been established there). Such an arrangement has provided ample opportunity for mutual sharing of staff and resources.

Programme

The programme of work for any one group of students extends over approximately two years, each year being introduced by a six week residential period and followed by the students carrying out their normal duties in their own schools and at the same time being engaged in 60 correspondence assignments each year. Thus, over the whole two-year period there is a total of 12 weeks of course work on campus and 120 assignments which have regularly to be completed, returned to College, marked, graded and finally returned again to the students who retain them. Course tutors keep in touch with their trainees by Newsletters and also - and most importantly - by regular advisory visits to them in their schools. The latter not only ensures continuing on-the-spot help where it is most needed but also provides essential feed-back to the content of the course. A programme of regular radio broadcasts had to be discontinued because of practical difficulties of reception.

A maximum of 100 students can be accommodated on the campus at any one time i.e. two groups of 50 students. Diagrammatically the organisation for the first "wave" of 600 students can be illustrated thus:



Both continuing need and satisfaction with progress made by the project led to the decision to extend it into a second Phase. Thus in July 1976 the first course in a second "wave" of students entered for their first residential session. (indicated by the dotted line).

Curriculum

The curriculum is in two parts: five "core subjects" - English, Mathematics, Science, Social Studies and Education; and a number of subsidiary subjects including si Swati, Music, and Home Economics. About 80% of the time in the in-college courses is spent on the core subjects, which are also followed up in the correspondence assignments.

The work in English is based on the Swaziland "English Through Activity" approach for the lower classes of the primary school. The mathematics course is based on the discovery approach in a workshop environment and with the development of simple apparatus. Both Science and Social Studies have a strong environmental orientation with practical work closely related to the primary school situation. The work in Education has a clear practical emphasis, being concerned mainly with such things as the preparation of teaching materials and aids. Micro-teaching with video recording is also used as part of the education course, as is a local school for demonstration and practice.

The correspondence assignments are written by the course tutors; 24 in all for each of the five core subjects and are closely connected with the content and methods and in the in-college courses. Each assignment has with it a worksheet which the student has to complete and return. The correspondence units themselves provide the teachers with valuable resource material for their work in school - often the only material they have.

Follow-up and Evaluation

As noted earlier the follow-up element in the project has received considerable attention, notably the planned, regular advisory visits by course tutors to their "students" in their own schools. This is felt to be "the most successful way to ensure that real progress is made". The tutors have also produced a variety of curriculum materials in parallel with the correspondence units and this has been made use of by the primary curriculum unit, also housed in the college campus. In these ways the project has had its influence on other teachers in the primary schools who have been able to see in their own schools teaching and learning (and materials) of a kind beyond their previous experience.

At the end of the course, students are awarded a certificate based on continuing assessment of in-college work, correspondence assignments and practical teaching in school. There are no formal examinations. Of the original 600 students in the first wave the casualty rate was only about 3%.

There has been informal, on-going, evaluation of the project through the regular school visits, assessment of the students' correspondence work and their in-college activities all of which have made it possible to make suitable modifications to the programme as it has developed.

The Officer in Charge of the project has argued that the in-service, on-the-job, approach offers a number of advantages over the conventional full-time college course.

1. The on-the-job training is cheaper, roughly one-third that of the conventional course: in the case of the Swaziland project it has been about US\$ 750.
2. The in-service model uses a workshop approach with alternate periods in-college and on-the-job: this is a much more effective method than the conventional lecture-based course.
3. The trainee is at once brought into contact with the environment in which he will work, as a reality, not as a place where he practices and does not really belong.
4. The college plant is used the year round and is not closed for long holiday periods.
5. The regular visits to schools by tutors develop and maintain a college-school relationship which is so often minimal in conventional situations.
6. The in-service process with its feet firmly planted both in the school and the "workshop" makes the student teacher an active participant in the learning process.

SUDAN: THE IN-SERVICE EDUCATIONAL TRAINING INSTITUTE (ISETI)

Context

As in many other developing countries in recent years, the Sudan has experienced a spectacular growth of its educational system, especially at primary school level. As elsewhere too, this expansion has outstripped the capacity of the teachers' colleges to produce the needed newly trained teachers. Consequently the Ministry of Education has had to recruit increasing numbers of higher secondary school leavers into employment as untrained teachers (13,500 in 1976). These teachers were given only a brief introductory course before embarking on their teaching tasks, so that with the growth in their numbers, it became urgent that some properly organized training programme be undertaken to enable them to do their job more effectively. Further, it was necessary to remove the teachers from their schools for the purpose of training. The solution of the problem was the adaptation of the multi-media approach devised and successfully implemented by the UNWRA/UNESCO Institute of Education (Beirut) in the training of Palestinian Refugee Teachers (see "Better Teachers". UNESCO. 1970). In 1972, therefore, the Ministry of Education established the In-Service Educational Training Institute in Khartoum with the technical assistance of the UNWRA/UNESCO Institute and the financial support of UNICEF.

Objectives

The immediate objective is to provide 5,000 untrained primary school teachers

with a two-year course combining general education and professional training.

The longer term objective is to improve the quality of education in both primary and general secondary schools by the training and up-grading of primary school supervisors and headteachers and general secondary school teachers.

Organization

The Institute (ISETI) is an integral part of the education system, functioning within the framework of the Ministry of Education. There are seven sections within the headquarters of the Institute with 41 administrative and professional staff. In addition there are 27 sub-centres scattered all over the Sudan with a total of 73 field workers. The average Supervisor/trainee ratio is 1:35. Part-time assistance is also made use of in assignment writing, marking and the conduct of seminars.

Students

Commencing in 1972 with 250 trainees in Khartoum ISETI has expanded to include 27 centres with 2,600 trainees in 1976/77. Second year trainees, numbering 1,320 graduated in June 1977. To be accepted for the course, the teachers must have completed a higher secondary school course and have worked for at least one year as primary school teachers. In the case of the general secondary school course the trainees must have passed the Sudan School Certificate (roughly 'O' level) and taught for at least one year. About 300 secondary school trainees are expected to complete their course in 1978.

The Training Programme

Both primary and secondary level courses are two years in length and both make use of a variety of instructional means. These include summer vacation courses of about two weeks' duration, weekly study groups organized by the field supervisors, guided self-study correspondence assignments carried out whilst the teacher is continuing his normal duties, and the use of field libraries and audio-visual media.

The curriculum for the primary trainees include some general education courses of an academic nature plus a basic professional preparation for work in the primary school. The curriculum takes into account the student's greater maturity, his higher secondary school attainment and the teaching duties he has to carry out during his two year training period. Secondary trainees specialize in two subject areas as well as following a general academic and professional course. During the second year of the course all trainees are expected to carry out an action research or school improvement project and to submit a report at the end of the year.

Administration and Costs

The size and complexity of the ISETI organization is clearly very considerable and one therefore requiring a massive administrative effort. It is to be noted that between headquarters and the local centres there is altogether a staff of well over 100. (This requirement for a major and efficient administrative organization is one which would appear to be common to teacher education programmes of this nature and size).

It is not possible at this point in time to provide any precise estimate of the costs of the project beyond the fact that for 1978, the estimated input by UNICEF will be of the order of US\$ 250,000 in cash and US\$ 64,000 in the form of supplies. Local salary costs are additional - and considerable. Even so, it seems almost certain that the total cost per student will be much less than that incurred by conventional teacher training courses

Evaluation

Although some informal on-going evaluation has been taking place during the six years since the ISETI project was launched there was no comprehensive attempt to evaluate the total programme. However, this was undertaken, under UNICEF auspices, in mid-1978 and the report of this evaluation is now awaited. This will be particularly important because of the Project's plans to widen its activities (as already indicated) and to review its curricula and instructional materials.

SOUTH PACIFIC: A UNIVERSITY EXTENSION PROGRAMME

Context

The University of the South Pacific serves a vast region of scattered island territories with resulting severe problems of communication. In order to fulfill its responsibility in the field of teacher training the University's School of Education decided in 1971 to introduce an external version of the non-graduate Diploma in Education. The Diploma is an initial teacher training programme designed to produce teachers for Forms One to Four of the secondary schools. Applicants for the Diploma course will normally have had at least three years of teaching experience and will have reached the School Certificate level of education. Thus the external Diploma was designed to cater for experienced, though untrained, teachers to improve both their academic and professional standards without removing them from their posts in school for long periods.

The Programme

Up to 1975 the Extension Services unit of the University was an integral part of the School of Education and was responsible for organizing the external element of the three year Diploma course. Most of the Diploma students were, in fact, resident on the University campus in Fiji, but in order to help those from distant islands, the first two years of the course was "packaged" in the form of correspondence units. However, since it was not considered possible for the Diploma course to be completed entirely "at a distance", at least the third year had to be spent in full-time residence on the University campus. This year was devoted very largely to professional work.

In 1975 the structure was changed. The Extension Services organization was detached from the School of Education and began to cater for a rather wider group of students. Many of the subjects included in the Diploma were of general educational value and so these were made available to non-teachers interested in qualifying themselves for University entrance or for professional training overseas. Consequently the range of subject offerings has gradually been increased so that now there are approximately 1,000 enrolments in 31 courses. Also, instead of registering for programmes students now take individual course units, many of which may still be credited to the Diploma in Education. The Diploma course is itself currently under review, partly as a

result of rising entry standards and because of a decision to revise the syllabus. However, the basic three year structure will remain with one half to two thirds being available through Extension. Currently the course has two components:

1. An education component with four courses:

- Education and Society
- Child Development
- Classroom Learning
- Curriculum Studies

All Education students take these four courses.

2. A speciality component consisting of courses in:

- The Arts
- Sciences
- Commercial Studies
- Industrial Arts
- Home Economics

Only the courses in the Arts and Sciences are presently available through extension studies. All courses at the Foundation level are creditable to the Diploma in Education.

Basic course materials are provided i.e. course guides, reading units and text books (purchased by students). In addition a range of audio-visual materials has been prepared for some courses i.e. tape cassettes, slides, films, etc.

Some islands e.g. Tonga, Gilbert Islands, Solomon Islands and Cook Islands have local University Centres where students can gather together for study and where, in some cases, local tutors are available. Each course has a tutor whether local or at the University in Fiji. Assignments when completed are returned to the tutor for marking and an examination is normally set at the end of the semester. Half the total marks come from the written examination and half from course work.

An interesting use of modern technology by the Extension Services unit is communication by satellite. With two-way transmitters/receivers at the University and in each distant University Centre, audio tutorials can be conducted with several groups of widely separated students at the same time.

LESOTHO: THE NEW NATIONAL TEACHERS' TRAINING COLLEGE

Context

Lesotho is a small, largely mountainous, country of some 1¼ million people set geographically within the Republic of South Africa. Its resources are few and, with the exception of tourism, almost entirely agricultural. In United Nations terms it is one of the 25 "poorest" countries.

Consequently Lesotho's educational development has been constrained by severe shortages of finance and skilled manpower. Nevertheless there is a fairly

wide provision of primary education with about 230,000 children enrolled, although many are "over-age", and there is still a considerable drop-out rate especially in the early years.

In its plan to raise the quality of education in the country the government has given first priority to teacher education. In 1975, with international assistance, it opened a new, purpose-built, National Teacher Training College which replaced the previous seven small Mission colleges. The opportunity was thus provided to develop a new teacher education institution which would be both innovative and responsive to the real needs of the country and its schools.

Course Structure

It was decided that the total course should be one of three years, which is by no means unusual, but that during the year all students would spend the whole year as 'interns', carrying out a normal, full-time, teaching role in schools scattered throughout the country - including more remote mountain areas.

Three courses were established, to run side by side. The largest group follow the Primary Teachers' Certificate (PTC) course, preparing for work throughout the primary school. Entry to this course is at Junior Certificate level (Grade 9). A smaller group, at post-School Certificate level, follow an Advanced Primary Teachers' Certificate course (APTC) and the Secondary Teachers' Certificate course is also open to School Certificate holders. The first graduates of the college completed their courses in December 1977 and at the beginning of the 1978 session there were a total of 833 students enrolled: 521 PTC; 100 AOTC and 212 STC. The staff at this time was made up of 35 nationals, 27 international staff, and 28 intern supervisors (who were members of the Peace Corps). In addition, a total of 471 serving teachers had enrolled on two-year part-time in-service courses.

Curriculum

The college curriculum is organized into five main study areas: Language Studies; Development and Cultural Studies; Practical Studies; Maths-Science Studies and Professional Studies.

However, what is of more interest than the details of these studies is the means by which they are pursued. The three major modes of learning are:

- large group presentations of about 30 minutes each;
- small group sessions of about one hour each (or more);
- individual learning through the use of self-instructional materials.

The first two occupy about 27 hours of the 35 hours of timetabled work per week and the remaining eight hours for individual study.

Individualized learning is thus a major innovative feature of the college programme. To meet this objective college staff have, over the first three years produced over 100 self-instructional units in all curriculum areas. These are intended to complement the face-to-face large and small group sessions - the latter usually having a much less formal nature than the former. The three modes together are intended to produce between them a comprehensive and coherent learning package. A typical self-instructional unit might consist of:

- a pre-test;
- answers to the pre-test;
- a set of job-cards;

- resource material for job-cards (including printed and audio/visual materials);
- a post-test and answers to the post-test.

It has become clear that considerable skill is required in the writing and production of these units, that they can often best be done as a group rather than a purely individual task and that they lend themselves often to integrated studies as well as to single subject studies. A further point that arises is that the task of producing good self-instructional materials is in itself a valuable educational exercise and one in which final year students can well participate in relation to their school work.

Another new development has been in micro-teaching - a technique in which the student teaches in a real but scaled-down situation, practices a specific teaching skill and has the opportunity of obtaining feedback via video tape recording. The college's experience is that students do learn from micro-teaching in conjunction with real school experience in their first year and that this is evident during their second year's internship in schools. The programme is further continued into the third year during which students help in supervising first year students. Another advantage of micro-teaching is the way in which it involves all staff as supervisors, not only those from the professional studies area. There is, of course, the matter of costs since the equipment is expensive and requires expert maintenance. However, micro-teaching is not solely dependent on video recording since other means of feedback are also valid. These can include the tape recorder and written records by the supervisor and/or other students using a standard form.

The college has also moved right away from conventional methods of student assessment - usually by formal examinations of a traditional kind. Instead, the performance of students at the end of each term is assessed by adding together two scores:

1. That obtained from an examination consisting of items drawn from the Test Item Bank of the college (which is open to all students);
2. That obtained by continuous assessment of the students' work throughout the term.

The Item Bank has been built up by the staff in relation to the teaching programme and consists largely, but not entirely, of multiple-choice questions. Expertise in the writing of test items has been developed by the staff with the assistances of specialist workshops conducted by a visiting consultant. (There has been a similar workshop for the writing of self-instructional materials). Further development in both of these fields is envisaged.

Perhaps the most radical departure from traditional teacher training has been the establishment of the one-year of internship for students during the second year of the course. Approximately 250 students in any one year are teaching in primary and secondary schools around the country. They are grouped around more than 30 centres where their supervisors are based. The Peace Corps supervisors are to be replaced by local staff who are to be trained in the Faculty of Education in the University of Lesotho. The internship programme has established a vital link between the college and the schools, ensuring that the college programme is relevant to the real classroom situation and making possible the dissemination of the college's techniques, methods and materials. At the same time, it provides a very suitable framework for in-service, curriculum development and school support activities. In this way also effective professional contact can be developed with the Ministry's field inspectorate. During their year in the schools, students not only carry out a full time teaching programme but also meet regularly with their supervisor both individually in school and in groups at weekends.

From the inception of the college it has been the intention that it should be responsible for developing a major in-service teacher training activity. From the third year this has become a reality. Lesotho has some 1,500 untrained teachers in the primary schools and 200 in the junior secondary schools and first priority has been given to their upgrading. Teachers enrol for a two year course, beginning with two weeks in college, repeated on a further two occasions during school holiday periods, and including four sessions of correspondence assignments with monthly meetings with supervisors in the field as well as a monthly newsletter. This programme is now being conducted in co-operation with the Lesotho Distance Teaching Centre which is providing instruction and correspondence materials for the academic content of the course whilst the college provides the professional input. In connection with the in-service programme a project now exists, with funds from international sources, for the establishment of up to 35 simply constructed 'mini' teachers centres located at the college's internship centres. These centres, usually consisting only of one room at or near a school, will serve a number of purposes: as in-service training centres, as centres for the intern students, for the dissemination of new curriculum materials and as bases for the informal work in adult education carried out by the Lesotho Distance Teaching Centre. They will be very simply equipped but will have a supply of reference books and materials, a cassette recorder, radio, etc. These centres will be of a traditional structure, built by local labour and at a low cost - around \$500 each (excluding equipment).

One major problem that has not yet been resolved is that of adequate staffing for the in-service programme. Thus far, a very heavy burden has fallen on college staff who already have a very full teaching commitment. But the training of local field supervisors will help towards a solution of this difficult matter.

Faced with the demand, the need, for more and better education, developing countries have a major task in building up a teaching profession adequate to their needs. At one and the same time they need many more well educated and trained teachers; they need to get them as quickly as possible; to prepare them as inexpensively as possible; to provide further education and training for the many untrained teachers employed in the schools and to upgrade many under-qualified teachers to meet present-day needs.

When one considers that these objectives have to be tackled in the context of economic stringency, skilled manpower shortages, curriculum and other change and rapid population growth ("another school is born every day"), the vast size and complexity of the task can begin to be appreciated.

The strategy adopted by any country will depend on its particular circumstances and its assessment of priorities. However, the preceding pages, including the Case Studies, will have pointed to a number of useful lines of attack on the problem. It is rarely that the experience, however successful, of one country will be adopted wholesale in another (although for exceptional reasons this was very nearly the case with the Swaziland In-Service Project following on the Botswana experiment). But lessons can be learnt - not least from failures, or more often partial failures. In review, what seem now to be some of the most hopeful and practicable lines of attack?

College-Based Programmes

In most countries the education and training of teachers is still centred almost wholly around institutions which exist for this sole purpose - and this seems likely to remain the case. There are, however, moves away from mono-technic colleges to those which offer a diversified range of courses, including those for teachers. This is the case in the recently developed colleges of higher education in England. Here typically (insofar as it is appropriate to use that word about English education) students may enter, follow a common core curriculum for a year, or perhaps rather more and only then make the choice of whether to take the teaching option or to move into one of a number of other courses - the humanities, community studies, social work, etc.

In general, however the teachers' college remains the rule. But here a distinction can be made between countries where change has taken the form of expansion and some modification of the system, such as revision of the curriculum, and those where a more radical departure from conventional teacher education has been embarked on. The Case Study of the National Teacher Training College in Lesotho is a good illustration of the latter approach in its attempt to develop new and more effective means of teacher preparation. What must be said, however, is that this is no cheap alternative - the cost per student per year is in the region of US\$ 1,000 (compared to about \$300 per year for an in-service student). Equally important the new techniques are heavily demanding on the staff who must be prepared to accept a lengthy process of continuing training for themselves. In this case, however, as in many others, it appears that there is evidence of over-loading of the curriculum in the understandable anxiety to ensure that nothing important is left out. With this tends to go an undue separation of learning into subject compartments. As suggested earlier, this kind of situation may be countered by moves towards focusing on the teaching skills as the cores around which the curriculum can be built and at the same time encouraging the study of inter-

disciplinary themes (often in a team teaching situation) rather than following set subject syllabuses. Where a programme of continuing teacher education is being developed this process of re-designing and streamlining the content of initial training is one which can very fruitfully be entered on.

The Sandwich Approach

Essentially this approach - exemplified by the Northern Nigerian experience - is one in which the focus of training has moved away from the training institution as such (college or university) to the school where the student will spend much the greater part of his time during the training process. The Tanzanian experiment is perhaps the most radical of the alternative approaches considered with its reliance on local community involvement and local-level supervision. Its results will be studied with much interest.

The advantages of this form of teacher training - particularly for serving but unqualified teachers - are fairly clear. Costs, though not easily quantified, are certainly considerably less than for more conventional programmes. On-the-job training avoids the disruption caused by taking teachers out of the classroom for lengthy periods - and makes it unnecessary to incur the expense of temporary replacements. Well conceived, such programmes can have a high level of relevance to the individual teacher's needs in his particular school situation - thus motivation can be strong (which is not always the case in more conventional courses). It also provides more opportunity for the active involvement in the training process of a variety of education staff - tutors, field supervisors, inspectors and headteachers. Thus the traditional gulf between teachers' colleges and schools can be very effectively bridged when both are seen to have a major responsibility for the preparation and continuing education and training of teachers.

But there are problems - and questions. The tendency to regard programmes on the in-service model as being less serious matters than 'regular' courses; to under-rate the demands they make in terms of administrative effort, financial, material and staffing commitments, has to be very firmly avoided. Perhaps staffing in particular is likely to be inadequately catered for. Certainly programmes of this nature cannot be carried out by relying solely on college staff with full-time in-college teaching commitments. A nucleus of full-time in-service organizers and trainers - perhaps attached to the college - is likely to be needed if the programme is to be effective. The correspondence element in a training programme is one which makes very heavy demands on both full and part-time staff. There may well be difficulties experienced in the transmission of correspondence materials, and their return. The assignments themselves need to be very carefully devised and, wherever possible, be related to the student's on-going work in his school. Small-scale research projects of the kind carried out in the Northern Nigerian project can be a very worthwhile part of the in-school work. Regular and effective support for the student on the job is essential, not only by correspondence but also through personal contact with his supervisor - and the opportunity to meet with other students, perhaps monthly, on short tutorial courses. The quality and regularity of the field supervision is likely to be a critical factor in the success or otherwise of a programme and such staff will themselves benefit from both initial and in-service training.

One major question that is usually asked about such non-conventional teacher training programmes is "will they result in a lowering of 'standards'?" To which the answer must be that they could but they need not - depending on the quality of the input into them. But how do we measure such 'standards'? By an end of course examination similar (or the same) as that taken by students

who have completed a full-time college course? Would this in any case be appropriate? Or by a process of continuous assessment of the student, academically and professionally, throughout the course? But is not the real test of the effectiveness of any training programme to be measured by the teacher's performance in his job a year and more later? If this is so then a well organized sandwich-type course is no less likely to be considered effective than one of a more conventional kind.

Another question must refer to pre-service as distinct from initial training. Most courses of the sandwich type have been developed as pragmatic answers to the problem of training a substantial backlog of untrained teachers in the educational system. In this sense they may be regarded simply as a matter of convenience. But the question may well be whether such a pragmatic solution could not be the basis also for re-considering the whole structure of pre-service teacher training. It is in this context that the Tanzanian experiment is of such interest to the many countries facing the task of training large numbers of teachers quickly and without incurring the vast capital and recurrent costs inherent in a big expansion of the formal teacher training system. The demands made by the move towards universal primary education in a number of countries may well lead to a consideration of such alternative approaches.