A STUDY OF 'METHODS OF TEACHING AND EVALUATION IN HIGHER EDUCATION' — A COMPARISON OF THREE UNIVERSITIES.

Dissertation submitted to the Jawaharlal Nehru University
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DECLARATION

Certified that the dissertation entitled : A Study of Methods of Teaching and Evaluation in Higher Education - A Comparison of three universities, submitted by Ms. Jagriti Malik is in partial fulfillment of eight credits out of the twenty four credits required for the award of the Degree of Master of Philosophy of this University. This dissertation has not been previously submitted for any other degree of this University or any other University, and is her own work.

We recommend that this dissertation may be placed before the Examiners for evaluation.

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(JAGRITI MALIK)

CONTENTS

CHAPTER - 1

"INTRODUCTION"

Higher education plays a crucial role in the development of a nation. It is considered as a sub-system of the larger society. The assumption underlying this statement is that the objectives of higher education are well defined and the methods of teaching at this level are properly developed. However, quite often this assumption does not hold good, as the teaching-learning process goes from one generation to another, and the purpose of higher education may or may not serve the purpose of nation-building.

In the early stages of development of human society, education was imparted in an informal way, ie by (a) Interacting with fellow beings, (b) internalising the behavioural patterns of others and (c) understanding and interacting with environment. But with the passage of time the knowledge of social and natural phenomenon grew, institutional arrangements were made to pass this accumulated knowledge to the future generations.

Keeping in view the stages of development of an individual from childhood to adulthood, the institutional process of education is designed in several stages. First stage, is designed to acquaint and prepare an individual for learning through written and spoken medium;

the 2nd stage, to pass on basic information which makes an individual aware of the body of knowledge, and to acquire indepth knowledge in a discipline, to develop the ability to analyse the same and to provide training in capabilities to verify information and generate new knowledge. The third and fourth stages in higher education, involve explosion of information and knowledge which develop capabilities to acquire information and interpret it.

In developing the above capabilities, methods of teaching - learning process from the first to the fourth stage play a significant role. Researches have shown that, the effectiveness of educational process depends on the methods of teaching adopted at these various stages. The types of methods of teaching adopted at these various stages would depend on the objectives of teaching-learning at that particular stage. Since the present study deals with higher education, particularly of 3rd and 4th stage, it may be more pertinent to discuss the objectives of higher education before dealing with the methods of teaching.

OBJECTIVES OF HIGHER EDUCATION:- At higher education level, students are helped to acquire in-depth knowledge in various subject disciplines, the capability to analyse and verify it and generate new knowledge . Thus, the

Objectives of higher-education at the undergraduate and post-graduate levels are:-

(i) imparting in-depth knowledge of the subjects' concerned;
(ii) developing critical and analytical abilities;
(iii) developing the ability to relate and use this knowledge in real life situations;
(iv) developing vocational and professional skills;
(v) developing social, cultural and aesthetic values.

All the above objectives cannot be realised by any single method of teaching and learning. Recent researches on methods of teaching have helped to improve the old methods and develop different methods of teaching at higher-education level. These different methods help to promote the wider objectives of education.

The methods of teaching at the higher education level in India may be classified into two broad categories:-

(1) MASS METHOD:- It comprises of:-
(a) lectures (b) Group-discussion (c) Seminars
(d) Workshop (e) Projectsetc.

(2) INDIVIDUAL METHOD:- It comprises of (a) Individual assignments (b) Computer assisted instruction etc.

These various methods of teaching are explained below:-

(1) LECTURE METHOD:- The lecture method is one of the most commonly used method, sometimes the only method used in

higher education. It is useful when the aim is to transmit a body of knowledge, or the content of subject to the students. This method is also referred to as 'talk and chalk' method.

It has been pointed out that lecture method is very effective. Rajamony (1974), conducted a study on the effectiveness of lecture-cum-discussion in methods of teaching and training, found lecture-cum-discussion to be very effective.

(2) GROUP DISCUSSION:- In the group discussion the teacher's role is peripheral and interaction is the essence of group discussion. By group discussion, we try to arrive at a conclusion with the techniques of analysing, evaluating and drawing of conclusion.

Group discussion also develops in the student the qualities of patience and tolerance, and willingness to modify and rethink his views in the light of arguments presented by others.

Discussion method is found to be more effective when compared with other methods, especially lecture method (Mcleish, 1976, Gall and Gall, 1976 and Smith, 1977). The study by Dubin and Taveggia (1968) found similar results when compared lecture and discussion methods.

(3) SEMINAR:- This is considered as the most complex form of interactive teaching and can be used very effectively in the process of higher education. In a seminar, a group of students may be asked to prepare brief papers, or present their point of view orally before the group, followed by discussion and interaction. The objectives of seminar are wider than the other methods mentioned earlier.

(4) PROJECT METHOD:- This follows the principle of 'Dewey', "learn by doing". The dictionary meaning of the word 'project' is, a scheme, design, contrivance, a prospective concept sufficiently defined in terms of future events not yet accomplished or implemented.

(5) TUTORIALS:- Socrates is credited with bringing the tutorial system into vogue. He used to ask questions to the youngsters surrounding him and make them find the answers by themselves. If properly employed, the tutorial system, with questions so framed as to elicit proper answer, is very good. Thus tutorial, is the system in which a small group of students receive guidance from the tutor.

(6) AUDIO-VISUAL AIDS IN TEACHING:- With the help of modern-technology, the effectiveness of teaching-learning process has increased. As modern technology has placed various

media like radio, television, audio and video cassettes in the hands of educators.

No doubt T.V. is very helpful for good teaching, but it alone cannot be effective. As proved by Mckeachie Kulik(1975) for conceptual learning, often a crucial component in college courses, T.V. instruction alone is less effective than live interaction between students and teachers. However T.V. teaching can be effective when viewers are motivated and are required to respond in some way to the programme (Ide, 1974).

Audio-taperecorders are also effective if the students have control to start and stop it as they wish. This control has been shown to be an important element in the students affective reaction to the materials(Burford, 1971). Also students can learn more when they have control of the recorder (Senour, 1971).

Though there are so many methods of teaching, each with its own merits and demerits, no single method is sufficient for teaching any subject, but a suitable combination of a few methods is found to be more effective.

In order to test whether the teaching task is upto the mark one should evaluate the work done, as without evaluation the teaching is incomplete. As the Education

Commission (1964-66) had categorically said that "the crippling effect of examinations on the quality of education was so great that examination reform was crucial to all progress and had to go hand in hand with the improvement in teaching".

So, teaching and evaluation are part of each other. As, at the outset it has to be realised that no education reform is possible unless there is simultaneous reform in examination system.

Thus changing practices in teaching and learning in higher education are inevitably reflected in changing Methods of evaluation (Beard R. and Hantley, J; 1984). The various Methods of evaluation include Annual or Semester examinations, Marking or grading of scripts, internal or external assessment of the scripts of students, practicals and viva voce. Research has shown the semester examination system is more suitable, than end of year examination. Similarly grading is suggested against marks, and internal assessment to be given more weightage than external. (UGC, 1972). Thus the main changes suggested in evaluation system by government of India, U.G.C. and Education Commission are as follows:-

(1) ANNUAL/ SEMESTER:-

In annual system students performance is judged by giving one examination at the end of the session.

The education policy now makes it obligatory to introduce semester system. Semester system was recommended by the UGC in its plan of Action for examination reforms, way back in 1972. The document stated that the performance of students must be assessed over well distributed intervals of time so that a course which is completed in a year of a semester must come up for examination at the end of the semester, without having to wait for final examination.

(2) MARKS/GRADING:- Another important change that the new policy has recommended is, replacement of marks by grades. Research in examination has shown that mark awarded by an examiner is not the true mark, as it is very likely, if he has to reassess the same copy after sometime, he will give different marks to it. This is because of unavoidable subjectivity. According to H.J. Taylor, "an examination mark has neither the sanctity nor the precision which is usually attached to it".

Thus, grading is suggested in place of marking. Grading will not have subjectivity factor and will also

facilitate standardisation of raw scores. It will help introduce scaling and reduce inter-subject disparity in scoring.

(3) INTERNAL/EXTERNAL ASSESSMENT:-

The introduction of Internal assessment is an important step towards the integration of teaching learning and examination. Internal assessment does not mean only assessment by a teacher who teaches the course, but it meansthat evaluation should become a continuous process. The main purpose is to integrate teaching and evaluation and to test those skills and abilities which can't be tested through a written examination at the end of a term or course. Thus,internal assessment should be given proper weightage in order to make it useful. This will increase the responsibility of teachers But teachers should not become subjective.

To conclude the section on methods of teaching and evaluation, one may say that the researches done so far include different methods of teaching and their effectiveness depending on subjects. Some, researches (eg. Ruja, 1954, Dawson, 1956) have found out effectiveness of combination of methods of teaching in comparison to one method alone. Researches have found defects in

examination system and thus suggested changes (UGC, 1972).

No study, done so far, has tried to compare different universities and find out whether teaching and evaluation methods differ from one university to another. Or whether they differ because of subject, i.e., for arts and science stream. No, study has tried to find out why a particular method is used maximum. Whether it is used because of its effectiveness or because there is no other alternative. Also studies have not found that whether teachers want to use a particular method or they are forced to, because they dont have provision to use any other method. Further more studies have suggested changes to be brought in the evaluation system, though no work has been done so far to find out whether these changes are being used or not.

Thus, the present study proposes to understand comprehensively the objectives of higher education, as perceived by different universities and teachers vis-a-vis that of the government, the methods of teaching as used by different teachers belonging to different departments and different universities, and the reasons for the same; their view-points and that of students' view-points in regard to teaching methods in higher education, as well as the evaluation system as exists in the different universities.

The following chapter deals with the review of literature relating to this subject matter.

CHAPTER : 2

REVIEW OF LITERATURE

A research study on any topic cannot be undertaken without knowing what has preceded it and which areas had been specifically covered in the earlier studies and which areas need further exploration and investigation. Such an approach helps in formulating suitable hypotheses and research designs taking into consideration the limitations of the earlier Research Design.

It is well known that the field of education has been one of great interest to researchers and educators as it contributes to the development of the child, shapes and grooms him to be a fit citizen of a country.

A review of research studies on various aspects of higher education indicates a spurt of interest in higher education during seventies. Until 1960, there was hardly any study on higher education. After 1960, the interest in research in higher education developed to a significant extent.

Higher education is the apex of our education pyramid. It transmits our rich heritage of the past to new generation, it endeavours to grasp and throw light on our present problems and point to a right direction for preparing a path for our bright future. Thus, higher education has to be responsible for and responsive to

needs of human and national growth. But the question often asked is, "Has our higher education succeeded in fulfilling our expectations and aspirations". Instead of eradicating, or even lessening unemployment, it is breeding an army of disgruntled educated unemployed youth. Institutes of higher education have become socially detached islands of knowledge. Hence our education system (without social relevance) has become sterile and a burden to the nation. This is perhaps due to the impact of westan system of education, as our system is designed on western model.

Our education system is such, because of the impact of western education on it. Our education system, designed on the western model over a century and a half ago, had the sole objective of training personnel for white-collar jobs. As is well known, the British rulers of a subject India were concerned primarily with mass-producing writer-clerks who would obediently subserve the colonial interest. Possibly, the British rulers would not naturally want a questioning mind to be encouraged in India on the consequent system of tutorials and debate to be introduced. Education thus, could not care for the imaginative or for aesthetic and creative experience. Hence, in post independence era, we are carrying on, by and large, with the same pattern of education and

constantly struggling to bring about a change. Particularly during the last three decades, the need for a change in the educational system has been examined by several commissions - Radhakrishnan commission in 1948, Mudeliar commission in 1952 and Kothari commission in 1966. Important recommendations of these commissions helped in evolving the national Education policy in 1968. According to this policy, the educational system should be related to the life of the individuals, the community and the country should have qualitative improvement for meeting the social needs as well as internationally comparable standards.

To fulfill the above mentioned objectives, certain changes have to be made. The restructuring envisages changes in our fixed curricula and teacher dominated unified, lecture room, one-way teaching methods measured by only a few periodical tests and one final examination. The standard of higher education has been clearly portrayed in Report on Standards of university education by UGC(1965), that, "It is widely recognised that the conditions in which teaching and learning are carried in our university and college are unsatisfactory". Thus we see that there is a immediate need of education reform as stated by UGC, 1949, "One of the most important reforms needed in higher education is to improve teaching and evaluation".

Thus, it is seen that teaching precedes evaluation. As in order to test whether the teaching task is done

up-to-the mark, one should evaluate the work done. Without evaluation teaching is incomplete. This view is also stated by S.R. Dongerpery(Chairman of the committee appointed by U.G.C. in 1957) in his Report on examination Reform that "examination is an aspect of the educational process, which is intimately linked with its other important aspects-teaching and learning - and that teaching, learning and examination - actually constitute a unity of functions. Teaching as well as learning are bound to be affected by a defective examination system since both are dominated by the objectives that govern examinations".

Thus change in teaching methods, should also be followed by change in evaluation. At the outset it has to be realised that no educational reform is possible unless there is a simultaneous reform in the examination system. As the Education Commission (1964-66) had categorically said that, "the crippling effect of examinations on the quality of education was so great that examination reform was crucial to all progress and had to go hand in hand with the improvement in teaching".

So, Teaching and evaluation are part of each other. As at the outset it has to be realised that no educational reform is possible unless there is simultaneous reform in examination system. Thus changing practices in teaching and learning in higher education are inevitably reflected in changing methods of evaluation(Beard R. and Heartley,J.,1984).

Researches have been carried out in both these fields in order to find out what changes should be adopted to make teaching and evaluation suitable, according to the situations need. Research studies have been conducted to test various methods of teaching and evaluation and tried to find out which methods can be used to make the education system suitable. Thus Research studies done in different methods have been given below separately, In order to see what has been covered and what areas needs consideration. Thus, methods of teaching and evaluation system are taken separately in this worke & explained below :

METHODS OF TEACHING:-

Before knowing about different methods of teaching one should have a clear cut concept of what teaching mean?

Definition of Teaching:- Most of the researchers defined teaching as a process. This process starts when there are at least two person - a teacher who is more informed, more accomplished, and a student who comes to the teacher with an intention to be instructed. Thus, teaching can be defined as, "a process by which one person helps others achieve knowledge, skill and aptitudes" (World book Encyclopaedia). Gage, an eminent educationist, has defined teaching as the influence by a more accomplished, mature and skilled person on one who is less. But the less informed person does not remain passive as this perception and response influences the teaching behaviour of the teacher.

If a student does not perceive the influences of the teacher, we cannot name a specific act of teaching (Mitra 1972).

The research done in various methods of teaching most commonly used at higher education level are given below:-

(1) LECTURE METHOD - The lecture method is one of the most commonly used method in higher education. The lecture method is used mainly to motivate the student to learn, clarify points, to review the literature available on the subject and to expand the contents which may be available in the books. The teacher talks more or less continuously to the class (Keunetl Eblis, 1972). The class listens and may take down notes of facts and ideas the students consider worth remembring. Lectures are effective for imparting information(Bligh, 1971).

The lecture can be made effective by asking questions, to ensure that the students have grasped the material. Lecture method is criticised because - (1) students are likely to have information and ideas thrust upon them. (2) Teaching aids are not usually used to supplement the talk and chalk method. (3) communication through a lecture is unidirectional, from teacher to student. (4) Feed back and student interaction in the communication process are missing. This encourages students to become passive and dependent.

Thus, for a lecture method to be effective, it appears that these conditions must be fulfilled (Mckeachy, 1974).

(a) The academic on professional competeace of the teacher. (b) The academic and intellectual maturity of the learner to follow the subject matter being discussed and (c) Motivating 'potency' of the lecture to make things clear, appealing, humanly relevant and personally meaningful. In different degrees, a good lecture is a highly personalised combination of all three elements.

Lecture method can be effective if it is not too abstract (Trenaman 1967), and is explained in little detail (Ereskine and O' Morchoe, 1961). with illustrations (Wallis et al; 1966).

Size of the class also effects lecture(Mc Keachie and Kulik, 1975). Although there seems to be no difference in achievement between large and small classes, students seem to prefer smaller group. Rohrer(1957) found no significant differences. The Macomber and Siegel experiments at Miami University(1956, 1957a, 1957b, 1960) found,out of nine , eight courses favoured small class. Some other studies made on size of the class and effectiveness of lecture method (Feldhuseh, 1963, Hoover, Baumann and Shafer, 1970; Hudelson,1928, Levell and Haner, 1955). Most of these studies found

That small classes were more suitable for effective teaching in a lecture class, and they favoured small classes to large classes.

Several studies were concerned with course emphasising students participation, in contrast to straight lectures (Creiger, 1968; French and Cooper, 1967; Jason, 1969). Also, work has been done to try to identify the type of students for which the lecture works best. Pasocal (1971, 1973) - students who need guidance or who have a low tolerance of ambiguity tend to prefer lecture to independent study. Beach(1960), Introverts learn more from lecture than discussion; the reverse is true for extroverts, McGullough and Van Atta, (1958). Flexible students perform better with independent study, while the more rigid or anxious student, find lecture more effective. Domino (1971), found that students scoring high on achievement via conformance performed better by lecture than discussion. If students preferences are considered, Mcleish (1976) A number of studies show that students generally like anything other than lecture.

The way in which lecture is presented also affects. They consist of facial expression, eye contact, tone of voice, posture and gesture (Argyle, 1983). If voice is effective it can keep attention of students (Colson, 1963; Gohdin et-al (1970).

The length of lecture also affects. Students frequently forget, or never learn much of what is said. This problem is more pronounced for longer lectures. Joseph Trenaman (as reported by Mcleish, 1976).

Despite its criticism, lecture method is used maximum. Students of science subjects consider that lecture is a good way to introduce a new subject, putting it in its context, or to present material not yet included in books. but arts students look for originality (Marris; 1964; University Grants Committee, 1964).

Lecturing has, no doubt the advantage of presenting to the student a comprehensive and verified view of the subject matter. Some teachers, especially those who prepare their lectures carefully and have fluency of expression can create a profound impression on the mind of students.

(2) GROUP DISCUSSION:- In the group discussion the teacher's role is peripheral and interaction is the essence of group discussion. The group is left free to interact among themselves with occassional intervention from the teacher to put the discussion back into perspective, in case it has digressed. It is therefore advanced stage of interactive method. There are 5 steps in group discussion (Francis, 1977)

These are:-

(a) Stating the topic for discussion.

(b) Planning and organising the discussion.

(c) Preparing for the discussion.

(d) Leading the discussion and

(e) Participating in the discussion.

The discussion method is considered to be more effective as the difficulty of knowledge increases (Costin 1972). Studies conducted by Della - Piana(1957); Bloom and his colleagues (1953); Krauskopf (1960), and Lewin (1952), revealed that discussion method is very effective, and these authors also favoured group discussion which provides the opportunity to share feelings and opinions among students. The revealation by some of the studies of 'No-difference' in effectiveness between lecture and discussion, and their suggestions, amounted to preference of discussion over lecture as the best suitable method in teaching arts and science subjects. In the case of science students this method with demonstration holds better effectiveness.

A number of studies have been carried out, which compared lecture and discussion method. Since discussion offers the opportunity for a good deal of student

activity and feedback, it could, in theory be more effective than the lecture method in developing concepts and problem solving skills. However, since the rate of transmission of information is slow in discussion classes, we would expect lecture classes to be superior in helping students acquire knowledge of information. Thus lecture method is favoured sometimes, in comparison to group discussion (Dubin and Taveggia, 1968). In another study by Joyce and Weatherall(1959)- comparing four methods of teaching, the students considered lectures outstandingly the most useful, demonstrations following -some way behind seminars and then comes practicals.

The use of lecture or discussion method or both also depends on faculties using them. In 1964, at the time of Hale Reports - arts faculties used mainly lectures and discussions groups, together with reading; where as science faculties used more lectures with practicals or laboratory periods, but comparatively little discussion.

Other studies which compared lecture method with group discussion are that of Bane (1925), Eglash (1954), Husband (1951) and Ruja (1954). All these studies come to the common conclusion that the difference between lecture method and discussion method was slight and non-significant. Other studies that

supported this view were Bernard (1942), Casey and Weaver (1956), Dawson (1956), Divestas (1954) and Hirschman (1952). In Klapper's study (1958), students preferred group discussions or combination of lecture and discussion to lecture alone.

Group discussion method can be most useful when, conducted on an interdisciplinary basis; for this can open up new dimensions in a problem and make participants aware of concepts and tools of thought from other disciplines. But the number of participants should be limited depending on number of discipline.

(3) SEMINAR:- This is considered as most complex form of interactive teaching and can be used very effectively in the process of higher education. In a seminar, group of students may be asked to prepare brief papers, or present their point of view orally before the group, followed by discussions and interaction. The objectives of seminar are wider than above methods. With the help of this method we can test learner's grasp of the subject content, awareness, capacity for analysis, synthesis and organised and well-ordered presentation. It also tests an individual's capacity for research and creative thinking. Teacher's role in a seminar is that of a guide. In a seminar too, inter-disciplinary approach may be rewarding. The seminar method is, entirely student based.

Thus in seminar, a group of students investigate a problem and report the findings which are then discussed and criticised. Seminars give training in planning, organising and collecting data and then discussing and evaluating them. A seminar promotes an attitude of co-operation and helps self-learning.

There are many variations in seminar method. According to J. Fiella (1975) the fundamental points seem to be - (a) the choice of units of learning into which a subject matter can be divided. (b) The work of the students to be done individually. (c) a point of group discussion during which ideas individually formulated are put to the test among the students with or without their mentor, and (d) The final interaction with the 'master' who gets the reports, comments on the work done by the students either individually or in groups, and sums up opening new perspectives on the topic. One of the most recent arrivals in this field is Keller Method (Keller, 1968; Green, 1971) which has proved very successful as a way of ensuring the mental involvement of large groups of students and individualizing education to a very great extent.

(4) PROJECT METHOD:- A project is a purposeful activity preceeding in a social environment and calls for constructive thought and effort. Usually this is

group enterprise and calls for a co-operative effort.

Independent study programmes frequently involve the execution of projects in which a student or group of students undertake together and integrate data relative to some problem. Project work involves all types of activities, mental and manipulative and should have evident worth for the individual and the group.

Project work is conducted under the teacher's supervision. It can be performed individually or in a group. The selection of topic can be done either from the test given by teacher or student can propose a topic of his/her own interest.

The characteristics of a project are that - (1) Generally theyinvolve the solution of a problem. (2) They also involve initiative by the student or a group of students and necessitate a variety of educational activities. (3) They result in an end product i.e. report, design plan model etc. (4) The work requiresto be completed within a specified length of time. (5) Involve teaching staff in an advisory rather than an authoritarian role,at any or all the stages of the project.

The results of research on the effectiveness of the project method are not particularly encouraging. One of the first independent study "experiments was that of Seashore (1928). His course consisted primarily of guided individual study with written reports on

8 projects, each of which took about a month to complete. Final examination scores, however, were no different for these students than for students taught by the usual lecture - discussion method (Scheidemann 1929). In a college botany course, Novak (1958) found that students in conventional classes learned more facts than did those taught by the project method. Similarly, Goldstein (1956) found, students learned better in laboratory than by project method. Timmel (1954) found no difference in the effectiveness of the lecture and project method.

(5) TUTORIAL:- It is the system in which a small group of students receive guidance from the tutor. This is considered as best interactive method. Because, in this intimate personal contact between students and teachers is established. The method is found to be very useful in engineering and science subject where issues can be explained on person to person basis. The experiments done by Mckeachie, Lui, Forrin and Teevan (1960) showed the result that the "Tutorial" students did not learn as much from the text book as students taught in lecture and discussion classes.

(6) LABORATORY TEACHING:- The laboratory method is now widely accepted in scientific education. Laboratory teaching assures that first hand experience in observation and manipulation of the materials of science is

superior to other methods of developing understanding and appreciation. Laboratory training is also frequently used to develop skills necessary for more advanced study or research.

In a course on methods of engineering, White(1945) found that students taught by a group - laboratory methods achieved more than those taught by a lecture-demonstration method. Balcziak (1953) found no significant differences between laboratory method and other methods of instruction.

Kruglak (1952), Bainter (1955) and Lathi(1956) have conducted a number of experiments on laboratory methods and lecture-cum-demonstration methods. These studies have revealed that, the relative superiority of a method depends upon the extent to which understanding of concepts and general problem - solving procedures are emphasised by the instruction in the laboratory situation.

According to Spears and Zollman (1977) 'The structured laboratory provided examples of the activities of scientists and, as a result, caused the students to learn better the process of Science , Gaurt (1978) described, greater efficiency has been achieved in a laboratory. Ogborn (1977), r ported that use of laboratory b ought rapid and visible benefits to both

staff and students. Renner and Paske (1977) found , students did better in exams who had experienced the practicals than those who depended on lectures, visual aids and demonstrations only.

Thus,goals of laboratory teaching as given by Hofstein and Lunetta (1982) are agreed. The objectives of laboratory teaching stressed by pure and applied scientists alike, are : the acqisition of practical skills,learning about apparatus and measuring techniques; development of observational skills, learning to interpret data; the development of ability to write clear reports; appreciation of the practical significance of theory and its applications; the acquisition of skills of inquiry; a critical approach to experimentation including an ability to recognize telling questions, the development of problem - solving strategies and, depending on past experience and on knowledge, responsibility of the students for their own learning.

(7) INDIVIDUAL EXERCISE:- A college student is mature to take decisions. Consequently a student is likely to choose and prefer one self-learning approach over others. A comprehensive researchprogramme on independent study was carried out by Churchill, 1957;

Churchill and Baskin, 1958. The experiment involved courses with varying periods of independent study in humanities, social science and science, the findings were that not all students are ready to work independently.

(8) AUDIO-VISUAL AIDS:- With the help of modern technology the effectiveness of teaching - learning has increased, as modern technology has placed various media like radio, television audio and Video cassettes in the hand of educators.

Television is considered as an important medium for educating students living in remote areas. T.V. can become major instrument of education and information as well as significant component of distance and alternative learning system for various categories of learners.

Murphy and Gross (1966) and Evans and Leppman (1967) have conducted studies on faculty resistance to television. These studies revealed that reasons for resistance to television, were the personal characteristics of faculty members and the characteristics of traditional college as a social system. The same reason to resistance were found by Brown and Thorotion (1963).

Other studies which compared reproducible media-based programmes with conventional instructional methods found no significant results (Davis, Johnson and Dietrich 1969; Erikson, 1967; Menne, Hannum, Klingensmith and Nord, 1969; Orr, 1968; Taylor, lipseomb and Rosemier, 1969; White, 1970).

A summary of 100 studies of the effectiveness of television reviewed by Schramm (1964) indicated that 84 of the investigations reported no significant differences in achievement between television and conventional instruction. Several of the findings, however, did indicate significant differences in attitudes (Davis, Johnson and Dietrich, 1969; Deeming 1966; and Menne et-al, 1969).

Rajamony (1977) has conducted an experiment in teaching through films. Findings of the experiment showed good and positive results. Mckeachie and Kulik (1975) suggested that for conceptual learning, often a crucial component in college courses, T.V. instruction alone is less effective than live interaction between student and teacher. Ide (1974), Televised instruction has been shown to be most effective when viewers are motivated and are required to respond in some way to the program.

It was found by Allen (1975) that students of higher mental ability may benefit more from motion picture & T.V. than those of lower ability.

Besides T.V. and films the other devices used for teaching are taperecorder, cassettes, slides, charts etc. Bligh (1970 b, 1974) found in his experiments that students obtained comparable scores on post tests although live lectures took about twice as long as identical tape recorded talks. Students bearing recordings of lectures obtained better scores on multiple choice question requiring some thought than those who heard the lecture live.

The use of tapes or books with information and question together with slides has proved very effective in the teaching of veterinary science(Appleby and Poland, 1968) Engel et.al(1974) - when he used audiotapes with other supporting material they were as efficient as face to face teaching, but less popular. Their popularity is greater when personal contact with others is assured.

T.V. no doubt has certain merits and is more effective in teaching information than traditional methods, but that its relative merits for this objective in higher education are probably lower than in any other sector or age group (Bligh et-al, 1975).

Besides single media approaches, there have been efforts, though few, of use of multiple media.

Documented experiments in this field include those by Patki (1978), Mukhopadhyay, Kathuaria and Delaney (1982). Some of the media used are lecture, programmed learning, group discussion, seminars, reference library study, films and filmstrips, slide tape - sequences, tape recorded material, T.V. and radio lessons, computer-aided instructions, laboratory practicals, field experiments etc. Yadav and Mukhopadhyay (1976) argued in favour of multimedia approach to collegiate instruction as it fascilitates a multiple set of objectives at various cognitive and affective levels.

Johnson (1969) concluded that, junior college students were quite receptive to the use of different forms of instruction.

In India very few efforts have been made in multi-media approach. Amongst these are of, Sensanwal (1978), Yadav and Govinda (1976) - They found multimedia approach significantly better in terms of student outcome.

The multi-media approach to teaching not only facilitates achievement of higher level of objectives but also find acceptance among the learners because it is a welcome departure from lecturing, breaking

the monotony and often requiring involvement of the learner. Thus teaching aids alone are not instructional methods, but the combination of these aids with other teaching methods, make for an effective teaching process.

Concluding we can say that all methods are useful. The effectiveness of any particular method depends on the area it is being used and Researches proves that it is better to use combination of these methods inspite of using only one method.

Since, one of the chief objective of students in entering university is to obtain a qualification, the form of assessment employed has a considerable influence on emphasis in content and methods of study. The effectiveness of teaching and of teaching methods is influenced by the ways in which students are assured. Let's look at the evaluation system and the Research done to find changes to be done in it, to make it appropriate.

EVALUATION:- Evaluation signifies a more comprehensive and continuous process of assessing a student's progress. It seeks to evaluate the student as a whole and not merely what he knows. Its purpose is to improve instruction and not merely to measure its

achievements. Thus, evaluation attempts to measure students personality, behaviour habits, learning experiences, attitudes and social responsiveness.

Evaluation, as defined by Bloom (1970), is a process of determining the achievement of specific educational objectives - objectives relating to student achievement. He also stressed the importance of evaluation for determining the effectiveness of courses, curricula on forms of instruction.

AIMS OF EVALUATION :- Given by Mehta, More V.D. and Pati (1977 are (1) Evaluation tests the students ability and his depth of knowledge. (2) It exposes the strengths and weaknesses of the methods of teaching and material of instruction. It, thus, acts as a search light and raises the level of efficiency in education. (3) Evaluations are basis for admissions to higher studies and merit scholarships. (4) Evaluation provides opportunities to the pupil for relearning and reviewing the knowledge acquired in a particular period of time. It gives him training in organisation and using his knowledge in original thinking, and clothing these ideas in most appropriate manner.

Criteria for effective evaluation are:-
(a) clearly defined objectives (b) valid instruments of measurements (c) objectivity (d) reliability (e) accurate evidence of change and (f) Practicability

Before knowing our present evaluation system, let's go through, briefly, with the history of evaluation.

HISTORY OF EVALUATION:- Evaluation is considered as professional practice. So, no introduction to evaluation, as a field of professional practice, would be complete without giving some attention to the historical developments of the field. Most of the historical analysis is based on the seminar work of Ralph W. Tyler, who is often spoken as father of educational evaluation. According to his work we can have 5 major periods:-

(1) The pre-Tyler period which includes development before 1930. (2) The Tylerian Age, which spans, 1930-1945. (3) The age of Innocence - 1946 to 1957. (4) The Age of realism - 1958 to 1972 . (5) The Age of professionalism - . from 1973 to the present.

The Pre-Tylerian Period:- Systematic evaluation was not unknown before 1930. The concept of evaluating individuals andprogrammewas evident as early as 2000 Bc.

Socrates and other Greak teacher used evaluative questioning as part of their teaching in 5th Century B.C. . In 19th Century England used evaluation in public services. Then Horace Mann, 1845, led an evaluation based on performance testing, and between 1887 to 1898, Joseph Rice made his contribution of the first formal educational Programme evaluation in America. Another major approach to evaluation, that developed in early 1900's, was that of standardized testing.

(2) THE TYLERIAN AGE:- In the early 1930's, Ralph Tyler coined the term "educational" evaluation". His work was different, as its concentration was on clearly-stated objective. He defined evaluation as, determining whether objectives had been achieved.

During the period of depression i.e. in 1930's in America, schools and other public institutions were stagnated. Tyler, directed a research (Smith and Tyler, 1942). With this study Tyler at once expanded test and demonstrated his conception of educational evaluation in America Schools, and by the middle of 1940's Tyler had set the stage for exerting a heavy influence on the educational scene for the next 25 years.

(3) THE AGE OF INNOCENCE:- The late 1940's and 1950's was the period of expansion throughout America.

There was expansion of educational,offering new kind of educational buildings erected,such as,community college emerged. As there was a great expansion, society had no interest in solving the problems of educational system. Though educators worked on evaluation,but did not use it for improvement in educational services. This led to the of development of/technical aspects of evaluation. This was so, because of lack of internal/ support and pressure for evaluation at all levels of education. This led to arrival of next period in history of evaluation.

(4) THE AGE OF REALISM:- In 1960's educators found,they cannot do evaluation as they pleased. In 1957, Russia launched sputnik-I by enacting the National Defence education Act. This Act provided for new educational programmes in mathematics, Science and foreign language. Funds were allocated to evaluate these programmes.

In 1960, leaders in educational evaluation realized that their work was used. Thus,new educational evaluation community were involved to evaluate new curricula. But this also didn't succeed,as clear from Cronbach's Criticism (1963).

The negative findings of evaluation resulted in foundation of National study committee on evaluation

by Phi Delta Kappa. This committee concluded that, educational evaluation was "Seized with a great illness", and called for the development of new theories and methods of evaluation, as well as training programmes for evaluations. Provus (1971) Hammond (1967), Eisner (1967) and Metfessel and Michael(1967) proposed reformation of Tyler model. Geaser(1963), Tyler (1967) and Popham (1971), pointed to criterion-referenced testing as an alternative to norm-referenced testing. Cook (1966) called for the use of systematic analytic approach to evaluate programme. Scriven (1967), Stufflebeam (1967, 1971) and Stake (1967) introduced new models for evaluation that departed radically from prior approaches. Thus, late 1960's and early 1970's were vibrant with descriptions, discussions and debates concerning how evaluation should be conceived.

(5) THE AGE OF PROFESSIONALISM:- Beginning in about 1973, the field of evaluation began to emerge as a distinct profession. A number of journals like Evaluation Review, Evaluation and programme planning, Educational evaluation, CEDR Quarterly and Policy analysis studies in evaluation, New directions for program evaluation, and Evaluation news were begun so that evaluators could exchange their views

This is the history of evaluation. Now there are numerous books in evaluation. Infact, the problem of today is not as to find literature in evaluation but to keep up with it. Inspite of growing research for appropriate methods, increased communication and understanding among the leading methodologists, and the development of new techniques, the actual practice of evaluation has changed very little in the great majority of settings.

Till today, students are examined on the basis of one annual external exam. This system has been criticised, thereby demanding reform in present evaluation system. As stated by the Radha Krishnan Commission (1948) that, "We are convinced that if we are to suggest any single reform in University education it would be that of exam". This was followed by one of the most scath ing criticisms of the examination system by Secondary Education Commission (1952), It observed:

"The examinations today dictate the curriculum instead of following it, prevent any experimentation, hamper the proper treatment of subjects and sound methods of teaching, foster a dull uniformity rather

than originality, encourage the average pupil to concentrate too rigidly upon too narrow a field and thus help him to develop wrong values in education. Pupils assess evaluation in terms of success in examinations ----- In short, external examinations are exercising a restricting influence over the entire field of education to such an extent as almost to multify its real purpose".

Realising that the present system of examination is the greatest obstacle in the path of educational reconstruction, the matter of examination reform was seriously taken up by Govt. of India. Thus reforms were suggested in examination and evaluation system. As evaluation is done on exams. The various areas are taken one by one below:-

(1) SEMESTER/ANNUAL EXAMINATION:- In India much emphasis is placed on one tool i.e. "final examination". This is stated clearly by Dr. Kothari in his report on Education Commission (1966). It remarked - "In the present system, when the future of the students is totally decided by one external examination at the end of the year, they (students) pay minimum attention to the teachers, do little independed study through most of the academic year and clear accurately for the final examination.

In order to avoid this defect, a student should be judged on the basis of his performance throughout the year i.e. a student should not be judged on an inadequate sample of questions at a particular moment but he should be judged on large number of questions spread over a certain span of time. To remedy these examinations to some extent most Universities use semester-system".

Semester system was recommended by U.G.C. in its plan of action for examination reform way back in 1972. The essence of semester system is that, academic year is divided into 2 or 3 sessions each one of which is called a semester. At the end of a semester, examination is held. A student who fails in a course, is required to pass that course only and not all the courses studied in that semester. Its advantage is that, work load is divided and practically no one fails or failure in one course doesn't put the student back by 8 months or one year.

It also faces problems, eg. teaching should start immediately as semester starts and secondly, splitting up of course into several units may lead to compartmentalisation. So care should be taken at the planning stage.

(2) EXTERNAL/INTERNAL ASSESSMENT:-

The system of internal assessment was taken up in recent years. An external assessment was criticised. As related in the Report of the Education Commission (1964-66) at p. 290 "one line of attack would be to abolish set syllabuses and the external examination based on them, and to replace them by a system of internal and continuous evaluation by teacher's themselves". In a report by UGC (1973) on Examination Reform, External examinations were criticised. It stated, "External examinations, in particular, encourage selective study and Cramming because they are more likely to have a set stereotyped and general questions".

Thus internal examination was devised. But it was criticised, as some students used other questionable means to impress their teachers, and in other cases teacher used their power over students in an arbitrary, wilful and oppressive manner i.e. by giving less marks to those who deserved more.

Despite this criticism internal assessment has been more successful at post graduate level, as the number of students at this level is smaller, and the quality of students and teachers is also better.

(3) ESSAY/OBJECTIVE TEST:-

Essay type exams have been criticised because of partiality in evaluating them i.e. subjectiv factor comes. As the report of secondary education commission, 1952 suggested, "reduction in number of examinations, minimization of the element of subjectivity in the essay type examinations".

In objective type tests the students are required to select one of the response already given in the question paper. It is recognised that objective tests are not an exact substitute for the essay - type,but they have immense pedagogic value. As in internal assessment also, it helps in avoiding partiality by teachers.

(4) PRACTICALS:- There are certain educational outcomes, which cannot be examined by paper and pencil tests eg. handling of instruments, ability to set up and conduct experiments etc. For such things practical examinationsare indispensable. There are difficulties in the assessment of practicals ie.the element of subjectivity on the part of examiner. His physical, mental and emotional situation, the condition of apparatus, temperature of rooms, ventilation etc. influence students performances.

Despite all this, if practical exam is not there, the student may not develop any skill. So, it is possible to improve the reliability of practical exam. ie by assigning equally difficult task to all students, and planned by the examiner much ahead the examination.

(5) VIVA-VOCE:- The viva-voce exam. should follow the written exams and not precede it, and should be conducted by a board of three examiners at least. One of them should be internal, and one external. Each student should be given atleast 15 minutes, and marks of viva-voce should be combined with written exam. But the precaution should be taken that, each student secure minimum percentage of marks in each category. It should form essential part of practical exams at all levels.

(6) MARKS/GRADING:-

It is seen that, present marking system, in comparison to Grading system, is bad. It is shown by studies and investigations that, the present marking system is subject to large scale errors and also the idiosyncracies of examiners. Even, UGC criticised marks, in its Report on examination Reform (1973). It stated, "The performance of students cannot be measured so accurately and so unambiguously as to

be recorded in marks: and since the standards of judgement for various subjects are also different, students must be awarded grades and not marks inthe examination and assessment. (A may stand for distinguished performance such as may be expected from not more than a few percent of students; B for satisfactory;C for poor; and D for unsatisfactory).

Thus, Grading is another important change that the new policy has also recommended in place of marks. Research in examination has shown that,mark awarded by an examiner is not the true mark as it is very likely that,if he were to reassess the same script often sometime, he will himself assign a different mark to it. This is because there is inavoidable subjectivity in marking and the marks awarded in script may differ from examiner to examiner. According to H.J. Taylor, "an examination mark has neither the sanctitynor the precision which is usually attached to it".

Grading in place of marking will not only do away to a large extent the subjectivity inherent in evaluation of students, it will also facilitate standardisation of raw-scores.

It will help introduce scaling and reduce inter-subject disparity in scoring.

What is now urgently required, is adequate planning and preparation to implement the decision and training of teachers and examiners on a large scale to administer the change. The centre should immediately decide the nature of scale (ie 5,7, or 9 point) on which grades should be awarded. Adoption of uniform scale will be desirable for the country, otherwise it may lead to unavoidable problems of equivalence and lack of parity between different states, Boards and institutions.

From the above presented review of literature covering some of the important methods of teaching and evaluation system in higher education, it is observed that most of the studies have taken one or more methods of teaching and tested their effectiveness. No study has been conducted to know what methods, teacher and students want? Secondly' whether, teaching differs from University to University? Thirdly, whether the reforms suggested by Education Commission, U.G.C. and Government of India in Evaluation and methods of teaching are practised or why they are using old methods, i.e. whether they don't want to use them or they don't have the provision to do so?

Therefore an attempt has been made in this research to answer these questions related to methods of teaching and Evaluation system in the field of higher education.

The following chapter presents the Methodology used in this research study.

CHAPTER : 3

METHODOLOGY

As mentioned in the earlier chapter the present study, mainly exploratory and descriptive in nature, aims to ascertain the methods of teaching and evaluation system of higher education in three universities, mainly Jawaharlal Nehru University (JNU), Jamia Milia Islamia(JMI) and Delhi University (DU).

THE OBJECTIVES OF THE STUDY:-

(1) To ascertain objectives of higher education as perceived by the three universities ie, JNU, JMI and DU.

(2) The various methods of teaching and evaluation system being used in these three universities and to find out if there is a difference amongst these three universities.

(3) To find out, if different subject disciplines such as science and social science follow any different methods of teaching and evaluation system.

(4) To find out, if sex factor of teachers and students ie. males and females vary in their perception of methods of teaching and evaluation system being used.

(5) To ascertain if the methods of teaching and evaluation system were being considered in the same manner by both teachers and students.

(6) To find out, which method of teaching was used maximumally in science and social science disciplines of all the three universities.

Since the study was exploratory in nature, no typical hypothesis have been laid down. However certain broad directional conjectures were worked out, based on review of literature and personal interviews with educationists in the field of higher education, which were as follows:-

(1) The objectives of higher education may be perceived differentially by the three universities viz - JNU, JMI and DU.

(2) While the methods of teaching may not vary much among the universities yet within the general trend of the lecture method being used there may be a difference among the universities, amongst the subject discipline in regard to other methods of teaching being adopted.

(3) There may be a difference between teachers and students in regard to their favouring particular method of teaching. Such differences may be obtained even in regard to sex factor and subject discipline.

(4) While evaluation exists in all the three universities, there may be a variation in the typical method of evaluation and the typical content that is being evaluated.

(5) Teachers and students may vary in their perception of what is being evaluated, as well as in their ideas of self-evaluation and students' evaluation of teachers.

METHODOLOGY:-

As mentioned earlier, since this is an exploratory and descriptive study, no typical research design has been adopted. However, a comparative paradigm has been used for the same variables, to compare the obtained data (a) amongst the three universities mainly Jawaharlal Nehru University (JNU), Jamia Milia Islamia (JMI) and Delhi - University (DU); (b) between teachers and students; (c) between male and female, teachers and students; and (d) between subject disciplines viz science and social science.

SAMPLING:-

UNIVERSITY-WISE:- Since the main objectives of the study as mentioned elsewhere was to ascertain the differential perception of the teachers and students of the universities in regard to the objectives of higher education, only those universities in the union territory of Delhi were selected which were offering M.Phil/Ph.D. programme. Since in Delhi, only three universities were offering M.Phil/Ph.D. programmes

all the three universities were selected,which are Jawaharlal Nehru University (JNU), Jamia Milia Islamia(JMI) and Delhi University (DU). Thus the university sample consisted of 3 universities in Delhi.

TEACHER SAMPLE:- The teachers at three levels ie professor, reader and lecturer, teaching at M.Phil/Ph.D. levels,was the universe from which one-half of the total strength of teacher's employed in science and social science departments were randomly selected. There were in all 151 teachers which included 68 professors, 77 readers and 06 lecturers.

STUDENT'S SAMPLE:- From the same departments as mentioned above from the three universities from where teachers were selected, students sample was also selected. One in every fourth student in each department was selected for the sample, and there were in all 110 students constituting the students sample.

The details of the proportion of male and female teachers and students in the three different universities belonging to science and social science subject-disciplines are given elsewhere in the thesis (refer to chapter IV page- for details. It may be mentioned here that it was thought

more appropriate to present these details in result-chapter because comparisons made in that chapter are based on number of teachers and students. By presenting it there,it would be easy to compare and contrast and refer to table as and when required).

SUBJECT DISCIPLINE:- The subject discipline was broadly classified into two disciplines, viz science and social science. The science discipline has Physics, Chemistry, Biology (Botany and Zoology), environmental science and life science departments and social science had Economics, Political Science, Sociology, History and C.S.R.D. departments.

All these disciplines are represented in the sample by taking one-half of teachers and one-fourth of students in each discipline.

TOOL FOR DATA COLLECTION:- The tool for collecting the above said information as per objectives of this study was a questionnaire with 3 parts, prepared exclusively for this purpose, keeping in mind the objectives laid down. The questionnaire was common for both teachers and students. Wherever certain aspects were relevant only to teachers

and not to the students and vice versa, the same was accommodated in that particular question by an oblique for differentiation purpose.

The questionnaire covered the basic socio-demographic information from both teachers and students belonging to the different universities. This covered name of the university, the department concerned, the course they were doing, educational qualification and Income. After covering the personal data on the teachers and students the second section covered (a) areas pertaining to objectives of higher education. The method of teaching and other related issues concerning the same as perceived by teachers and students; their satisfaction with the methods of teaching and the suggestions for improving the methods of teaching, (b) Whether training is to be imparted to teacher's before they take up the assignment of teaching at higher education level. The kind of training that should be important to the trainees etc. (c) The third section of the questionnaire dealt with the evaluation as being practised in the universities. This section covered the existing methods of evaluation, the contents that were being evaluated, the typical process used in the method of evaluation; self-evaluation and student-evaluation of teachers.

PROCEDURE:-

This questionnaire was administered personally by the researcher to the teachers and students selected as sample for this study. The researcher personally visited each teacher and student belonging to the different departments of the three universities and got the questionnaire filled up with their help. Some teachers who preferred to fill up the questionnaire on their own were handed over the same to be later picked up from them by the researcher.

The questionnaire was both structured and unstructured in nature. This was so, because (1) The study itself was highly exploratory and descriptive and needed much information which would not be obtained without having open-ended questions. Where ever possible the questions were structured, based on the experience of the pilot study and where not possible the same were left open-ended. (2) The open ended items were able together frank view points of teachers and students regarding a particular issue.

PILOT STUDY:- Before embarking on the final study of this research, a pilot study was undertaken to test the questions and also to see if it was possible to have information on the issues raised in the study. Since the number of teachers

and students in certain post graduate departments (M.Phil/Ph.D.) were limited, it was decided to take up the pilot study at M.A. level, so that the number of students and teachers at M.Phil/Ph.D. level was not exhausted for the final data collection. For the pilot study one college, offering science and social science, was selected from which 40 teachers and 60 students were administered the constructed questionnaire mentioned above.

On receipt of the filled-in questionnaire the data were analysed and found that the questionnaire needed the following changes:-

(1) The objectives of higher education which was kept open-ended initially, was converted into structured type on the basis of the responses given by teachers and students in the pilot study.

(2) The questions related to methods of teaching had to be drastically changed from open-ended to structured with various options, and few questions were restructured to make them simple, so that students and teachers get the same meaning out of them. All these changes were carried out and the final questionnaire was prepared and got ready for final data collection.

ANALYSIS OF DATA:- Since this study was to be exploratory and descriptive in nature, the entire data could be

analysed more meaningfully in terms of percentiles. Even where comparisons had been attempted between teachers and students, sex and subject disciplines, again this has been worked out in terms of percentage.

Though it would have been ideal to use some of the statistical techniques such as Chi-Square and percentile, the data obtained were so varying and in certain cases with such low frequency (even zero frequency) that, a statistical treatment would have led to either a sweeping generalization, or a skewed type of result or a totally distorted result. This is why no attempt has been made to use statistical analysis.

If the exploratory study is able to indicate a typical trend or directional results, a further study will be undertaken, using suitable hypothesis on the basis of the indicated trends. Such a study, even on a small scale, was not feasible at M.Phil level due to time and financial limitation. It is proposed to take up such a study at Ph.D. level.

The next chapter presents the results of analysis of the data collected as per the methodology presented in this chapter.

CHAPTER : 4

RESULTS

Having presented the methodology in the previous chapter, the results of analysis of data are being presented in the following sections.

As mentioned elsewhere in the methodology chapter, three universities were selected from amongst which professors, readers, lecturers as well as students were chosen to constitute the sample. Thus there were in all eleven university departments with 110 students being taught by 151 teachers. The break up of the sample in terms of university and departments is presented in Table-1 below. The three selected universities mentioned in Table-1 are Jawaharlal Nehru University (JNU), Jamia Milia Islamia (JMI), and Delhi University (DU).

TABLE - 1

Distribution of teachers and students in terms of the departments in the universities

SUBJECTS	JNU		JMI		DU		TOTAL	
S.NO	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
1. Political Science	09	05	05	05	07	05	21	15
2. Sociology	12	05	05	05	06	05	23	15
3. History	10	05	06	05	07	05	23	15
4. Economics	07	05	05	05	08	05	20	15
5. Centre for Studies in Regional Development	12	05	-	-	-	-	12	05
6. Social Work	-	-	-	-	-	-	-	-
7. Life Science	06	05	-	-	-	-	06	05
8. Environmental Science	06	05	-	-	-	-	06	05
9. Chemistry	-	-	04	05	06	05	10	10
10. Physics	-	-	08	05	08	05	16	10
11. Biology	-	-	05	05	-	-	05	05
Botony	-	-	-	-	05	05	05	05
Zoology	-	-	-	-	04	05	04	05
TOTAL	62	35	38	35	51	40	151	110

As is seen from the table, there were more teachers from JNU i.e. 62, then DU (51) and lowest number of teachers were from JMI i.e. 38. The number of students are same i.e. five from each department.

All these teachers were then classified into professors, readers and lecturers. Table-2 below presents the break up of teacher's into three groups in terms of three universities.

TABLE - 2

Breaking of teacher's into three groups in terms of three Universities

DESIGNATION	JNU	JMI	DU	TOTAL
Professor	28	15	25	68
Reader	32	19	26	77
Lecturer	02	04	00	06
TOTAL	62	38	51	151

From Table-2 it is seen that there were more number of Readers then professors/lecturer's in all three universities. Second came professor's number, whereas lecturer's were third and very few (6).

When the teacher's qualifications were considered, except six teacher's who were lecturers and had done M.Phil, all the other were Ph.D holders in three universities. All these teacher's of three universities were receiving the UGC grade and so there was no difference in the salary that they received at each level of the profession.

Of these teacher's 112 were male and 39 were female teachers. Amongst students 53 were male and 57 were female. When taken in terms of three universities it is seen that JNU had 68% (42) male teacher as against 32% (20) female teachers. On the other hand JMI had 84% (32) male and 16% (6) female teachers and in DU there were 75% (38) male and 25% (13) female teachers.

Amongst student's JNU had 49% (17) male and 51% i.e. (18) female students. Whereas in JMI had 51% (18) male and 49% (17) female students and in D.U. there were 45% (18) male and 55% (22) female students.

When the sex-wise distribution of teachers was seen in terms of their Designation following picture emerged (Table-3).

TABLE 3

Sex-wise Distribution of Teachers in the three Universities and their Designation

	JNU		JMI		DU		
DESIGNATION	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	TOTAL
Professor	20	08	14	01	21	04	68
Reader	22	10	15	04	18	08	77
Lecturer	00	02	03	01	00	00	06
TOTAL	42	20	32	06	39	12	151

From the above table it emerges that the number of female teachers is less than male teachers and in each university number of female Reader is more than professor and lecturer number. Similarly number of male Reader's is more than professor and reader in JNU and JMI whereas in DU male professors are more than reader. There is no lecturer taken from D.U. as very less number of lecturer's are employed in few departments.

OBJECTIVES OF HIGHER EDUCATION :

(a) Objectives - Universitywise Comparison :

All 151 teachers and 110 students of the three universities were asked about what they thought were the objectives of Higher Education. Many responses emerged which were classified into 11 categories i.e. A to K in all. Table 4 below presents university wise the percent of respondents for each category of response.

TABLE - 4

Percent of Respondents University wise in regard to Objectives of Higher Education

CATE-GORY	OBJECTIVES OF HIGHER EDUCATION	JNU		JMI		DU	
		TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
A.	Development of human and intellectual capacities	18	46	67	46	48	53
B.	Development of knowledge for employment and evolve better society.	28	40	74	60	46	50
C.	Broadening vision and mental horizon to solve their problems.	11	20	59	20	25	50
D.	Enlightenment, Social commitment and Technical training.	17	6	42	49	44	20
E.	To increase creativity, analytical and critical knowledge for economic and social development.	35	49	43	34	46	48
F.	Providing knowledge for the emergence of rational, logical and balanced intellectual personality.	19	9	52	51	35	45
G.	To make them perfect in the profession they choose.	20	23	75	31	39	23
H.	To develop understanding of particular subject.	19	14	57	17	22	43
I.	Overall development of Personality and understanding power.	16	-	47	29	35	50
J.	Training for teaching, administration and better employment.	11	46	14	54	22	30
K.	Imparting information, ability to think and make them discuss problems and questions.	23	3	23	29	24	52

When students and teachers are compared university wise in regard to the objectives of higher education it is seen that in JNU largest percent of teachers and students i.e. 35% and 49% respectively have given the objective of higher education to be one of increasing creativity and developing analytical and critical ability and contribute towards economic and social development. On the other hand in JMI, largest percentage of students (60%) and teachers (74%) have responded that the objective of higher education is development of knowledge for employment and for evolving a better society. In D.U. largest percent of teacher (48%) and students (53%) consider objective of higher education as development of human and intellectual capacities.

Thus, one finds from the above table that the three universities appear to differ to an extent in their perception of objectives of higher education, with emphasis on enhancement of creativity, analytical abilities and critical knowledge for economic and social development by JNU, development of knowledge for employment and for evolving better society by JMI and development of human intellectual capacities by Delhi University.

b. Objectives - Sex wise comparison (Teacher's) :

When all the three universities are considered together and seen of as to which of the objectives of higher education has been responded to by larger percent of respondents,

it is observed that the objective 'B' namely 'Development of knowledge for employment and evolving better society', has been responded to by larger percent of teachers. The least responded objective was 'K' i.e. 'Imparting information, ability to think and make them discuss problems and questions'.

Within this the sex break-up indicates again the same trend, though slightly more percent of women than men teachers have stated 'B' as the first objective of higher education followed by objective 'A', as seen from table-5.

(contd....Table-5 follows)

TABLE - 5

Percent of Teacher Respondents of three universities, Sex wise in regard to objectives of Higher Education

CATE-GORY	OBJECTIVES OF HIGHER EDUCATION	JNU		JMI		DU		T
		MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE	
A.	Development of human and intellectual capacities.	21	15	50	67	53	54	
B.	Development of knowledge for employment and evolve better society.	26	30	81	83	45	46	
C.	Broadening vision and mental horizon to solve their problems.	7	15	56	67	26	23	
D.	Enlightenment, Social commitment and Technical training.	24	10	50	33	34	54	
E.	To increase creativity, analytical and critical knowledge for economic and social development.	29	40	53	33	42	38	
F.	Providing knowledge for the emergence of rational, logical and balanced intellectual personality.	12	25	53	50	39	31	
G.	To make them perfect in the profession they choose.	19	20	50	100	32	46	
H.	To develop understanding of particular subject.	12	25	47	67	29	15	
I.	Overall development of personality and understanding power.	17	15	44	50	32	38	
J.	Training for teaching, administration and better employment.	24	20	28	-	13	31	
K.	Imparting information, ability to think and make them discuss problems and questions.	31	15	28	17	16	31	

From the above table it is seen that largest percent of male (29%) and female (40%) teachers of JNU considered objectives of higher education to that of enhancement of creativity, analytical and critical knowledge for economic and social development. Whereas in JMI largest percent of male teachers (81%) and female teachers (83%) considered objective of higher education to develop knowledge for employment and for evolving better society. D.U. male teachers (53%) and female teachers (54%) considered objective of higher education is to develop human and intellectual capacities within the same university. One finds that there was no difference in the perception of objectives of higher education, between male and female teachers.

c. Objectives of Higher Education, Sex wise comparison (Students) :

When students responses in term of sex factor was considered, following trend emerged as is given in table-6.

TABLE - 6

Percent of Students Respondents of three universities, Sex wise in regard to objectives of Higher Education.

CATE-GORY	OBJECTIVES OF HIGHER EDUCATION	MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE	TOTAL PERCENT OF STU-DENT RES PONDENTS
A.	Development of human and intellectual capacities.	47	44	39	53	56	64	51
B.	Development of knowledge for employment and evolve better society.	41	39	72	71	39	59	54
C.	Broadening vision and mental horizon to solve their problems.	11	28	17	23	39	45	27
D.	Enlightenment, Social commitment and Technical training.	6	6	28	47	22	18	21
E.	To increase creativity, analytical and critical knowledge for economic and social development.	53	50	28	41	39	54	44
F.	Providing knowledge for the emergence of rational, logical and balanced intellectual personality.	6	11	56	47	44	45	35
G.	To make them perfect in the profession they choose.	23	22	22	41	22	23	26
H.	To develop understanding of particular subject.	11	17	11	23	50	36	25
I.	Overall development of personality and understanding power.	-	-	17	41	44	54	39
J.	Training for teaching, administration and better employment.	47	39	61	47	44	18	43
K.	Imparting information, ability to think and make them discuss problems and questions.	-	6	28	29	39	64	33

From the above table one may conclude that like teachers amongst students also except in D.U. sex factor did not appear to make for any difference in the perception of higher education objectives. For instance, in JNU, around 50-53% of males and female students considered objective of higher education to be one of enhancement of creativity, analytical and critical knowledge for economic and social development. In JMI 72% male and 71% female students stated that the objectives of higher education was to develop knowledge for employment and for evolving better society. Whereas in D.U. 56% male and 64% female students said objective of higher education is to develop human and intellectual capacities.

One observes that largest percentage of students and teachers had stated that the objectives of higher education was as to Development of knowledge for employment and evolve better society and Development of human and intellectual capacities. Amongst students alone more than 40% had also stated objective as to increase creativity, analytical and critical knowledge for economic and social development and also to overall development of personality and understanding power, to be important objectives. Whereas very few teachers had considered these objectives as important. While least percent (23%) of teachers had

considered 'K' i.e. 'Imparting information, ability to think and make them discuss problems and questions' as an objective of higher education. In other words very few students thought 'enlightenment, social commitment and technical training' were important objectives of higher education; and amongst teachers very few considered 'imparting of information, ability to think, discussion of questions and problems' as important objective of higher education.

So this extent teachers and students differed in their concept of objectives of higher education.

d. Objectives of Higher Education - Subject wise (Teachers) :

Response of Teacher's were compared between science and social science subjects. The picture that emerged is presented in table - 7.

TABLE - 7

Percent of Teacher Respondents Subject wise in regard to Objectives of Higher Education

CATE-GORY	OBJECTIVES OF HIGHER EDUCATION	JNU		JMI		DU			
		SCIE-NCE	SOCI-AL SCIE-NCE	SCIE-NCE	SOCI-AL SCIE-NCE	SCIE-NCE	SOCI-AL SCIE-NCE	TOTAL PERCE-NT OF SCIEN-CE RES-PONDE-NTS	TOTAL PERCE-NT OF SOCIAL SCIEN-CE RESPON-DENTS
1	2	3	4	5	6	7	8	9	10
A.	Development of human and intellectual capacities.	42	14	76	81	30	57	49.3	50.6
B.	Development of knowledge for employment and evolve better society.	33	24	59	52	35	54	40.2	43.3
C.	Broadening vision and mental horizon to solve their problems.	17	8	65	52	30	21	37.3	27.0
D.	Enlightment, Social commitment and Technical training.	17	20	47	48	39	46	34.3	38.0
E.	To increase creativity, analytical and critical knowledge for economic and social development.	83	20	41	57	39	57	54.3	44.6
F.	Providing knowledge for the emergence of rational, logical and balanced intellectual personality.	17	14	65	43	30	36	40.3	31.0

Table contd. on next page.

1	2	3	4	5	6	7	8	9	10
G.	To make them perfect in the profession they choose.	42	14	35	76	22	46	33.0	45.3
H.	To develop understanding of particular subject.	17	16	59	43	22	29	32.6	29.3
I.	Overall development of personality and understanding power.	33	12	53	38	39	29	41.6	26.3
J.	Training for teaching, administration and better employment.	58	14	35	14	17	18	36.6	15.3
K.	Imparting information, ability to think and make them discuss problems and questions.	58	18	29	24	13	14	33.3	18.6

From the above table following conclusions emerges :

1. Almost 50% of science and social science teachers considered 'A' and 'B' i.e. 'development of human and intellectual capacities' and 'development of knowledge for employment and evolve better society', as objectives of higher education irrespective of the university to which they belong.

2. While largest percent (54.3%) of science teachers considered 'enhancement of creativity, development of analytical and critical ability' as objectives of higher education. Large percent (59.6%) of the social science teachers considered objective 'A' i.e. 'development of human and intellectual capacities as the important objective of higher education.

3. When one observes the above results in terms of the three universities, it is seen that in JNU objective 'E' (To increase creativity, analytical and critical knowledge for economic and social development) is considered important by 83% of teachers. Also 'J' and 'K' (Training for teaching, administration and better employment, and Imparting information, ability to think and make them discuss problems and questions) are considered by nearly 60% of science teachers as the objective of higher education, whereas only 14-18% of JNU social science teachers considered these two as important objectives of higher education.

4. In Jamia Milia Islamia (JMI) largest percent of science (76%) and social science teachers (81%) have considered 'A' i.e. development of human and intellectual capacities as objective of higher education. This is followed by objective 'C' i.e. broadening vision and mental horizon to solve various problems - being chosen as second important objective of higher education by 65% science and 52% social science teachers.

5. In Delhi University (DU), to increase creativity, develop analytical and critical ability have been considered as objectives of higher education by 49% science teachers and 57% social science teachers. All other objectives have been responded by less than 40% science teachers. On the other hand 'A', 'B', and 'E' have been considered as objectives of higher education by social science teachers of Delhi University.

Thus, from above analysis, one may infer that not only there is a difference amongst the three universities, in the perception of objectives of higher education, but between the science and social science teachers also there appears considerable difference. While science teachers appear to emphasis enhancement of creativity, analytical and critical ability, the social science teachers appear

to stress on development of knowledge for employment and evolving a better society. This difference is more conspicuous in JNU and DU rather than in JMI.

e. Objectives of Higher Education - Subject wise (Students) :

Responses taken from students of science and social science, in regard to objectives of higher education are presented in Table-8 below :

Table - 8

Percent of Student Respondents Subject wise in regard to Objectives of Higher Education

CATE-GORY	OBJECTIVES OF HIGHER EDUCATION	JNU		JMI		DU		TOTAL PERC-ENT OF SCI-ENCE RESP-ONDE-NT	TOT PERCE-NT OF SOCIAL SCIENCE RESPON-DENT
		SCI-ENCE	SOCI-AL SCI-ENCE	SCI-ENCE	SOCI-AL SCI-ENCE	SCI-ENCE	SOCI-AL SCI-ENCE		
1	2	3	4	5	6	7	8	9	10
A.	Development of human and intellectual capacities.	40	48	69	32	50	55	53.0	45.0
B.	Development of knowledge for employment and evolve better society.	40	40	85	45	55	45	60.0	43.3
C.	Broadening vision and mental horizon to solve their problems.	30	16	46	5	45	55	40.3	25.3
D.	Enlightment, Social commitment and Technical training.	20	-	77	32	-	40	48.5	36.0
E.	To increase creativity, analytical and critical knowledge for economic and social development.	40	52	62	18	50	45	50.6	38.3
F.	Providing knowledge for the emergence of rational, logical and balanced intellectual personality.	30	-	69	41	40	50	46.3	45.5

Table contd.

1	2	3	4	5	6	7	8	9	10
G.	To make them perfect in the profession they choose.	10	28	62	14	10	35	27.3	26.6
H.	To develop understanding of particular subject.	-	6	46	-	45	40	45.5	23.0
I.	Overall development of personality and understanding power.	-	-	62	9	50	50	56.0	29.5
J.	Training for teaching, administration and better employment.	70	36	54	55	35	25	53.0	38.6
K.	Imparting information, ability to think and make them discuss problems and questions.	10	-	54	14	50	55	38.0	34.5

From the above table following conclusions emerge :

1. Largest percent i.e. 60% science students (irrespective of university) have stated objectives of higher education to be 'B' (Development of knowledge for employment and to evolve better society). Whereas largest percent (45.5%) of social science students have stated 'F' i.e. to provide knowledge for the emergence of rational logical and balanced intellectual personality to be the main objective of higher education. In other words while science students felt that higher education objectives are to develop knowledge for employment, social science students appear to feel that higher education should make them perfect in the profession they choose.

2. When the students perception of objectives of higher education is seen in terms of universities and subject wise break up it is seen that, science students of JNU have indicated 'J' to be the objectives of higher education; that is, higher education should have objectives of teaching and training students for administration and better employment. On the other hand, JMI and DU science students are of the view that higher education objectives should be more to develop knowledge for employment and to evolve a better society.

3. As per social science students, in terms of the three universities concerned, it is seen that largest percent of JNU social science students consider objectives of higher education to be to make the students perfect in the profession they choose. Whereas JMI social science students consider the objective to be training them for teaching jobs, administration and better employment. On the other hand, social science students of DU hold that development of human and intellectual capacities as well as broadening of vision and mental horizon in solving their problem to be important objectives of higher education.

Thus, there appear to be considerable difference between science and social science students in their perception of objectives of higher education. In addition there appears also considerable difference in the perception of science students of the three universities and social science students of the three universities.

One may conclude that not only universities teacher and students differ in their view of objectives of higher education but the discipline that the students have chosen (for example. Science and social science)also appear to effect considerable influence in the perception of the objectives of higher education.

METHODS OF TEACHING AND OBJECTIVES OF HIGHER EDUCATION :

An attempt has been made in this section to ascertain if method of teaching in any way is associated with the varying perception of objectives of higher education. Both teachers and students responded with indicating if the effect was definite, to some extent or no effect at all. Table 9 presents the percentage of teachers and students who responded to this query.

TABLE-9

Percent of Respondents University wise in regard to contribution of Methods of teaching for achieving objectives Higher Education

	JNU		JMI		DU	
RESPONSE	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
Definite	50%	55%	73%	52%	47%	48%
To some extent	36%	28%	10%	45%	45%	32%
No	14%	17%	17%	3%	8%	20%

From the above table we may conclude that largest percent of teachers and students of three universities are

of the opinion that methods of teaching definitly contribute to achieving of objectives of higher education and only 14-17 percent of teachers and students of three universities say that methods of teaching does not contribute all in achieving objectives of higher education.

Larger percent of students of JNU (55%), DU (48%) in comparison to teachers of JNU (50%) and DU (47%) say that definitely methods of teaching contribute in achieving objectives of higher education whereas in JMI nearly 1½ times more teachers then students felt that methods of teaching contribute to objectives of Higher education.

Amongst those who said that methods of teaching did not contribute to objectives of higher education largest percent of students were from DU (20%) followed by JNU (17%) and least were the JMI (3%). Amongst teachers largest percent were from JMI (17%) followed by JNU (14%) and DU (8%) in that order.

a. Methods of Teaching and Objectives of Higher Education Sex wise (teachers) :

In order to see whether sex factor make any difference in response, the response of teachers of three universities sex wise is presented in table-10 below:

TABLE - 10

Percent of Teacher Respondents Sex wise in regard to contribution of methods of teaching for achieving objectives of higher education

	JNU		JMI		DU	
RESPONSE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Definitly	55	55	63	83	47	46
To some extent	33	40	21	-	37	54
No	12	15	16	17	16	-

From above table we may conclude that largest percent of male and female of all three universities said that methods of teaching definitly contributed towards achieving the objectives of higher education. Whereas percent of female and male respondents were equal in JNU and DU saying that methods of teaching definitly contribute in achieving objectives of higher education, in JMI the percent of female (83%) teacher was more than that of male teachers (53%) in saying so.

When the least contribution of methods of teaching to higher education is considered, only in JNU, there were relatively more female than male teachers who felt so, whereas in the other two universities, there was no female teacher who felt that methods of teaching did not contribute towards achieving objectives of higher education.

From the above analysis, one may state that relatively fewer female teachers than male teachers felt that method of teaching did not contribute towards objectives of higher education. By and large in all the three universities, more than half the teachers, felt strongly that methods of teaching did contribute towards achieving the objectives of higher education and slightly lesser percent felt that methods of teaching only contribute to an extent towards realising the objectives of higher education.

c. Methods of Teaching and Objectives of Higher Education (Sex wise - students) :

While seeing response of students sex-wise, the results obtained are shown in table-11.

TABLE - 11

Percent of Student Respondents Sex wise in regard to contribution of methods of teaching for achieving objectives of higher education

	JNU		JMI		DU	
RESPONSE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Definitly	53	56	50	53	56	41
To some extent	41	17	50	41	22	41
No	16	28	0	6	22	18

d. Methods of Teaching and Objectives of Higher Education (Subject-wise - teachers) :

When the responses were compared amongst teachers of science and social science following picture emerged (Table - 12).

TABLE - 12

Percent of Teacher Respondents Subject-wise in regard to contribution of methods of teaching in achieving objectives of higher education

	JNU		JMI		DU	
RESPONSE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Definitly	50	50	70	62	44	50
To some extent	50	32	12	19	43	39
No	0	16	18	14	13	11

From the above table it is seen that largest percent of science and social science teachers felt that definitly methods of teaching contributed to achieving of objectives of higher education and very few percent of respondents in all the three universities felt that methods of teaching did not help in achieving objectives of higher education.

From above table it is seen that largest percent of male and female students of all three universities said that methods of teaching definitely contributed towards achieving of objectives of higher education on comparing responses of male and female students from each university, it is seen that percent of female respondents is more than male respondents in JNU and JMI in saying that there is definite contribution of methods of teaching in achieving objectives of higher education. On the other hand, those students who said that methods of teaching does not contribute to achieving higher education objectives. One finds slightly more than one-fourth JNU female respondents and five percent of male students stating so. Following this trend is the Delhi University students amongst whom one finds that 22% males and 18% female students had felt that methods of teaching does not contribute towards achieving objectives of higher education.

As one compares the students and teachers in regard to this issue, it is interesting to observe that more students than teachers appear to consider methods of teaching not contributing to acheivement of objectives of higher education. Similarly within teachers and students, relatively more females than males appear to feel that methods of teaching does not help in realising the objectives of higher education.

Within this trend, when science group teachers are compared with social science teachers, it is observed that in JNU, while almost equal percent of these two groups of teachers had felt strongly that methods of teaching contributed to achieving objectives of higher education, in JMI, relatively more percent of science teachers had felt so and in DU, relatively more percent of social science teacher had responded so.

Thus, we may conclude that irrespective of the science or social science subjects largest percent of teachers from all the three universities said that methods of teaching definitly contributed towards achieving of objectives of higher education.

d. Methods of teaching and objectives of higher education (subject wise - students) :

When the students were classified into science and social science group and their responses for methods of teaching contribution to objectives of higher education was noted the following picture emerged as shown in table - 13.

TABLE - 13

Percent of Student Respondents Subject-wise in regard to contribution of methods of teaching in achieving Objectives of Higher Education

	JNU		JMI		DU	
RESPONSE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Definitly	60	16	62	45	40	19
To some extent	30	28	54	41	25	40
No	10	20	0	5	35	5

From the above table, it is seen that largest percent of science students from JNU (60%), JMI (62%) felt that methods of teaching definitly contributed to achieving of objectives of higher education, whereas only 40% of science students from DU felt so. As for social science students while 45% of JMI students responded positively, very few from JNU and DU responded so.

It is also seen that no science student from JMI and more than one-third of science student (35%) of DU said that methods of teaching did not contribute towards achieving the objectives of higher education.

To sum up one may state that largest percent of science students from the three universities stated that methods of

teaching definitly contributed towards achieving objectives of higher education, whereas largest percent of students of social science (except from JMI) state that methods of teaching only to some extent contributed towards achieving the objectives of higher education. Thus students of science and social science appeared to vary in their view point.

METHODS OF TEACHING CONSIDERED VERY SUCCESSFUL

As most of the teachers and students stated that methods of teaching contributed to achieving the objectives of higher education, it was thought worth while to consider how the teachers and students perceived different methods of teaching in terms of their being successful. The responses obtained related to this from teachers and students of all three universities is shown in table-14.

(contd.....table-14 follows)

TABLE - 14

Percent of Respondents University wise in regard to methods of teaching considered very successful

METHODS OF TEACHING	JNU		JMI		DU	
	TEACHER	STUDENTS	TEACHER	STUDENTS	TEACHER	STU-DENTS
Lecture	73	17	42	15	56	25
Group Discussion	65	74	50	72	61	73
Seminar	81	69	65	52	71	62
Tutorial	10	-	10	9	3	-
Project	12	3	5	-	3	-
Individual Exercise	3	6	20	23	19	10
Audio-visual	8	-	-	-	-	15
Assignment	42	-	14	-	10	4
Work shop	4	-	2	3	-	7
Combination	35	43	26	-	44	-

From the above table it is seen that largest percent of teachers of JNU (81%), JMI (65%) and DU (71%) opted to consider seminar method to be a very successful method, whereas largest percent of student of JNU (74%), JMI (72%) and DU (73%) were of the opinion that group discussion method was very successful.

Second preference by large percent of teachers (73%) of JNU was the lecture method whereas that of JMI (50%) and DU (61%) teachers was the group discussion method, which is given third preference in JNU (65%). In this regard, the students gave second preference to seminar method in all the three universities. Very small percent of students from JNU (17%), JMI (15%) and DU (25%) in comparison to teachers from JNU, JMI and DU (73%, 42%, and 56% respectively) considered lecture method to be very successful. It is surprising to note that quite a percent of teachers from JNU (42%) and JMI (14%) and DU (10%) considered Assignment to be very successful whereas no student from JNU and JMI and a negligible percent (4 %) from DU considered Assignment to be very successful. Also no student of JMI and DU gave combination of methods to be very successful said combination of methods to be very successful.

Thus, it is seen that students and teachers varied in their opinion in regard to methods of teaching being successful. While teachers considered Seminar, Group discussion followed by lecture to be very successful, in that order. Students found group discussion, seminar and then lecture method as successful in that order.

When the success of methods of teaching was considered in form of universities it is seen that JNU teachers found lecture to be more successful than group discussion, whereas in the other two universities, JMI and DU, group discussion was found to be more successful then lecture method. As for students of the three universities they all preferred first group discussion and second the seminar method. In regard to the third preference, JNU students opted for a combination of methods, the JMI students wanted Individual exercise and DU students gave third preference to lecture method. The latter method was given the fourth preference by JNU and JMI students.

a. Methods of teaching as successful - Sex factor (teachers) :

When compared on the basis of sex the response of teachers showing methods of teaching very successful are shown in Table-15 below.

(contd.....Table-15 follows)

TABLE - 15

Percent of Teacher Respondents Sex-wise in regard to method of teaching considered very successful

METHODS OF TEACHING	JNU		JMI		DU	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Lecture	71	75	66	17	50	61
Group Discussion	60	70	66	33	68	54
Seminar	81	80	63	67	79	62
Tutorial	10	10	19	-	5	-
Project	14	10	9	-	5	-
Individual Exercise	5	-	6	33	29	8
Audio-visual	10	5	-	-	-	-
Assignment	38	45	28	-	8	-
Work shop	7	-	3	-	-	-
Combination	29	40	34	17	34	54

From the above table it is seen that largest percent of male (81%) and female (80%) teachers of JNU said that seminar method was very successful. In DU slightly lesser percent of male (79%) and female (62%) teachers said that seminar was very successful, whereas in JMI still lesser percent of male teachers (63%) considered seminar as a successful method of teaching.

In second very successful method according to male and female teachers of JNU was the lecture method. Whereas according to JMI male teachers (63%), it was seminar and according to female it was group discussion and individual exercises. In DU on the other hand group discussion was favoured by male teachers and lecture method by female teachers.

The third preference by large percent of male (60%) and female (70%) teachers of JNU was given to group discussion. In JMI 34% of males and 17% of female teachers gave the third preference to a combination of methods for successful. In DU more than half the male and female teachers found lecture, group discussion and combination of methods to be very successful and gave them third preference. All the other methods of teaching except assignment were preferred by negligible percent of teachers. The assignment method was preferred by 45% of female in comparison to 38% of male teachers of JNU and 28% of male teachers of JMI and 8% male teachers of DU in comparison to nil females of both the latter two universities.

Thus, from the above, one may sum up by saying that by and large there was a difference between male and female teachers of DU and JMI, in regard to their idea of which methods of teaching they considered very successful. In JNU, no such differences was obtained between the two sexes.

b. Methods of teaching as successful - sex factor (students)

Following results were obtained in regard to methods of teaching being considered successful by students.

TABLE - 16

Percent of Student Respondents Sex-wise in regard to method of teaching considered very successful

	JNU		JMI		DU	
METHODS OF TEACHING	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Lecture	-	33	17	12	17	32
Group Discussion	76	72	67	76	78	68
Seminar	65	72	56	47	67	56
Tutorial	-	-	11	6	-	-
Project	-	6	-	0	-	-
Individual Exercise	6	6	33	12	11	9
Audio-Visual	-	-	-	-	11	18
Assignment	-	-	-	-	6	14
Workshop	-	-	-	6	-	14
Combination	41	44	-	-	-	-

From the above table it is observed that maximum percent of male and female students of the three universities considered group discussion as the most successful method

followed by the seminar method. It is surprising to note that JNU male (41%) and female (44%) students preferred a combination of methods to lecture. Whereas no student of JMI and DU responded for combination of methods. Both male and female student of the two universities however, considered lecture method to be very successful, whereas no JNU male student considered lecture as very successful though 33% female students of JNU felt that lecture was very successful and gave it as their fourth preference. All other methods were considered as successful by negligible percent of students or by none.

Thus, it is seen that sex factor did not make any difference in setting heirarchy of very successful method except in the case of lecture method by JNU students amongst whom no male but 33% females respondents considered it to be very successful.

c. Methods of teaching successful Subject-wise (teachers) :

When compared on the basis of discipline the responses obtained are presented in the following table-17.

TABLE - 17

Percent of Teacher Respondents Subject-wise in regard to methods of teaching considered very successful

METHODS OF TEACHING	JNU		JMI		DU	
	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Lecture	67	74	76	43	52	46
Group Discussion	58	64	65	57	57	10
Seminar	58	86	65	62	74	14
Tutorial	5	10	24	10	-	43
Project	25	10	18	-	-	32
Individual Exercise	5	2	12	10	52	7
Laboratory Exercise	83	10	88	-	83	-
Audio-visual	33	2	-	-	-	-
Assignment	17	46	47	5	9	36
Workshop	17	2	6	-	-	-
Combination	33	32	35	29	39	21

From the above table it is seen that largest percent of science teachers from JNU (83%), JMI (88%) and DU (83%) considered laboratory exercise, being method of teaching as very successful. None from JMI and DU and only 10% from

JNU social science teacher said laboratory exercise was a very successful method. The 10% strength of JNU is of those who teach geography.

Largest percent of social science teachers of JNU (86%) and JMI (62%) said that seminar method was very successful, whereas in DU only 14% considered it so. Second preference by science teachers of JNU and JMI was given to lecture method whereas DU science teachers gave seminar their second preference.

Amongst social science teachers large percent of teachers of JNU (74%) gave second preference to lecture method where as that of JMI (57%) gave to group discussion and that of DU (43%) to tutorial. It is surprising to note that large percent of JNU (64%) and JMI (57%) teachers preferred group discussion whereas in DU very less preferred this method (10%). The social science teachers of DU preferred other methods like project (32%) and assignment (36%) which were not preferred by many in JNU and JMI.

Around 60% and above of science teachers of JNU (58%), JMI (65%) and DU (57%) preferred group discussion and seminar as very successful method. Very few teachers of science and social science group of all the three

universities appeared to consider a combination of methods to be very successful.

d. Methods of teaching as successful, subject wise (student) :-

TABLE - 18

Percent of Student Respondents Subject-wise in regard to methods of teaching being considered very successful

	JNU		JMI		DU	
METHODS OF TEACHING	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Lecture	10	20	15	14	25	25
Group Discussion	80	72	69	73	75	70
Seminar	50	76	54	50	35	85
Tutorial	-	-	-	14	-	-
Project	10	-	-	-	-	-
Individual Exercise	-	6	33	-	10	10
Laboratory Exercise	80	12	23	-	90	-
Audio-visual	-	-	-	-	-	30
Assignment	-	-	-	5	-	15
Combination	-	60	-	-	-	-

From the above table it is seen that most of the science students of JNU (80%) and DU (90%) considered laboratory method to be very successful, whereas in JMI, only 23% science students considered laboratory method as successful. As for group discussion being a successful one, 80% of JNU students considered it to be equally successful as a laboratory method, wherein DU only 75% of science students from the group discussion method to be very successful. Seminar method was preferred by 35% in DU, 54% in JMI and 50% by JNU science students. According to most science and social science students of the three universities lecture method was not considered as a successful method with the less than one-fourth considering it to be successful.

It is surprising to note that 60% of social science students of JNU alone gave preference to a combination of methods as very successful, and no other student of the other universities gave any preference to combination of methods.

One may thus conclude from the above that amongst very successful methods comes seminar, group discussion and lecture method in that order, for all students, whereas laboratory method is preferred by science students.

METHODS OF TEACHING CONSIDERED O.K.

In the previous section, the methods of teaching as considered very successful by teacher and students was dealt with, and it was seen that while universities did not differ much in their choice of methods of teaching, there was difference between teachers and students, science and social science discipline and males and females.

The present section considered the methods of teaching which were considered just O.K. by the respondents. The responses received from all the teachers and students of the three universities are shown in table-19.

(Contd.....Table.19 follows)

TABLE - 19

Percent of Respondents University-wise in regard to methods of teaching considered O.K.

METHODS OF TEACHING	JNU		JMI		DU	
	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
Lecture	27	75	59	83	44	73
Group Discussion	3	17	5	-	2	-
Seminar	1	18	15	15	8	-
Tutorial	25	3	31	12	31	19
Project	1	-	31	-	25	-
Individual Exercise	12	37	26	37	10	10
Audio-visual	1	-	8	9	24	3
Assignment	17	26	34	26	29	18
Workshop	10	6	-	-	-	-
Combination	4	-	3	-	13	-

From the above table it is seen that largest percent of teachers and students of all the three universities considered lecture method to be o.k.

When university wise break-up of the responses is considered, it is observed that next to lecture method which is considered o.k. by 51% of JNU and 70% of JMI teachers and students nearly 25% of the former and 30% of the latter considered individual exercise as the next o.k. method. On the other hand, 25% of DU students and teachers considered Tutorial as next o.k. method.

Assignments are considered as the third choice by students and teachers of all the three universities. Remaining methods of teaching were considered o.k. only by negligible percent of respondents.

Having made university wise differentiation, an attempt was also made to ascertain if students and teachers in any way differed in considering the different methods of teaching as o.k.

Table-19 presents the differences between teachers and students in terms of the respective universities. It is seen from the results that more students than teachers has considered lecture method as o.k. in all the three universities. In JNU while the proportion of student to teacher in this regard was 2:1, in JMI it was nearly 3:2, in DU it was more than 3:2 and less than 2:1 and further very few

students (8 times less in JNU, twice less in JMI and 1½ times less in DU) as compared to teachers considered tutorials as an o.k. method of teaching.

As for group discussion method five times more students than teachers of JNU considered this method as o.k., whereas no student from JMI and DU considere it so.

Thus, one may conclude on the basis of the above analysis that of the methods of teaching considered as o.k, lecture method followed by assignment, individual exercise and tutorials in that order have been stated as o.k by one fourth to two-thirds of the teachers and students sample taken together. However, between teachers and students of the three universities, there appeared considerable difference in regard to the methods of teaching considered as o.k. For instance, more students than from all the three universities considered lecture method o.k. whereas relatively more teachers than students preferred the tutorial method.

While in DU and JMI more teacher than students considered assignments as o.k, in JNU, more students than teachers considered it o.k.

a. Method of teaching considered o.k. by teachers of three Universities (Sex wise break-up) :

When responses were seen on the basis of sex factor, following picture emerged as shown in table-20.

TABLE - 20

Percent of Teacher Respondents Sex-wise in regard to Methods of Teaching considered o.k

	JNU		JMI		DU		TOTAL	
METHODS OF TEACHING	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Lecture	24	25	34	83	50	38	108	146
Group Discussion	5	-	9	-	3	-	17	0
Seminar	2	-	13	17	8	8	23	25
Tutorial	24	30	28	33	39	23	91	86
Project	2	-	28	33	11	38	41	71
Individual Excercise	19	5	34	17	11	8	64	30
Audio-visual	2	-	16	-	24	23	42	23
Assignment	19	15	34	33	26	31	79	79
Work shop	10	10	-	-	-	-	10	10
Combination	2	5	6	-	11	15	19	20

One may infer from the above table :-

1. There appeared a difference between male and female teachers in considering lecture method as o.k. with 36% males and 49% female teachers saying so. In other words, more female teachers particularly from JMI and DU appear to consider lecture method of teaching as o.k, whereas almost equal percent of male and female teachers from JNU considered this method o.k.

2. Tutorial method was considered o.k. next to that of lecture method by almost equal percent of male and female teachers (without differentiating in terms of university). It was interesting to note that more female teachers of JNU and JMI preferred this method, whereas less percent of DU female teachers stated this method to be o.k.

3. Individual exercise as a method of teaching was preferred as o.k, more by male than female teachers in all the three universities, with male to female proportion being 4:1 in JNU, 2:1 in JMI and nearly 3:2 in DU.

4. Assignment as a method of teaching was considered o.k. by equal percent of male and female (26% each) teachers, when no differentiation was made amongst the three universities.

However, when each university was considered separately slightly more males than female teachers of JNU and JMI ha had considered this method o.k, whereas in DU, slightly more female than male teachers considered this method o.k.

To, sum up large percent of respondents from the three universities considered lecture method as o.k. first, followed by individual exercise, tutorial and assignments in that order. More students than teachers considered lecture method o.k. and more teachers than students considered assignment method as to be o.k.

Also male and female teachers differed in their perception of different methods as o.k, with more of the latter considering lecture method o.k. and more of the former, individual exercise.

b. Methods of Teaching considered o.k. Sex factor (students):

Table-21 similarly presents students response sex-wise.

(contd....Table-21 follows)

TABLE - 21

Percent of Students Respondents sex wise in regard to methods of Teaching considered o.k

METHODS OF TEACHING	JNU		JMI		DU		TOTAL	
	MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE
Lecture	94	56	78	88	78	68	250	212
Group Discussion	12	11	-	-	-	-	12	11
Seminar	24	11	11	18	-	-	35	29
Tutorial	-	6	6	18	11	27	17	51
Project	-	-	-	-	-	-	-	-
Individual Exercise	35	39	33	41	11	9	79	89
Audio-visual	-	-	11	6	-	5	11	11
Assignment	29	22	11	41	17	18	57	81
Workshop	12	-	-	-	-	-	12	-
Combination	-	-	-	-	-	-	-	-

It is seen from above table that largest percent of male and female students of the three universities appear to find lecture method to be o.k, followed by individual exercise

methods, assignment and seminars in that order. There appeared no difference in the choice of lecture method as o.k. amongst students of the three universities. However more male than female students of JNU and DU stated lecture method to be o.k, whereas more female than male students of JMI felt so about this method.

Individual exercise method was considered o.k. by equal percent of male and female students in the three universities, though relatively more of the latter from JNU and JMI opted for this method.

It is interesting to note that only a few of the JNU male students considered work shop method of teaching as o.k and none felt either project or combination of different methods to be o.k.

Thus, there appeared considerable difference between teachers and students as well as between male and female (both amongst teachers and students) in considering the different methods of teaching as o.k.

c. Methods of teaching considered o.k. - Teachers (Subject-wise) :-

In order to see whether subject discipline made any difference in the o.k responses, analysis was carried out and the results are presented in table-22 below.

TABLE - 22

Percent of Teacher Respondents, Subject-wise in regard to methods of teaching considered o.k

METHODS OF TEACHING	JNU		JMI		DU		TOTAL	
	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
Lecture	25	24	24	57	48	46	97	127
Group Discussion	8	2	-	14	4	-	22	6
Seminar	8	-	-	24	-	14	8	38
Tutorial	-	32	24	33	26	43	50	108
Project	8	-	29	29	-	32	37	61
Individual Exercise	-	18	29	33	13	7	42	58
Audio-visual	-	2	18	10	48	-	66	12
Assignment	25	16	29	38	17	36	71	90
Work shop	8	10	18	5	-	-	18	15
Combination	-	4	12	-	-	21	12	25

From the above analysis, following conclusions emerged:

1. While science teachers taken together from the three universities, considered the lecture method followed by Assignment,

audio-visuals method and tutorial as o.k, the social science teachers considered lecture method, followed by tutorials, assignments, project and individual exercise as o.k in that order.

2. When university wise break up was considered, almost equal percent of science and social science teachers of JNU and DU considered lecture method o.k. In JMI however, twice the social science teachers as compared to that of science considered lecture method as o.k.

3. Further more, while nearly 60% of JMI social science teachers and slightly less than 50% of science and social science teachers of DU considered lecture as o.k method, only one-fourth of JNU teachers considered this method as o.k. Even in JMI only one-fourth of science students considered lecture method o.k.

4. As for assignment method considered o.k next by science teachers, the university wise break up showed that only in JNU, slightly more percent of science teachers considered this method o.k whereas in both JMI and DU more social science teachers appeared to opt for this method as a second choice.

5. Tutorials were not considered o.k by any JNU social science teachers though 32% social science teachers of

this university had considered it o.k in the third choice. This method appear to be preferred as a third choice by social science teachers of both JMI and DU. While only one-fourth of science teachers considered this o.k as third choice.

6. The science teachers of JNU considered lecture and assignments methods as o.k whereas social science teachers considered lecture and totorial methods as o.k.

The science teachers of JMI considered project, individual exercise and assignments as o.k, whereas social science teachers considered lectures, assignments, individual exercise and tutorials in thatorder as o.k methods.

In DU, science teachers considered lecture and audio-visual methods as o.k, whereas social science teachers considered lecture method, tutorial and assignments as o.k methods.

Thus, there appeared considerable difference between science and social science teachers across, as well as with the three universities in regard to considering different methods of teaching as o.k, with same teachers opting for assignments, audio-visual etc. as o.k, whereas social science teachers appeared to opt for lecture, totorial and assignment, type of methods of teaching.

Negligible percent of teachers considered combination of various methods as o.k.

d. Methods of teaching considered o.k - Students (Subject wise) :

Similarly student respondents from science group and social science group were taken. Their response is shown in table - 23.

TABLE - 23

Percent of Student Respondents subject-wise in regard to method of teaching considered o.k

	JNU		JMI		DU		TOTAL	
METHODS OF TEACHING	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
Lecture	90	68	92	-	75	70	257	138
Group Discussion	-	16	-	-	-	-	0	16
Seminar	10	20	-	23	-	-	10	43
Tutorial	10	-	38	9	-	40	48	78
Project	-	-	-	-	-	-	0	0
Individual Exercise	40	36	38	36	15	5	93	77
Audio-visual	-	-	-	15	5	-	5	14
Work shop	20	-	-	-	-	-	20	0
Assignment	10	32	23	27	-	35	33	94
Combination	-	-	-	-	-	-	0	0

Following conclusions emerge from the table-23 above :-

1. While 70% to 90% of science students had considered lecture as o.k method in all the three universities, only 68-70% considered it so in JNU and DU and more from JMI considered lecture as o.k method.

2. About one-third of science students and still lesser percent of social science still considered Individual exercise as o.k, next to lecture method. Within this trend, slightly more percent of science students had preferred this method than social science students.

3. The other method except to an extent totorials and assignment, have been considered o.k by very few students.

METHODS OF TEACHING CONSIDERED NOT SUCCESSFUL :

After dealing with methods which were considered very successful and o.k, the response of teachers and students was seen in regard to methods of teaching considered not successful. Table-24 presents the results.

TABLE - 24

Percent of Respondents University-wise in regard to methods of teaching considered not successful.

	JNU		JMI		DU	
METHODS OF TEACHING	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Lecture	-	5	-	3	-	3
Group Discussion	-	-	-	-	-	2
Seminar	-	-	-	-	-	-
Tutorial	-	3	-	-	-	-
Project	-	-	-	-	-	-
Individual Exercise	-	18	-	3	-	-
Audio-visual	-	3	-	6	-	-
Assignment	-	20	-	26	-	13
Work shop	-	3	-	-	-	-
Combination	-	-	-	-	-	-

From the above table it is seen that no teacher had found any method as not successful, whereas a small percent of students of the three universities had considered Assignment

to be not successful and JNU students (18%) also found the individual exercise to be not successful.

MAXIMUM USED METHODS OF TEACHING :

As had been observed in the earlier section there are methods of teaching which had been considered very successful or o.k by teachers and students. Hence the question arises whether all these methods were being used in the universities ? If not which methods were being used to the maximum ? The response to these questions by all respondents are shown in Table-25.

(contd.....Table.25 follows)

TABLE - 25

Percent of Respondents University-wise in regard to method of teaching used maximum

METHODS OF TEACHING	JNU		JMI		DU	
	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Lecture	95	94	98	100	98	100
Group Discussion	29	52	33	21	34	47
Seminar	26	42	5	6	19	12
Tutorial	6	3	7	-	-	-
Project	-	-	2	-	-	-
Individual Exercise	-	-	2	-	-	-
Audio-visual	-	-	-	-	-	-
Assignment	10	20	3	-	-	-
Work shop	-	-	-	-	-	-
Combination	-	-	-	-	-	-

From the above table it is seen that the maximum used method was the lecture method followed by group discussion and seminar in that order.

Assignments and tutorials appear to have been used by mainly JNU teachers and still less by JMI teachers.

Thus, one may conclude that lecture is the maximum used method in all the three universities according to both teachers and students followed by other methods such as Group discussions and seminars.

a. Methods of teaching (Subject-wise) :

Having dealt with the perception of teachers and students university wise regarding the methods of teaching being used to the maximum, an attempt was made to ascertain whether there was any difference subject wise in the use of a method of teaching.

Table 26 present the results.

(contd....Table 26 follows)

TABLE - 26

Percent of Teacher Respondents Subject wise in regard to method of teaching used maximum

METHODS OF TEACHING	JNU		JMI		DU	
	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
Lecture	92	96	100	95	96	100
Group Discussion	8	36	6	33	39	32
Seminar	17	28	-	14	4	21
Tutorial	8	6	-	19	-	-
Project	-	-	6	-	-	-
Individual Excercise	-	-	6	-	-	-
Audio-visual	-	-	-	-	-	-
Assignment	17	6	6	5	-	-
Work shop	-	-	-	-	-	-
Combination	-	-	-	-	-	-

From the above table one may infer that most teachers of science and social science feel that the maximum used method was lecture method. However, slightly more than one-

third of DU teachers (both science and social science) said that they used group discussion method. As for JMI and JNU teachers slightly more than one-third of social science teachers stated that they used group discussion method. Negligible percent of science teachers of the latter two units said so. Only very few reported that they used seminar assignments and totorial methods of teaching. Remaining methods were not reported to be used within this, seminars appeared to have been used by relatively more social science teachers whereas assignments method appeared to be used by a few of the JNU science teachers.

Thus there appeared considerable difference in the use of methods of teaching other than lecture method between science and social science teachers in the three universities. A semilar trend in response was obtained from students also in this regard. Table 27 presents the results of science and social science students, as they perceive the method of teaching used maximum by their teachers.

(contd....Table-27 follows)

TABLE - 27

Percent of Student Respondents Subject-wise in regard to methods of teaching used maximum

	JNU		JMI		DU	
METHODS OF TEACHING	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Lecture	80	100	100	91	100	100
Group Discussion	50	52	-	32	45	50
Seminar	30	48	-	-	-	25
Tutorial	10	-	-	-	-	-

SATISFACTION WITH PREVAILING TEACHING METHODS :

Thus in the previous sections it was seen that the methods of teachings considered very successful , o.k and unsuccessful differed in terms of university teachers, students and sex factors. In addition an attempt was also made to ascertain which method of teaching was used the maximum. These findings led to the next question, whether the used method of teaching were also found satisfactory by teachers and students.

The responses received from this question by all respondents of three universities are presented in table-28.

TABLE - 28

Percent of respondents university-wise in regard to satisfaction with prevailing teaching methods

	JNU		JMI		DU	
RESPONSE	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	67	52	43	35	67	39
No	33	48	57	65	33	61

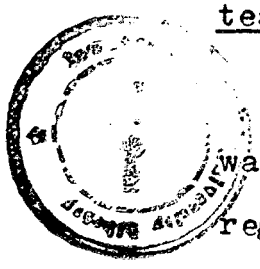
From the above table it is seen that 59% of teachers as against 42% of students appeared to be satisfied with the method of teaching irrespective of the universities to which they belonged.

However, when the teachers and students are considered in terms of the university and their satisfaction methods of teaching, it is seen that in both JNU and DU two-thirds of the teachers appear to be satisfied with the prevailing method. On the otherhand only 43% of JMI teachers felt so about the method of teaching presently prevailing.

While in JMI and DU less than 40% of students had expressed satisfaction about the present method of teaching, in JNU, more than 50% of students appear satisfied with the same.

From the above analysis one may state that in JNU larger percent of teachers and students appear satisfied with the prevailing methods of teaching as compared to teachers and students of JMI and DU.

a. Sex factor's opinion about prevailing methods of teaching (teachers) :



An attempt was also made to ascertain of there was a difference between male and female teachers in regard to their satisfaction with the presents method of teaching. The responses of teachers sex wise is presented in Table 29.

TABLE - 29

Percent of Teacher Respondents Sex wise in regard to satisfaction with prevailing teaching methods

	JNU		JMI		DU	
RESPONSE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Yes	64	65	69	17	71	62
No	36	35	31	83	29	38

From the table above, following inferences could be drawn:

1. 68% males as against 48% female teachers were satisfied with the present methods of teaching, irrespective of their belonging to any of the three universities.

2. When university wise analysis is made, it is observed that in JNU, equal percent of (65%) male and female teachers were satisfied with the present teaching methods. As against this, in JMI, four times more male teachers were found to be satisfied with the present teaching methods as compared to female teachers. In DU slightly more percent of males than female teachers were satisfied with the prevalent method of teaching.

b. Sex and opinion about teaching methods (students) :

Similarly students response is also taken and presented in table 30.

TABLE - 30

Percent of Student Respondents sex wise in regard to satisfaction with prevailing teaching methods

	JNU		JMI		DU	
RESPONSE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Yes	59	40	44	24	33	45
No	41	60	56	76	67	55

From the table above, one may infer the following :-

1. Nearly one and half times more male than females, students said that they were satisfied with the present methods of teaching.

2. University wise analysis shows that only in JNU, 59% male students had reported to be satisfied with the prevailing method of teaching, and in the other two universities only 24-45% were satisfied with teaching methods.

c. Satisfaction with prevailing teaching methods (Subject-wise (teachers) :

An attempt was also made to ascertain if there were any subject wise difference in the satisfaction over the present teaching methods. The obtained responses are shown in Table 31.

TABLE - 31

Percent of Teachers Respondents Subject-wise in regard to satisfaction with prevailing teaching methods

	JNU		JMI		DU	
RESPONSE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Yes	58	66	71	52	61	75
No	42	34	29	48	39	25

1. From the above table it is seen that maximum percent of science and social science teachers were satisfied with the prevailing teaching methods.

2. On seeing university wise analysis it is seen that percent of social science teachers is more in JNU and DU in comparison to science teachers, who say that they are satisfied with prevailing teaching methods. Whereas in JMI, percent of science teachers is more than social science teachers in saying so.

d. Satisfaction with prevailing teaching methods - subject wise (students)

On considering views of students related to satisfaction with prevailing teaching methods, responses gathered are shown in table-32.

TABLE - 32

Percent of Student Respondents Group wise in regard to satisfaction with prevailing teaching methods

	JNU		JMI		DU	
RESPONSE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE	SCIENCE	SOCIAL SCIENCE
Yes	40	56	46	35	40	40
No	60	44	54	65	60	60

It is seen that relatively larger percent of students from the three universities were not satisfied with the present method of teaching. Within this relatively more science students appeared to be dissatisfied with the present teaching methods as compared to social science students. When these results are seen in terms of three universities it is seen that in JNU relatively more social science students (56%) were satisfied with the prevailing teaching methods then science students, of whom around 60% of students were not satisfied. In JMI and DU 60-65 percent of science and social science students were not satisfied with the present method of teaching. It is interesting to note that while in JNU, nearly 1½ times more science than social science students were dissatisfied and in JMI relatively more social science than science students felt dissatisfied with the present method of teaching. In DU equal percent of science and social science students expressed dissatisfaction with the prevailing methods of teaching.

Until this point an attempt was made to show the differences between universities, between teachers and students, as well as, in terms of sex dichotomy, as to whether they were satisfied with the prevailing methods of teaching in the universities. As inferred from the analysis of the

results, there did appear considerable difference in the perception of the methods of teaching being satisfactory between universities, teachers and students and sex factor.

e. Teachers and students and sex factor changes suggested

The present section has attempted to analyse the responses of those who were dissatisfied with the present methods of teaching and also has attempted to indicate the suggestions offered by them to render the present methods of teaching more effective. In the process the differences in the suggested changes between universities, teachers and students and sex factor may also be highlighted.

Table 33 presents the changes suggested by the teachers and students of the three universities in terms of sex factor as well as subject wise break up.

(contd.....Table 31 follows)

TABLE - 33

Changes suggested by percent of Respondents not satisfied with prevailing teaching methods

TABLE - 33.1 : Comparison Students and Teachers

CHANGES SUGGESTED	JNU		JMI		DU	
	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
All teaching should be related to real problems instead of history.	4	8	2	6	-	-
More personal interaction and emphasis on overall development of students.	4	11	8	-	3	3
Leaving lecture, adopt other methods of teaching more and their combination.	11	15	21	32	13	34
Reorientation of entire teaching method to make it more interesting and relevant.	6	6	13	21	6	23
Organise workshop, seminar and conference which will help young generation tremendously.	1	-	3	-	10	-

TABLE - 33.2 : Sex factor teachers

CHANGES SUGGESTED	JNU		JMI		DU	
	MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE
All teaching should be related to real problems instead of history.	7	-	3	-	-	-
More personal interaction and emphasis on overall development of students.	7	-	-	22	6	-
Leaving lecture, adopt other methods of teaching more and their combination.	12	15	11	39	11	15
Reorientation of entire teaching method to make it more interesting and relevant.	2	15	11	22	3	8
Organise workshop, seminar and conference which will help young generation tremendously.	2	-	6	-	6	15

TABLE : 33.3 : Sex Factor Students

CHANGES SUGGESTED	JNU		JMI		DU	
	MALE	FEM-ALE	MALE	FEM-ALE	MALE	FEM-ALE
All teaching should be related to real problems instead of history.	6	11	6	6	-	-
More personal interaction and emphasis on overall development of students.	-	22	-	-	6	-
Leaving lecture, adopt other methods of teaching more and their combination.	24	6	22	41	33	36
Reorientation of entire teaching method to make it more interesting and relevant.	-	11	7	24	28	18
Organise workshop, seminar and conference which will help young generation tremendously.	-	-	-	-	-	-

TABLE : 33.4 : Subject factor teachers

CHANGES SUGGESTED	JNU		JMI		DU	
	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
All teaching should be related to real problems instead of history.	-	6	7	-	-	-
More personal interaction and emphasis on overall development of students.	11	4	-	5	11	12
Leaving lecture, adopt other methods of teaching more and their combination.	11	12	7	19	11	3
Reorientation of entire teaching method to make it more interesting and relevant.	20	2	8	14	11	3
Organise workshop, seminar and conference which will help young generation tremendously.	-	2	7	5	6	7

TABLE : 33.5 : Subject Factor Students

CHANGES SUGGESTED	JNU		JMI		DU	
	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
All teaching should be related to real problems instead of history.	15	12	8	8	-	-
More personal interaction and emphasis on overall development of students.	15	16	-	-	5	-
Leaving lecture, adopt other methods of teaching more and their combination.	-	16	38	30	30	40
Reorientation of entire teaching method to make it more interesting and relevant.	30	-	23	21	25	20
Organise workshop, seminar and conference which will help young generation tremendously.	-	-	-	-	-	-

From the above tables following conclusions emerge :-

1. Largest percent of teachers and students in all the three universities suggested that in addition to the lecture method that is being used presently, teachers should adopt also other methods of teaching and where possible they should suitably combine more than one method. The second important suggestion was given that there should be a complete reorientation of the entire teaching methods so that the teaching becomes more interesting to the students and relevant to their learning. The third more popular suggestion was that there should be more personal interaction between teachers and students with a high exphasis on the overall development of the students. The fourth suggestion was that teaching methods should be related to real problems as is encountered presently rather than on historical account. In other words, narration method of teaching should be replaced by illustrations, case study, problem oriented and problem solving type of teaching. The last suggestion was that the present method of teaching could be made more effective if workshops, seminars and conferences are organised more frequently in which involvement of the students should be made compulsory. Such an involvement would help

students imbibe many of the things that are taught in the classroom lectures with lesser boredom, greater interest and with considerable meaning.

2. All the above suggestions were considered in terms of the three universities and it was found that while the trend of changes suggested remained more or less the same. There was no respondent from DU who mentioned that teaching should be related to real problems rather than historical account. Negligible percent from JNU and JMI suggested organising of workshop, seminar etc. whereas 10% of DU respondents suggested this as a method to improve the present teaching in universities.

3. When teachers and students were compared in regard to the suggestions made to offer changes to make teaching more effective it was seen that more teachers than students suggested organising of the seminars and workshop etc. whereas in all other suggestions, there was more students, who asked for more personal interaction, real problem oriented/problem solving methods, combination of more than one method of teaching and reorienting the entire teaching method to make it more interesting.

4. When the changes suggested in terms of sex dichotomy it was suggested that between male and female teachers there was considerable difference, for instance -

a. Only male teachers and that to of JMI and JNU said that teaching should be related to real problems, no female teacher felt so.

b. In case of all other suggestions, they were made more by females than male teachers. This trend shows that the suggestions obtained from female teachers is almost similar to that of students of three universities.

c. When the changes suggested by students, is seen in terms of sex factor, it is seen that maximum percent of male and female students of the universities except JNU, female students suggested for adopting other methods of teaching besides lecture method. Whereas 22% of JNU female students suggested more personal interaction with the teachers.

d. Complete reorientation of the present teaching methods was suggested by four times more, female students than male students from JNU. In the other two universities relatively more female students gave the suggestion than male students.

5. Suggestion offered for rendering the present teaching methods, more effective was considered in terms of the subject discipline. It was observed that broadly within the general trend of the suggestions offered relatively

more science than social science students asked for reorientation of the entire teaching methods and making it more interesting. Relatively more social science students than from science discipline suggested for combination of different methods of teaching other than lecture method. The discipline base analysis has shown similar suggestions from both students and teachers.

Besides these changes in teaching methods the question arises, whether the teachers employment (i.e. fresh M.Phil/ Ph.d's) are fit to teach students? If yes, how? and if no, why? In relation to these questions all teachers and students gave their views.

FITNESS OF TEACHERS EMPLOYED :-

In regard to, whether just M.Phil/Ph.D student is fit to teach or they need training, teachers and students of all three universities responded which are shown in Table 34.

TABLE - 34

Percent of Respondents university wise in regard to Fitness of Teachers Employed who are just M.Phil/Ph.D.

	JNU		JMI		DU	
RESPONSE	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	77	59	78	58	66	60
No	23	41	22	42	34	40

From the above table it is seen that maximum percent of teachers and students of all the three universities agreed that a fresh M.Phil/Ph.D student will be able to do justice to the subject matter to be taught to the students. The percentage of teachers expressing this view was more than students in all the three universities.

a. Fitness of teachers employed - Sex factor :

To see if sex factor leads to any difference in results, the responses of teachers and students sex wise is given in table - 35.

TABLE - 35

Percent of Teacher and Student Respondents, Sex wise in regard to fitness of Teachers employed who are just M.Phil/Ph.D.

		JNU		JMI		DU	
RESPONSE	SEX	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	Male	79	47	72	40	63	60
	Female	75	70	83	76	69	59
No	Male	21	53	28	60	16	40
	Female	15	30	17	24	15	41

From the above table following conclusions emerges :-

1. It is seen that maximum percent of male and female teachers felt that a M.Phil/Ph.D student if employed to teach is fit. We see that in saying so the percent of females in comparison to male teachers is more in JMI (83% in comparison to 72%) and DU (69% in comparison to 63%). Whereas in JNU percentage of male teachers (79%) is more than female teachers (75%), though the differences are very less.

2. Amongst students, itis seen that maximum percent of female students of JNU and JMI and male and female students of DU say that a M.Phil/Ph.D is fit to teach whereas maximum percent of male students of JNU and JMI say that they are not fit without training.

Thus,we can conclude that sex factor leadt to difference in opinion.

b. Fitness of teachers employed - Subject wise

To see, if subject brings any change in views of teachers and students, their responses were also gathered on the basis of subjects and are shown in table-36.

TABLE - 36

Percent of Teacher & Student Respondents, Subject wise in regard to fitness of Teachers employed who are just M.Phil/Ph.D

		JNU		JMI		DU	
RESPONSE	SUBJECTS	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
Yes	Science	70	60	76	46	63	45
	Social Science	80	60	71	64	82	70
No	Science	30	40	24	54	37	55
	Social Science	20	40	29	36	14	30

From the above table following conclusions emerge :-

1. We see that maximum percent of science and social science teachers say that a newly recruited teacher without training is fit to teach. When compared university wise it is found that percentage of social science teachers is more than science teachers of JNU and DU in saying so. Whereas in JMI, percentage of science teachers is more than social science teachers, who say that training is not required to teach.

2. Amongst students, it is seen that equal percent of science and social science students of JNU (60%) say that a M.Phil/Ph.D is fit to teach, whereas in JMI and DU, maximum percent of social science teachers say so.

Thus, we can conclude that subject wise responses differ.

So far, an attempt has been made to show the differences between universities, between teachers and students, as well as in terms of sex dichotomy as to whether training is required for better teaching or just a M.Phil/Ph.D is sufficient for teaching. As inferred from the analysis of the results, there did appear considerable difference in the perception of whether training is necessary or just M.Phil/Ph.D is sufficient.

The present section has attempted to analyse the responses of those who favoured training is necessary and also of those who said that there is no need of training, and also has attempted to give reasons for the same. In the process the difference in the suggested reasons between university, teachers and students and sex factor may also be highlighted.

Table 37 presents the reasons given by the teachers and students of the three universities, in term of sex factor as well as subject wise break up.

TABLE - 37

Changes suggested by percent of Respondents in regard to need of training or just M.Phil/Ph.D fit for Teaching

TABLE : 37.1 : Students-Teachers comparison.

	REASONS	JNU		JMI		DU	
		TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
	Student gets enough knowledge by doing Ph.D, attending seminar and keeping himself up to date with current knowledge, if allowed to teach topic of their choice it will increase their confidence.	21	26	26	26	25	21
Y	Through continued Research in modern areas and of considerable standard.	19	3	20	-	14	-
E	Through interaction with students and fellow colleagues.	15	-	2	-	3	-
S	The new person with him brings new ideas and is really motivated to do something. Whereas training will turn him like the rest who orient or train him.	8	20	15	23	9	30

(contd.....Table 37.1 follows)

(TABLE : 37.1 follows)

	REASONS	JNU TEACHER	JNU STUDENT	JMI TEACHER	JMI STUDENT	DU TEACHER	DU STUDENT
	A well read student can teach well so new advanced course should be part of syllabus at Post Graduation/M.Phil.	14	10	5	6	13	-
N	They should be aware of the current problems in respective and latest technology as well as have the capacity to deal individually with such problems.	4	11	3	-	2	-
	Training in language and teaching methodology.	2	11	4	18	8	10
	A real thorough refresher courses and seminars to be conducted by the specialists.	5	3	2	11	2	18
O	A training of the student mind and priorities. A proper understanding of what should be taught and why and how to get across to the students.	5	3	2	11	2	18
	Teaching should not be just obtaining knowledge from books. They should have knowledge of tackling students problems i.e. practical training should be given. Teaching should not confine to classroom.	2	18	2	14	3	15

TABLE : 37.2 : Sex factor, Teachers

	REASONS	JNU		JMI		DU	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Y	Student gets enough knowledge by doing Ph.D attending seminar and keeping himself up to date with current knowledge, if allowed to teach topic of their choice it will increase their confidence.	14	25	34	17	29	20
	Through continued Research in modern areas and of considerable standard.	24	15	6	32	8	26
E	Through interaction with students and fellow colleagues.	19	12	6	-	5	-
S	The new person with him brings new ideas and is really motivated to do something. Whereas training will turn him like the rest who orient or train him.	5	12	13	17	3	15
	A well read student can teach well so new advanced course should be part of syllabus at Post Graduation/M.Phil.	12	11	13	17	18	8

(contd.....Table 37.2 follows)

(TABLE : 37.2 follows)

REASONS	JNU		JMI		DU	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
They should be aware of the current problems in respective and latest technology as well as have the capacity to deal individually with such problems.	5	5	6	-	3	-
Training in language and teaching methodology.	5	-	9	-	3	15
A real thorough refresher courses and seminars to be conducted by the specialists.	2	10	3	-	5	-
A training of the student mind and priorities. A proper understanding of what should be taught and why and how to get across to the students.	2	-	6	17	3	-
Teaching should not be just obtaining knowledge from books. They should have knowledge of tackling students problems i.e. practical training should be given. Teaching should not confine to classroom.	7	-	3	-	8	-

TABLE : 37.3 : Sex factor, Students

	REASONS	JNU MALE	JNU FEMALE	JMI MALE	JMI FEMALE	DU MALE	DU FEMALE
Y	Student gets enough knowledge by doing Ph.D attending seminar and keeping himself up to date with current knowledge, if allowed to teach topic of their choice it will increase their confidence.	29	22	22	29	33	15
	Through continued Research in modern areas and of considerable standard.	6	-	-	-	-	-
E	Through interaction with students and fellow colleagues.	-	-	-	-	-	-
	The new person with him brings new ideas and is really motivated to do something. Whereas training will turn him like the rest who orient or train him.	6	33	17	29	28	30
S	A well read student can teach well so new advanced course should be part of syllabus at Post Graduation/M.Phil.	6	17	2	12	-	14

(contd.....Table 37.3 follows)

(TABLE : 37.3 follows)

	REASONS	JNU MALE	JNU FEMALE	JMI MALE	JMI FEMALE	DU MALE	DU FEMALE
	They should be aware of the current problems in respective and latest technology as well as have the capacity to deal individually with such problems.	18	6	-	-	-	-
N	Training in language and teaching methodology.	12	11	17	18	11	9
	A real thorough refresher courses and seminars to be conducted by the specialists.	6	-	22	-	17	18
	A training of the student mind and priorities. A proper understanding of what should be taught and why and how to get across to the	-	-	-	-	-	-
O	students.						
	Teaching should not be just obtaining knowledge from books. They should have knowledge of tackling students problems i.e. practical training should be given. Teaching should not confine to classroom.	18	17	22	6	17	14

TABLE : 37.4 : Subject factor, Teachers

	REASONS	JNU		JMI		DU	
		SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE
	1	2	3	4	5	6	7
Y	Student gets enough knowledge by doing Ph.D attending seminar and keeping himself up to date with current knowledge, if allowed to teach topic of their choice it will increase their confidence.	25	20	40	24	21	36
	Through continued Research in modern areas and of considerable standard.	15	18	-	18	13	14
E	Through interaction with students and fellow colleagues.	-	16	6	5	8	4
S	The new person with him brings new ideas and is really motivated to do something. Whereas training will turn him like the rest who orient or train him.	15	11	12	14	14	4
	A well read student can teach well so new advanced course should be part of syllabus at Post Graduation/ M.Phil.	15	15	18	10	8	25

(TABLE : 37.4 follows)

	1	2	3	4	5	6	7
	They should be aware of the current problems in respective and latest technology as well as have the capacity to deal individually with such problems.	15	2	-	10	-	2
N	Training in language and teaching methodology.	-	6	16	5	-	8
	A real thorough refresher courses and seminars to be conducted by the specialists.	15	4	-	5	10	2
	A training of the student mind and priorities. A proper understanding of what should be taught and why and how to get across to the	-	2	6	10	10	-
O	students.						
	Teaching should not be just obtaining knowledge from books. They should have knowledge of tackling students problems i.e. practical training should be given. Teaching should not confine to classroom.	-	4	-	5	17	2

TABLE : 37.5 : Subject factor, Students.

	REASONS	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI-ENCE	SCI-ENCE	SOC-IAL SCI ENCE
	1	2	3	4	5	6	7
Y	Student gets enough Know-ledge by doing Ph.D atten-ding seminar and keeping himself up to date with curr-ent knowledge, if allowed to teach topic of their choice it will increase their confi-dence.	40	20	23	27	15	30
	Through continued Research in modern areas and of con-siderable standard.	-	4	-	-	5	-
E	Through interaction with students and fellow colle-agues.	-	-	-	-	-	-
	The new person with him brings new ideas and is really motivated to do so-mething. Whereas training will turn him like the rest who orient or train him.	20	20	23	23	25	40
S	A well read student can tea- ch well so new advanced course should be part of syllabus at Post Graduation/ M.Phil	-	16	-	14	-	-

(TABLE : 37.5 follows)

	1	2	3	4	5	6	7
	They should be aware of the current problems in respective and latest technology as well as have the capacity to deal individually with such problems.	10	12	-	-	-	-
N	Training in language and teaching methodology.	10	8	8	23	15	5
	A real thorough refresher courses and seminars to be conducted by the specialists.	-	4	20	5	25	5
	A training of the student mind and priorities. A proper understanding of what should be taught and why and howto get across to the	-	-	-	-	-	-
O	students.						
	Teaching should not be just obtaining knowledge from books. They should have knowledge of tackling students problems i.e. practical training should be given. Teaching should not confine to classroom.	30	16	26	8	10	20

From the above table following conclusions emerge. Those who said no training is required -

1. Amongst largest percent of teachers and students of all three universities except DU students suggested that while doing M.Phil/Ph.D, student gets enough knowledge by attending seminars regularly and reading literature and if allowed to teach topics of their choice, it will increase their confidence. DU students gave the reason that, new person brings with him new ideas and is really motivated to do something whereas the training for teaching will turn him, like the rest who train him which was also given as second preference by students of JNU and JMI. Thus, training is nor required, as an M.Phil/Ph.D is sufficient to teach. Next preferred reason was that an M.Phil/Ph.D will be fit to teach because of continued research in modern areas of considerable standard. Next reason preferred by considerable percent of teachers and students of three universities except DU students where none said that a well read student can teach well, thus new advanced courses should be part of syllabus at post graduate/ M.Phil level. The other reason given by negligible percent of only teacher respondents of three universities

and no students was that through interaction with students and fellow collegues one becomes fit,whereas the teacher and students, who opined that merely a M.Phil/ Ph.D does not make one fit to teach said that some training is required. Maximum percent of JNU teachers (5%) and DU students (18%) said that a real thorough refresher course and seminars should be conducted by specialists in order to train them. On the other hand students of JMI and DU teachers said training should be given in language and teaching methodology. Whereas maximum percent of JNU students (18%) said that teaching should not just be limited to obtaining knowledge from books. Rather they should be able to tackle all kinds of students problems. Thus, practical training should be given. The JMI teachers who were in favour of training said that training should be directed towards how student think i.e. a proper understanding of what should be taught and why? Also to know how to get ideas across to the students. Thus, reason given by respondents of all the three universities did differ much.

2. All the above reasons suggested were considered in terms of sex factor. Among teachers who said training is not required maximum percent of JMI and DU male teachers gave the reason that they get enough knowledge by atten-

ing seminars regularly, reading literature and keeping themself up to date with current knowledge and if allowed to teach topic of their choice it will increase their confidence. JNU female teachers also gave the same reason, whereas maximum percent of JMI and DU female teachers gave their reason as, they get enough knowledge through continued research in modern areas which is also given by JNU males.

Amongst those, who said training should be given, maximum percent of male teachers of JNU and DU gave the reason that teaching should not be just obtaining knowledge from books, they should have knowledge of tackling students problems i.e. practical training should be given, whereas JMI females, gave the reason for giving training is for development of proper understanding of what should be taught and why? Whereas males teachers who were in favour of training said that it should be given in language and teaching methodology.

On seeing reasons given by students in terms of sex dichotomy, it was seen that maximum percent of male students who were not in favour of training gave their reason as to that, students get enough knowledge by doing Ph.D, attending seminars and keeping themself up to date with current knowledge. Whereas female students of three universities said that the new person with him brings

new ideas and is really motivated to do something. Whereas training will turn him like the rest who train him.

The reasons given by students who were in favour of training by maximum percent of JMI and DU male students was that, seminars and refresher courses should be conducted by the specialists and teaching should not be just obtaining knowledge from books, but they should have knowledge of tackling students problem i.e. practical training should be given. JNU male students gave reason for need of training to make them aware of current problems and knowledge of latest technology to deal the same. This reason has not been given by any student of JMI and DU.

Female students of JNU gave the same reason as given by male students of JMI and DU whereas female students of JMI suggested for training in language and teaching methodology and that of DU suggested for a thorough refresher course and seminars to be conducted.

When the reasons given were seen on the basis of subject discipline by those teachers who said that just a M.Phil/Ph.D is fit to teach i.e. there is no need of training, it was seen that maximum percent of science and social

science teachers of all three universities gave the reason that students get enough knowledge by doing Ph.D, attending seminar and keeping themself up to date with current knowledge. Amongst those who were in favour of training the reason given by maximum percent of science teachers of JNU and social science teachers of JMI said that they should be aware of current problems and should have the capacity to deal individually with these problems. Whereas maximum percent of JNU and DU social science teachers and JMI science teachers suggested for training in language and teaching methodology and science teachers of DU suggested that teaching should not confine to obtaining knowledge from books. Rather practical training should be given, so that they can solve students problems.

Reasons given by students who were against training in terms of subject discipline, it was observed that maximum percent of science and social science students of JNU and JMI said that as students get enough knowledge by doing Ph.D, attending seminars and keeping themself up to date with current knowledge, there is no need of training and if allowed to teach topic of their choice, it will increase their confidence. Whereas maximum percent of science and social science students of DU suggested for training of the students mind and priorities. A proper understanding of what should be taught and why?

Amongst, those students who were in favour of training maximum percent of science students of JNU and JMI and social science students of JNU and DU said that as teaching should not be just obtaining knowledge from books, but one should have knowledge to tackle problems. Thus, practical training should be given. Whereas social science students of JMI and science students of DU said training in language and teaching methodology should be given.

Thus, one may conclude that there was difference in reasons given for, whether training in required or just a M. Phil/Ph.D is fit to teach? It was found that the reasons differed considerably amongst three universities on the basis of sex factor, subject discipline and teacher-students.

NEED OF TRAINING FOR IMPROVING TEACHING :

Having discussed the methods of teaching as prevalent in the three universities and having observed the methods perceived as successful, O.k, and unsuccessful by teachers and students belonging to different universities and the sex factor and subject disciplines, it was thought worth while to find out if methods of teaching is not very successful as is practised presently and if the fresh recruits were not considered effective in teaching then would training in teaching methods, help to improve teaching in colleges and universities.

To the above query, responses were obtained from teachers and students of the three different universities.

TABLE - 38

Percent of Respondents University wise in regard to improvement in Teaching by giving Training

	JNU		JMI		DU	
RESPONSE	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	28	54	42	66	17	63
No	54	31	48	34	50	25
Depends on subject	13	15	10	-	32	13

From above table we see that maximum percent of teachers of all three universities say that training in various methods of teaching will not improve standard of teaching in college and university. Whereas maximum percent of students are of the opinion that training in methods of teaching will improve teaching. Thus, we see that there is a difference between teachers and students view.

a. Improvement in teaching by giving training - sex factor

In order to see if sex factor also made any difference in this regard responses of teachers and students on the basis of sex are presented in Table-39 below.

TABLE - 39

Percent of Teacher and Student Respondents, sex wise in regard to improvement in teaching by giving training

RESPONSE	SEX	JNU		JMI		DU	
		TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	Male	24	52	34	67	27	61
	Female	35	56	50	65	8	64
No	Male	52	24	63	33	46	22
	Female	55	38	33	35	54	27
Depends	Male	24	24	3	-	27	17
	Female	10	6	17	-	38	19

From the above table following conclusions emerge :-

1. More than half the male and female teachers said that training would not contribute to improvement in teaching.

On the other hand, more than 50% and slightly less than 70% males and females students felt that training teachers would contribute to improvement in teaching.

2. When university analysis was carried out, it was observed that both in DU and JNU very few teachers felt that training of teachers would improve teaching. In JMI however, more than 40% of teachers felt training would improve teaching.

Thus, there appeared considerable difference between the university in regard to the teachers opinion about training, contributing to betterment in teaching.

3. As for students in the three different universities; more than two-third of Delhi University and JMI students felt that training would lead to improvement in teaching. However, only slightly more than 50% of JNU students felt so.

4. When the male and female teachers were compared for their views about training of teachers, it is seen that while in JNU slightly more than one-third of female teachers felt that training would lead to betterment in teaching, in JMI only about one-third of female teachers felt so. To this extent there appeared a difference in the male and female teachers of the different universities regarding training of teachers leading to betterment in teaching.

5. On the other hand, there was very little difference in the percent of male and female students, who felt that training would lead to betterment in teaching. As mentioned elsewhere in this section, more students than teachers had opined that training of teachers would lead to betterment in teaching.

b. Improvement in Teaching by giving training - subject wise

An attempt was also made in order to see if different subject discipline lead to difference in opinion of teachers and students.

TABLE - 40

Percent of Teacher and Student Respondents, Subject wise in regard to improvement in teaching by giving training.

RESPONSE		JNU		JMI		DU	
		TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
Yes	Science	28	60	29	77	19	75
	Social Science	26	52	39	59	25	50
No	Science	36	30	65	23	50	10
	Social Science	58	36	53	40	46	40
Depends	Science	36	10	6	-	31	15
	Social Science	16	12	8	-	29	10

From the above table, the following conclusions emerge:-

1. More than half, the science and social science teachers said that training would not contribute to improvement in teaching. Whereas more than 50% and slightly less than 80% science and social science students felt that training teachers would contribute to improvement in teaching.

2. When the science and social science teachers were compared for their views about training of teachers, it is seen that while nearly equal percent of science and social science teachers felt that training would lead to betterment of teaching, in JMI and DU more social science teachers than science teachers felt so.

3. On the other hand, amongst students it was seen that more percent of science students in comparison to social science students of all three universities, said that training of teachers would result in betterment of present teaching.

Thus, we see that there appeared a slight difference between the universities and considerable difference between the science and social science teachers and students.

EVALUATION

Methods of teaching to an extent contributes to the performance of students, the latter, which requires evaluation to ascertain if performance has improved or deteriorated. Evaluation is the process by which a task given and accomplished is assessed against a predetermined criterion. If the accomplished task reaches the criterion, one may consider that the goal of the task has been reached. In teaching, if the method of teaching used is able to bring the performance of students to a prescribed level, then the method of teaching can be considered successful. To ascertain whether performance has reached a prescribed level, one needs to evaluate it. Just as there are many methods of teaching, so also there are many methods of evaluation, and many aspects to be evaluated. It is therefore important to know in teaching what is to be evaluated and also understand what concept the teachers have in regard to what is evaluated at higher education level.

WHAT IS BEING EVALUATED ?

Table-41 presents the responses of teachers and students as to what is evaluated at higher education level.

TABLE - 41

Percent of Respondents University wise in regard to what do they evaluate ?

WHAT DO YOU/YOUR TEACHER EVALUATE ?	JNU		JMI		DU	
AREAS OF EVALUATION	TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
	1	2	3	4	5	6
How much a teacher has put access to student mind and how much they have assimilated.	10	26	10	9	13	8
To evaluate critical analysis capability, accumulation of knowledge.	19	15	13	-	24	-
Creativity, endurance, honesty and Innovative qualities.	13	-	8	3	9	-
Basic understanding of concepts of subject	10	37	11	23	11	30
Regularity in studies, capacity to grasp and remember.	20	9	12	32	3	35

(Contd.....Table. 41 follows)

(TABLE.41 follows)

AREAS OF EVALUATION	1	2	3	4	5	6
Whether the Perspective has broadened.	-	-	2	12	-	3
Students seriousness in perception of fundamentals and his cramming power.	16	15	32	23	3	22
Transfer and assimilation of knowledge and ability to express the same.	21	-	13	-	12	3

From the above table the following inferences could be made :-

1. Twenty percent of respondents of the three universities mentioned that in higher education, the basic understanding of the students concerning the subject matter is evaluated.

2. The next largest percent (18%) said that capacity to grasp and remember, regularity in studies, seriousness in perceiving the fundamentals etc. are evaluated.

3. The third largest percent (17%) said they evaluated the critical and analytical ability as well as accumulation of knowledge.

4. Still lesser percent (12-13%) said that they evaluated how much the teacher had conveyed to students and how much of it had been grasped and how much knowledge had they assimilated and their ability to express the same.

5. Another 5-8% evaluated the creativity endurance, honesty, innovativeness as well as whether the students perception had broadened etc.

6. When university wise analysis is made, it is seen that teachers of JNU said they evaluated the transfer and

assimilation of knowledge and abilities to express the same, followed by capacity to grasp and remember, how much have been assimilated vis-a-vis input by teachers and also evaluate the ability for critical analysis. On the other hand in JMI largest percent were evaluating students seriousness in perception of fundamentals; and in DU largest percent said they evaluated the ability of students to critically analyse and the amount of assimilation of knowledge.

Thus, it is seen that the three universities evaluated relatively different aspects of student learning.

7. When teachers and students were compared regarding their perception of what is evaluated, it was seen that in JNU largest percent of students said that the basic understanding of subject is evaluated. Whereas the teachers perceived, they evaluated, the degree of knowledge assimilated by students and their ability to express the same.

8. In JMI when teachers and students were compared the students felt that they were being evaluated on their capacity to grasp and remember. Whereas teachers felt they evaluated the students seriousness in perceiving the students.

9. In DU when teachers and students were compared the latter felt that their capacity to grasp and remember were being evaluated. Whereas the teachers said that they evaluated the students capacity to critically analyse and degree of knowledge accumulated.

Thus, from (7), (8) and (9) above, one may conclude that perception of what is evaluated varied considerably between teachers and students.

Perception of what is being evaluated ? - Sex factor.

Responses of teachers and students were seen to know if sex made any difference in perceiving what is being evaluated? Thus, these responses are shown in Table - 42.

(contd.....Table.42 follows)

TABLE - 42

Percent of Teacher and Student Respondents, Sex wise, in regard to what is being Evaluate ?

SL.NO	AREA OF EVALUATION		JNU		JMI		DU	
		SEX	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
1	2	3	4	5	6	7	8	9
1.	How much a teacher has put access to student mind and how much they have assimilated.	Male	14	29	3	11	11	11
		Female	5	22	17	6	15	15
2.	To evaluate critical analysis capability, accumulation of knowledge.	Male	17	12	25	-	39	-
		Female	20	17	-	-	8	-

(contd.....Table. 42 follows)

(Table. 42 follows)

1	2	3	4	5	6	7	8	9
3.	Creativity, endurance, honesty and Innovative qualities.	Male	10	-	19	-	3	-
		Female	15	-	-	6	15	-
4.	Basic understanding of concepts of subject.	Male	14	41	22	6	13	33
		Female	5	33	-	24	8	27
5.	Regularity in Studies, capacity to grasp and remember.	Male	24	6	6	39	5	33
		Female	15	11	17	41	-	36

(contd.....Table.42 follows)

(Table.42 follows)

1	2	3	4	5	6	7	8	9
6.	Whether the perspective has broadened.	Male	-	-	3	11	-	-
		Female	-	-	-	12	-	5
7.	Students seriousness in perception of fundamental and his cramming power.	Male	12	12	13	33	5	11
		Female	20	17	50	12	25	32
8.	Transfer and assimilation of knowledge and ability to express the same.	Male	12	-	9	-	8	6
		Female	30	-	17	-	15	-

From the above table following conclusions emerge :-

1. When sex wise comparison was made amongst teachers, male teachers of JNU said that they evaluated students regularity in studies, capacity to grasp and remember, larger percent of female teacher said they evaluated transfer and assimilation of knowledge and ability to express the same. On the other hand in JMI and DU more male teachers evaluated critical analysis capability, accumulation of knowledge.

2. When sex wise comparison was made amongst students in regard to what they perceived is being evaluated? It was seen that in JNU, more male student felt they are being evaluated in how much a teacher has put access to student mind and how much they have assimilated, and female student in regularity in studies, capacity to grasp and remember. In JMI and DU larger percent of male and female student felt they were being evaluated on, regularity in studies, capacity to grasp and remember.

Thus, from the above we see not only there is difference between teachers and students on what is

being evaluated but male students differed from female students and male teachers differed from female teachers.

Perception of what is being evaluated - (subject wise) :

An attempt was made to ascertain if the subjects discipline choosen by teachers and students in any way affected the perception of what is being evaluated? Table-43 present the response of teachers and students on subject discipline and perception of what is being evaluated?

(contd.....Table-43 follows)

TABLE - 43

Percent of Teacher and Student Respondents, Subject wise in regard to what is being Evaluated?

SL.NO.	AREA OF EVALUATION		JNU		JMI		DU	
		SUBJECT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT	TEA-CHER	STU-DENT
1	2	3	4	5	6	7	8	9
1.	How much a teacher has put access to student mind and how much they have assimilated.	Science	-	10	6	8	17	-
		Social Science	14	32	5	9	7	15
2.	To evaluate critical analysis capability, accumulation of knowledge.	Science	17	20	24	-	26	-
		Social Science	18	12	19	-	36	-

(contd.....Table. 43 follows)

(Table.42 follows)

1	2	3	4	5	6	7	8	9
3.	Creativity, endurance, honesty and Innovative qualities.	Science	17	-	18	-	4	-
		Social Science	10	-	14	5	7	-
4.	Basic understanding of concepts of subject.	Science	33	20	24	15	9	35
		Social Science	6	44	14	27	14	35
5.	Regularity in Studies, capacity to grasp and remember.	Science	8	30	-	46	4	40
		Social Science	24	-	14	23	4	20

(contd.....Table.43 follows)

(Table 43 follows)

1	2	3	4	5	6	7	8	9
6.	Whether the Perspective has broadened.	Science	-	-	6	15	-	-
		Social Science	-	-	-	9	-	5
7.	Students seriousness in perception of fundamentals and his cramming power.	Science	17	20	12	31	4	25
		Social Science	18	12	24	18	4	20
8.	Transfer and assimilation of knowledge and ability to express the same.	Science	8	-	12	-	9	-
		Social Science	20	-	10	-	18	5

From above table following conclusions emerge :-

1. When subject wise comparison was made amongst teachers, science teachers of JNU said that they evaluated basic understanding of the concepts of subject, larger percent of social science teachers said they evaluated students regularity in studies, capacity to grasp and remember. On the other hand in JMI and DU science teachers and DU social science teachers said they evaluated critical analysis capability, and accumulation of knowledge. Whereas social science teachers of JMI said they evaluated students seriousness in perception of fundamentals and his cramming power.

2. When subject wise comparison was made amongst students in regard to what they perceived is being evaluated, it was seen that in JNU, JMI and DU more science students felt they are being evaluated in regularity in studies, capacity to grasp and remember. Whereas maximum percent of social science students of all three universities felt they are being evaluated for basic understanding of concepts of the subject.

Thus, from the above we see that not only there is difference between universities, on what is being evaluated but also science and social science disciplines, teachers and students also differ.

NECESSITY OF EVALUATION TO KNOW ACHIEVEMENT TO STUDENTS IN PARTICULAR COURSE :

Having discussed the perception of what is being evaluated in terms of subject sex etc. it was thought worth while to find out how many of them in fact felt that evaluation was necessary to know the achievement of students in a course. Table - 44 below presents the perception of teachers and students sex wise in regard to evaluation necessary to know achievement of students in particular course.

(contd.....Table.44 follows)

TABLE - 44

Percent of Teacher and Student Respondents sex wise in regard to necessity of evaluation to know achievement of student in particular course

RESPONSE	SEX	JNU				JMI				DU			
		TEACHER	TOTAL	STUDENT	TOTAL	TEACHER	TOTAL	STUDENT	TOTAL	TEACHER	TOTAL	STUDENT	TOTAL
Yes	Male	100	98	100	95	100	100	94	94	94	96	94	97
	Female	96		89		100		94		100		100	
No	Male	-	2	-	5	-	-	6	6	6	4	6	3
	Female	4		11		-		6		-		-	

From above table following conclusions emerge :-

1. Irrespective of university almost all the teachers (95%) said evaluation was needed to know the achievement of studentsin particular course.

2. However, when students response was seen, though the trend was almost the same, slightly less percent of female students from JNU felt so. To be more specific 11% of female of JNU said that evaluation was not needed to know the achievement of students in particular course. Thus, we see sex factor did differ slightly.

Necessity of Evaluation to know achievement of students in particular course (subject-wise) :-

An attempt was also made to ascertain the percent of teacher-students belonging to different subject discipline as to whether they considered evaluation was necessary. Table-45 below presents the results.

TABLE - 45

Percent of Student and Teacher Respondents Subject-wise in regard to necessity of evaluation to know achievement of student in particular course

RESPONSE	SUBJECT	JNU		JMI		DU	
		TEACHER	STUDENT	TEACHER	STUDENT	TEACHER	STUDENT
Yes	Science	94	100	100	100	93	100
	Social Science	100	92	100	91	96	95
No	Science	6	-	-	-	7	-
	Social Science	-	8	-	9	4	5

From above table it is seen that maximum percent of science and social science teachers and students said evaluation is necessary to know achievement of students in regard to particular course. Amonst students it was seen that very less percent of social science students (5% - 9%) of all the three universities said evaluation is not necessary to know students understanding of particular course, whereas no teacher said so. Thus, we may conclude that in case of students subject discipline did made difference.

Thus, one may conclude that whether teacher-students belonged to different universities or sex or subject discipline, almost unanimously they said evaluation is necessary.

EVALUATION SYSTEM USED :-

The faculty and students of university preferred evaluation. An attempt was made to find out which type of evaluation they used. As mentioned elsewhere in the section there are different methods of evaluation such as Grading, Marking, Internal assessment, external assessment etc.

In JNU, it was found that the evaluation system was semester based and mostly internal, except for dissertations, both at M.Phil/Ph.D levels external evaluation was sought. Grading system was prevalent in JNU and no marks were given.

In JMI and DU the evaluation system was once in a year through the annual examination. Mostly they were internal and they used marks for evaluation in each subject. In DU in certain subjects the evaluation was also external.

AREAS IN WHICH STUDENTS ARE EVALUATED :-

In all subjects, written examination were taken by all the three universities, while in JNU and JMI written

test was being evaluated by internal examiners,in DU it was evaluated by external examiners. Only in JNU class participation was also evaluated and grades ascribed to the same.

SELF EVALUATION :-

While student evaluation through examination based on semester system or otherwise was considered. An attempt was made to find out if there existed any self-evaluation in any of the three universities. Before examining this aspect, it was thought necessary to ascertain if teachers and students knew anything about self evaluation at all.

To this query the responses obtained from Teachers and students are given below :-

1. Maximum percent of teachers and students defined self evaluation as evaluating one self. Other definations given were :-

2. Self-evaluation is how a person compares himself with others.

3. Self-evaluation is testing one's ability.

4. It is evaluation of the self and self expression.

5. Self evaluation is evaluation of the self, by the self, for the self.

Thus, self-evaluation as defined above by the teachers was examined in terms of the percent of teacher-students who favoured and did not favour the same. Slightly more than 55% of teachers and 70% of students said that they favoured self evaluation. The reasons advanced by them for favouring self-evaluation was that it would help persons to know their own weaknesses and thus contribute to improving one-self. Some others felt that self evaluation helped to develop confidence and desire to improve and learn more.

A few others who did not favour self-evaluation said that in India the maturity of teachers and students is not so high that self-evaluation will be objective. Some felt that it would be rather difficult to self-evaluate as each person think that he knows a lot and does not feel to accept that he doesn't.

STUDENTS EVALUATION OF TEACHERS :-

When asked, if they were in favour of students evaluating teachers as is being done in Western/European countries? To this, maximum percent of teachers and students respondents said that yes it should be done (i.e. by 60% to 70%).

Other said it is o.k and only very few percent said that it should not be done, of the latter, there were more teachers than students.

Those who favoured students evaluation of teachers, said that it will improve teaching. A few others said that it should be adopted as teachers should know about their capabilities.

SUMMARY

The present study set out with the aim of ascertaining the objectives of higher education as perceived by teachers and students of different universities. Also an attempt was made to find out whether the perceived objectives of higher education by teachers and students varied in terms of the university to which they belonged sex factor and subject discipline. Not only the objectives were considered in detail but an attempt was also made to find out what type of evaluation was being followed by different universities and whether self evaluation also existed in the three universities. Analysis of the data obtained in all the above aspects led to the following conclusions :-

1. Teachers and students differed in their perception of objectives of higher education. The subject discipline of the teachers and students (eg. science and social science) also appeared to have had considerable influence on their perception of the objectives of higher education by the largest percent of teachers and students of JNU considered objectives of higher education to be one of, increasing creativity and developing analytical and critical ability; they differed from teachers and students of JMI who considered objectives of higher education to be to develop skill and knowledge for employment and evolving better society. As for DU teachers and students, they considered objectives of higher education to be one of developing human and intellectual capacities.

2. In regard to whether the method of teaching used in an university in anyway contributed to the achieving of objectives of higher education, it was observed that large percent of teachers and students felt that method of teaching definitely contributed towards achieving the objectives of higher education. Within this trend, it was seen that 73% teachers of JMI and

55% students of JNU were very positive about methods of teaching related to achieving the objectives of higher education as compared to teachers and students of other universities. Again, 83% of female teachers of JMI university and 56% of female, students of JNU and males of DU felt that teaching method did help in achieving the objectives of higher education compared to other male and female teachers and student of other universities.

3. Responses in relation to the methods of teaching considered as very successful and o.k also varied amongst the three universities, teachers and students and also on the basis of sex factor and subject discipline. However it was seen that maximum percent of teachers considered methods of teaching such as seminars, group discussion followed by lecture to be very successful, whereas students found group discussion, seminar and then lecture method as successful in that order. The methods of teaching considered o.k by teachers and students of all the three universities was the lecture method in the first place followed by assignments, individual exercise and tutorials.

4. In regard to the method of teaching used to the maximum, it was found that both teachers and students said that

maximum used method was the lecture method followed by group discussion and seminar in that order.

5. In response to whether they were satisfied with the prevailing teaching method, maximum percent of JNU teachers and students said yes, whereas larger percent of JMI teachers and students said that they were not satisfied with the prevailing teaching methods. As for DU. large percent of teachers of this university were satisfied with the prevailing methods of teaching, whereas large percent of students were not satisfied with the present teaching methods.

6. In response to whether a person who has just presently completed his M.Phil/Ph.D without teaching experience is fit to teach at higher education level or do they need some training, maximum percent of teachers and students of all the three universities agreed that a fresh M.Phil/Ph.D student is fit to teach as noted earlier. In this context it was significant to note that more teachers (i.e. 66% - 78%) than students (59% to 66%) felt a fresh M.Phil or Ph.D student will be fit to teach.

7. To the issue whether there was a need for training in teaching methods for teachers for improving teaching, it was observed that maximum percent of students respondents (54% to 66%) from all the three universities said that such training was needed and it would improve tea-

ching at higher education levels. Whereas maximum percent of teachers (48% to 54%) said that there was no need for training in teaching methods to teachers as they can teach well without training.

EVALUATION

In regard to the analysis of the data on evaluation follows conclusions emerges :-

1. In response to what the teachers and students perceived as being evaluated at higher education level, maximum percent of JNU teachers said they evaluated the degree of knowledge assimilated by students and their ability to express the same. In JMI maximum percent of teachers felt that they evaluated the students seriousness in perceiving the fundamentals. Whereas in DU the teachers felt, they evaluated the students capacity to critically analyse and degree of knowledge accumulated. In contrast students of JNU and DU felt that they were being evaluated in their capacity to grasp and remember.

2. As regarding evaluation leading to better understanding of students achievement in a particular course. It was found that both teachers and students of the three

universities unanimously felt that evaluation was necessary to understand students achievement better.

3. In regard to the type of evaluation system used in all the three universities it was found that JNU followed the semester system with internal evaluation except for M.Phil/Ph.D dissertation, for which external evaluation was sought. They used grades for evaluation.

   In JMI and DU the evaluation system was once in a year through the annual examination mostly internal and they used marks for evaluation. In DU in certain subjects external evaluation was adopted.

4. The students of all the three universities were evaluated on the basis of their performance in written examination, whereas only in JNU classroom participation was also evaluated in addition to the above written examination.

5. Self-evaluation was defined by maximum percent of teachers and students, as a process of evaluating one's own performance. In this regard maximum percent of teachers (55%) and students (70%) were also of the opinion that such evaluation was necessary to know one's own weaknesses so that one can improve and excel one's own performance.

6. In regard to students evaluation of teachers maximum percent of teachers and students (60% to 70%) of all the three universities responded positively and desired

such evaluation to be introduced as it will improve teaching.

Thus, this chapter dealt with the presentation of results of analysis of the presentation of results of the data including that

a. Objectives of analysis of higher education was perceived differently by universities, teachers and students;

b. Methods of teaching as followed presently was unsatisfactory and needed a combination of more than two methods in addition to lectures.

c. Within the existing methods of teaching, seminars, group discussion and tutorials were considered very successful methods. Whereas lecture method was considered just an o.k method;

d. Teaching method could be improved by giving orientation in it (this was felt more by students than teachers);

e. Teachers felt a fresh M.Phil/Ph.D is fit to teach higher education classes, but the students felt less confident about this and suggested training for even these teachers;

f. Evaluation was considered necessary by all for achieving higher education goals.

g. While teachers and students wanted self-evaluation, student evaluation of teachers was not supported much by teachers though students wanted it.

These results have been successful in throwing light on certain assumed contentions in the field of higher education, by empirical analysis. While it was assumed that teachers of Univ. will have almost similar concepts of objectives of higher education, the present study has shown empirically that these assumptions were rather faulty. Similarly while there had been a general feeling that lecture method was not very successful, none made it clear what they wanted. The present study has been able to spell out the teachers and students feelings and opinions about the different methods of teaching.

Also in evaluation, while all along its need had been known and accepted none had empirically tried to explore what kind of evaluation was needed and what was the opinion of teachers and students. Though much more details could be worked out in regard to operationalising these suggestions, the present study in a

limited way has contributed a fairly good understanding of what besets the teaching and learning process at the higher education level. Towards this end, one may say that the study has made a contribution.

The next chapter discusses these results in the light of other studies in this area.

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CHAPTER : 5

DISCUSSION

Researches in the field of higher education, related to methods of teaching and evaluation system have been reviewed by Mckeachie (1963), Trent and Cohen (1973), Reddy and Joshi (1978), Buch (1974) and Mukhopadhyay and other (1980). These studies focussed mainly on the effectiveness in the different methods of teaching but did not however, compare teaching and evaluation system amongst different universities or in terms of factor or subject discipline. The present study has tried to ascertain to what extent the universities differed amongst themselves on the basis of sex and subject discipline.

As mentioned elsewhere in this thesis the, present study set out with the main aim of ascertaining if universities differed amongst themselves in their concept of objectives of higher education, whether they used different methods of teaching and evaluation system, or if the opinion of teachers and students differed in regard to teaching methods used and the evaluation system prevailed in the universities and also to see if different subject disciplines such as science and social science as well as sex factor amongst teachers and students in anyway contributed to

differential opinion on methods of teaching and evaluation system.

The results emanating from the analysis of the data, showed that universities differed in terms of what they perceived as objectives of higher education; and it also showed that teachers and students differed in their concept of which is the most successful method of teaching; the differences were also obtained in terms of the subject disciplines viz-science discipline, teachers and students preferred laboratory method of teaching, whereas social science students and teachers preferred lecture and group discussion method. The universities also differed in their concept of which is a more adequate system of evaluation.

The above results have been discussed in the light of other studies available in the field of higher education. The discussion will be on the basis of -

a. Objectives of higher education.
b. Methods of teaching and objectives of higher education.
c. Methods of teaching considered very successful, o.k and not successful.
d. Maximum used method of teaching.
e. Satisfaction with prevailing teaching methods.

f. Fitness of teachers employed.

g. Need for training for improving teaching.

EVALUATION

h. What is Evaluated?

i. Necessity of evaluation to know students achievement.

j. Evaluation system used.

k. Areas in which students are evaluated.

l. Self-evaluation, and

m. Students evaluation of teachers.

OBJECTIVES OF HIGHER EDUCATION

It may be recalled that three universities viz. Jawaharlal Nehru University, Jamia Millia Islamia and Delhi University were taken as sample for this study and a total of 151 teachers and 110 students were selected for this purpose.

As mentioned in the previous chapter objectives of higher education differed amongst all the three universities. The objectives of higher education as stated by JNU teachers and students was to increase creativity, analytical and critical knowledge for economic and social

development. Whereas in JMI, objectives of higher education was stated as, to develop knowledge for employment and better society, the Delhi University's teachers and students stated, the objectives of higher education as development of human and intellectual capacities.

These results have supported the statements of Singh, Sharma, Veeraraghavan, Rehman (1986), who gave objetives of higher education as

a. imparting in-depth knowledge of the subjects concerned,
b. developing critical and analytical abilities,
c. developing the ability to relate and use this knowledge in real life situations,
d. developing vocational and professional skills and
e. developing social, cultural and aesthetic values.

Also, Bloom and his colleagues (1956) had earlier classified objectives as, 'cognitive' (i.e. to do with comprehending knowledge and information), 'affective' (i.e to do with attitudes, values and emotions) and 'psychomotor' (i.e to do with physical skills). Bloom (1956) tried to arrange objectives within each of these three areas.

The difference in perception of objectives of higher education by three universities may be because the aim of three universities vary. JNU believes in giving more of

innovative and research oriented training, whereas JMI stresses on practical and action oriented training and D.U on theoretical teaching.

METHODS OF TEACHING AND OBJECTIVES OF HIGHER EDUCATION

In response to contribution of methods of teaching in achieving objectives of higher education, it is seen that both teachers and students responded that methods of teaching definitely contributed to achieving the objectives of higher education. This supports findings of Davies (1976), that methods of teaching does contribute in achieving objectives of higher education. In particular, Davies suggested that traditional methods of teaching help relatively more, in achieving objectives of higher education.

METHODS OF TEACHING - VERY SUCCESSFUL

As seen in the analysis of results, methods of teaching considered as very successful differed amongst teachers and students of all the three universities. Teachers considered seminar, group discussion followed by lecture to be very successful. Whereas students found Group Discussion, seminar and then lecture to be very successful.

This supports the findings of University Grants Committee (1964), which also stated that students considered lectures might be fewer and need not be compulsory if a greater use could be made of the seminar or tutorial system. These findings are also supported by Bliss and Ogborn (1977), Beard and Senior (1980), who stated that students often comment on poor lecturing technique.

On seeing if methods of teaching differed for different subject disciplines, it was found that science students of all the three universities said laboratory method to be very successful and they gave second preference to lecture method. Whereas social science students preferred group discussion and seminar as the most successful method followed by lecture method.

This difference amongst science and arts (social science) students was also mentioned by Marris (1964); and University Grants Committee (1964), who in their studies had found that science students in comparison to social science students considered lecture method to be more appropriate to introduce a new subject. However, they opted for laboratory method more than other methods.

This is understandable because science subjects require a good deal of practical work and even the theory to be

understood requires considerable demonstrations. Perhaps, this is why they prefer laboratory method to other methods.

METHOD OF TEACHING CONSIDERED O.K.

Both teachers and students of all the three universities stated that, lecture method is o.k at first place. The percent of student respondents was morein saying so. Next to lecture method, the methods considered o.k were individual exercise, tutorial, and assignment, in that order.

Lecture method may be considered as o.k by maximum percent of respondents because of its certain merits and demerits viz. A lecture method is inexpensive, it takes less preparation time, it also takes less time of students to cover the same material then with engagement in discussion. Lecture is specially valuable for introducing and opening up a subject. Specially in science subjects, lecture is considered as the best method to start a topic (university grants committee, 1964). Demerits of lecture method are that, it is unidirectional, it is less easy to counter act, as a result, the lecture fails to encourage creativity and problem-solving. Another demerit of lecture method is its poor effect on retention i.e students forget, or never learn of what is said. This is seen more in longer lectures (Joseph Irenaman; as reported by Mcleish, 1976).

MAXIMUM USED METHOD OF TEACHING

As was observed in the present research, maximum percent of both teachers and students stated that, lecture was the maximum-used method of teaching in universities, which was followed by group discussion, seminar and their combination in that order. These findings support those of Khanna (1986) who found that, lecture was the most used teaching technique at higher education level and even when discussions or seminars were used, lecture method was used to initiate discussion.

The maximum use of lecture may be because of its being as a means of coveying factual information. As stated by Mukhopadhyay and Murthy (1986) lecture method has considerable potential for achieving certain objectives of teaching, like communication of information to students etc. Lecture method is also used because of its potential of effective use in a large group of students. Also combination of lecture method and discussion method was used next, most popularly, as discussion method was found to be very effective. It, also, was observed to provide opportunities to students to share their feelings and opinion amongst themselves.

Seminar method was considered as an effective process and thus was used in teaching at higher education level.

This method, in addition to testing the learners grasp of the subject content, awareness, capacity for analysis, synthesis, and organised and well-ordered presentation etc., also tests the individual's capacity for research and creative thinking (Moonis Raza, D. Chandra, Prakash Chander and Onkar Singh, 1986).

Thus, these three methods appear to be used to the maximum by teachers of all the three universities, even though some teachers did report that, they also used other methods of teaching such as tutorial, assignments, individual exercise etc. as and when needed.

SATISFACTION WITH PREVAILING TEACHING METHODS :

An attempt was made in this study to ascertain if the teachers and students of the three universities were satisfied with prevailing methods of teaching being used in the university, and whether teachers and students differed in their satisfaction with the teaching methods. As one would expect, the teachers who were using the present method of teaching were naturally more satisfied with it than the students. Relatively lesser number of students were satisfied with the present method of teaching because, there were too many lectures on the topics concerned and very little opted for them to interact with teachers.

Those who were unsatisfied with the prevailing teaching methods therefore, also suggested that in addition to the lecture method that is being used presently, teachers should also adopt other methods of teaching and where possible they should suitably combine more than one method. Other suggestions given by them included that there should be a complete reorientation of the entire teaching methods.

FITNESS OF TEACHERS EMPLOYED

While more students and less teachers felt that the present methods of teaching were rather unsatisfactory, it was interesting to note that teachers and students also differed in regard to fresh-graduates being considered as effective teachers. While teachers again opined that, the fresh graduates can be and often are very effective and fit to teach post graduate classes, the students did not however, feel so.

The students also felt that, the newly recruited teachers should be given training before they are assigned the job of teaching at post-graduate level.

These findings find support in the findings of university grants committee (1964), which stated that training should be given before recruiting fresh candidates for teaching jobs. This was stated in a study undertaken by this committee, in which amongst a sample of university teachers, majority of them were in favour of the view that 'newly

appointed university teachers should receive some form of organised instruction or guidance on how to teach'. In the present-day context also, after the revision of teachers pay-scales and in the introduction of the new education policy, there is a concerted effort to give orientation to newly recruited teachers.

Those teachers who stated that a fresh M.Phil/Ph.D can teach well, said so, because they felt that a student get enough knowledge by doing Ph.D, attending seminar and keeping himself up-to-date with current knowledge, and so if they are allowed to teach a topic of their choice they could not only teach very well and give the latest information, but, it will also increase their confidence in teaching.

Other reasons given by maximum percent of respondents were that, the fresh recruit would generally bring with him new ideas and knowledge and would be relatively more motivated to teach better and be up-to-date in his reading, whereas training will turn him like the rest who orient or train him. Also a person becomes perfect to teach, through continued research and teaching rather than by attending orientation courses.

Maximum percent of respondents, who were of one opinion that training should be given before recruiting a fresh condidate for teaching job, said so, because they felt teaching was not just obtaining knowledge from books.

They should have knowledge of tackling students' problems. Thus practical training should be given to tackle students. Effective suggestions put forward were in the areas of training in language and teaching methodology, and a few more suggested real thorough refresher courses and seminars be conducted by specialists in the concerned area, or topics to be handled by the fresh recruits.

NEED FOR TRAINING FOR IMPROVING TEACHING

It was found that teachers of all the three universities said that training in various teaching methods will not improve the standard of teaching, whereas students said that training in teaching methods will improve standard of teaching. This difference may be because, teachers in comparison to students are more satisfied with prevailing teaching methods, and perhaps felt that, they were able to teach without training, there is no need to give training for teaching methods.

EVALUATION

WHAT IS EVALUATED?

It was seen in results analysis that, maximum percent of respondents felt, the understanding of the students concerning the subject matter is evaluated. Other felt, the

capacity to grasp and remember, regularity in studies, seriousness in perceiving the fundamentals etc. are evaluated. Others said, they evaluated the critical and analytical ability as well as accumulation of knowledge, and also how much the teacher had conveyed to students and how much of it had been grasped, and how much knowledge had they assimilated and their ability to express the same. This supported the findings of Patel, Bose and Ranganathan (1986) who stated that, they evaluate student achievement in subjects and assessing the efficiency and effectiveness of instructional procedures.

NECESSITY OF EVALUATION TO KNOW ACHIEVEMENT OF STUDENTS IN PARTICULAR COURSE

In response to this, it was found that almost all teachers and students of three universities said that evaluation is necessary to know, the level a student has achieved in a particular course. Evaluation is also done because it also helps to know whether the students are ready to take the course, whether they need any further remedial course; whether they have accomplished the learning objectives, which students have failed to achieve which objectives, why they have failed to do so; and what aspects of the instructional procedures need improvement. It supports the

findings of Veeraraghavan (1986) who stated that if there was no examination, the selection of candidates for any job or course would tend to be affected by patrongage, nepotism and inefficiency. She also stated that, students gain a lot from the examination, for instance, passing an examination, helps them gain a certain degree of security, they can be also securedin the knowledge they had gained. They get an ideas of their own assets, they gain confidence in their own ability and gets a feeling of success and achievement.

EVALUATION SYSTEM USED

As seen in results' analysis, the Evaluation System used differed amongst universities. It was found that in JNU the evaluation system was semester-based and mostly internal, except for dissertation, both at M.Phil/Ph.D levels, external evaluation was sought. Grading system was prevalent in JNU and no marks were given. In JMI and DU the evaluation system was once in a year through the annual examination. Mostly they were internal and they used marks for evaluation in each subject. In DU, in certain subjects the evaluation was also external.

AREAS IN WHICH STUDENTS ARE EVALUATED

It was found that students of all the three universities were evaluated on the basis of written examination, and in JNU alongwith written examination, students classroom participation is also evaluated.

SELF-EVALUATION

Self-evaluation was defined by maximum teachers and students as evaluating one self. Others defined self evaluation as, how a person compares himself with others, testing one's ability and evaluation of the self and self-expression. It is seen from results analysis that maximum percent of teachers and students said self-evaluation should be done, as it helps persons to know their own weaknesses and thus contribute to improve one-self. Some others felt that self-evaluation helps to develop confidence and desire to improve and learn more, thus self-evaluation should be done. This supports the findings of Boud and Lublin (1983) who stated that, students should develop a capacity for self-assessment as it is a necessary component of independent or autonomous thinking. This was also supported earlier by Bruffee (1978) who stated that, by it deeper understanding is achieved and it develops insights into what is required.

It was also seen in this research that both teachers and students said, that students should evaluate teachers, as it will help in improving teaching, also it helps teachers know about their capabilities. (for eg. Balachandran, 1981)

Thus it is seen that — universities differed amongst themselves in regard to their concept of the objectives of higher education. Methods of teaching, according to both teachers and students, offered to contribute towards achieving the objectives of higher education. Group-discussion, Seminar were considered as very successful method of teaching by social science teachers and students, whereas science students opined that laboratory method and lecture method were more successful. The methods which were considered o.k, were Lecture, Tutorial, Project and Assignment. The maximum-used method in the three universities was lecture followed by group discussion and seminar in that order. Teachers were found to be satisfied with the prevailing teaching methods, whereas students were not. They suggested that to make teaching more effective, group-discussion and seminar or combination, or lecture method with other methods should be used. While more teachers felt that afresh M.Phil/Ph.D

student was fit to teach higher education classes, more students felt that they are not fit to teach, and suggested for giving training to them before recruiting. Relatively lesser number of teachers, in comparison to students, said that there was no need for training to improve teaching. In regard to evaluation, teachers said that they evaluated students' understanding of the subject, whereas students said that their grasping power was being evaluated. Almost all the respondents said that it was necessary to evaluate in order to know the student's level of achievement. The evaluation system used in JNU was semester based with grades, whereas in JMI and DU it was annual examination with marks. The students were evaluated on the basis of their written examination in all the three universities. While in JNU, classroom participation was also given weightage, such evaluation was not obtained in the other two universities. Self-evaluation was defined as, 'evaluating one-self' by teachers and students. Maximum percent were in favour of doing it, as they felt it would help setting right their weaknesses.

Regarding students evaluating teachers, it was seen that more students than teachers said, it should be adopted as it will help improve teaching. On the other hand, teachers were of the view that in India, students have not been matured to that extent that they could evaluate teachers objectively, or that teachers would take the evaluation in the right spirit.

CHAPTER - 6

CONCLUSIONS AND RECOMMENDATIONS

Three Universities viz. Jawaharlal Nehru University, Jamia Milia Islamia and Delhi University were taken to see if they differed in concept of objectives of Higher Education and Methods of teaching and the Evaluation System being used. The sample consisted of 151 teachers and 110 students from these three Universities. The tool used for collecting above said information was a questionnaire common for both teachers and students. The data collected was analysed by using percentiles as this study is exploratory and descriptive in nature. The results obtained show that :-

(1) Teacher and student differed in their perception of objectives of higher education. The subject discipline of the teachers and students (eg. Science and Social - Science) also appeared to have had considerable influence on their perception of the objectives of higher education. Largest percent of teacher and students of JNU considered objectives of higher education to be one of, increasing creativity and developing analytical and critical ability; They differed from teacher's and students of JMI who

considered objectives of higher education to be to develop skill and knowledge for employment and evolving better society. As for D.U. teachers and students, they considered objectives of higher education to be one of developing human and intellectual capacities.

(2) In regard to whether the Method of teaching used in an University in any way contributed to the achieving of objectives of higher education, it was observed that large percent of teachers and students felt that Method of teaching used definitely contributed towards achieving the objectives of higher education.Within this trend, it was seen that 73% teaching of JMI and 55% student of JNU were very positive about methods of teaching related to to achieving the objectives of higher education as compared to teachers and students of other Universities. Again, 83% of the male teachers of JMI University and 56% of the female students of JNU and male students of Delhi University felt that teaching method did help in achieving the objectives of higher education compared to male and female teachers and students of other Universities.

(3) Responses in relation to the methods of teaching considered as very successful and O.K. also varied amongst the three Universities, teachers and students and also on

the basis of sex factor and subject discipline. However it was seen that maximum percentage of teachers considered methods of teaching such as seminars, Group discussion followed by lecture to be very successful, where as students found Group discussion Seminar and then lecture method as successful in that order. The Methods of teaching considered O.K. by teachers and students of all the three universities was the lecture method in the first place followed by assignments, individual exercise tutorials.

(4) In regard to the method of teaching used to the maximum, it was found that both teachers and students said that maximum used method was the lecture method, followed by Group discussion and Seminars in that order.

(5) In response to whether they were satisfied with the prevailing teaching method maximum percent of JNU teachers and students said yes, where as larger percentage of JMI teachers and students said that they were not satisfied with the prevailing teaching methods. As for Delhi University, large percentage of teachers of this University were satisfied with the prevailing methods of teaching, where as large percentage of students were not satisfied with the present teaching methods.

(6) In response to whether a person who has just presently completed his M.Phil/Ph.D. without teaching experience is fit to teach at higher education level or need some training, maximum percentage of teachers and students of all the three Universities agreed that a fresh M.Phil/Ph.D. student is fit to teach because of continued research by which he gets enough knowledge to teach. In this context it was significant to note that more teachers (ie 66% to 78%) than students (59% to 66%) felt a fresh M.Phil or Ph.D. student will be fit to teach.

(7) To the issue whether there was a need for training in teaching methods for teachers for improving teaching, it was observed that maximum percentage of student respondents (54% to 66%) from all the three Universities said that such training was needed and it would improve teaching at higher education levels. Whereas maximum percentage of teachers (48% to 54%) said that there was no need for training in teaching methods to teachers as they can teach well without any training.

EVALUATION:-

In regard to the analysis of the data on evaluation following conclusions emerged:-

(1) In response to what the teachers and students perceived as being evaluated at Higher Education level. Maximum percentage of JNU teachers said they evaluated the degree of knowledge assimilated by students and their ability to express the same. In JMI maximum percentage of teachers felt that they evaluated the students seriousness in perceiving the fundamentals, whereas in Delhi University the teachers felt, they evaluated the students capacity to critically analyse and degree of knowledge accumulated. In contrast students of JNU and DU felt that they were being evaluated in their capacity to grasp and remember.

(2) As regarding evaluation leading to better understanding of students achievement in a particular course. It was found that both teachers and students of the three Universities unanimously felt that evaluation was necessary to understand students acheivement better.

(3) In regard to the type of evaluation system used in all the three Universities it was found that JNU followed the semester system with internal evaluation except for M.Phil/Ph.D. dissertation, for which external evaluation was sought. They used grades for evaluation.

In JMI and DU the evaluation system was once in a year through the annual examination mostly internal and they used marks for evaluation. In Delhi University in certain subjects external evaluation was adopted.

(4) The students of all the three universities were evaluated on the basis of their performance in written examination, where as only in JNU, Class room participation was also evaluated in addition to the above written examination.

(5) Self-evaluation was defined by maximum percent of teachers (55%) and Students (70%) were also of the opinion that such evaluation was necessary to know one's own weakness so that one can improve and excel one's own performance.

(6) In regard to students evaluation of teachers maximum percentage of teachers and students(60 to 70%) of all the three universities responded positively and desired such evaluation to be introduced as it will improve teaching.

Thus, this chapter dealt with the conclusion of the research.

that (a) Objectives of Higher Education was perceived differently by Universities, teachers and students. (b) Methods of teaching as followed presently was unsatisfactory and needed a combination of more than two methods in addition to lectures. (c) Within the existing methods of teaching seminars group discussion and tutorials were considered very successful methods. Whereas lecture method was considered just an O.K. method; (d) Teaching methods could be improved by giving orientation in it. (this was felt more by students than teachers). (e) Teachers felt a fresh M.Phil/Ph.D. is fit to teach higher education classes, but the students felt less confident about this and suggested training for even these teachers; (f) Evaluation was considered necessary by all for achieving Higher Education Goals. (g) While teachers and students wanted self evaluation, student evaluation of teachers was not supported much by teachers though students wanted it.

These results have been successful in throwing light on certain assumed contentions in the field of Higher Education, by empirical analysis. While it was assumed that teachers of Universities will have almost

similar concepts of objectives of higher education the present study has shown empirically that these assumptions were rather faulty. Similarly while there had been a general feeling that lecture method was not very successful, none made it clear what they wanted. The present study has been able to spell out the teachers and students feelings and opinions about the different methods of teaching.

Also in evaluation, while all along its need had been known and accepted, none had empirically tried to explore what kind of evaluation was needed and what was the option of teachers and students. Though much more details could be worked out in regard to operationalising these suggestions, the present study in a limited way has contributed a fairly good understanding of what besets the teaching-learning process at the higher education level.

Towards this end, one may say that the study has made a contribution in finding out the differences amongst three universities viz. Jawaharlal Nehru University, Jamia Milia Islamia and Delhi University, in regard to the methods of teaching and evaluation system. It has thrown light

on the prevelant teaching method, which is not proper and also on evaluation system. It is seen that though Education Commission and UGC had suggested for changes in evaluation system i.e. Grades in place of marks, Semester system inspite of Annual and Internal Evaluation in place of external, it is seen that only Jawaharlal Nehru University is following these changes and the other two Universities i.e. Jamia Milia Islamia and Delhi University are still proceeding with traditional evaluation system i.e. Annual exam with marks.

Thus, this study has tried to introduce a few suggestions for improving teaching methods and evaluation system.

LIMITATIONS

(1) The study being exploratory and descriptive in nature had mainly resorted to describing the data either in terms of frequencies or percentage of respondents reaching to a particular question. This was necessary as it was not known how the respondents in the Universities will be able to provide answers to varied issues which were highly subjective in nature. If there had been enough supporting evidence on the various issues considered in either one or the other direction, may be it would have

been possible to find out which objective of higher education was considered most appropriate or which methodology of teaching should be adopted etc. The whole field of higher education has been such that many issues are treated as a convention, or as a precedence rather than what it should be or what it is? With this background in mind if one looks at the present study, one may understand why it has to be exploratory and descriptive in nature, and why had to resort to frequency and percentile analysis. Thus the first major limitation of this study has been one of obtaining highly opinionated responses and comparing the same amongst Universities, teachers and students and subject disciplines.

(2) The second major limitation of the study is that, knowing fully well that most of the colleges/universities use lecture as method of teaching an attempt was made to ascertain if other methods of teaching are worth while and which of the methods were being used at different levels. Here again, even though most institutions of higher education were using mainly lecture method, the exploration led to the knowledge that other methods were also being used in some departments and where not used there was desire of using various other methods of teaching apart from the lecture method. The criticism in this regard

would be that many may desire many things but actually being used is only the lecture method, which is very well known, and so why study this aspect? In reply to this, it must be pointed out that the study has been able to show that not only the teachers, even students were aware of various methods of teaching and a few of the departments have successfully tried out a combination of two or more methods.

Ideally speaking one may try out on the same or matched population of students, different combination of methods of teaching to find out their effect on the teaching-learning process. The researcher intends to take up such a study at Ph.D. level.

(3) Another limitation is similar to the second one above, but in the area of evaluation. As is well known all universities receiving UGC support more or less use the same method of evaluation barring very few modifications by a few universities. The criticism is, when it is wall known that all universities follow the same method of evaluation an empirical study to understand this phenomenon is not necessary. In this regard it may be pointed out that

within the three universities selected it is revealing to note that the three universities differed in their mode of evaluation, period of evaluation and content of evaluation. Furthermore, it is equally interesting to note that both teachers and students appear to be aware of accreditation, self-evaluation and student evaluation of teachers, and many desired that these should be introduced in the university system. Therefore, one may not consider that this was a futile exercise. However, it would be very ideal to take up in the same University different methods of evaluation and find out which system suits which department. It will also be important to ascertain if self-evaluation by teachers and students in any way contribute to improve - ment in their own respective performances. Similarly, another area of study can be evaluation of teachers by students and the introduction of accreditation in Univer- sities, whether it would lead to any betterment in students' performance, as well as output of the Universities.

It may be reiterated here that the various studies proposed and recommended to be conducted to some extent could have been undertaken by the researcher herself. However it was thought important to understand the pheno- menon as it exists in Universities, before taking up any

specific issue and for exploration and further studies.

Despite the above limitations the present study has tried to achieve some of the objectives, with which it started its exploration. It has negatived the myth that all Universities have the same objectives, follow the same methods of teaching and adopt the same method of evaluation and has also shown that students and teachers differed in regard to their opinion on various issues studied in this research.

To the extent that it has shown that Universities, teachers and students, different subject disciplines and sex factor variation contribute to differential opinion regarding the teaching - learning process, the findings of this study could be considered as a valuable contribution to the field of higher education. To this extent the present study could be considered as a pioneering effort opening up many vistas of research in this area.

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APPENDIX

QUESTIONNAIRE FOR METHODS OF TEACHING

The information in this questionnaire will be kept confidential and will be used only for my Dissertation work which is part of my M. Phil degree.

Thanks : Jagriti Malik
(Research Scholar)
J.N.U.

Name of the Person (Optional) :

Profession/Designation :

Name of the Institution :

Address of the Institution :

Subjects teaching/studying :

Educational Qualification :

Monthly Income (Approx.) :

QUESTIONS

1. Tick from following options what you consider as objectives of Higher Education :-

(a) To develop human & intellectual capacities.

(b) To develop relevant knowledge useful to evolve better society and also for getting employment.

(c) To make a person nature by broadening the vision and mental horizon so that they can solve their personal problems.

(d) Englighterment, Social Commitment & Technical training

(e) To increase creativity & knowledge to analyse & critise and to acquire professional skills so that they can contribute to economic ans social development of our nation..

(f) To provide the environment of study of puruit of knowledge which is conducive to the emergence of a rational, logical and balanced intellectual personality.

(g) To train them and equip them with tools through which they can take up and contribute to a profession they choose to pursue.

(h) Freeing people of preconceived ideas and develop understanding of particular subject.

Contd... 2

(j) Overall development in personality, understanding of wrong and right and courage to stand by one's convictions, installation of honesty, sense of duty, awareness, social consciousness in a way betterment of individual to become a beeter human being.

(k) To train up young people for teaching, administration, Policy making, cognitive pursuit and better employment.

(l) Imparting information, ability to think and making students aware of questions and problems that have been the subject of debate and discussion in that field.

(m) Any other, please specify.

2. Do you think the method of teaching will in anyway contribute to achieving of the above objectives ?

3. What methods of teaching you use/your teacher uses ?

Sl. No.	Methods of teaching	Very successful	O.K.i.e. neither successful nor unsuccessful	Not Successfull
A.	Lecture Method			
B.	Group discussions			
C.	Seminars			
D.	Tutorials			
E.	Project			
F.	Individual Exercise			
G.	Laboratory Exercise			
H.	Audio-visual aids			
I.	Assignements			
J.	Workshop			
K.	If combination of more than one of the above methods, specify.			

4. Which method is used maximum by you/your teacher ?

5. Are you satisfied with the prevailing teaching method ?

YES/NO

(a) If no what changes you suggest ?

Contd... 3.

6. With the enormous advances that have been made in the field of science. Do you think a fresh graduate or M.Phil/Ph.D. will be able to justice to subject matter to be taught to the students ? Yes/No.

(a) If Yes, in what way do you think the newly recruited teacher can really be effective without any orientation or training ?

(b) If No, what kind of training or orientation would you suggest should be given to the teacher's who are assigned to teach graduate or post graduate students ?

7. Do you think by giving training in various methods of teaching the standard of teaching in college and university will improve ? Yes/No

8. Do you have arrangements to show the U.G.C.programme for college university being shown on T.V. ? Yes/No.

(a) If No, Why ?
(i) We do not know such programme exists.
(ii) It is irrelevant
(iii) It is only for science students
(iv) We would like to, but don't have facilities to show.
(v) Any other reason, specify

(b) If yes, do you think the T.V. programme in any way supplement on complements teaching in class ? Yes/No.

9. Do you think T.V. as a media can be used effectivaly for imparting instructions in college/university ? Yes/no

EVALUATION

1. Is it necessary to have evaluation ? Yes/No

2. What do you evaluate/What do you think teacher evaluate

3. Do you think evaluation is necessary in achieving the objectives of Higher Education ? Yes/No.

Contd... 4.

(a) If yes, what way ?

(b) If no, what way ?

4. Is evaluation necessary to understand the level which a student has achieved in regard to a particular course ? Yes/No. Any explanation to justify your answer please specify

5. What is the evaluation system in your institution ?

(a) Annual (b) Semester (c) Internal (d) External

(e) Once in one semester/one year/two years (f) Any other specify

6. What method of evaluation you use ? /What method of evaluation does your teacher use ?

(a) Marks (b) Grading (c) Marks & Grades (d) Any other specify

7. Do you use combination of different evaluation methods ? Yes/No

(a) If yes, which methods of evaluation you combine ?

(i) (ii) (iii) (iv)

8: On what basis you evaluate your students ?

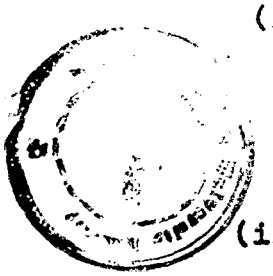
(a) Written Test (b) Class Room Participation/group dissions (c) Internal Assignements (d) Project work (e) Any other, specify.

9. There are accreditation bodies in various universities.

Do you know about what accreditation is ? Yes/No

(a) If Yes, do you think accreditations bodies effect evaluation system ? Yes/No.

(i) If Yes, How ?



(ii) If No, How

10. What is self evaluation ?

(a) Are you in favour of it ? Yes/No.

(i) If Yes, why

(ii) If No, why ?

11. In American & other European/Western Countries there is a system of students evaluation of teachers ? What is your opinion of adopting it in India.