C H A P T E R - II

RELATED LITERATURE

2.0.0 INTRODUCTION

'Lecture', a medieval device evidently had the vitality not only to survive in higher institutions of learning, but to spread to the lower ones as well (Brubacher, 1947). Under the caption 1.2.0 it has been presented that the lecture has to its credit a very long history of existence. 'Lecture', had addressed itself to the changing needs of the time but remained to be the main vehicle of communication in the portals of learning. But a lot is needed to be done to improve upon it. In the words of the Education Commission (1966), there is a need for the improvement of the content and quality of lectures. Lectures tend to succeed with certain students, and in certain subjects ... these differences seem inevitable, students complain of basic faults such as poor presentation, that lectures are neither clear nor systematic, so ill-delivered as to be barely audible, or that they are addressed to the professor's notes or to the black board (Beard, 1971). However, there is no doubt that a good lecturer can stimulate his students to action, evoke involvement, and provoke thoughts. (Lancaster, 1974). The ability to lecture well is a skill which few possess, but which many can develop if they are convinced of its validity and spend the time and energy necessary to improve themselves (Lancaster, 1974). It is also said that the value of formal lectures seems to depend more upon the special abilities and qualifications of the individual

who develops and delivers it than upon advantages or disadvantages inherent in the method itself (Brown & Thonton, 1971). Over the times many have put their mite to improve the method as such. In the following paragraphs an attempt is made to present the literature available and the research efforts made to improve the lot of the lecture method.

2.1.1 Different modes of lecture:

Paulson (1906), propounded that the lecture can not and the lecturer should not aim at transmitting to the hearer the entire material of the study.

Jones (1923), studied the retention of lecture material. His study consisted of 782 students of psychology. It was found that on an average sixty two per cent of material was retained as tested through immediate recall test and about twenty per cent retained after eight weeks.

Barzun (1944), argues the lecture room is the place where a fluent speaker, no notes, and no shyness, brings out a wonder power of emphasis, timing, and organization.

Hovland and Mandell (1952), found that opinions of students change more in the direction advocated by the speaker if he drew a conclusion rather than when leaving it to the students.

Hovland and his associates at Yale (1953), found that such variables as credibility of the lecturer, order of presentation, presentation of one side of an issue versus presentation of both sides and emotionality of

argument are factors in determining the effect of a lecture.

Knoell (1953), found that fluency of ideas correlates significantly with rating of teaching effectiveness.

Nicholls (1955), found previous experience, interest adjustment to speaker, amount of energy expended by listeners, degree of adjustment to points, ability to recognise the central ideas, note taking efficiency, the speed of reflective thinking of listeners, and the speed of lecture delivery were the components of effective listening to lectures.

Lahti (1956), found that for students with poor background, induction method to be superior for the purpose of comprehension of the subject matter.

Freyberg (1956), compared four methods of note taking. It was found that taking no notes proved to be successful if material was to be used immediately, but learning from duplicated notes was most effective for examinations.

Mc Clendon (1958), found note taking or not taking notes did not effect the comprehension of a lecture after studying 678 students.

Eisner and Rohde (1959), in an experiment compared the retention of lecture material, as a result of note taking during the lecture with that of summary note made after the lecture. There was no significant difference between the two modes of note taking.

Marr et al.,(1960), established that students who attended a course of lectures scored more in final examination than did other students who attended question-and-

answer sessions with the same instructor.

Mayhew (1960), held that a lecture, should provide some evidence, raise some questions, point out certain possible conclusions and then leave students to follow up and reach their own conclusions.

Milton (1962), found that 188 students who were examined in psychology without having attended the classes did as well an written tests as 173 other students who did attend classes on this subject.

Clark and Clark (1959) and Cleugh (1962), recommend the use of visual and other aids, avoidance of mannerism, the need for adapting pace and delivery to the needs of the audience in order to improve the technical performance of the lecturer.

Committee on Higher Education (U.K. 1963), on the basis of their survey, express that they think that a well planned and well delivered series of lectures can give a sense of proportion and emphasis lacking in tutorial discussion and seminars where teaching, in following where the argument leads, may stray into byways. They further felt that a lecture should bring to students a modification of what they find in their books, suggest wider reading, give recent developments, and be a source of stimulus and inspiration.

Aisubel (1963), propounds that effective lecture can provide information to students that would take them hours to collect.

Solmon (1964), found significant relationship between clarity and expressiveness in the teacher with the learning of facts by pupils.

Freyberg (1965), found that students who do not take notes at all, but merely listened to a lecture did better on a recall test.

Ershine and O'Morchoe (1966), found that lecture with a few details was more effective than a lecture with considerable details. Too much material promotes interference.

Ternaman (1966), found that though initially uninteresting, concrete subjects increased comprehension and are understood well.

Hartley and Cameron (1967), attempted to find out student retention of lecture material. He compared notes taken by students with what the lecturer actually said in that class. It was found that approximately one-third of what the lecturer actually said was noted by the students. It was also found that the amount of material taken down by students varied from seventy per cent during the first ten minutes period to twenty per cent during the final period.

Hartley and Cameron (1967), found that students record half of what lecturer considers to be important subject matter.

Ternaman (1967), found that attention of students wanes after twenty minutes or so of a lecture.

Studies by Argyle (1967), suggest that facial expression, eye contact, tone of voice, posture and gestures

have important consequences.

Chanbarisov (1967), held that well organised lecture course is the most economical way to organize instruction. In a greater or shorter time the lecture gives the possibility of providing, for a large group of students, a significant sum or basic knowledge of the subject, it is the most productive of all techniques of instruction.

In a survey of British Science undergraduates at universities by Cooper, and Foy (1967), it was found that students demand that lecturers present their material clearly and logically.

Sociology students of Reading University (1967), studied the attitudes of undergraduates of Reading University on the lecture, seminar and tutorial methods of instruction. It was found that, radical introverts students oppose formal methods of teaching and those students who are radical atheists too oppose formal methods of teaching.

Ma Cmanaway (1968 and 1970), found provision of notes in places of lecture leading to fuller understanding and ninety per cent of students finding the method stimulating and enjoyable but it was found to be a little more time consuming.

Mc Leish (1968), through an experimental study - Norwich Experiment, tried to find out how much lecture content students carry away with them either in their heads or in their note books. The lecture was structured, with the regard to the material and time to be taken. There were three experimental groups and two control groups.

The major findings of the study were, the students who heard lecture were able to carry forty-two per cent of the content. In delayed recall after one week the amount of recall was seventeen per cent of lecture content.

In another experiment viz., the Northern Polytechnic experiment, Mc Leish (1968), found that motivation had virtually no effect on the amount of the lecture material retained by the students.

Mc Leish (1968), in yet another study, compared the attitudes of 168 students and tutors of the Cambridge Institute of Education, towards lecture, seminars and tutorial methods. The finding of the study was that older and mature students and tutors disfavour lecture method and favour seminar method.

Hoover (1968), provided guidelines of when to use lecture. They are; when information is not readily accessible to students, when facts are of conflicting nature, when data is widely scattered, when variety is needed, and when greater understanding of the subject is necessary.

Allen and Ryan (1969), propounded that varying stimulus situation helps reduce the boredome of the students caused due to long hours of listening and watching instruction. Stimulus variation involves free movement of teacher, using gestures, focussing, pausing, and shifting sensory channel. Head, hand and body movements are vary helpful to communication.

National Union of Students (1969), in its survey on

teaching methods, found that students desire well structured lectures which are delivered clearly.

Samalonis (1970), suggests that three basic parts can be found in any good lecture. An attention getting introduction, a well organized development of the major points of the lecture and a brief summary to clinch the major points. Besides, keep the pace and avoid bogged down in details.

Smithers (1970), found through his inquiry characteristics of good lecturers: Providing all that is necessary for the student to pass the examinations, knowing the subject matter, preparing for the lecture, writing legibly, presenting subject matter in a way that is understandable to all the students, be open for the students' questions, should not be closely following the text nor refusing to deviate from notes prepared.

Elton (1970), found that students value notes covering an entire course because it enables them to follow better and to revise more effectively.

Porter (1971), points out that lecture should be carefully prepared by a lecturer with thorough knowledge of his subject. The lecture should be coordinated to the previous knowledge and experience of the audience.

Brown and Thornton (1971), held that some specific suggestions that help to improve techniques of planning and delivering formal lectures are: the purposes of lecture are to summarise, to clarify, to stimulate, to humourize the material of the course; to synthesise, to evaluate, to criticize, and to compare ideas and facts;

to present a brief review of the preceeding word; to narrow down the lecture content to essential points; to make advance planning of concrete and coherent examples; to establish good communication; to keep eye contact with the students; to pay attention to voice control; to communicate enthusiasm; to well modulate and to make the voice audible; and to present summary at the end of each lecture.

In a number of inquiries, Morris and Schonell (Beard, 1970), did not find the pessimistic assessment of lecture as a teaching method to be general among students although they did often comment on poor lecturing technique of certain lecturers. Students praise lectures which are clear, orderly, and synoptic in which basic principles are emphasized. They dislike lectures which contain nothing but the content matter of a text book.

Rosenshine and Furst (1971), found that teachers who use clear and appropriate language obtain higher achievement from their students.

Lancaster (1974), holds that a good teacher should prepare for lecture, establish objectives, organize subject matter, use aids, and plan students' activities. Each lecture should have a strong beginning, a logical structure with room for profitable spontaneous deviations, and a climactic ending.

White (1975), found that the most important characteristics of a good teacher, as seen by students were: explaining the work clearly, repeating the work for those who do not understand, preparing lessons before coming to the class, making lesson interesting, speaking clearly, knowing which method suits the students etc. A good

teacher is an effective teacher and his teaching is found to be effective as well as his lecture. He further found that psychologists listed the important characteristics as: resourceful, makes lesson interesting, and ensures students' understanding. Teachers were also asked to list out and the following were the listed characteristics: preparing the lesson before, good knowledge of the subject matter; well organised, and confidence. When lecturess were asked to list out the characteristics of a good teacher the following were listed: preparing the lesson before, enthusiastic, and making lesson interesting.

George (1975), lists the uses of a lecture to be; to provide a frame work, to furnish information and view points, a model of precision, clarity of thought and expression, authority and humility, to summarise the results of group activities. For effectiveness he suggests, preparation-what objectives, how best to achieve, determining key points, details of emphasis, sequencing the material, supplementing information, intelligible, relevant, and interesting; using black-board indicating completion and starting a new part; Stimulus variation-use of audiovisual aids. Relating content with recent discoveries, reference materials, quotations, anecdotes, humour, switching mood, posing problems/ hypotheses, changing student activity. Lots of ruthless selection and editing are essential for introduction. Creating interest, by linking new knowledge with old or by giving new knowledge as a challenge and novel. With regard to lecture delivery, George points that a lecturer should seek to explain, to enliven, to abbreviate or even to omit in need for a good rapport, good physical environment, precise language, audibility, voice modulation, speed, pausing and using loose leaf notes.

Truex (1975), in his study made to find factors crucial to college teaching success found that the students give less importance to personal and social factors as compared to professional factors. Two personal/social factors that were rated high were, enthusiasm for the subject and empathy with students. The important professional factors which were rated high were, knowledge of subject matter and presentation.

2.1.2 The objectives that lectures can achieve:

Bligh (1972), summarised 107 studies undertaken by a number of researches between the years 1925 to 1970 to compare the lecture method with other methods of instruction i.e., discussion, private study, tutorials, taped lecture, seminar, T.V. and audiotapes, and projects with regard to the objectives of transmitting information. By comparing results of test before and after teaching through the various methods, the experiments provide evidence that lectures and other methods do transmit information.

Bligh (1972), summarised twenty six studies which were undertaken between the years 1942 and 1970 to study whether lecture as a method can stimulate student thinking ability. The trend shown in the studies was that lecture is less effective to stimulate student thinking ability.

Bligh (1972), summarised yet another series of studies which were undertaken to find out whether lectures can change students' attitudes. The trend shown in the studies was that lectures were less effective in changing students' attitudes.

2.1.3 Lecture class size and its effectiveness:

Hudelson (1928), through his well controlled studies (fifty-nine), involving subjects like psychology, physics, accounting and law found that in forty-six of the experiments, results favoured large classes.

Remmers (1933), found slight but nonsignificant differences favouring learning in large lecture groups as compared with that in small (thirty-five to forty) recitation sections.

Rohrer (1957), found no significant difference between different sizes of classes and lecture effectiveness.

Nachman and Opochinshy (1958), in their experiment compared the scores made by matched groups of students in a lecture course. The student groups had a alass size of twenty-one and these students were compared with their matched group which was embedded in a class of 150. Small groups performed better though the difference was only ten per cent.

Macomber and Siegel (1956, 1957 and 1960), found lecture effectiveness depends on smaller class size.

De Cecco (1964), tried to study the effect of class size on achieving objectives - developing logical thinking and information acquisition and also the attitudes of students toward the class size. The class sizes varied from eighteen to 127 students in a total of eighteen course groups. The findings of the study were, that there was no significant difference between the different sizes of classes in achieving the objectives. Secondly it was found that students prefer smaller classes and view that greater warmth develops in smaller groups.

2.1.4 Lecture method as compared to discussion method:

Evaluation of lecture method has consisted almost entirely of comparison with discussion method (Gage, 1972).

Spence (1928), obtained through a study that there was a slight but nonsignificant difference favouring large class comparing lecture and discussion technique in classes of over a hundred students.

Bane (1925), found little difference between the methods on measures of immediate recall but significant superiority for discussion on measure of delayed recall.

Barnard (1942), compared the effectiveness of a lecture-demonstration teaching method with that of a 'problem-solving developmental discussion' in a college science course. In this experiment the lecture-demonstration method proved superior on a test of specific information, but the discussion method proved to be superior on measures of problem solving and scientific attitudes.

Husband (1951), found no significant difference in achievement of students in large (200), lecture and in small (fifty) recitation classes, but in five out of six semesters the lecture group was nonsignificantly superior.

Hirschman (1952), using a measure of concept learning, compare the effectiveness of presenting material by dictation with that of presenting written material followed by discussion and reading.

Ruja (1954), found that the lecture was superior to discussion as measured by a test of subject matter mastery in a general psychology course.

Eglash (1954), found no difference between a discussion class and lecture class in scores on the final examination in scores on an achievement test administered several weeks after the course had ended, or in scores on a measure of tolerance.

Di Vesta's (1954), in a study on human relations course tended to favour a discussion method over the lecture method in improving scores on a leadership test.

Casey and Weaver (1956), found no difference in knowledge of content but superiority in attitudes for small-group discussion as compared to lectures.

Tistaert (1965), compared the lecture and discussion methods in the teaching of geography. Students in matched groups of twenty-three were taught by the same instructor. The discussion method was found to be superior in developing reflective thinking and retention of subject matter for both the bright and average students. Improvement in knowledge and attitude toward subject matter gained through discussion method persisted as long as four months period after instruction.

Eyestone (1966), found there is nothing to choose between a lecture method with or without discussion, a bulletin or a film in conveying factual information. There was no significant difference in the change of attitudes of the 513 students employed for the study.

2.1.5 Distribution of Lecture and Discussion time:

Lifson, Rempel and Johnson (1956), found discussion meetings could be substituted for one-third of lectures.

Warren (1954), compared the effectiveness of one lecture and three demonstrations per week. In one out of five comparisons the one-lecture plan was superior, while the other found nonsignificant difference. Superior students tended to prefer the two-lecture plan while poorer students tended to do better in a lecture recitation combination.

Klapper's (1958), study at New York University found that most students prefer a combination of lecture-discussion.

Becker, Murray and Bechtoldt (1958), found students at State University of Iowa preferred all group discussions to a lecture alone.

2.1.6 Lecture method as compared to automation and Programmed Learning Material:

Greene (1928), demonstrated that college students learned as much from reading a passage as from hearing the same material in a lecture.

Porter (1961), in his study made to find out the relationship between intelligence of the pupil and pupil achievement with the mode of teaching. The investigator considered, PLM and Lecture method. The study found that the correlation between the method of PLM and achievement is lower as compared to Lecture method.

Owen et al.,(1965) compared PLM with a course of lectures in teaching electrocardiography. Both were found to be equally effective.

Desai (1966), tried to study the effect of PLM and Traditional teaching on IXth standard pupils in learning Gujarathi language. The major findings of the study were; there was a significant difference between the methods of PLM and Traditional teaching; PLM was found to be more effective than Traditional teaching method; and pupils preferred PLM more than the traditional teaching.

Sharma (1966), studied the achievement of eighty IXth standard pupils in Algebra taught through PLM and Lecture method. It was found that mean achievement of pupils taught through PLM was better than achievement of pupils taught through the Lecture method.

Keeling and Linz (1966), found that students preferred the lecture method to a programmed text in statistics by a two-thirds majority. There was no perceptible difference in effectiveness.

Mc Carthy (1968), found that programmed lecture interspersed with multiple choice questions following important concepts, to be effective for better retention of learning.

Shah (1968), tried to compare PLM and Conventional lecture to teach mathematics (solving equations) to VI standard pupils. The study found that the PLM was more effective than Conventional lecture.

Sharma (1968), compared PLM and Lecture method to teach geography to VIII standard pupils. Pupils taught

through PLM were found to achieve significantly higher mean score than the pupils taught through lecture method.

Shah (1969), compared the effect of PLM and Conventional method of teaching on achievement of VIII standard pupils in algebra. It was found that the mean score of pupils taught through PLM was higher than the score of pupils taught through conventional method.

Mathur (1970), compared the effectiveness of PLM and Traditional method of teaching on X standard pupils in learning civics. It was found that both are equally effective.

Hartley (1972), reviewed 110 studies which tried to study relative effectiveness of PLM and Traditional teaching method. In forty-one studies PLM was found to be superior. In fifteen studies traditional method was found superior and in the remaining fifty-four studies no significant difference was found.

Hughes and Reid (1975), in their investigation directed to study the effectiveness of PLM as compared to strantured conventional teaching with regard to post-test results, attitudes of pupils and total time taken for instruction found that Structured conventional teaching was better than PLM. Pupils had favourable attitudes to conventional teaching as compared to PLM. PLM was found to consume more time than the conventional teaching.

Govinda (1975), undertook to study the effectiveness of structured lecture as compared to PLM. The findings of the study were, that both the methods had equal effectiveness. Eighty per cent of the sample had positive attitude

towards PLM and that positive attitude effected pupil achievement positively.

Patel (1975), studied the effectiveness of PLM as against conventional method for teaching geometry to IXth standard pupils with regard to intelligence level of pupils, their socio-economic status, achievement in geometry and their attitudes toward the two methods of teaching. The findings of the study were, that on all the factors PLM was found to be more effective than conventional method of teaching.

Reddy (1975), conducted a comparative study of PLM with conventional learning at VIth standard to learn language. The findings of the study were, that in the initial stages PLM and Conventional method were not significantly different in their effectiveness. But later on significant difference of effectiveness was found.

Patel (1977), studied the relative effect of PLM and Traditional teaching with regard to achievement of VIII standard pupils of Gujarath in teaching geometry. The major findings of the study were, PLM does not work well with pupils having low 'need for achievement', and poor reading habits. PLM was found to be effective than Traditional teaching with highly motivated students.

Chandrakala (1976), undertook to study the relative effect of PLM, Lecture and Traditional method, in teaching Sanskrit grammar to high school classes. The major findings of the study were that at IXth standard all the three methods were equally effective. Average aehievers learnt better through lecture and traditional methods.

Bhusan and Goswami (1979), compared structured lecture with PLM on the objectives; knowledge, comprehension, application, analysis, synthesis and evaluation. It was found that structured lecture was better than PLM. Intelligence level positively related to the effectiveness of both the methods. And structured lecture was better for achieving the objectives of application, analysis, synthesis and evaluation as compared to PLM.

Ankleswaria (1980), in a comparative study of different strategies to teach nutrition to the 105 home science college students of varying intelligence levels found that the strategy PLM-demonstration-discussion was effective in teaching limited content matter. All the strategies viz., PLM-demonstration-discussion, structured lecture-laboratory demonstration-library work and tapped commentary-laboratory demonstration-discussion were equally effective. And the strategy structured lecture-laboratory demonstration-library work as more effective with highly intelligent groups of students.

2.1.7 Lecture method as compared with other types of methods:

Dawson (1956), found problem solving-recitation and lecture-demonstration methods to be equally effective in a course in elementary soil science as measured by a test of recall of specific information, but the problem solving method was significantly superior as measured by tests of problems solving abilities.

Joyce and Weatherall (1957), on the basis of controlled experiments found discussion group to be superior in providing knowledge to students as compared to lecture or practical methods. Lectures are slightly inferior to discussion.

But lecture method is most efficient since it takes least amount of students and staff time.

Churchill and John (1958), compared small lecture-discussion group with large lecture class where instruction in mathematics was supplemented by a laboratory course, in the first case conducted by the instructor, in the second case by a student assistant. The student groups were equated. It was found that both the groups did equally well on multiple and essay type questions used for evaluation. But the students of large classes expressed less satisfaction because they found the large classes were not amenable for clarifying their doubts.

Joyce and Weatherall (1959), in an experiment with matched groups found no difference between the lecture with demonstration, lecture with practical classes and conventional seminars.

Koenig and Mc Keachie (1959), compared a traditional lecture-discussion method with a lecture-small-discussion and a lecture-independent-study method. In a mixed group of thirty-five men and eighty-nine women, the study found women with high 'need achievement' preferred independent study and small group discussion to the lecture and large group discussion.

Popham (1962), randomly assigned thirty-six students to two matched groups to compare the effectiveness of lecture-discussion method and tapped lectures-discussion method. One of the groups was taught through lecture-discussion method and the other group listened to the tapped lectures and then discussed. The study found no significant difference between the performance of the two groups.

Beach (1960), attempted to discover what kind of students benefit most from which kind of instruction. As many as 160 students were divided into lecture group (thirty-six), discussion group (thirteen), five autonomous groups (five students each)those who met without an instructor, and a control group of fifty-two students without any treatment. The findings of the study were, that lecture group performed better on a sixty item achievement test. Introverts performed better than extroverts in the lecture and discussion groups, whereas extroverts did better than introverts in autonomous groups. And there was no difference between the achievement of introverts and extroverts in the independent study group (control group).

Khushdil (1960), compared the Integrated and Traditional methods of approach in the teaching of social studies to class VII standard. The major finding of the study was, that in respect of assimilation and acquisition of knowledge, the group taught through the integrated method did better.

Holloway (1966), found attendance at lectures adds about ten to twelve per cent to the average student gain on multiple choice tests. For those not attending the lectures a duplicate handout was made available. The study also found that morning lectures helped students gain four to six per cent more than evening lectures.

Yost (1972), studied the relative achievement, use of critical thinking skills, study habits and attitudes of Xth standard American government course pupils, through the use of a traditional method and an inquiry problem solving method. The major findings of the study were, that significant changes in achievement, use of critical thinking skills, and study habits could be accomplished through the

use of inquiry-problem solving method. Student attitudes towards teacher and subject matter do not seem to be affected by use of either of the two methods.

King (1972), undertook a study to compare cognitive and affective changes in open learning method and in lecture method. He selected five or six member groups and gave them retest on attitudes, self-concept, anxiety, and interest. The findings were, that the cognitive changes were equal or more in open learning. Secondly, cognitive changes like responsibility, sociability and socialization and significant correlation under Lecture method. Under open learning there was more of self concept developed in the 'subjects' of the study.

Tillerson (1972), conducted a study to see the effects of Learning centre method and Lecture method as related to achievement, self-concept, and attitude of college freshmen. He employed two x two factoral design for the study. The findings were, that in learning English language, learning centre method was more effective, whereas in learning Biology, there was no significant difference between the learning centre method and lecture method. Neither of the two methods was significant in changing self concept. And in forming attitudes lecture method had a greater effectiveness.

Coats (1973), studied the relative effect of simulation and traditional method on student achievement, attitudes, motivation, and interpersonal relations in eleventh grade American history. The major findings of the study were, that the students taught through simulation approach showed significantly greater achievement, had most positive attitude toward the class and had stronger motivation in

the class than the group taught through traditional approach. Change in attitude and positive change in interpersonal relations within the group was found in significantly more number of students taught through simulation approach than traditional approach.

Padma (1973), studied the effect of teaching patterns on pupils' achievement. Four strategies; lecture-problem solving, question-answer-problem solving, question-answer-feed back-problem solving, and lecture-no problemx solving approach, were employed. The findings of the study were, that all the four strategies had equal effect under both sudden testing and planned testing conditions. The strategy question-answer feed back-problem solving was found to be of less significance as compared to the other three strategies.

Mc Camey and Bullock (1977), in their study of effects of different instructions on achievement level of undergraduates students found that modulized self-paced instruction supplemented by lectures and discussions was not better than modulized self-paced instruction. And these two were better than traditional instruction.

Roy (1977), undertook to study the relationship between teaching style and pupil achievement of ninety-eight VIIIth standard pupils of Baroda city. It was found that with regard to the objectives, knowledge, application and total achievement of pupils all the three teaching styles viz., lecturing, questioning-response-no feed back, and questioning-response-feed back had equal effect. And lecturing was less effective than questioning-response-feed back but was of equal effectiveness with questioning-response-no feed back teaching style.

Chakraborty (1978), studied the effect of strategies of class room teaching on the objectives; knowledge, comprehension, application, and total achievement of IXth standard pupils in learning geography. It was found that lecturing and questioning-answering by using behavioural objectives was effective than lecturing-questioning-answering for all the objectives. The strategy lecturing and questioning-answering by using behavioural objectives was better than discussion by using instructional material. The strategy discussion by using instructional material was better than lecturing and questioning-answering strategy. And the strategies discussion by using instructional material and lecturing-questioning-answering by using behavioural objectives were better than lecturing and questioning-answering strategy.

Kindra (1981), studied the relative advantages and disadvantages of two instructional methods; guided inquiry/ activity and traditional lecture/text book in collegiate level marketing classes in relation to students' ability, sex, and number of semester hours in business. The major findings were; there was no significant difference in learning of students taught by either or the two methods. There was no effect on intelligente level. Sex was not an influencing factor.

2.1.8 On-going studies:

Menon (1977) is trying to evolve a multimedia approach at the post-graduate level for thecourse on Educational technology. He is comparing thestructured lecture with PLM.

Ravindranath (1977), and Vardhini (1977), are studying the relative effect of structured lecture with PLM in teaching Biology and Physics to VIII standard pupils.

Bhatt (1978), is studying the effect of simulation in the performance of teacher trainees in educational psychology. He also is using structured lecture as a component.

A review of the literature provided gives an idea that what-ever research was done is mostly slip shod. No systematic effort has been made to undertake an holistic approach to find out what makes a lecture effective.

Paulson (1906), Barzun (1944), Hovland and Mandell (1952), Knoell (1953), Nicholls (1955), Clark and Clark (1959), Mayhew (1960), Aisubel (1963), Ternaman (1966), Argyle (1967), Hoover (1968), Samalonis (1970), Smithers (1970), Porter (1971), Brown and Thornton (1971), Lancaster (1974), George (1975), and Truex (1975), through their studies suggest certain factors of an effective lecture. While the studies by Jones (1923), Lahti (1956), Freyberg (1956), Mc Clendon (1958), Eisner and Rohde (1959), Freyberg (1965), Hatly and Cameron (1967), Macmanaway (1968 and 1970), and Elton (1970) emphasised the significance of note taking of a lecture by the students.

Marr et al.,(1960), and Milton (1962) found the significance of attendance and non-attendance at a lecture on the performance of students at tests.

Ternaman (1967), found the span of attention of students while they listen to a lecture varies. Chanbarisov (1967) found that a well organized lecture to be economical.

Mc Leish (1968) studied the amount of lecture material retained by students, and the type of students and their

liking towards a particular method of teaching. Hoover (1968), tried to provide guidelines as to when to use a lecture.

Allen & Ryan (1969), emphasized the importance of stimulus variation, while White (1975), arrived at the most important characteristics of a good teacher.

Hudelson (1928), Nachman and Opochinshy (1958), Macomber and Siegel (1956, 1957 and 1960), found that smaller lecture classes had a positive effect on students performance, while the studies by Remmers (1933), Rohcer (1957), and De Cecco (1964), found no significant difference between different sizes of lecture classes and their effect on students' performance.

Bligh (1972), after reviewing as many as 158 studies made to compare the effectiveness of lecture as a method with other methods held that lecture is good for transmitting information but not effective either to develop students' thinking ability or to change students attitudes.

In a number of studies to compare lecture and discussion method, while Spence (1928), Bane (1925), Husband (1951), Eglash (1954), and Eyeston (1966) found no significant difference between these two methods; Ruja (1954), found lecture method to be superior, and studies by Di Vesta (1954), Tistaert (1965), favoured discussion method.

A number of studies were done to compare the relative effectiveness of the lecture method with PLM. Here again the researches do not indicate a clear trend. While the studies by Desai (1966), Sharma (1966), Shah (1968), Sharma (1968), Shah (1969), Patel (1975), and Patel (1977),

have found PLM to be superior to lecture method conventional method. Studies by Keeling and Linz (1966), Owen (1965), and Govinda (1975) found equal effectiveness of PLM with lecture method. And yet other studies by Porter (1961), Huges and Reid (1975), and Bhusan and Goswami (1979) found that lecture method to be superior to PLM. And the studies of Reddy (1975), Chandrakala (1976), and Ankleswaria (1980), found the effectiveness of either PLM or lecture method was subjected to certain conditions. In fact a survey conducted by Hartley (1972), of a total 110 studies forty-one studies found PLM to be superior, whereas fifteen studies found traditional method to be superior and the rest fifty-four studies found no significant difference between the methods.

In a number of studies which tried to compare a number of teaching strategies with the combination of lecture of other methods the studies of Joyce and Weatherall (1957), Kushdil (1960), Yost (1972), Coats (1973), Mc Camey and Bullock (1977), Roy (1977), Chakraborty (1978), found that lecture method in combination with demonstration-question-answer strategy was inferior to other strategies like discussion-feed back, while the studies of Joyce and Weatherall (1959), Churchill & John (1958), Tillerson (1972), Padma (1973), and Kindra (1981), did not find lecture combination strategy yielding significantly different results when compared to other methods combination strategies.

As a result of the review of literature one fact seems to emerge and that is that a lecture if and when taken care of and made more systematic and structured will be second to none. And hence an effort is made through the present study to arrive at a set of factors which can organize a lecture to make it effective in college teaching.