CHAPTER I

INTRODUCTION

Introduction

Universities occupy a nodal place in the modern world. Their role in the creation and dissemination of scientific and technological knowledge and skills, renders them a key factor in the developmental processes of nations and a critical determinant of the material progress and the quality of life of the people. They are the preservers and transmitters of the cultural heritage of society, and function as a link from generation to generation passing on cherished values. Besides, they have the function of a critic of society and transforming its structures and processes for the betterment of the people from time to time. Such responsibilities of the universities become all the more crucial in a developing nation like India having manifold problems and challenges such as social, economic and political. Highlighting the basic aims and objectives and the role of universities in national life, Pandit Jawaharlal Nehru in his convocation address at the University of Allahabad (1947) observed :

> 'A university stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race, towards even higher objectives. If the universities discharge their duty adequately, then it is well with the nation and people.'

In the rapidly changing contemporary world, universities are undergoing profound changes in their scope, functions and organisation and are in the process of rapid evolution. The universities make continuous and sustained efforts in three major dimensions, viz., teaching, research and extension work. The Education Commission (1964-66) made an attempt to spell out the objectives of higher education in the context of the National development. The objectives are enumerated as follows :

1. to seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and beliefs in the light of new ideas and discoveries;
2. to provide the right kind of leadership in all walks of life, to identify gifted youth and help them develop their potential to the full by cultivating physical fitness, developing powers of mind and cultivating right interests, attitudes and morals and intellectual values;
3. to provide society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professions who will also be cultivated individuals, imbued with a sense of social purpose ;
4. to strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education; and
5. to foster in the teachers and students and through them in society generally, the attitudes and values needed for developing the 'good life' in individuals and society.

These objectives envisage high priority for maintenance and improvement of academic standards in the institutions of higher education. The very rationale for the existence of colleges and universities is the promotion of the teaching-learning process. Systematic planning and continuous evaluation of the various components of the teaching-learning process such as curricula, methods of teaching and evaluation are essential to make them relevant to the changing times. To make the teaching-learning system effective teachers need to be given freedom to revise and update the syllabi, so as to keep pace with the advancement of knowledge; they also need to be motivated to provide varied learning experiences to the students. The students have not only to be prepared for university examinations but also equipped them with necessary skills for pursuing appropriate careers. Attempts have been made and various measures are initiated by the University Grants Commission (U.G.C.) in the direction of qualitative improvement in teaching-learning and evaluation processes at the university level. It may, therefore, be relevant to study the quality improvement programmes initiated by the University Grants Commission for bringing about qualitative improvement in teaching-learning and evaluation processes at the tertiary level.

University Education in India in Modern Period

The types of universities that exist today were established during British Period in India. The university education in

India was very much influenced, specially during its infancy by the system prevailing in the United Kingdom (U.K.). In the U.K., the University of London offered degrees in Arts, Law and Commerce where the students were assessed through a single final examination. Upto 1857, in U.K., the universities were of the affiliating type but from 1858 onwards they gave the idea of affiliating type of universities. However, in India, in the year 1857 three universities namely, Calcutta, Bombay and Madras, were established on the model of London University which at that time was an examining body. In 1857, there were 27 colleges having 3,246 students under the affiliation of these 3 Universities (Nurullah and Naik, 1962). In affiliating type of universities, the affiliated colleges are, in practice, the real centres of learning. The university itself is not a unit of teaching but merely, a unit of administration and the sole duty which it assumes is to hold examinations and confer degrees.

According to Nurullah and Naik (1962), on the recommendations of the Indian Education Commission (1882) known as the Hunter Commission, two more universities - one at Lahore in Punjab in 1882, and the other at Allahabad in 1887 were established on the same model of the London University. In all, at the turn of nineteenth century, there were 5 universities; the number of colleges had risen to 191 of which 46 were colleges of vocational and technical education in the entire Indian sub-continent. The total enrolment was 23,009 of which

5,358 students belonged to colleges of vocational and technical education.

The Indian Education Commission of 1902 led to the formulation of Indian Universities Act of 1904, which streamlined university governance and strengthened teaching at the university level to an extent. The Calcutta University Commission (1917-19) found that 'the number of students were too much to be efficiently dealt with by the university.' The growth of universities got accelerated with the recommendations of the Commission. Thus, at the time of Independence, there were 19 universities, having 400 colleges and 2,50,000 students including intermediate students.

Freedom brought a new hope, a new vision and a new future for this sub-continent. It offered many new opportunities and challenges. The first and foremost challenge before this sub-continent was to ensure equality of educational opportunity, access and achievement to underprivileged sections of the society who have hitherto been denied such rights. The educational expectations, requirements and demands of various segments of the population have been rising and exerting pressures on the limited resources and structure of the educational system. The social and political forces made a compelling demand on the system of higher education to expand quantitatively without making any fundamental change in its aims and objectives, administration and governance, teaching styles, evaluation procedures etc.

A quick glance at some of the statistics of post-Independence era related to higher education reveals the fact of rapid and large scale expansion of higher education.

In 1950-51, the number of universities rose to 27, with 695 colleges and a student population of 3,96,745 as against 19 universities, 400 colleges and 2,50,000 students at the time of Independence including intermediate students (Nurullah and Naik, 1962). In 1970-71, there were 84 universities having 3,604 colleges with a student population of 19,53,700 (excluding intermediate, PUC, pre-professional courses etc.) as against 49 universities, 1,783 colleges and 6,63,661 students in 1961-62. In 1978-79, a big leap forward was registered with 26,18,228 students in 108 universities, 10 institutions deemed to be universities and 4,460 colleges (U.G.C. Annual Reports for the years 1961-62, 1970-71 and 1978-79). These statistics show that there has been a phenomenal growth in students' enrolment after Independence.

The unprecedented expansion of higher education has been heavily criticised by learned documents and educationists. The University Inquiry Commission, Bihar (1966) rightly found that 'sentiments, political expediency and local pressures rather than academic propriety were the guiding principles in setting up of universities in that state'. The same criticism holds good throughout the country. Singh and Altback (1974) criticised the expansion of higher education,

'as an almost unplanned growth of institutions and enrolments'. Azad (1975) described the expansion of higher education, as, by and large, characterised by a policy of 'drift' on account of which admissions to higher education, particularly in Humanities and Social Sciences, are virtually denied to none.

The unprecedented growth of higher education has created a number of problems and a few of them are discussed hereunder:

Emerging Problems in Higher Education

(1) Physical Facilities : The Report on Standards of University Education (1965) identified that the growth in number of students has 'inevitably diluted the present facilities in the form of libraries, laboratories, class-rooms, hostels etc.' It means that the expansion, however, has not been followed by a corresponding augmentation of physical facilities providing the quality of education which is expected.

(2) Teacher-Student Ratio : The teacher-student ratio has been progressively declining as a result of growth in enrolments in higher education. The average teacher-student ratio in universities and colleges declined from 1:16.8 in 1950-51 to 1:17.6 in 1965-66; a further decline has been registered in recent years - it fell from 1:19.3 to 1:19.9 during the period 1968-69 to 1973-74 (U.G.C. Annual Report, 1973-74). The ratio becomes poorer in the affiliated colleges particularly in arts, commerce and law courses than in university departments. Chitnis (1974) stated that 'teachers have little interaction with students at the undergraduate level inside and outside

the classroom.' This leads to impersonalisation of higher education and partly alienation of students due to indifferent and impersonal teaching.

(3) Motivation of Students : The open door policy for higher education has brought into the system a number of students with low motivation and poor academic performance. The increasing rate of educated employment seeking after acquiring a university degree has caused a great deal of frustration among the students which result in poor academic motivation. The lack of motivation among students lead to wastage and stagnation which adversely affect the quality of higher education.

(4) Student Indiscipline : The large number of students with varied personality traits, academic motivation, socio-economic background and ideological affiliations has resulted in lack of poor academic atmosphere; absence of respect for authority - parental, educational and governmental; ideological frustrations; and political interference - all leading to student indiscipline. Moreover, the uncertainty of future is creating stress and strain in students which may explode any time with slight provocation.

(5) Financial Resources : Azad (1975) made the following observations regarding the limited resources available for higher education and their consequences :

(a) There has been a consistent decline in the contribution from private and other sources to financing higher education. Only in the case of colleges of general education, the private sources can be said to be making some contributions.

In the present situation of unplanned growth of higher education, governmental assistance cannot go a long way.

(b) Within the university system, increasing emphasis has been laid on universities and colleges of professional education. The colleges of general education have suffered a diminution, in terms of percentage expenditure on higher education.

(c) Over the years, the expenditure on the items which are in the nature of 'consumption' in university education (representing salaries of teaching staff, administrative staff etc.) has increased, while the investment expenditure has suffered a substantial diminution.

All these factors indicate the inadequacy of funds being provided to the institutions of higher education for the adoption of innovations. The University Grants Commission adopts a selective approach for inviting the institutions for participating in innovative practices with the support of adequate funds.

(6) Teaching-Learning and Evaluation Processes :

(a) Syllabi : Bloom (1958) in his report on the Evaluation Workshops he conducted for some Indian Universities has tersely commented :

> 'the syllabus seems to be a very inadequate tool for giving direction to the learning process. While it could be a means of promoting independent learning on the part of students, it apparently serves to keep the students dependent upon the teacher for their learning. It encourages the students to believe that if he remembers an accurate version of teacher's lecture notes on each topic in the syllabus, he has mastered the subject.'

The same statement holds good today also. The syllabus at the

tertiary level continues to be traditional and lacks relevance to contemporary world. It does not cater to the societal needs and does not help to solve community problems. It seems to be outmoded, perfunctory and not designed to meet the emerging national tasks of development. There is a widespread dissatisfaction with the way it operates. It leaves little room for experimentation and for conducting interdisciplinary and multidisciplinary studies.

(b) Methods of Instruction : Lord Curzon (1902) made a few observations regarding the ineffectiveness of methods of instruction which hold good with minor modifications even after seventy five years. He commented :

> 'We found in some of the affiliated colleges a low standard of teaching and lower of learning; ill paid and insufficient teachers, pupils crowded together in insanitary buildings. Finally coming to the universities we found courses of study and a system of tests which were lowering the quality while steadily increasing the volume of human output.'

The Calcutta University Commission (1917-19) found that -

> 'the methods of instruction were far too mechanical, depending upon mass lecturing without adequate individual guidance and advice.'

The University Education Commission (1948-49) observed that 'the standards of teaching at university level is low and needs a great deal of improvement.' The Education Commission (1964-66) remarked that -

> 'in many universities and colleges a majority of teachers teach mechanically and listlessly without going into the depth of subject matter and without inviting reflective thinking. The teachers are neither introducing modern methods of teaching nor making use of available resources. There is little interest among the teachers and students towards research, and whatever is done, is of unconvincing quality.'

All the above documents indicate the lack of effectiveness in methods of teaching and learning employed in Indian universities and colleges. Students' participation in classroom interaction has been very small and desultory. Independent study and the exercise of mind beyond classrooms and beyond the prescribed textbook have been very little. The participative methods of instruction such as seminar, tutorials, group discussion etc. are rarely adopted. The routine methods of instruction practised by the teachers led the students more to memorise and reproduce in the examination the ill-digested and ill-assorted factual information. Edward Shils (1969) has perceptively remarked that the Indian academic community has shown -

> 'an incapacity to do hard and persistent academic work, to build up an intellectual tradition and to meet the new demands of the society. Neither it is innovative nor creative to contribute to the well-being and fruitfulness of the profession and to the integrity of national culture.'

(c) Methods of Examination : Lord Curzon as early as in 1902 analysed the defects of the then examination system and found, ' the monstrous and malefficient spirit of cram dominating it.' Since then voluminous reports of Indian and foreign experts on examination reform have been produced. The manifesto of the crusade against the present system of examination was drawn up by the University Education Commission (1948-49) when it declared : 'We are convinced that if we are to suggest one single reform in the university education it should be that of examination.' The Commission concluded that -

> 'all circumstances conspire today to put an undue and unnatural emphasis on examinations, specially the external examination and they have come to exercise a restricting influence over the entire field of education to an extent as almost to nullify its real purpose.'

The Report on Standards of University Education in 1965, gave an illuminating analysis of the academic, technical and administrative problems of the examination system. The Education Commission (1964-66) stated about the existing system of examination that,

> 'in the present system, when the future of students is totally decided by one external examination at the end of the year, they pay minimum attention to the teachers, do little independent study and cram desperately for the final examination. The crippling effect of external examination on the quality of work in higher education is so great that examination reform has become crucial to all progress and has to go hand in hand with the improvement in teaching.'

The Committee on Examination Reform in Central Universities (1969) also identified the defects of the existing examination system. The Inter University Board of India and Ceylon (1970) resolved that steps ought to be taken to streamline and improve the working of the existing mode of examinations. It shows that the system of examination has vitiated the system of education and the students learn the subject-matter mechanically for providing stock answers to stock questions at the end of the year.

(7) Academic Standards : It may be stated that 'quality' is a complex phenomenon which does not admit to any simple, all embracing interpretation. The annual wastage occuring at the university stage would be a factor which helps in determining the relative quality of educational institutions. The assessment

is, however, liable to be vitiated by the substantial variations in the standards of evaluation in various universities. In the absence of any scientific criteria, some reliance may be placed on the following variables :

(i) Overall 'apparent' wastage in higher education; and

(ii) quality of those who graduate from university institutions as revealed in examination results.

Azad (1975) made a thorough analysis of university results at the under-graduate and post-graduate levels starting from 1947-48 to 1972-73 for studying the above variables (i) and (ii) which follows :

(i) 'Apparent' Wastage at the University Stage : The results of the various major university examinations reveal considerable wastage of resources - both human and material. It is found that in the case of under-graduate examinations, about half of the students who appear at various university examinations fail to qualify. 'Even at the masters' degree level nearly one-forth of the candidates fail to come upto the requisite standard. This indicates the large incidence of apparent wastage.

(ii) Quality of Those Who Graduate from University Institutions : It is found that in B.A. and B.Com. examinations, almost three out of every four students , who pass, are placed in the third class. It would be noted that, while in case of science subjects there has been some improvement in the percentage of first and second divisioners, in the case of arts and commerce, there has been considerable deterioration in the proportion of

students obtaining first and second divisions particularly at the undergraduate stage. It has already been stated that almost half of the students, who appear, fail in the university examinations at the undergraduate stage. In other words, only one out of every eight students, who undergo the vigour of studying for two or three years leading to the first degree in arts and commerce subjects, qualifies upto a reasonable good standard, and seven out of eight students may be deemed to have not come up to the requisite standard.

The deterioration in quality of higher education has been highlighted by a number of committees and commissions. The Committee on Evaluation of Standards of University Education (1965) appointed by the University Grants Commission, which considered the question came to the conclusion that ' the picture that emerges.... .... is one of lights and shades.' A careful perusal of the relevant chapter in the Committee's Report, however, reveals conclusively, the preponderance of 'shades' rather than 'lights! The Committee took pains to quote from the report of the Union Public Service Commission which indicated that ' the candidates do not show any real grasp of the subjects and their answers are mainly based on cramming.' This view is further supported by the Report of the Department of Atomic Energy which stated that 'the quality of our students has gone down in recent years.' The University Grants Commission in its various reports has alluded to the

lowering standards of higher education in the country. The Education Commission (1964-66) has referred to the general feeling in India that 'the situation in higher education is unsatisfactory and even alarming in some ways; that the general standards have been falling and that rapid expansion has resulted in lowering quality.' The examination results, the various reports on higher education, the views of employers and the assessment of teachers themselves, the results of the research done, all seem to support this conclusion.

All the above discussed factors show that the system of higher education has come under heavy criticism. This criticism is not peculiar to India only but also to other countries. The system of higher education has come under criticism and examination, on account of its excessive expansion of students enrolment, social irrelevance, fall in standards, dilution in quality of instruction, student indiscipline etc. In U.S.A. during the last decade, the quality of higher education has been criticised heavily. According to Jabker and Halinski (1978) :

> 'during the last decade, the quality of instruction in higher education has become one of the popular targets of public dissatisfaction for students, parents, legislators, media and other critics.'

Bergquist and Phillips (1975) reported :

> 'institutions of higher education face harsh realities of decreased funding, declining faculty mobility, together with the demands for accountability voiced by students, parents, and state and federal officials. Confronted with these conditions, faculty must consider the prospects of significant re-evaluation of personal and professional attitudes towards classroom instruction and teacher-student relationship.'

They emphasised the need of extensive retraining of faculty in new class procedures, as well as profound reorganisation of departmental structure and governance system. In U.K. the quality of instruction was questionned in 1960's. The Hale Committee Report of 1964 was especially influential, with its emphasis on specification of teaching objectives, the operational skills of teaching, and motivation of students. Similarly, the quality of instruction was questionned in Australia with the publication of Vice-chancellors' Committee report (1964-65) on 'University Teaching Methods.' It becomes evident that deterioration in quality of higher education has not been the concern of India only but also of developed and developing nations in general. A number of programmes have been initiated throughout the globe for bringing about qualitative improvement in higher education. A brief discussion of such programmes with specific reference to faculty development in foreign countries has been given below :

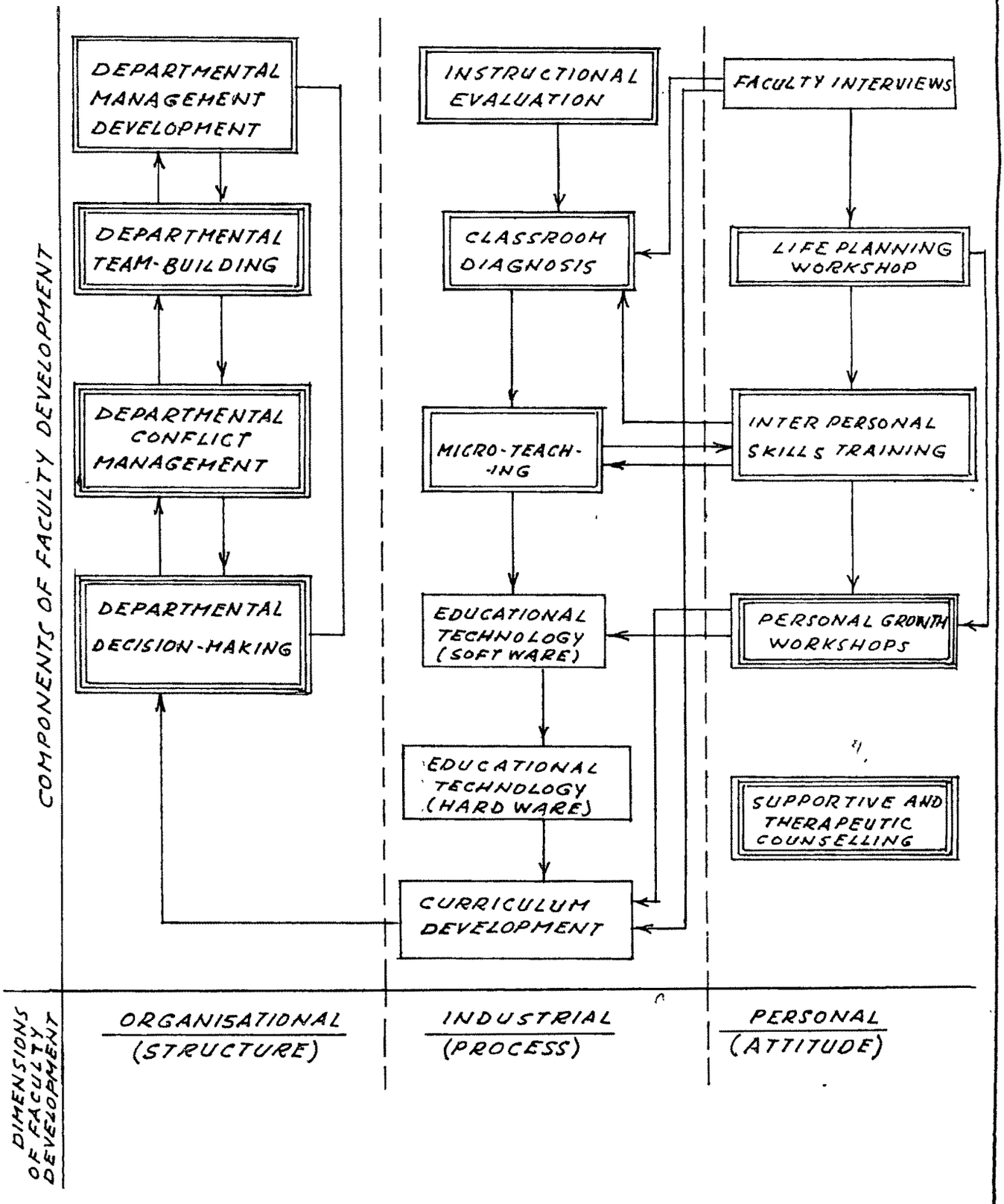
Faculty Development Programme in Foreign Countries

United States of America : In the 1970's the universities and colleges in U.S.A. witnessed a variety of activities and programmes in the area of faculty development. As a better way of understanding the thoery and practice of faculty development various models have been offered. Bergquist and Phillips (1975) have formulated a conceptual model of faculty development with three related components ; instructional development, personal development and organisational development. Under the first

category, they included such practices as curriculum development, teaching diagnosis, and training. Personal development, they said, generally involved activities to promote faculty growth such as training in interpersonal skills and career counselling, while organisational development sought to improve the institutional environment for teaching and decision-making including activities for both the teaching faculty and administrators. Team building and managerial development would be part of organisational development. A schematic representation of the faculty development model given by Bergquist and Phillips is shown in paradigm 1.1.

This model is composed of programmatic components (represented by a box) which bear some relationship to one another (represented by lines and arrows). Some of these components are based primarily on issues of attitudinal change or personal development; others are based on issues of structural change or organisational development; and the remaining components are based on instructional development. Lines between two components of the model indicate that activities in one of these components lead 'frequently' and 'naturally' to activities in other components. The arrow indicates the unusual direction of moment.

Another dimension of faculty development is also represented in the graphic model, the dimension of threat and its accompanying behaviour, resistance. The components tending to be least threatening and which, therefore, tend to provoke the least resistance, are represented by boxes with single lined edges.



PARADIGM 1·1 A MODEL FOR EFFECTIVE FACULTY DEVELOPMENT

Those programmatic components that tend to be most threatening and are resisted by the greatest number of faculty members are represented by boxes with three lined edges. Two line boxes represent components of intermediate threat and resistance.

The model of faculty development putforth by Bergquist and Phillips (1975) was endorsed by Toombs (1975) and Padgham (1978). Toombs stated that instructional development includes not only the improvement of instruction but also designs for learning. Padgham concluded that the personal development component is the fundamental context within which the other two components can function.

Wergin, and others (1976), have also discussed the concept of faculty development which covers a wide landscape. It includes development as a teacher; sharpening of teaching and evaluation skills, obtaining feedback on teaching behaviour and classifying values of teaching and learning. It also includes development of other faculty roles, such as planning and managing curricula and advising students. At another level, faculty development seeks to design an organisational climate wherein faculty members may work together towards the accomplishment of personal and professional growth. In short, the purpose of faculty development is to help faculty members to function more comfortably and effectively in the university setting.

According to Francis (1975), faculty development may be described as an institutional process which seeks to modify the attitudes, skills and behaviour of faculty members towards greater

competence and effectiveness in meeting students' needs, their own needs and the needs of the institution. Successful faculty development programmes change the way the faculty feel about their professional roles and improve the way they carry them out in practice. Instructional development increases faculty awareness of the importance of teaching, provides specific and intensive training in classroom skills, and establishes institutional policies and practices which support institutional improvement as a continuing objective.

A number of programmes have been initiated for faculty development which are presented here under the dimensions of professional development programme and instructional development programme.

(1) Professional Development Programme : Wergin (1976) described the various activities organised by Virginia Commonwealth University for professional development of teachers which are presented hereunder :

(i) Workshop on Simulation and Self-Instructional Package: The workshops have been conducted to help the faculty to produce and try out materials such as self-instructional packages and written simulations of problem solving skills. The staff consultants explained the concepts and methodology and disseminated the materials; and these were followed by individual work sessions with resource staff. The success of the workshops were determined in terms of accomplishments of their objectives i.e., whether in fact a self-instructional package was produced and tried out on students. The

workshops were found highly successful.

(ii) Conversion of a Department Curriculum to Self Instruction : The staff members were trained through a two day workshop for developing self-instructional packages and a thorough planning for changing curriculum to a self-paced instruction. The students were generally pleased with the format and further, more their average performance level on examination rose markedly over the previous classes.

(iii) Training in Writing Subject-Matter Objectives : The workshops were organised for training the faculty members in producing subject-matter objectives, identifying procedures for accomplishing the objectives and the methods of testing students' accomplishment. Small group discussions were held. The workshops were found effective in achieving their objectives.

(iv) A School Faculty Retreat : 1974 : A faculty retreat programme was organised to increase organisational cohesiveness. Mini-lectures and demonstrations on interpersonal communication, definitions of cohesiveness and simulated experience in groups and problem solving were given. The retreat was found successful in making the participants flexible and willing to change to meet group needs.

(v) Faculty Insergice Series : Following the recommendations of the Committee on Faculty Development, the staff organised an inservice course dealing with the design and implementation of an instructional unit. Nine sessions were conducted, covering the entire instructional process from objective writing to student and course evaluation. The inservice course was open to all

faculty members and they were permitted to attend any session they desired. Reactions to the inservice course were mixed. Faculty attitudes, knowledge, and style of teaching varied considerably.

(vi) Faculty Fellowship : KQzma (1978) described that faculty fellowships were provided for the adoption of instructional technology for class teaching and disseminating their use to other faculty members. The commonly used electrical gadgets were; audio-tapes, video-tapes, filmstrips, slides, tape-recorders, computers etc.

(vii) Sabbatical Leave : This programme provides opportunity to college/university teachers for an year leave for conducting research on their own at the advanced learning centre and engaging themselves with the centres' programmes especially in curriculum development and experiments for undergraduate study.

(2) Instructional Development Programme : A number of programmes has been started for instructional development at the undergraduate and post-graduate levels, a few of them are discussed hereunder :

(i) Personalised System of Instruction : The Personalised System of Instruction (PSI) was introduced by Fred Keller and Gilmour Sherman in 1965 for teaching of Psychology curriculum at the undergraduate level at Arizona State University. This method of instruction is also known as Keller Method of Instruction or the Keller Plan. The Keller method differs from the more traditional lecture-exam.-model in that (i) students

proceed through the course at their own rate; (ii) the course content is broken down into number of units with accompanying study guides and 'mastery' (attaining a given level of accuracy on unit exams.) is required before students can progress to subsequent units; (iii) lectures are presented as motivational aids rather than as a medium for conveying testable information; and (iv) Emphasis is placed on written responses as a method of student-teacher instruction (Sayre and Knightly (eds.),1972). A number of experimental studies demonstrated the superiority of PSI over traditional practices with respect to final examination performance, retention of course content, and student attitudes (Whitehurst and Madigan, 1975).

(ii) Adoption of Technological Devices for Improvement of Instruction : Kozma (1978) described the technological devices such as television, films, and radio, which have been perfected as forms of mass media are being applied in numerous educational settings. The information storage, retrieval, and processing capabilities of the computer allow for increased complexity and sensitivity of the instructional presentation. The instructional technology is also applied for imparting education at far off distances.

(iii) Remedial Teaching Programme for Academically Weaker Students : Most of the university departments and colleges organise programmes for providing extra instruction to academically weaker students. The extra instruction is provided

in groups as well as individually. Graded bibliographical notes and assignments are given to academically weaker students.

(iv) Advanced Placement Programme : Dudley (1959) reported about the advanced placement programme for the academically high achievers. Under this programme the academically high achievers are allowed to study the college level course in high school and upon completion of an examination subject to the college policy to receive college grade.

(v) Interim Term Programme : The interim term programme provides a learning environment which differs substantially from that which exists in semester free from time-place constraints, effective utilisation of hiatus between semesters. The curriculum of interim term programme is experiential and emphasises students' development to the fuller extent. There is a greater use of independent and directed study, off-campus learning resources and interdisciplinary mode of investigation.

A few programmes which initiated instructional development are listed here under :

(vi) Instructional Evaluation of teachers by Self, students, peer group, experts from teachers' training colleges etc.

(vii) Career guidance programme

(viii) Student testing programme etc.

United Kingdom : The faculty development programme in U.K. gained momentum in the mid 1960's soon after the publication of three learned reports dealing with the general aspects of teaching and learning in the universities which emphasised the need for their improvement. The Hale Report of 1964 was especially influential, with its emphasis on specification of objectives, the operational skills of teaching, and motivation of students. The Brynmor Jones Report of 1965, recommended the establishment of central service units in universities for production, storage, retrieval and presentation of teaching materials and promotion of research in such areas as course development, particularly in connection with the development of closed circuit television. The Parry Report of 1967, underlined the importance of adequate financial assistance for university libraries in general and provision of facilities to undergraduates in particular. In 1971 and 1972, the U.G.C. made grants totalling £ 130,000/- to enable universities to explore experimentation in training for university teaching, especially as a cooperative venture between adjunct institutions (Batho, 1978).

The aforesaid three reports emphasised the importance of developing the faculty through the augmentation of their professional competence and providing necessary physical facilities for making innovations and change especially in terms of library and audio-visual aids. The reports paid special

attention for improving higher education at the undergraduate level, by the adoption of modern methods of teaching in the class and training of university and college teachers for developing the required skills.

Several universities pioneered promising approaches to the problem of training of university/college teachers. The University of Manchester, Institute of Science and Technology instituted an inter-university course spanning over two weeks which emphasised the specificity of subject oriented teaching. The course paid particular attention to the development of practical teaching skills as well as sensitising participants to the range and scope of teaching.

The example was followed by the University of London, Institute of Education specially created units for higher education. The University of Lancaster, Department of Educational Research and the University of Surrey; School of Educational Technology and University of Aberdeen started vacation courses for university and college teachers in 1965 which have been constantly revised in the light of criticisms from the participants. The University of Sheffield which alone has made attendance at its introductory conference compulsory for all members of the staff, established a confidential counselling service. Two counsellors from a panel of sixteen experienced but non-professional staff will on invitation observe the new lecturer either in an actual or in a contrived teaching situation and comment on his teaching from a video-tape which

is played back in private; the new lecturer may call upon the service as frequently as he feels the need and may choose whether his counsellors are drawn from within or outside his subject area. Sheffield pioneered in two other ways by producing four leaflets on different techniques in higher education and by compiling one of the most comprehensive bibliographies on university teaching so far available.

Most universities, however, contended themselves with short term courses with little attempt at follow up for new staff and with occasional half day conferences on a specific aspect of university teaching for established staff. A conference sponsored by the Association of University Teaching and the Society for Research into Higher Education in 1970 revealed that more training than was generally realised was taking place and the Society conducted a survey which resulted in the publication of Miss Greenaway's pamphlet in 1971. At the same time, the Committee of Vice-chancellors and Principals set up a working committee under the Chairmanship of Sir Brynmor Jones to consider future provision and in 1972 accepted its recommendations that a coordinating committee be established in which the University Grants Commission (U.G.C.), Association of University Teachers (A.U.T.) and National Union of Students would be represented by nominated members.

Current Thinking : The Brynmor Jones working group in 1972 held that the time had come for the arrangement made by individual universities to be supplemented by a more formal

scheme of training organised at local, regional and national levels and suggested the following scheme :

(i) An induction course of 2-3 days in length provided by the lecturer's own university.

(ii) An initial course of training (either a continuing course extending over several terms or a concentrated course lasting two weeks), usually provided on a regional basis for which the staff should be allowed adequate study time.

(iii) A system of continuing assistance arranged within the lecturer's own university.

(iv) An advanced course or courses of about a week's duration (after 3 - 7 years of university service).

(v) A specialist course or courses for senior members of staff involved in providing continuing assistance for new teachers or in advising on developments in teaching and learning in higher education.

A research study conducted at Sheffield University assessed the reactions of recently appointed staff to the training of university teachers, in which were analysed 179 replies to a questionnaire sent to recently appointed staff in nine universities. The findings may be summarised as follows :

All the universities now offer new staff an induction into university organisation and services, either separately or as a part of an introductory training course, but new staff report that departmental induction is generally very informal and done in a very fragmentary fashion.

Initial Training : Three days initial training is the most popular length of such courses which are generally held in the

lecturer's university. The majority of entrants favour courses being held shortly after but not immediately before the start of the session in the lecturer's own university. Approximately 70% of the new teaching staff take the opportunity offered to them. Nearly half of the respondents to the Sheffield questionnaire thought that courses should be a combination of plenary and faculty-based or subject area based elements. By far the greatest amount of time is devoted to lecture and to teaching aids, much of it by lecture and discussion, including lectures on self-instructional methods.

Continuing Assistance : The most popular topics besides micro-teaching for further study were ; 'Small Group Methods', 'Course Evaluation', 'Examinations and Assessment' and 'Students' Learning and Motivation'.

Australia : Australian Vice-Chancellors' Committee in 1964-65 showed great concern about the quality of teaching at the tertiary level. The Committee favoured taking into account the teaching abilities of applicants for staff appointment, training courses for new lectures, emphasis on small class groups, better library facilities and the need for follow up studies to assess the impact of courses on students.

Monash University designed a diploma course in education for catering to the needs of students involved in tertiary teaching.

Yet, it is merely a question of improving teaching methods for the sake of doing so. The high drop-out rate and the low percentage of students graduating in minimum course time have

long been causes for concern. The beginning of continuous assessment, rather than the trauma of annual examination, is an overdue response of this problem; another is experimentation with different types of examinations - National Banks of multiple choice questions have been established in certain subjects. Programmed instruction and teaching by closed circuit television have been tried, usually in response to huge groups enrolled in larger universities in basic courses.

On the recommendations of the Australian Commission on Advanced Education 1972, Colleges of Advanced Education (CAEs) were established, which offered courses to provide an even greater vocational emphasis than was being done by the universities. In some multipurpose CAEs teacher education courses have been provided.

A series of 'Centre for Advancement of Teaching (CAT) Guidelines' was published from Australia in 1974-75. In these papers, the methods of teaching and their different aspects, along with the process of evaluation of students have been discussed. The same Centre has been conducting minicourses, self-contained flexible learning programmes, for individuals or groups usually involving a variety of media and strategies and with clearly specified but limited objectives achievable in a short span of time.

The mini course programme is now offered in four ways :

(i) By a central programme of mini course held at Macquarie University ;

(ii) Through purchase of training manuals without attendance at minicourses;

(iii) By contact with groups and organisations for especially adopted minicourses;

(iv) Through the decentralised programme of selected minicourses at avenues other than Macquaire University.

The characteristics of the minicourses on teaching are : (i) Response to needs (ii) Self-contained (iii) Short duration (iv) Specific objectives (v) Skill orientation (vi) Wide participation (vii) Varied learning activities (viii) Variety of media (ix) Structured programme (x) Creativity activity (xi) Evaluation (xii) Follow up.

The conceptual models formulated in U.S.A. by Bergquist and Phillips (1975); Toombs (1975); Padgham (1978); Wergin (1976); and Francis (1975) of faculty development emphasised three related components; instructional development; personal development; and organisational development. Toombs identified instructional development as the major component of faculty development whereas Padgham; Wergin, and Francis recognised personal development as the fundamental context within which the other two components can function. In U.K., short term and long term programmes have been organised for professional development of college/university teachers. In Australia, besides the programme of training of college/university teachers, training manuals have been developed which help them in their professional development. These concepts and models of faculty

development have had their impact on educational development in India. The U.G.C. and the universities have initiated varied programmes to bring about qualitative improvement in higher education which are discussed in the pages which follow.

Qualitative Improvement Programme in Higher Education in India

India has a long history of qualitative improvement programme starting right from the beginning of the 20th century which gained momentum in late 1950s. A number of programmes have been started and some of them have been institutionalised as would become evident through the examination of the recommendations made by various commissions and committees and that is attempted hereunder:

Recommendations of Commission and Committees for Quality Improvement in Higher Education

The Indian Education Commission of 1902 : The Commission felt that the standards of teaching-learning and examination processes were deteriorating due to insufficient staff and physical facilities to do justice to individual students. In an effort to raise the standards of higher education, the number of colleges declined as evidenced by the University of Bombay whose colleges declined from 192 in 1902 to 172 in 1912 (Dongerkery, 1957). The Commission felt that the standards of teaching would improve due to the provision of better physical facilities and sufficient staff to the remaining colleges.

The Calcutta University Commission (1917-19) : The Sadler Commission on Calcutta University (1917-19) brought out the fact that an affiliating university had little responsibility

and control over teaching in its large number of colleges with the result that the standards of college teaching had deteriorated. In an effort to raise the standards of teaching, teaching departments were established in the universities. The main objectives of university teaching departments were to provide assistance to the teachers of affiliated colleges in conducting teaching-learning and evaluation processes effectively and restructuring of courses with their assistance so as to bring about qualitative improvement in higher education.

The University Education Commission (1948-49) : Soon after Independence, the government of India appointed a Commission under the Chairmanship of Dr.S.Radhakrishnan to report on Indian university education and to suggest improvements and extensions that may be desirable to suit the present and future requirements of the country. The Commission studied each and every aspect of university education. The Commission was disappointed with the teaching-learning and evaluation processes at the tertiary level. The Commission made the following recommendations for bringing about qualitative improvement in teaching-learning and evaluation processes.

(i) The lecture should be carefully planned and supplemented by tutorials, library works and written exercises. The tutorials should be made available to all undergraduates, both in pass and honours courses. The number of students in tutorials should not be more than six.

(ii) The seminar method should be employed at the post-graduate level.

(iii) The laboratories should be improved in terms of buildings, fittings, equipment, workshops and technicians.

(iv) The Commission recommended the introduction of new methods of objective-based testing, measurement and appraisal, to be supplemented by essay type of questions and minimising the outstanding defects of the latter viz., the subjectivity and consequent inaccuracy of marking.

(v) The internal assessment should be introduced, say, 30% in each subject at the undergraduate and post-graduate levels.

(vi) It recommended the establishment of an examination cell in each university for providing necessary training to university/college teachers in the construction of objective type test items.

As a result of the recommendations of the University Education Commission, the U.G.C. invited Dr.B.S. Bloom (1958) to organise seminars and conferences on examination reform. Dongerkery Committee on Examination Reform submitted its report in 1961. As a result of the reports of Dr.Bloom and Dongerkery Committee, the following reforms in examination were suggested.

(i) Teaching work should not be done through lectures only but it should be supplemented by tutorials and seminars. It is desirable to hold periodic tests on the work done in tutorials and to maintain a record of the same. This should be regularly evaluated. Weightage given to tutorial work may be decided by the university. The lectures may be reduced in order to increase discussion periods.

(ii) Students' final marks should be based on internal and external examinations. An appropriate percentage of marks say 20% initially should be fixed for internal examination, which may be increased in course of time.

(iii) The internal assessment should include a variety of activities such as writtern and oral examinations, essay and objective type questions, closed and open test problems, term papers and report on work in laboratory, field, library etc.

(iv) The U.G.C. should encourage seminars, discussions and conferences of the university and college teachers for defining objectives of teaching and examination in various subjects at different levels.

In 1961-62, the Report of the Dongerkery Committee was circulated to all the colleges and universities in the hope that 'gradually each university will be able to bring about change and improvement in the existing practice of teaching-learning and evaluation.' In 1962-63, the U.G.C. reported that 19 universities out of 31 had expressed their general agreement with the recommendations of the Committee and the rest of them were contemplating the introduction of certain measures of reform such as selective admission, provision for tutorial guidance, and giving due weightage to sessional work.

Report on Evaluation of Standards of University Education (1965) : A Committee was appointed by the U.G.C. to make a thorough inquiry into standards of University Education including all the aspects such as admission policy, courses of study,

under-graduate education, post-graduate studies and research, science education, improvement of teaching, medium of instruction, examination reform etc. The Committee submitted its report in 1965 and made the following recommendations regarding the improvement of teaching-learning and examination processes.

(i) The teacher may follow the practice of supplying cyclostyled synopsis and selected bibliography in advance of lecture so as to enable the students to go through the material and thus, have a better grasp of lecture at the time of delivery.

(ii) The teaching and examinations should cease to be memory based; critical study, problem-solving and application of principles to concrete situations should be encouraged.

(iii) A variety of teaching methods such as written assignments, tutorials, seminars, group discussions etc. should be adopted.

(iv) Students' assessment of performance should be through a variety of activities such as objective type tests, essay type examination, participation in day to day activities, field work, performance in laboratory, library etc. For avoiding criticisms regarding high marks awarded to students in internal assessment and favouritism the Committee suggested two alternatives : (a) Internal marks should be scaled down to the same mean and standard deviation. (b) Another way of making internal assessment more reliable will be to award a separate sheet of record of the internal tests and other relevant information without adding these marks to the final examination.

(v) For ensuring uniformity in examination, the paper setter should prepare a tentative outline of answers.

The Education Commission (1964-66) : The Commission severely criticised the existing teaching-learning and evaluation processes at the university level. It recommended the need of a marked reduction in the amount of formal instruction and a corresponding increase in tutorial work, discussion groups, seminars and independent study. It also recommended a change in the character of teaching to discourage cramming drastically and to stimulate curiosity, problem-solving ability and originality. For bringing about reform in examination, the Commission recommended the need of adoption of internal assessment, question-bank, credit system and graded system. Moreover, the Commission recommended professional training to college and university teachers. The Commission has rightly pointed out that teaching is a highly skilled profession and training or orientation for the profession may be useful. The teacher should be provided training in pedagogy, defining learning objectives, evaluating students' performance and students' motivation.

A critical analysis of the recommendations of various Commissions and Committees such as the Indian Education Commission (1902), the Calcutta University Commission (1917-19), the University Education Commission (1948-49), the Committee on Evaluation of Standards of University Education (1965), the Education Commission (1964-66) etc., reveals that there

has been the need of initiating programmes for bringing about qualitative improvement in teaching-learning and evaluation processes at the under-graduate and post-graduate levels. They also emphasised the need of improving the quality of research work. The University Grants Commission has been actively promoting various programmes for improving the quality of higher education with the assistance of adequate financial support. Some of the programmes initiated by the University Grants Commission for bringing about qualitative improvement in higher education are discussed hereunder.

Quality Improvement Programmes Sponsored by the University Grants Commission (U.G.C.)

1. Examination Reform : Much emphasis has been laid on reform of the examination system. Examination reform units have been set up with the U.G.C's support in the Universities of Delhi, Baroda, Gauhati, Aligarh etc. The U.G.C. in 1965-66 reported that the recommendations of the Examination Reform Committee (1957-61) had 'created widespread and searching interest in the subject 'and announced the formation of another Committee' to advise the Commission regarding the measures to be taken in the field of examination reform'. Another Committee, consisting of two experts from each of the four central universities was appointed in 1967-68 to review the examination systems of the central universities. The U.G.C. saw in 1969-70 hopeful signs of a 'radical change in the system

of higher education, including methods of teaching and learning' as a result of 'restructuring of courses and evaluation of students' performance.' In 1971, the Commission brought out a brochure on the semester system for its adoption. In 1973, the U.G.C. drafted a 'Plan of Action' for examination reform emphasising the introduction of'internal assessment','question bank' 'credit system' and 'grading system'. The Plan of Action was circulated to all the universities with the recommendation for its adoption. For sensitizing the university/colleges teachers about the different aspects of the Plan of Action and developing professional competency among them for its proper operation the U.G.C. organised 4 workshops in 1974 and 6 workshops in 1975 on all India basis. According to the U.G.C. Annual Report of 1978-79, nearly 75 universities have introduced internal assessment; some of them have developed question banks and a very few have adopted grading and credit system.

2. Centres of Advanced Studies : In pursuance of the recommendations of Education Commission (1964-66) for strengthening post-graduate education and research, the U.G.C. has selected a few university teaching departments on the basis of their work, existing facilities and potentialities to function as Centres of Advanced Study in specific disciplines. The total number of centres is 30; seventeen in Science subjects and thirteen in Humanities and Social Sciences. The Centres have the provision to make awards of a specified number of : (i) National Scholarships; (ii) Junior and Senior Fellowships;

(iv) Studentships in post-graduate Diploma Courses approved by the U.G.C. ; and to enable research students from other universities and colleges to take up advanced study and research for specified periods. The Centres of Advanced Study serve the function of improving quality of higher education by providing refresher courses to the university and college teachers for improving their professional competence. They orient the teachers and students towards research activities and seek to develop scientific attitudes among them. They try to stimulate and encourage the students in the pursuit of excellence by providing necessary facilities.

(3) University Service and Instrumentation Centres (U.S.I.C.): The U.G.C. has provided facilities to selected university departments for central workshops with the facilities of mechanical and wood workshops, electric workshop, glass blowing unit, optic workshop etc. The workshop facility will be extended to affiliated colleges so that laboratory instruments which are out of order can be set right. The U.S.I.C. improves the quality of higher education by developing instrumentation skills among the teachers and students. The U.S.I.C. will help in creating indigenous capability in design and development of more advanced instruments for both pure and applied work in various areas of science and technology.

4. Area Studies in Universities : For starting inter-disciplinary collaboration with neighbouring countries, specially in the field of Social Sciences, the U.G.C. has supported a

few centres in the universities for undertaking specialised studies and research on specific areas.

5. Book-Bank Scheme : This Scheme has been started for enriching and modernising library facilities so that the maximum number of students should get the benefit of it. The U.G.C. provides an extra grant of Rs. 10,000/- to affiliated colleges for the enrichment of library in addition to the usual library grants. The main objective of book-bank is to develop the habits of library reading among the students.

6. Preparation of University Level Books by Indian Authors: For unfolding the creative talents of the university and college teachers for writing quality books, the U.G.C. in consultation with the Union Ministry of Education and Social Welfare initiated in 1970-71, the programme of providing 100% financial support for writing of quality books at the university level. This scheme has helped to promote creative work among university/college teachers and make available quality books for use at the university level to teachers and students.

7. Refresher Courses or Short-Term Institutes : The U.G.C. encourages the universities to organise short-term institutes or refresher courses at least once in a year in both Science, Social Sciences and Humanities disciplines. These courses would orient the university/college teachers towards bringing reform in syllabus, modern methods of instruction, new evaluation techniques etc.

8. Teacher Fellowship : The U.G.C. has instituted a scheme of teacher-fellowship during 1975-76 to enable the college teachers to develop their professional competence and to keep them abreast of the changing trends of the educational system. The fellowships are of two types. One is the long term fellowship which covers the period of 3 years and another is the short term fellowship of one year duration. Under this scheme a teacher from an affiliated college/university department is enabled to take one or three years of leave for undertaking a programme of M.Phil. or Ph.D. During the period, his salary, increment, seniority etc. will be protected. The Commission will pay a living allowance of Rs. 250/- p.m. to the teachers and will also pay for the substitutes appointed in their places.

9. National Associateship : The U.G.C. initiated during 1970-71 a scheme of National Associateships in Science, Humanities, Social Sciences, Engineering and Technology and Agriculture with a view to assist talented university/college teachers, generally below the age of 35 years and engaged in worthwhile research to visit and work for short periods (not exceeding three months/) in the advanced learning centres with special facilities relevant to their respective field of work. The programme has had a useful impact on promoting research efforts and interaction between university faculty and research personnel involved in research work.

10. College Improvement Programmes in Science, Humanities and Social Sciences at the Undergraduate Level :

(A) College Science Improvement (COSIP) : The College Science Improvement Programme (COSIP) was initiated by the University Grants Commission in 1970-71 to bring about qualitative improvement in the teaching of Science subjects at the undergraduate level. The programme is designed to accelerate the development of the Science capabilities of predominantly undergraduate institutions and to initiate a process of continuous self-renewal. In order to improve undergraduate education in the Science subjects (physical, earth, biological and mathematical sciences), and to expand opportunities for undergraduates to pursue useful scientific careers, the COSIP aims to have beneficial effects on teachers and students, subject-matter and methods of instruction; syllabi, curricula and individual courses, facilities and equipments, workshop, library and teaching materials (U.G.C. Annural Report, 1972-73).

COSIP is an attempt at the fundamental renewal of the daily programme of Science education for all the students. This renewal demands imagination and creative efforts. Its application is neither easy nor immediately appreciated by the staff. It seeks to change the teaching methods so that the stress is placed not in examination but on students participation, scientific reasoning and the application of science to the problems of a developing nation. In practice, improvement of teaching technology and reorientation of staff thinking is at

the heart of COSIP. The teacher must himself understand and believe in the programme and the processes of modernisation and change. He must teach the students to think and explore and to discover and to apply his knowledge properly.

COSIP is neither to be confused with the modified version of National Talent Scheme nor as a special programme, parallel to the normal programme of the college. It should be understood as a programme integrated with the college schedule entailing a number of activities. COSIP funds are not to be used for P.U.C., and first year predegree intermediate classes.

COSIP has been taken up at two levels :

(a) in selected colleges to include the entire science faculty;and

(b) University Leadership Project in any one science subject in all the colleges affiliated to a university.

(a) <u>COSIP in Selected Colleges</u> : The U.G.C. adopted a selective approach in inviting the colleges to participate in COSIP based on specific criteria i.e. strength and quality of teaching staff, strength of college library, teacher-student ratio, examination results,and the quality of the proposal submitted to the Commission for the approval of the programme. While inviting proposals from the selected colleges, the Commission specifically directed the institutions to indicate what logical steps could be taken towards the achievement of recognised goals of teaching science and modernising and updating of syllabi. The colleges were also required to mention how the

existing resources were being utilised by them. A detailed plan for mounting the first phase of COSIP was requested with detailed budgets. The Commission selected 170 colleges for participating in COSIP (U.G.C. Brochure, 1978).

Activities : The important activities which could be undertaken by the selected colleges are enumerated as follows: (U.G.C. Brochure, 1975)

(i) To make a determined effort to introduce new methods of instruction in the classroom as well as in the laboratories so as to reduce lecture oriented formal instruction to the minimum and to release necessary time to enable students to undertake reference work and study on their own with the necessary guidance given by the teachers.

(ii) To teach science more effectively by adopting new teaching technology and to set in motion processes which may ultimately help the university to revise the syllabi and examination methods.

(iii) To ensure student participation in discussions, seminars, project work and wherever possible in teaching as well.

(iv) To provide opportunities for college teachers to obtain additional training through various refresher programmes to be developed by the university for this purpose.

(v) Improvement of laboratory equipment and providing for necessary demonstration material to revise courses and for adoption of new teaching methods.

(vi) To design and fabricate equipment required for supporting instructional programmes by the development of workshop activities.

(vii) To establish interdepartmental and intercollegiate programmes for uplifting science education at the undergraduate level.

(viii) To devise special programmes to enable gifted science students to develop their innate talents and for their development into professional scientists.

(ix) To provide an average science student the necessary equipment to develop his powers of reasoning, logic and spirit of enquiry essentially required for the pursuit of knowledge.

Expected Outcomes : Consequent to the implementation of this programme, the following results are expected to be achieved :

(i) There will be less lecturing, few contact hours and more opportunities for students to explore and experiment.

(ii) Greater distinction will be made between the needs of the future scientists and those of degree holders who will be science users and not professionals.

(iii) It is anticipated that the Botany and Zoology instruction at the B.Sc. level and earlier will merge into general Biology courses containing all the elements of life science now taught separately.

(iv) The U.G.C. would like to encourage the individual character of each college and university. Hence each college under COSIP will have the privilege of achieving the aims of COSIP in its own individual way. However, the U.G.C. reserves to itself the duty of guidance and ultimately of removing from the approved list of those colleges which cannot and will not effectively institute programmes of fundamental renewal. Only such colleges which make an impact under COSIP can expect to participate in follow up activities.

General Benefits : Apart from these far reaching results, the following general benefits are expected :

(i) Better preparation of professional scientists rather than examination passers,

(ii) Better general scientific background of a large fraction of the degree holders who may not become professional scientists.

(iii) Greater variety of teaching methods and therefore, a vital Science with greater productivity imagination and application to the needs of the nation.

(iv) After the inception of the programme, it is expected that a large number of colleges will be prepared to assume the full responsibility of autonomy in the courses etc.

Financial Assistance : The U.G.C. has given clearcut instructions regarding the utilisation of financial assistance obtained for COSIP.

(i) The selected colleges may not hope to obtain assistance exceeding Rs. one lakh annually for a period of three years and the expenditure should only be made on such items which would help in qualitative improvement of undergraduate Science instruction and not for building up physical facilities or openning new courses.

(ii) COSIP grant is not a substitute for the normal developmental grants which are already available to the colleges on a sharing basis from the U.G.C., or for starting of new courses of study.

(iii) No extra remuneration is permissible to the existing teachers for tutorials and discussion groups. Classes may be divided into groups and according to ability an outstanding student may be nominated as group leader. Services of post-graduate students may be utilised to help academic staff tin tutorials and project work for which an honorarium of Rs. 250/- p.m. may be paid to each post-graduate student (Not more than two in any department).

(iv) Expenditure on T.A. and D.A. of teachers for attending training programme at the University leadership centres under COSIP may be incurred out of COSIP funds. Normally such courses are held during vacations and are of a short duration. If, however, absence of a teacher from a college is required for more than three months, substitute teachers may be appointed for the period of absence on a temporary basis.

(v) Services of visiting professors may be availed to supplement instruction in specific courses through a series of lectures, demonstration classes and discussions for which purpose they may be paid remuneration, T.A. and D.A. as per university rules.

(vi) Modern books and journals required for reference and instructional purposes may be obtained under the programme.

(vii) Nearly 80% to 85% of the expenditure may be incurred thoughtfully on purchase of such equipment and machines essentially required for COSIP or purchase of components for purpose of fabrication and servicing in association

with students and for projects and field work all of which are oriented towards development of practical skills among the students.

(viii) Technical staff required for workshop, glass blowing unit etc., may be appointed and paid out of COSIP funds.

(b) University Leadership Projects (ULP) in Science: The University Leadership Project is primarily aimed at improvement of instruction in a selected science subject in all the respective departments of all colleges affiliated to a particular university. It is aimed at making a distinct contribution towards improvement of the professional competence of teachers in the colleges and to make available to them the necessary curriculum (curriculum reform reflected in the syllabus and examination reform) and other material required for better teaching and to establish a meaningful channel of communication between the university and college teachers. In 1978-79 there were 40 university departments participating in ULP and subjectwise distribution was Physics (13), Chemistry (11), Mathematics (5), Biological Sciences (9) and Geology (2). (U.G.C. Annual Report, 1978-79).

Activities under University Leadership Project : According to U.G.C. guidelines, the following activities are envisaged in ULP in COSIP :

(i) An assessment of the existing syllabi, methods of instruction, physical facilities available and methods of evaluation in the examination jointly by the staff of the university department and the staff of the college departments concerned.

(ii) Preparation of model courses of study along with the revised lists of experiments, equipment required for conducting the experiments and the library services required for support of new academic programmes to be introduced under the scheme.

(iii) Development of courses of study and curriculum material including preparation of suitable books, teachers' guide and laboratory manual.

(iv) Development of workshop facilities and an effort towards making a substantial part of the practical work workshop based.

(v) Training of college teachers for curriculum reform, methods of teaching and evaluation processes and increasing their effectiveness so that they could carry their experience to the actual classroom situation to adopt new methods of teaching, demonstration, discussions etc. The universities may organise for this purpose, short term refresher courses and wherever necessary summer institutes as well with a view to provide for institutional coverage and to accept as many teachers as possible from a single department in any one institute.

(vi) Establish viable channels of communication between university departments and college department faculty.

(vii) Make available to the college teachers the facilities available in the university department. This may include short-term visit as well as accepting a few selected college teachers to spend an academic year at the university departments to enable them to improve their effectiveness as teachers and associate such teachers in the curriculum development programmes.

(viii) Encourage teachers from the colleges to undertake short-term research projects with the help of fellowships.

(ix) Coordinate with other university leadership projects in the same subjects for the development of curriculum material, fabrication and design of equipment required to support new experiments and preparation of other teaching aids which could be used at national level.

Departmental Eligibility for University Leadership Project: The following criteria have been suggested for the purpose of selecting university departments to take up ULP in COSIP :

(i) The departments would have been considered for participation in the summer science institutes programme, NCERT study groups, science talent research scheme, curriculum reform in science education and a high quality of work would have demonstrated.

(ii) The quality, competence and the strength of the staff and a definite commitment on the part of the university to the proposed activities.

(iii) Adequate physical facilities interms of laboratory accommodation, equipment and library.

(iv) The University should ensure that the project would be carried on even after the initial support for a stipulated period is stopped and that a continuing contact would be possible between the university and college departments.

(v) The university departments should have active research programme.

Financial Assistance : For this purpose a provision of financial support upto Rs. 5 to 10 lakhs is made available to each leadership project for a period of three years.

(B) College Humanities and Social Sciences Improvement Programme (COHSSIP) : The College Humanities and Social Sciences Improvement Programme (COHSSIP) was initiated by the University Grants Commission in 1974-75 to bring about qualitative improvement in teaching of Humanities and Social Sciences at the undergraduate level in colleges. Under this programme, a grant upto a maximum of Rs.3 lakhs is available to the selected colleges for a period of three years for strengthening teaching, initiating tutorial and seminar techniques and introducing internal assessment. The colleges will supplement their teaching with the help of additional staff appointed for the purpose, post-graduate and research students on the rolls of colleges and guest lecturers from other colleges or universities (U.G.C. Annual Report, 1974-75). Specifically, the programme is designed to :

(i) enable the students to study the subject-matter in greater depth and to participate directly in teaching-learning process;

(ii) help them to make use of all available tools and techniques of analysing problems thrown up in their courses of study;

(iii) foster a spirit of enquiry and testing of knowledge against the reality of human conditions and the socio-economic problems of their communities.

The programme has been taken at two levels :

(a) COHSSIP in Selected Colleges

(b) University Leadership Project in any one subject from Humanities and Social Sciences in all the colleges affiliated to a University.

(a) COHSSIP in Selected Colleges : The colleges for participation in COHSSIP have been selected, interalia, on the basis of their excellence in the quality of their staff, teacher-student ratio, examination results, strength of their libraries and the quality of their proposals. The U.G.C. has selected 126 colleges for participation in COHSSIP (U.G.C. Mimeographed list of colleges).

A conference of 40 college principals was organised in, 1974 to develop the general guidelines for the implementation of the programme (U.G.C. Annual Report, 1974-75) which are discussed in what follows :

Guidelines For Implementation of COHSSIP :

(i) Objectives of the Programme : The purpose of COHSSIP is to strengthen and enrich teaching-learning and examination processes in the Humanities and Social Sciences at the under-graduate level in the colleges and to provide opportunities for change and innovations within the framework of the existing curriculum. Enrichment of curriculum and experimentation should ultimately provide a framework for modernising and updating the syllabus in co-operation with the concerned academic and other concerned bodies of the Universities.

(ii) Maximum Utilisation of Existing Resources : A deliberate and concerted effort should be made to make the maximum use of available resources. Particular mention may be made in this connection of the library facilities which are central to the improvement of teaching and learning in the Humanities and Social Sciences. The library hours should be extended to 12 hours a day. An attempt should be made to see that books and journals already available in the library are used to the best advantage both by the teachers and students.

Extensive use should be made of the students' help in library work. A suitable honorarium should be paid to students for this purpose. It aims to help students in 'earning while learning' and to develop library study habits among the students.

(iii) Optimum Use of Common Facilities : The physical and material facilities such as audio-visual equipment and duplicating facilities should be used by all the departments of the college. In order to maximise the use of existing material and physical facilities, all equipment should be centralised. The college should try to train 4 or 5 teachers in the operation of audio-visual aids with the assistance of local expertise. Students could be used for part-time assistance.

(iv) Tutorials and Seminars : Tutorials and seminars, to be meaningful and productive will have to be organised on an institutional basis. Every student should know in advance the number of tutorials he has to attend in a course. The students should also know the assessment of his work in the tutorial and this assessment

wherever possible should form a part of the total assessment of the students. If the internal assessment does not exist in a university, the colleges may institute a certificate of their own which would include an account of cumulative records of the students in various subjects and this could be issued to every student at the time of his leaving the college.

The programme of teaching in every course should be planned and announced to the students at the beginning of each term. The list of topics to be covered either by lectures or by tutorials may be indicated and synopsis of each lecture, including comprehensive and graded bibliographical notes may be cyclostyled and circulated amongst the students well in advance of actual teaching work. These notes will have to be revised periodically. Tutorial work should not necessarily mean more teaching periods; lectures could be reduced with advantage and tutorial period could take their place in the general scheme of teaching.

It may be necessary to employ additional part-time staff to cope with the tutorial work. For this purpose also post-graduate and research students in the college may be employed and if the college does not have such students on its own rolls, post-graduate and research scholars from other institutions and neighbouring university could be invited to help in the tutorial work of the college on the basis of a suitable honorarium i.e. Rs. 250/- p.m. but later revised to Rs. 400/- p.m.

Special programmes of remedial teaching should be undertaken to enable the students not only to improve their capacity for comprehension and expression in the language concerned, but also in understanding courses in other subjects.

(v) Practical Orientation in Courses : The teachers should prepare materials for practical orientation in courses, teach them accordingly and help students to comprehend their courses better and to ultimately provide the groundwork for reforming the university syllabus. Short-surveys in the neighbourhood should be organised and long-term projects involving extensive touring should be avoided.

(vi) Internal Assessment : Internal assessment in connection with the certificate to be issued by the college should stimulate the students and teachers to do better work. For internal assessment, it will be necessary to employ a variety of questioning techniques e.g. short answer questions, multiple choice questions, true-false questions and short examinations without previous warning. It should be possible for every department to prepare a question-bank in each subject and this could be supplemented and refined by cross references with the question banks prepared by other colleges/universities under the scheme. It may be possible ultimately to finalise a question bank in a given subject and bring it out for the benefit of students of all colleges.

(vii) Improvement of Reading Habits : Special efforts are to be made to improve the reading habits of students. For this

purpose, it may be necessary to provide the students with : (a) notes on bibliographies; (b) duplicated periodical literature and (c) regional language translations of materials that appear in English periodicals. The teachers should arrange seminars where their own students together with post-graduate and research scholars in and around the college could periodically review new books in the subject. All the students should be given orientation in using the resources and facilities of the library.

(viii) Self-assessment : The college should undertake a rigorous self-evaluation of the programmes undertaken by it under COHSSIP and the operation of the scheme may be modified in the light of the evaluation.

(b) University Leadership Programme in the Humanities and Social Sciences : The University Leadership Programme is primarily aimed at improvement of instruction at the under-graduate level in selected subjects in Humanities and Social Sciences in all the colleges affiliated to a university. The department concerned in the selected university will provide necessary guidance, advice and assistance to the college departments, regarding improvement of instruction, enrichment of curriculum and methods of instruction, syllabi and courses of study, equipment, workshop, library and other teaching materials. The programme will attempt at not only improving instruction in the subject within the existing framework or prescribed syllabi and examination procedures but would also make concented efforts to bring about modernization in courses

of study, approach to teaching of the subject at undergraduate level and in examination reform (U.G.C. Annural Report, 1978-79).

An amount of Rs. 5 to 6 lakhs would be provided to selected departments for organising various activities and for its qualitative improvement. The various university departments participating in ULP in the Humanities and Social Sciences are Sociology (2); Political Science (6); Philosophy (4); and Economics (3) (U.G.C. Annual Report, 1978-79).

It is evident that the U.G.C. has persistently been trying to improve the standards of higher education through initiating various activities and financing for the same in the colleges and university departments. The COSIP and COHSSIP have been started for raising the standards of teaching-learning and evaluation processes at undergraduate level and side by side seeking assistance in the same mission from University Leadership Projects. The structure of COSIP and COHSSIP has been completely flexible, with the freedom for participating colleges to use their creativity and imagination in qualitative improvement of teaching-learning and evaluation processes at the undergraduate level

Rationale for the Study

The U.G.C. supplied the guidelines to the colleges for the implementation of COSIP and COHSSIP with a flexibility

and liberty provided to the teachers to organise those activities which are well suited to their subject areas. Annual reports pertaining to COSIP and COHSSIP are being sent by the colleges to the U.G.C. for acquainting them with the progress made in and innovative practices adopted by various departments. For sharing news and views, and for publishing the periodic reports of the colleges the U.G.C. has sponsored the publication of COSIP and COHSSIP Newsletters. Moreover, the U.G.C. organised regional COSIP and COHSSIP conferences in 1977-78, for exchange of experiences in the implementation of COSIP AND COHSSIP by the colleges in the region and for evaluating the progress made in bringing about qualitative improvement in Science, Humanities and Social Sciences at undergraduate level. As the programmes have been flexible in their nature, the organisation of various activities may differ from college to college, department to department in a college and even individual to individual in a department depending upon the expertise knowledge and availability of resources.

COSIP and COHSSIP have been innovative and pioneering programmes aimed at integrated improvement of teaching-learning and evaluation processes at the undergraduate level in selected Indian colleges. Reports from the colleges indicate that they have produced appreciable impact on the college scene in terms of introduction of varied instructional activities, evaluation techniques, faculty development and students achievement. If these programmes are to be more effective and to be implemented

in other colleges, they need a revision and appropriate modifications. There are certain issues related to the programmes' implementation and organisation which need to be clarified. What are the new activities organised by the teachers under the COSIP and COHSSIP ? How do the teachers perceive the effectiveness of activities organised under COSIP and COHSSIP ? How have the resources specifically granted for the implementation of COSIP and COHSSIP been utilised by the selected colleges ? What types of problems are faced by the principals in implementing COSIP and COHSSIP ? What are the students' reactions towards the activities of COSIP and COHSSIP ? What is the trend of students' achievement in Science, Humanities and Social Sciences at the undergraduate after the introduction of COSIP and COHSSIP ? These are a few related questions to be answered.

The findings of the study will hopefully be useful in assessing the effectiveness of the programmes; identifying the administrative and other related problems; and finding ways and means of strengthening or extending them to other colleges. These programmes have been visualised as the stepping stone to college autonomy and as such the findings would also be helpful in that respect. These pioneering programmes constitute a prototype for improving the teaching of Science, Humanities and Social Sciences at the undergraduate level in Indian colleges in general in coming years.
