

INTRODUCTION

Teaching and Learning constitute the prime concern of any institution devoted to education and the success of such an institution is invariably judged by their effectiveness. However, the only exception to this seem to be the institutions devoted to higher learning particularly the universities. The two functions which characterize a university are research and teaching. Although a great deal of teaching takes place within universities the success of a university seems to be judged more by the output of research than by the number of graduates passing out. This is also reflected in the criteria usually adopted for academic appointments and promotions. In regard to its teaching function however the widely accepted pedagogical tradition is that a graduate status supported later by a doctorate or even proven research was an adequate qualification to ensure the effective teaching of a subject. The only obligation an academic had thereafter to discharge his function as a teacher efficiently was the continuing study of his chosen discipline fed by on-going research on the boundaries of knowledge. What was taught was considered more important than how it was taught. Hardly any attention was given either to the techniques of teaching or the processes of learning. It was indeed argued that teaching is an art and cannot be taught and that one is born with it. If the teacher does not have it, it is for the student to make good any deficiencies in presentation of the subject.

For centuries universities both in the East and the West were elitist institutions and the learning-teaching environment was the intimate personal relationship between teacher and pupil. Education was an informal process of absorbing knowledge and wisdom from a teacher. The tutorial system at universities like Oxford and Cambridge where tutor and student meet for an hour seems to be a relic of this early tradition. It is with the gradual emergence of the modern university which still tended to maintain an elitist character that the pattern of teaching associated with university as we know it now took shape. It consisted basically of a course of lectures followed by either a small tutorial group where written essays were discussed or by experiments carried out under supervision in laboratories. The library was an essential resource input. Recent refinements to these conventional methods are the seminars, workshops, group and team work, projects and field-work. Hardly any research however was done either on the effectiveness of these methods and their relative merits or on the learning processes at the university up till very recent times. Long tradition had invested this pattern of teaching with an element of sanctity. Another very strong tradition within universities has been the value of independent self study which was regarded as an essential part of the university experience. It was maintained that the lecture and the tutorial should not bear any resemblance to the pedagogical practices of a secondary school.

Since the turn of the mid-century the conception of the university as an elitist and autonomous institution, together with the structures that have supported it and the traditional methods of teaching within it have been under considerable political, social, economic and logistical pressure. This has created unprecedented strains and tensions within universities both in developed and developing countries. It is on this background and in the context of these wider developments that the various programmes for improving and even changing teaching methods in universities have come to be established.

The major factor behind all the changes that have taken place recently in universities has been the rapidly escalating demand for higher education and the growth in student numbers on campuses throughout the world. The origin of this phenomenon lies partly in the rapid growth of population and partly in the expanding provision of primary and secondary education. Though population growth seems to have levelled off in developed countries it is still a problem that remains unresolved in almost all developing countries. Universal primary and secondary education has reached its limit in most developed countries and it is an accepted educational objective in almost every developing country. Even though the establishment of other tertiary institutions such as vocational colleges, polytechnics and professional schools have to some extent eased this pressure, university expansion has continued unabated since a university degree is still the main avenue to privilege and status in society.

When the wave of expanding numbers emerging from the school system reached the universities of the western world around the middle of the century it seemed natural to accept the idea of open access to higher education and to make a commitment to mass higher education following on the completion of the stage of mass secondary education. Most affluent countries had the necessary resources to commit funds to enlarge existing universities to a viable optimum and to establish new universities. It is claimed that in the United States the stage of mass higher education has now been reached. Though other developed countries have yet to reach this goal they are now contending with all the concomitant problems of expanding higher education. Old concepts of elitism are being discarded and new structures are emerging to accommodate the influx of students and to ease the transition into a new concept of a university, not however without a great deal of heart searching and controversy about maintaining academic standards and the quality of teaching. While universities have shown a great deal of adaptability in transforming concepts and structures the academic community on the whole has been slow in making the necessary changes and adjustments in the traditional forms and methods of teaching to meet the problems arising out of vastly expanded numbers. Another problem that faces universities is that whenever countries enter a period of recession higher education tends to be high on the list of areas in which economies may be effected with resulting cut-backs in planned expansion or even existing provision.

Problems facing universities in developing countries are not much different. In all these countries except India, higher education has had a shorter history and is of recent growth. But the rising expectations of a generation of students emerging out of an expanding school system have resulted in undue pressure on the limited provision for higher education. Existing universities have been expanded to the limit and new universities have been established. But developing countries are now confronted by a build-up of economic constraints. Where universal primary education is still a dream and secondary education is far from adequate higher education does not carry the same high priority as in developed countries except as a limited investment for skilled manpower resources. These universities were established on the British model and have come under the same pressures to expand within the limited resources available. For reasons of prestige as well as international recognition, western models are faithfully followed. But the winds of change have blown over the universities and old concepts and patterns are being challenged. The problems of expansion therefore as they bear on teaching and the teaching environment are the same as in developed countries though perhaps not always on the same scale.

The effects of this expansion on university teaching are not difficult to enumerate. The lecture audience often extended beyond the manageable group to the faceless mass and the traditional blackboard and the demonstration experiment became impossible as teaching aids and the tutorial system was stretched to the limit beyond which essay writing was an adequate teaching method. Where adequate provision had not been made in time students had to put up with over crowded classrooms, tightly packed time tables and hard pressed inadequate library facilities. These physical disabilities were compounded by the rapid expansion of academic staff which often resulted in inexperienced junior academics having to face these problems while the senior academics were either engrossed in research or were snowed under increasing administrative responsibilities. It has been argued that in regard to the student population there is a limit beyond which a university ceases to be a viable entity unless radical structural changes are effected. By the end of the sixties, many universities seem to have reached this point or exceeded it and strains and stresses were all too apparent everywhere. It was however the wave of student unrest and violence that hit the universities from Tokyo to California that awakened the academic world to the need for reform and particularly for greater attention to improving the techniques and methods of teaching as well as providing new lecturers with some form of training in the art of teaching.

One development however that took place about the time that universities began expanding seemed to offer some relief from the sheer logistical pressure of numbers. This is the adaptation of the new audio visual technological advances to the processes of teaching. Sound amplification systems such as loud speakers and the reproduction of visual images in the form of films and slides and recording equipment such as tapes, cassettes and video cassettes, had been gradually introduced particularly in the science, engineering and medical faculties. The reason for their introduction was not so much the pressure of numbers as the greater efficiency the new technology was likely to bring to the teaching of scientific subjects. However, these techniques were quickly adopted by the other faculties to meet the problem of increasing numbers. The earliest programmes for the improvement of teaching consisted basically of training academics in the use of this new educational technology. Other developments were gradually introduced such as programmed teaching, the use of the computer for examination work

and distance teaching through correspondence, radio and television. These have culminated in the open university type of higher educational institution now being tried out in so many countries all over the world.

Most conventional universities now have units specializing in educational technology as a supporting service to faculties that need it. Academics however seem to have been slow to grasp the implications of these changes for the whole process of teaching and learning and the need to revise the accepted and traditional concepts in the light of these changes. This has been a slow process and serious research only began in the late sixties. New educational media in higher education are not merely a convenient device to deal with pressure of numbers demanding education but a new dimension in the resources available for the improvement of the processes of teaching and learning. That they do however facilitate the imparting of education to larger numbers must be regarded as incidental.

Another factor in the higher education scene which has affected traditional teaching methods, the learning process and more especially the definition of the curriculum, is what has come to be called "the explosion of knowledge". Starting about the turn of the mid-century there has been a remarkable and unprecedented increase in factual information based on research in every branch of knowledge and this has been accompanied by an escalating flow of books, journals, monographs and papers on every conceivable subject. The repercussions of this flood of information on the universities has been enormous. Existing departments have expanded and subdivided, new departments have emerged at the growth points of knowledge and the principle of inter-disciplinarity has replaced the old concept of water tight departments. The traditional maps of knowledge have had to be recast and re-drawn. The rapidity with which new knowledge becomes obsolete has made the provision for life-long education or re-current education a basic requirement of higher education today.

Two features of this development have an important bearing on teaching and learning. Although a core of factual knowledge is basic to every discipline and will continue to be so, emphasis is increasingly being laid on the methodology of the subject and the basic concepts pertaining to it. The attempt is also made to identify the particular intellectual approaches which each discipline fosters. This change of emphasis is increasingly reflected in the new teaching methods. The grasp of the broad spectrum of a subject area and its methodology is now more important than the knowledge of the minutiae of factual data. This process has been hastened by the increasing use of the computer for the storage and retrieval of information including bibliographical material. The knowledge of and skill in the use of these methods of access to material is now a basic element in learning techniques.

Though teaching and learning are set out often as separate but complementary processes it is increasingly being recognized that the ultimate objective of teaching is not the imparting of information but helping a student to learn. A great deal of research has been done by educational psychologists on the processes of learning at the primary and secondary school level. This research is only now beginning at the university level. Much work has yet to be done on testing the effectiveness of the various methods of teaching at the university level. It is well known that students passing into universities are often confronted with the difficulties involved in adjusting themselves to a somewhat different teaching/learning situation than they were accustomed to in schools. Introductory lectures by sympathetic and sensitive senior academics and the tutorial group were the usual occasions for some form of acclimatization. But this system has been under great stress with the rapid increases in student numbers. The new research being done in this field and the increasing demand of the students themselves for counselling on learning methods have made the systematic preparation of students for academic life no less than the equipping of teachers with this new knowledge a basic requirement for effective university teaching.

In both developed and developing countries, universities are under pressure on the one side to expand and to admit more students and on the other to curtail spending and maximize resources. In developed countries it is mainly due to periods of recession and in developing countries, it is a question of priorities within restricted budget allocations. It is well known that the unit cost of tertiary education is much higher than that of the other levels of education and when in some developing countries graduates now face the prospect of unemployment or under-employment it is argued that the universalization of education at lower levels should carry a higher priority as this would in the long run be of greater benefit for over all development of these countries. In such a climate of opinion it is not surprising that there should be concern about maximizing the return on this educational investment and that greater attention should be paid both to the effectiveness of teaching and to the reduction of student

wastage by the improvement of their learning skills. In this context, developing countries particularly have shown considerable interest in the application of the new educational technology to distance and correspondence teaching as a solution to some of their problems.

It is not surprising therefore, that throughout the world since the early sixties, there has been growing interest in the problems of teaching and learning within universities and other tertiary institutions and that programmes have been established quite spontaneously to meet these varying needs. The three broad areas of need have been the supply of and training in the use of new educational media, the initiation of new staff to the techniques of teaching and responding to the learning needs of students. Initially regarded as a service universities now tend to undertake these as obligatory and essential activities and sporadic programmes are being gradually converted to an on-going systematized provision funded by the university on a regular basis.

The UNESCO Unit on Higher Education and the International Association of Universities showed commendable foresight of the impending developments within universities when in 1968 they commissioned an enquiry into new methods and resources for teaching and learning in higher education. The report was eventually published in 1970 under the title "Teaching and Learning, an introduction to new methods and resources in higher education". In their search for material the authors of the report discovered that outside the United States "innovation in teaching and learning methods has been tentative, small in scale and weak in theory" and they observed further that "literature is fragmentary, and often difficult to obtain". Only the United States had at the time made progress towards mass education at the tertiary level. However, this publication must have contributed towards the gathering interest in improving university teaching throughout the world and inspired some of the programmes that came to be established in a number of universities.

Within the Commonwealth, however, the movement had already gathered momentum particularly in the developed countries as is to be seen in the date of establishment and variety of programmes cited in this publication. But in developing countries universities seem to be too pre-occupied with a multiplicity of problems to be able to give adequate thought to this particular need. But it is encouraging that so many have seen that there is such a need.

It is in the United Kingdom that one can trace the beginnings of interest in university teaching and it goes back to 1961. Two strands are discernible in the developments that took place subsequently. But they do not seem to have been too closely co-ordinated. One was concerned with university teaching and the other with educational technology. A committee on university teaching methods was set up by the University Grants Committee in 1961 under the chairmanship of Sir Edward Hale and its report was published in 1964. This report seems to have made a significant impact on the universities. When in 1971 the Society for Research into Higher Education (Harriet Greenaway) conducted a survey of provision for training university teachers in the United Kingdom, a large number of universities reported the existence of training courses and most of them had commenced during the years 1969-1971. Much of this work was spontaneous and informal and not the result of any co-ordinated policy.

In 1971, the Committee of Vice Chancellors and Principals set up a working group under the chairmanship of Sir Brynmor Jones consisting of representatives of the Vice Chancellors, the University Grants Committee and the Association of University Teachers (and later the National Union of Students) to survey existing provision for training of university staff and to make recommendations for their co-ordination at a national level. The Committee's main recommendation was the setting up of a Co-ordinating Committee for the Training of University Teachers. The Committee was duly established in 1972 and in 1973 it appointed a Co-ordinating and Research Officer to survey the work in progress and to liaise with the universities in implementing the committee's programme for university staff development.

Educational Technology had a parallel and much broader development and goes back to another Committee chaired by Sir Brynmor Jones which reported in 1965. It was the Committee on the Use of Audio Visual Aids in Higher Scientific Education. Its work was not confined to universities and the National Council for Educational Technology which was set up in 1967 as a result of the report was responsible for all fields of education and training in the United Kingdom. Work in respect of universities, however, was taken up through the University Grants Committee.

Of special importance in this field of work in the United Kingdom is the national but unofficial Society for Research into Higher Education founded in 1964. It has a

considerable record of publications to its credit on both staff development as well as research into problems of higher education. It organizes regular annual conferences on related topics and serves as a forum of discussion for those working in this area. Mention should also be made of the Nuffield Foundation which has sponsored valuable research on teaching at the tertiary level. Within the universities, the University Teaching Methods Unit of the Institute of Education of the University of London and the Institute for Post-Compulsory Research of the University of Lancaster have both contributed to staff development in universities by the conduct of research and the organization of workshops, seminars and conferences aimed at fostering interest and improving teaching and learning at the tertiary level.

In Australia, interest in programmes for improving university teaching was sporadic and spontaneous. By 1970, research units had been set up at the Universities of Melbourne, New South Wales and Monash to study and advise on teaching methods in higher education. The first significant step forward was taken in 1973 with the Report of the Sub-Committee on Education Research and Development set up by the Australian Vice Chancellors' Committee. Thereafter within a very short time, programmes were established in almost every university with the object of improving the standard of teaching in those universities. About the same time, the Higher Education Research and Development Society of Australasia (HERDSA) was formed and one of its objectives was "assisting in the co-ordination of tertiary educational activities in different institutions and in the exchange of information and co-ordination of work between tertiary teaching research centres". Although it has no official status and is funded entirely by subscriptions, it functions as the main co-ordinating body for teaching research units in Australian Universities.

In Canada, although by 1970 there were programmes for staff development in a few universities, it was only in the period 1970-1975 that the majority of them came to be established. Of the various provinces, it was in Quebec that tertiary institutions had shown an early interest in instructional development. The Centre for Learning and Development at McGill University had taken the initiative in 1974 of compiling an Index of Pedagogical Services in Canadian Colleges and Universities. A revised annotated version of this publication was produced in 1976. An important new development took place in Ontario beginning around 1971 which led to the setting up of the Ontario Universities Programme for Instructional Development (OUPID) supported by the Committee on University Affairs of the province and the Council of Ontario Universities. This body functions as the co-ordinating agency for the universities of Ontario. There does not seem to be at present any effective co-ordinating body for the whole of Canada.