II REVIEW OF LITERATURE

“The teacher in a naturalistic set up is only setter of the stage, a supplier of material and opportunities, a provider of an ideal environment; a creator of conditions’ under which natural development takes place.”

- (Ross)

The review of literature pertaining to the study entitled “Efficacy of Instructional Methods and Materials Prepared and Used in the Selected Schools of Manipur State” are discussed under the following headings.

A. Current Trends in Teaching Learning practice
B. Instructional Methods and Materials
C. Application of Instructional Methods and Materials in Social Studies
D. Role and Significance of Instructional Technology in Education
E. Research Highlights

A. CURRENT TRENDS IN TEACHING LEARNING PRACTICE

Prior to the last century, teaching was considered as a rigid, formal and stereotyped process of transmitting knowledge. Education was taken as a bipolar process with teachers at the giving end and students at the receiving end. Teachers were considered to be the only source of knowledge, may be through manuscripts or printed materials. Schools were the knowledge shops and teachers are the information managers. Emphasis was laid on rigid discipline, blind memorization and hard reinforcement. Verbalism was enforced and no audio-visual aids or materials were utilized in the field of education. Recently, learning has assumed more importance than teaching. It has been rightly observed by the International Commission on the Development of Education that there has been a change in the learning process which is tending to displace the teaching process. Multimedia systems have to now acquire more significance and educational technology has been popularly used for effectiveness (Karthik, 2005).
The new era makes the educationists to realize that in education ‘learning’ is now important than ‘teaching’. The former is concerned with pupils whereas the later is concerned with pupils and teachers. The traditional concept of teacher as the only source of knowledge has been changed due to the advancement of science and technology. The traditional classroom with one teacher teaching students was mainly one way of communication is no longer effective in modern times due to dynamic nature of society. The change should be brought in teaching learning situation. So there is a need to introduce modern teaching learning process through improved means of educational technology (Kumar, 2004).

Teaching methods in recent times have been moved from predominantly teacher oriented and controlled approach to student interactive system. Such a system requires a number of changes in the instructional procedure and the materials used for effective teaching. In a formal education system, the use of audio visual aids is useful for the classroom teaching. Undoubtedly, the instructional and pedagogical skills of the teacher, and the readiness of the students play significant role to make the classroom teaching effective. In the present period of educational technology, teacher should not depend upon any single method of teaching (Kaur, 2010).

Development in the field of science and technology resulted in an increased availability of teaching materials which are known as audio-visual aids or techniques. Advances in technology have brought instructional materials especially the projected and electronic materials to the forefront as the most radical tools of globalization and social development which have affected the classroom teaching-learning situation positively. They are the important landmarks in knowledge transfer. Unfortunately, the employment of audiovisual techniques as an integral part of instructional technology is very limited in India as compared to the Western countries where it is being used extensively with great effect. The limited employment of audio visual techniques in India may be attributed to the inadequate appreciation of the
impacts of the techniques, lack of commitment to improved instructional methods, and lack of support from the authorities. It therefore implies a thorough understanding on the part of the teachers and school authorities towards the relative merits of technological aids and its application to achieve the best result (Natarajan, 2005).

Ema and Ajayi (2004) opined that the application of such technological aids can be facilitated only when teachers understand its applicability and acquire the needed skills for the use of intricate mechanical equipment. Without the knowledgeable teacher, instructional materials cannot create change and progress in the teaching learning process. It begins to make impact only when the teacher begins to make use of it and allows it to make over its values. Therefore teachers have to be properly motivated and made interested in the use of such materials. Teachers have to be trained and oriented in the adequate use and maintenance of the materials. It is often found that these devices or media have been hurriedly introduced and used without sufficient planning and forethought.

The audio visual aid and invention of phonography is another application of technology in education. Other methods of recording and reproducing sound were also invented—such as optical recording of sound on the film and the magnetic recording of sound on magnetic tapes and cassettes. The teacher can use them very effectively in the teaching of language, social studies and music. The invention of the camera and photographs enabled the teacher to use photographs as aids in teaching. All these are called visual aids to instruction because the teacher uses in the classroom as teaching aids to give common visual experiences to the students (Mohanty, 2004).

Visual literacy in the classroom has become increasingly important since more and more information and entertainment is accessed through technology. Development in the area of visual literacy has focused on the growth and expansion of educational programs that stimulate students’ abilities as well as enhancement of students’ reading and writing skills through the use of visual
literacy strategies. Visual aids have an effect on student emotions and assist in comprehension and at the same time students’ should be guided through the process of learning to recognize and respond to the visual. The new generation of teachers should become more and more aware of the change, and prepare themselves to supplement the present teaching activity with new techniques. Thus, in a changing world of higher education, the teacher ceases to be a “lecturer” but transforms into an “agent of change” (Gangwer, 2009).

All kinds of teaching can be greatly improved by the use of audio-visual aids. Main merits are

- Motivation
- Reality
- Concept Formation
- Interest
- Developmental Learning
- Reality of experience
- Continuity of thought
- Retention
- Formation of images
- Experience
- Interest and Attention
- Economy of time
- Other advantages

**Motivation:** While teaching it is necessary to motivate all students in the classroom. Many of them remain withdrawn during the course of lesson development. Only, a few are very enthusiastic and can take keen interest in classroom teaching and are eager to contribute in the knowledge development, even though all of them are supposed to gain equally and pass the same examination. Therefore there is a dire necessity to motivate the students to learn through participation. Audio-Visual aids are important to motivate the students.
**Reality:** The reality about the content which is going to be taught in the classroom can be presented in the classroom by using audio-visual aids such as pictures, charts, maps, and models. Linking teaching with these can bring reality in the classroom.

**Concept formation:** Thinking and reasoning are the core of concept formation. The use of audio-visual aids by minimizing verbalism and invoking thinking and reasoning through elicitations can lead to concept formation. This also helps in comprehending concepts.

**Interest:** The audio-visual aids when systematically and timely used to cater the high degree of interests in the students, as they are always interested in things which they can see, hear about, touch, taste and smell themselves. Interest always motivates the students to plan, make do and try to fabricate themselves.

**Developmental learning:** The learning process should always be developmental. The students cannot grasp everything at one time. They learn bit by bit. And sometimes they learn by their mistakes. The uses of audio-visual aids in teaching provide the necessary basis for developmental learning and, hence make the learning more permanent.

**Reality of experience:** The use of audio-visual aids in teaching offers a reality of experience to the students in the classroom which stimulates self activity on the part of the students. Self-activity generates self-confidence in them.

**Continuity of thought:** If the teaching does not invoke thinking in students it is not only a labour lost or wasted but harmful also. Teaching based on mere verbalism leaves the students mere listeners and passive acceptors. They do not learn but remain mere listeners and receivers. They can never be creator or inventors. Also, the process of education is related to the process of reminiscence. Only the process of thinking can invoke and bring out reminiscence which is really the process of education. The use of audio-visual aids in teaching can achieve this end. Their uses develop a continuity of thought in students which is necessary for real education.
Retention: The use of Audio-Visual aids contributes to the permanent retention of what has been communicated to the students in the classroom. Audio-Visual aids add to the process of retentivity as they stimulate the maximum response of the whole organism of the students to the situation in which the teaching is done and learning takes place.

Formation of images: The Audio-Visual aids while properly used in teaching help in making and formation of right usages of things in the minds of the students. So this process helps in comprehension and learning.

Experience: The use of audio-visual aids provides avenues of gaining experiences which are not easily gained by mere verbal communication. The use of Audio-Visual aids in teaching can give sensuous experience which can contribute to imaginative efficiency, depth, variety and virtual learning.

Interest and Attention: The use of Audio-Visual aids in teaching catches the attention of the students and generates interest in them to know more which is essential for learning. The audio-visual aids further add to information given by teacher, motivate the students to think and act and stimulate their overall mental as well as physical activity.

Economy of time: A thing which can be explained in so many words can be easily communicated and grasped by a picture of a thing. Use of audio-visual aids saves a lot of teacher’s as well as student’s time. Now, there are many machines like overhead projector, film projector, film strip projector which economize teacher’s time as well as energy.

The growing use of educational technology in today’s schools has helped to release the teacher from the routine role of information giving but it enabled them to devote more time and effort to the tasks of planning, arranging and evaluating learning experiences, guiding and counseling students. The various technological media are used to communicate the factual information accurately and efficiently than the teacher. So today students acquire knowledge through the various media. Another noticeable trend is the creation of multi-media learning environments in the classroom which involve the use of a variety of interrelated learning experiences. This implies “the selection and
use of appropriate sequences of interlinked audio visual or instructional media learning experiences which reinforce and strengthen the progress of the learner (Singh, 2005).

B. INSTRUCTIONAL METHODS AND MATERIALS

Instructional Methods

Instructional methods are the basic approach by which the instructor has transferred the knowledge to the students. The preparation of instructional methods depend on the students’ age, developmental level, previous knowledge, their needs, subject-matter content, objective of the lesson, the available people, space and material resources, and physical set up of the classroom (Nisha, 2006).

Reiser and Dempsey (2007) define instructional methods as "the elements included in instruction for the purpose of supporting the achievement of the learning objective”. The instructional methods allow learners to draw upon cognitive processes of learning through assisting learners in "paying attention to relevant materials, mentally organizing it into a coherent representation and mentally relating it to prior knowledge”. Instructional method includes practice, problems or exercises, negative or positive feedback, visuals, educational games, and simulations. Instructional methods fall into two categories such as teacher-centered approaches and student-centered approaches.

A. Teacher-centered approaches include instruction where the teacher's role is to present the information that is to be learned and to direct the learning process to students. The teacher identifies the lesson objectives and takes the primary responsibility for guiding the instruction by explanation of the information and modeling. This is followed by student practice. Methods that fall into the teacher-centered approaches include demonstration, lecture, lecture-recitation, lesson method, Socratic and tutorial method (Fig.2).
**FIGURE 2: THE STRUCTURE OF THE SYSTEM UNDERLYING THE TEACHER-CENTERED APPROACH**

**Demonstration:** Demonstration involves showing, explaining and involving students into question and answer sessions. It becomes a link between verbal explanation and actual practical work by the students. Demonstrations can be planned to help students understand concepts, principles and procedures. It can be a part of a lecture class and involves the active participation of teachers and students. It encourages maximum amount of participation among students. It develops keen observation power and scientific reasoning in students, which is not possible in lecture method (Bhattacharya, 2005).
**Lecture**: A lecture is verbal information by an instructor with little or no response required from the students. The lecture method continues to be an effective method of disseminating information to large groups. It is time-effective and cost-effective. Lecture is usually considered a one-way instructional method because most of the information is flowing in one direction from the instructor to the participant. The effectiveness of lecture method depends on instructors ability to ‘stand and deliver’ in an interesting way. A good lecture can provide a good learning experience (Sharma, 2004).

**Lecture-Recitation**: It is one of the instructional methods in which the teacher presents information by telling and explaining, and follows up with question and answer sessions at periodical intervals. Questions are used for summarizing the content of the lecture and for helping students consolidate and organize the presented information. The lecture-recitation method is often efficient in terms of time, flexibility, and learning while actively involving students in the lesson. This method is highly adaptable to a large variety of topics and frequently is used as a companion to the lecture method or to the study of a textbook. A hybrid form of the lecture-recitation method, in which questions are interspersed throughout the lecture has proven to be most popular among classroom teachers. When proper lecturing is executed and questions are strategically used, this method is an effective and efficient way of teaching content. The teacher must bear in mind that practically every method used in the classroom will involve elements of the lecture of the recitation (Tripathi, 2006).

**Lesson Method**: The lesson method is interactive in nature. The lesson method involves student participation and gives a good indication of whether the message is being received or not. It may indicate that some areas need to be revised. The instructor should ask questions of the group often, making sure
that they are relevant to the topic. The questions must be spread evenly around the group so that all the students are participating. If people are having trouble answering the questions, the instructor must not give them the answer. The question can be redirected. The lesson method involves exactly what its name implies--teaching a lesson; and teaching a lesson involves much more than just presenting information. The lesson method develops more positive attitudes and provides motivation, not only from the instructor’s viewpoint but from the viewpoint of the group itself (www.aircadetonline.co.uk).

**Tutorial method:** Tutoring (coaching) is defined as a method of instruction in which the instructor works directly with an individual student or small group of students with a special attention to personal interest and abilities. It may involve lecture, demonstration, theory, guided discussion or combination of these. It is a two-way process in which the instructor, normally known as the tutor and the student engage in a rigorous intellectual exercise. The aim of the tutorial is to provide challenges and stimulation so that student may develop his optimal potentials. A great amount of reading, thinking, and independent work is done by the student with the assistance of the tutor. The tutor challenges, criticizes or stimulates the student during the regular tutorial sessions which are held at regular intervals (sunzi.lib.hku.hk).

**Socratic Method:** It is a technique of using a questioning-and-interaction sequence designed to draw information out of students, rather than pouring it into them. This method is purely verbal and interactive. The Socratic method involves teaching by asking questions and leading students into a logical contradiction. The Socratic method follows the general pattern:
1) A broad, open ended question is asked first.

2) A second questioning sequence begins to narrow the range of responses and focuses the students’ thinking into the topic of the questioning strategy.

3) Review lectures and/or statements are interspersed among the questions in order to keep the salient points in the forefront.

4) A concluding question that brings students to the desired end point.

The method Socrates requires a one-to-one relationship between the student and teacher, with the teacher posing a series of questions that gradually tangle the student up to the point where ideas and thinking must be carefully scrutinized. The Socratic method can be quite effective and it works best in small-group sessions and tutorial sessions (schoolofeducation.com).

B. Learner-centered approaches involve instruction where the teacher is a facilitator (or guide) as the learners construct their own understandings. Our educational system is generally based on the teacher centered approach in which the individual student has little freedom regarding what he learns and how he learns it. However, it is observed that there is a slow but steady increase in the use of student-centered learning within the traditional system. This trend is certain in making teaching learning process more practicable by making available new and more effective methods and media (Singh, 2005).

Jones (2007) defined the student centered classroom as a place where needs of students are considered and students are encouraged to participate in the learning process at all times. It is not a place where students make random decisions about what they want to learn. The teacher becomes a member of the team as a participant in the learning process and functions as a facilitator who guides, manages activities and directs. Learner centered approaches assumed that only when students are active participants, learning that takes place will be deep, enduring and enjoyable. Moreover, this would help in transfer of learned concepts and abilities to contexts beyond classroom.
Dupin-Bryant (2004) defines learner centered teaching style as “a style of instruction that is responsive, collaborative, problem centered and democratic in which both students and instructor decide how, what and when learning occurs”. Learner-centered teaching methods shift the focus of activity from the teacher to the learners. These methods include active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class.

There are a number of methods in this category that are listed and explained below:

- Discussion
- Debate
- Simulation/Games
- Role playing
- Case study method
- Cooperative Learning
- Discovery Learning
- Inquiry Learning
- Individualized Instruction

**Discussion**

In this method everyone in a class or learning group including student and teacher works together verbally to examine and flesh out a given topic or topics. Group discussion is another teaching method that can be effective because they can be challenging, promote learning and encourage tolerance. Such discussions are most useful when there is someone in the group with some experience or knowledge about the topic being addressed. Discussion sessions are more effective in stimulating the student’s interest and assessing their understanding of the material. Effective discussions build the knowledge and skills of all the participants.
Discussions should help participants to speak up and give their opinions (McMurray, 2007).

**Debate**

The debate is also one form of discussion. Whereas, it differs from discussion by breaking into two halves, taking for and against views by members. It combines several speakers on each side that have a definite responsibility to perform in support of a given topic. The facts and evidences in support of the issue are to be placed before the audience rather than commenting on the expressions of the speakers of the other side. The chairperson has to resolve the issue by considering the extreme views presented by either side (Benakanal, 2006).

**Simulation/Games**

**Simulation:** It is the presentation of an artificial situation or event that represents reality. Simulations can be viewed as models of what exists or might exist under manageable and controlled conditions. Two basic types of simulations can be used in the classroom: human simulations and person-to-computer simulations. Human simulations are usually conducted in the form of role-playing and sociodramas, whereas person-to-computer simulations often take the form of simulation games. Learners can become highly enthusiastic during simulation because they experience excitement and some degree of working reality.

**Games:** Academic games are designed by some subject associations of national significance in specific subject areas in academic situations. The gaming activities help to build mental and creative abilities of the learners. The special gaming kits have been prepared by the association of American geographers for the high geography projects. A well-designed and well-conducted game can be one of the most effective methods of teaching and learning (George, 2004).
Role playing: Oberle (2004) stated that the activities of role play help to introduce students to “real world situation”. It is a technique where participants act out a situation without a script in front of the rest of the group. Participants are given a situation described in detail and assigned a role to play. Role players and observers are aware of the general situation, but individual role players may be the only one who is aware of the intricacies of their respective roles. The intricacies are either told to the role players individually, or written on a slip of paper for each of the role player. After the role play is completed, it is discussed by the entire group. Role play can be used to examine delicate problems, or to explore solutions and to provide insight into attitudes differing from those of participants. Role playing is an effective teaching method and should be used to help actively engage students in their learning (Fig.3).

FIGURE 3: STRENGTHS OF ROLE PLAY

Case study method: Case studies involve groups of students working together to analyze a "case" that has been written on a particular situation or problem to find a solution. Case studies allow students to apply new knowledge and skills for solving complex issues. This method is not appropriate for use with
elementary students. The case study is completed by discussion of the case, allowing learners to debate their conclusions. The role of the teacher in conducting the case study should be to read the case and determine the key problems faced by the decision maker, determine the data required to analyze the problems and for a synthesis into solutions, develop, analyze, and compare alternative solutions and recommend a course of action (Singh, 2006).

**Cooperative Learning:** It is a systematic pedagogical strategy that encourages small groups of students to work together for the achievement of a common goal. All students in the group must actively participate with each student maintaining some independence. The success of the group depends on the input of each individual. This teaching method promotes active participation, individual accountability, students' ability to work cooperatively and improvement of social skills. When integrating cooperative learning strategies into a course, careful planning and preparation are essential. Understanding how to form groups, ensure positive interdependence, maintain individual accountability, resolve group conflict, develop appropriate assignments and grading criteria and manage active learning environments are critical to the achievement of a successful cooperative learning strategies (Mishra, 2005).

**Discovery Learning:** Discovery learning is a means by which students engage in problem solving in developing knowledge or skills. It is intentional learning through supervised problem solving following the scientific method of investigation. Thus, with discovery, the learning must be planned, it must be supervised, and it must follow the scientific method of investigation. Discovery learning follows the general scientific method for conducting an investigation, shown in Figure 4.
### FIGURE 4: GENERAL SCIENTIFIC MODEL OF INVESTIGATION

**Inquiry Learning:** Inquiry-based learning is a learning process through questions. Question is generated from the interests, curiosities, and perspectives/experiences of the learner (Fig.5). It is a research-based strategy that actively involves students in the exploration of the content, issues, and questions surrounding a curricular area or concept. The activities and assignments in an inquiry based learning classroom can be designed in such a way that students work individually or together to solve problems involving both in-class work and fieldwork. It is basically a problem-solving technique ([www.inquirylearn.com](http://www.inquirylearn.com)).

| Identify the problem                                                                 | 1. Aware of the problem exist  
|                                                                                            | 2. Write problem statement(s) |
| Develop possible skills                                                                  | 1. Propose testable          |
| Collect data                                                                             | 1. Gather evidence           |
|                                                                                            | 2. Conduct experiment        |
|                                                                                            | 3. Survey a sample           |
| Analyze and interpret data                                                              | 1. Develop data supported meaningful statements |
|                                                                                            | 2. Test hypothesis           |
|                                                                                            | 3. Establish relationship or patterns |
|                                                                                            | 4. Mark generalizations      |
| Develop possible skills                                                                  | 1. Obtain new data           |
|                                                                                            | 2. Revise original conclusions |
Individualized Instruction:

Individualized instruction is a method of instruction in which content, instructional materials, instructional media, and pace of learning are based upon the abilities and interests of each individual learner. Individualized learning incorporates a self instructional program from which a student can learn efficiently with little or no outside help. There are two types:

- Self Paced learning which permits students to proceed through course material at their own rate while demonstrating a required level of achievement in each unit before proceeding to the next (includes computer based training)
- Self directed learning which involves students’ efforts to achieve specified objectives in an autonomous manner within a particular time (en.wikipedia.org/wiki/Individualized instruction).

Instructional Materials

Instructional materials are print and non-print items that are designed to impart information to students in the educational process. Instructional materials include items such as kits, textbooks, magazines, newspapers, pictures, recordings, slides, transparencies, videos, video discs, workbooks, and including electronic media but not limited to music, movies, radio, software, CD-ROMs, and online services. Instructional material plays a very important role in the teaching-learning process and enhances the memory level of the
students. At present, education has spread wide and the entirely oral teaching cannot be the key to successful pedagogy. Therefore, the teacher has to use instructional materials to make the teaching-learning process interesting. The use of instructional material can enhance the learning achievement (Nicholls, 2000 and Raw, 2003).

The Psychology of Using Teaching Aids
There is an old saying which reads

1. I hear, I forget;
2. I see, I remember;
3. I do, I understand.

I Hear, I Forget

The traditional teacher depended too much on verbal exposition. The pupil hears and forgets. Further, unless the individual has a pragmatic imagination it will be difficult for the individual to visualize objects and events, however the verbal description is. It is highly possible that concepts formed will depend upon the nature of background experience of the individual.

I See, I Remember

As a sensory organ, the eye is very highly developed when compared to the other sensory organs. It is quite natural that the knowledge gained through the sense of sight is more accurate and permanent. Hence, what one sees, one remembers. More than 80 per cent of our knowledge is gained through our eyes.

I Do, I Understand

When one is engaged in any practical activity, involving physical work (doing practical work in the laboratory, workshop or in the field) all the senses are used to perceive. Knowledge is through all the senses. This is learning by direct experience. The outcome is pragmatic. A lot of self activity is involved. It is an ideal method of making the pupil acquires complete knowledge. (Kumar, 2000).
Adekeye (2008) summarized instructional materials available for instruction into four major categories: Visual aid-these include pictures, maps, charts, graphs, diagrams, chalkboard, sketches, atlas and painting; Audio visual aids-television, computer programs, film strips, video recording and projectors; Auditory aids-audio recordings, radios, records or cassette tapes, music and Printed materials-Encyclopedias, textbooks, magazines, journals, newspapers, pamphlets, government records and publications almanacs, biographic, editorial cartoons and case studies (Fig.6).

**Classification of Instructional Materials**

**FIGURE 6: CLASSIFICATION OF INSTRUCTIONAL MATERIALS**

Kinds and categories of teaching aids and instructional materials used in effective delivery of instructions are discussed under the following categories:

1. Projected and electronic materials.
2. Non-projected materials.
Projected and electronic materials

Projected and electronic materials are forms of media which could be visual, audio and audio-visual in nature that requires projection and electricity in their using process for teaching and learning situation. Projected and electronic media can further categorize into: Filmstrip, slide projectors, overhead projectors, transparencies / opaque projectors (Epidiascope) video cassette / video Disc machines, tape recorders/recordings, radio, and computer.

- **Filmstrips and filmstrip projectors**

  The filmstrips is a more compact and a more convenient form of the older “lantern slide” type of visual aid. It is a series of still pictures mounted on one continuous trip of film which may be projected frame by frame. The class may view a particular picture long enough for each pupil to grasp all the significant details. The teacher may discuss the pictures or play a recorded lecture especially prepared to accompany that series of pictures. The filmstrip projector usually weighs less than 10 ponds, is inexpensive and easy to operate (Sharma, 2000).

- **Slides and slide projectors**

  A slide is a single positive image or transparent materials (a slide transparency) held in a mount and designed for projection. Slides can be great assistance to a teacher in providing visual reinforcement. It is particularly useful for showing photographs, diagrams and other graphic materials. Too much information should not be included on the slide. Thus, an educational or social studies slide should be clear, simple, and capable of being seen and understood from all parts of the classroom in which it is being projected (Rao and Ravishankar, 2007).

- **Overhead projectors**

  The overhead projector (OHP) is simple to operate and the most versatile visual aid for the teachers to use in classroom. Using the overhead projector, transparent materials are projected so that a group can see.
Transparency can face the audience from the front of the room and maintain eye-to-eye contact with students while projecting transparencies in a lighted room. The OHP has now replaced the traditional chalkboard as the most commonly-used visual aid in many schools, colleges and training establishment. The OHP has a number of definite advantages over other methods of presenting visual information. A teacher or trainer can use it exactly the same way as a chalkboard or whiteboard (for writing up notes, showing diagrams, and working through calculations and so on). Disadvantage of the OHP is that it requires a power supply, and needs a suitable surface on which to project its image (Giridhar, 2002).

- **Epidiascope**

  Epidiascope is an instrument which can project images or printed matter or small opaque objects on a screen, or it can project images of a 4” * 4” slide. With the help of any epidiascope, any chart, diagram, map, photograph and picture can be projected on the screen without tearing it off from the book. It serves two purposes: (a) It works as epidiascope when it is used to project an opaque object, (b) It works as epidiascope when it is used to project slides (Sharma, 2005).

- **Videocassette and videodisc machines**

  The videocassette recorder (VCR) is a television receiver having facilities for recording television and other video inputs and playing back programmes recorded on videocassette. The arrival of videocassette recorder makes it very easy to show film-type programs in the classroom, this practice has become even more prevalent. As an instructional medium, video programmes are equally effective as films for achieving educational objectives. The production of video programs requires equipment and facilities which are costly (Zaidi, 2006).
Audio Aids

• Tape recorders

The tape recorder is an audio teaching aid. It uses cassette tapes to record learning experiences in class or from radio or television documentaries, which can be replayed in class or at home. The cassette tape recorder is a very popular instructional aid. The advantages and disadvantages of tape recorder as follows: a) The tape recorder is simple to operate, b) it is cheaper than most other projected and/or other electronic equipment, c) it is usually portable and can be transferred from one place to another. The disadvantages of tape recorder include the following: a) it is an audio medium and appeals to the sense of hearing only, therefore limiting students’ comprehension of information. Compared with television, which appeals to the sense of sight and sound, this is a big disadvantage, b) recorded tapes become bad when not used often and could damage the play head of the player as a result (Aguokogbou, 2000).

• Radio

Radio is the most prominent audio teaching aid used for teaching purpose. Through radio broadcast, educational, cultural and social knowledge can easily be communicated. Seminars, lectures, workshops can be disseminated through the radio channel effectively. There are a number of merits and demerits of radio as instructional materials which include: a) It is far less expensive than T.V, b) A very wide coverage of audience is possible through radio lectures, c) It can broadcast events immediately as they happen. Radio broadcast are wordily interesting because radio transmits music and drama. The disadvantages of radio as an instructional medium include: a) It does not allow students the opportunity to ask questions during educational broadcasts, b) Radio speakers talk at their own speed without knowing if the listeners are following, c) Educational broadcasts usually come on at odd times (Nwanna-Nzewunwa, 2003).
Computer-Assisted Instruction

Computer assisted instruction is a form of self instruction in which material can be presented via text, visual, sound, and motion digital files, providing a multimedia approach to learning. Computer can facilitate interaction during the learning process on multiple levels like interaction of student/user with the content and learning material, contents can be updated regularly, encourages greater learning inputs in the areas of subjects interest (Vichitrejpaisal et al., 2008).

Computer assisted instruction is a set of programming instructions which is used in instructional process to develop certain skills for the students’ mastery over the subject content. Students’ prepared with assignments, problems, exercises, reading materials by a computer for learning. The unique combination of tutorial, interactive, and visual capabilities enables computers to have a beneficial effect on learner motivation (Barad, 2010).

Siddiqui (2009) stated that computers are envisioned as ways to empower “teaching by telling” and “learning by listening”, serving as a fire hose to spray information from the internet into learner’s minds. Multi-media capable and inter-connected computers are seen by many as magical devices, “silver bullets” to solve the problems of schools. Teachers and administrators who use new media are assumed to be automatically more effective than those who do not. Students who use computers in schools improved

- critical thinking, problem solving and independent learning
- develop skills and knowledge and
- ability to compete in the workforce

Development in science and technology has brought into lime light the indispensable roles of computer in the area of information and technology. It is a new instructional system. The computer has now been found to be the most suitable, and versatile medium for individualized learning because of its
immense capacity as a data processor, using for different games for the children. As an instructional medium, it is used in many ways for effective instructional delivery such as mass instruction, group learning, individualized instructions, and computer conferencing system among others (Sherman, 2005).

Computer-based instruction allows students to build knowledge through constructivist-based multimedia. This media appeals to the learner’s cognitive and affective domains. The computer provides instant responses, motivates the learner, and grabs attention. Computer instructions encourage self-directed learning and reduce distractions to purposeful learning. Computer allows for instant evaluation and review of responses. Students retrieve and store information faster in text and graphics (Passerini, 2007).

**Characteristics of Computer-Assisted Instruction**

**Two-way interaction:** Computer assisted instruction is an instructional technique based on the two way interaction of a learner and a computer with the objective of human learning and retention.

**Stored instructional programme:** Computer-assisted instruction is an instructional technique in which the computer must actually instruct the student, and the computer contains a stored instructional programme designed to inform, guide and test the student until a profile level of efficiency is retained.

**Student’s responses:** Computer-assisted instruction is an instructional technique in which the computer is based: To

- control the presentation of stimulization to a student
- accept and evaluate the student’s responses,

**Individualized Instruction**

Computer-assisted instruction is an instructional technique. Using the computer which follows for individual, individually paced and individualised instruction since the computer’s behavior is dependent upon the responses of

**Use of Computer –Assisted Instruction in Areas of Education**

The computer-assisted instruction can be used in the following areas of educational system.

1. **Teaching an instruction:** A computer-assisted instruction can be used for teaching purpose in the field of education. The use of computer-assisted instruction has been successfully made in all areas of subjects.

2. **Drill and practice:** The computer-assisted instruction is used for drill and practice problems in mathematics, science and languages etc. In drill and practice, branching type of remedial programme is provided for those learners who are in need of such remedial teaching. The computer has been very effective substitute for a teacher in this exercise.

3. **Simulation:** Computers are used to simulate real life experience, to enhance the efficiency of the workers and to improve the quality of performance. Simulated conditions are shown on the computer screen such as the working of the circulatory system of the human body.

4. **Tutorial and Dialogue:** The subject-matter is literally taught by the computer programme. Explanations are given orally through audio-tape and needed visuals are presented in television. The student responds on a typewriter key-board or by pointing on the screen with a light pen. The computer reacts to the student’s response by ‘talking’ to him. Students make further responses.

5. **Data processing for research:** Computer is used in research institutes or universities for analyzing the data for obtaining the results and verifying the research hypothesis. In India a computer is now being used most frequently in analyzing the research data. It is very economical, speedy and accurate device for this purpose and has made this difficult task simpler.

6. **Educational guidance and counseling:** Now computer is used in guidance and counseling services. The students are diagnosed for educational guidance,
their weaknesses are identified and remedial instructions are provided by a computer (Mehtani, 2007).

Agrawal (2009) pointed out certain obvious advantages and limitations in using computer in the field of education.

**Advantages of CAI**

- Enormous increase in the student’s access to information
- Instruction according to individual’s abilities, preferences and conveniences
- Increase in the quantum of personalized instruction
- Immediate feedback on the student’s comprehension
- Learning at one’s pace and in a private learning environment
- Learning using computer engages and stimulates the interest of the students
- The process motivates the students to feel a sense of personal responsibility for their own education.

Several studies have reported that CAI is successful in getting scores in the examination and improvement in the attitude of the students.

**Limitation of CAI:**

- Problem of maintenance: The computer assisted instruction poses a great problem with regard to the effective maintenance of its learning system.
- Difficulty in providing learning system: It is difficult to provide really useful learning systems with a view to provide individualized learning process. It is difficult to teach all subjects and all topics with the help of a computer. There is dearth of a computer programmed for teaching purposes.
• Costly: Computer assisted instruction is very costly. Most of our universities and educational institutions can’t afford to have a computer for a number of years to come.

• Non-human quality: Computer-assisted instruction may inject a non-human quality into educational programs. This new technology may ‘dehumanize’ man.

• Non-achievement of affective objectives: Computer assisted instruction can only be effectively used to achieve cognitive and psychomotor objectives of learning but affective objectives can’t be realized by computer-assisted instruction.

Non-projected materials

Ughamadu (1992) reported that non-projected materials are those materials that do not require any form of projection before they can be utilized. Non-projected materials are different forms of instructional materials or teaching aids that required not the process of projection before its operation can take place. These could include the textual and non-textual. Textual materials and non-textual materials refer to all the print and non-print materials that are used by the teachers and learners for instructional process. The print materials are the textbooks, magazines, periodicals, journals, and newspapers, and others while the non-print materials include charts, chalkboard, maps, graphs, posters, flannel board, wall charts, flip-chart, models, handouts, realia, etc.

Esu et al. (2004) defined instructional materials as all resources within the reach of the teacher and the learners which are employed to facilitate teaching and learning. They are media which promotes perceptions, understand transfer of knowledge and retention of ideas. They expressed that all these together assist the students in acquiring clear concepts of subject matter. Moreover they can provide security for the teacher who is not prepared and an escape hatch for one who is instructing outside his field of
specialization. As their name suggests, non-projected visual aids are those that don’t involve the use of an optical or electronic projector.

The following visual aids are described below:

**Chalkboards**

The chalkboard or the blackboard is the commonest visual aid utilized by the teacher. Chalkboards are widely used in all sectors of education and training, and are most suitable for displaying notes and diagrams during a lesson and for working calculations or similar exercises in front of the class. A disadvantage of using chalkboards is that it tends to be difficult to write on and read from, practice in writing and drawing on them is often necessary. Chalkboards are also relatively messy to use, and even ‘dustless’ chalk tends to impregnate to one’s hair, fingernails and clothes. A major drawback of extensive use of the chalkboard in a classroom is that the teacher has to face away from the class for long periods. This not only means that the teacher is speaking ‘into the board’ for most of the time, but he also loses the advantage of eye contact with the class- something that can help to convey meaning and provide useful feedback (Singh, 2005).

**Charts**

A chart is a pictorial way of representing relationships between the several variables or objects and ideas or things. They are generally used during lecture and discussion about the relationships of the things. Their main function is to show relationship such as comparisons, relative amounts, developments, processes, classification and organization (Kochkar, 2000).
Maps

Maps are representations of the whole or parts of earth’s surface. They indicate location, distance, extent, area, land and water forms. It is useful for enriching basic skills, understanding, direction, recognizing scale and computing distance, reading and interpreting symbols and labels. The details of the boundaries of a continent, country, location of mountains, contours of the earth and important geographical locations can be indicated easily through maps. It can be also useful in developing critical thinking, inferential skill and interpretation skill (Sharma, 2005).

Graphs

They are flat picture which employ dots, line or picture to visualize numerical and statistical data to show relationships or statistics.

Several types of graphs:

(i) Line Graph-In a line graph, data is represented with the help of simple line horizontally or vertically drawn. For increasing the interest and readability of concepts, pictorial illustrations and cartoons are occasionally used on the line graph.

(ii) Bar Graph-A bar graph consist of bars arranged, horizontally or vertically from a ‘zero’ bar. The color, length and size of the bars represent different values.

(iii) Circle Graph-Data may be presented in a circle graph (Bukhari, 2006).

Flannel Board

It is like a blackboard. But it has added advantage of color, movement, and quick removal, leading to more interest and more learning. Though flannel board is not used, as extensively in social studies as in other subjects, it is a very useful teaching aid which must be tried and used effectively by social studies teachers. It is helpful in presenting events or ides in sequence as a story (Tripathi, 2007).
Wall charts

Large numbers of professionally-produced wall charts, covering a wide range of topics and often incorporating eye-catching features such as photographs, maps, diagrams, graphs and cartoons are generally available to the educational and training community. In many cases, such wall charts are available free of charge from commercial organizations as ‘goodwill’ gestures, while others can be purchased at relatively low cost.

In an educational or training situation, wall charts can play a variety of different roles. They can be used: To

- stimulate interest and provide motivation
- act as a source of ideas or topics for discussion
- act as an information store and memory substitute

Flipcharts

Flipcharts are best used to present visual information which supplements a verbal explanation. They can be used to jot down key points or note down replies from class members to a given question. It is also possible to prepare before use, and to ‘reveal’ key points during a lesson.

Models

Models are additional instructional media and copies of real objects. A model can be an enlargement, a reduction, or the size as the original. It represents a replica of the original, while simplified models do not represent reality in details. It can be used effectively in explaining the operating principles of various types of equipment. They are
especially adaptable to small group discussions in which learners can ask questions. It is more effective if it works like the original and can be taken apart and reassembled (http//:www.models/mock-ups.edu).

**Handouts**

Handouts are well-planned duplicated documents prepared by a teacher for his students in order to promote their participation in the teaching-learning process. Well-structured handouts can be very valuable in terms of interest, motivation and record of information. This can help the student from tedious and perhaps inefficient note-taking, thus allowing them to concentrate better on what is being said. However, the use of very complete handout note may encourage laziness or absenteeism, and, for these reasons, some teachers preferred to use partial handouts which list the main points but allow the students to add their own notes in the spaces provided. Thus, the student has some involvement in the process, and interacts better with the handouts (Mandav, 2008).

**Objects and Specimens**

Objects and specimens are real and not substitute. They are three dimensional in nature and provide first hand direct experiences. The category of materials resources that can be valuable in the teaching of social studies is the use of actual or real object in the classroom. These things are called realia and can have a powerful impact on students’ interest and motivate them to learn. These things bring the real outer world into the classroom (Sharma and Chandra, 2003).

**Posters**

It is a representation of content or materials in an attractive way. Posters convey important messages. It catches the eye of viewer easily. These are similar in many ways to charts, but are usually smaller, simpler and bolder in content and style.
Principles and requirements for the selection of instructional materials

The preceding discussion had shown that there are many teaching aids from various sources. It is therefore very important, of a professional teachers to note and bear in mind that every instructional materials has its definite unique strength in teaching-learning situation that properly cannot be replicated by the use mother. It is necessary to note that through effective communication, better teaching and faster learning can only be facilitated or guaranteed by careful selection and skillful utilization of appropriate instructional materials by the users. However, availability of the instructional materials, teacher’s experience, terms of preference and the volume of instructions should constitute intrinsic consideration in their selection decision. Despite of that fact, the following principles should guide an effective teacher in the selection of teaching aids:

**Instructional tasks:** The behavioral objectives, contents, learning activities, evaluation instruments and techniques as element of instructional tasks, should be taking into cognizance by an effective teacher in the selection and development of teaching aids.

**Target audience attributes:** These consists the learners’ features and their level of understanding, their developmental stages such as age, sex, physical skills, attitude towards self and others, the learners experiences, social-economic background should be considered.

**The economy:** The available resources, financial factors technological advancement, economic climate of society where the materials should be operated, the socio-cultural level of the materials users, degree of urbanization, feasibility and acceptability of the selected teaching aids or instructional materials are equally considered in the selection and development decision.

**Dynamic variables:** These variables constitute the concentration and size of the target audience, the desired level of learners response and participation, the classroom social climate, sitting, viewing and listening arrangement, available time, space, teacher competence among others are to be seriously considered in the selection decision and development.
The environmental factors: These consists the educational community and the available educational infrastructure. Such as people, facilities, equipped library, workshops, laboratories, electricity, water supply and personnel should equally be considered in the selection and development.

C. APPLICATION OF INSTRUCTIONAL METHODS AND MATERIALS IN SOCIAL STUDIES

Information and communication technology (ICT) provides a range of tools with a unique capacity to extend and enrich teachers’ instructional strategies and students’ learning in social studies. Information and communication technology can be used to connect students to other schools, at home and abroad and to bring the global community into the local classroom. The social studies classroom has been greatly influenced by the impact of technology integration. Students of social studies in the information age need to understand historical, social concepts and event in addition to developing critical thinking and the analysis of resources available through a variety of media. ICT integration in schools is needed in order to accomplish many objectives and improve the quality of lessons in all subject areas as well as social studies (www.edu.gov.on).

Akengin (2007) states that the content of social studies is generally abstract because it is concerned about people, history, culture, flora, landscape and climate. Therefore using information technology enables students to understand these facts easier and make them participate in the learning process more actively. Using technology in social studies classroom provides unforeseeable facilities and makes effective learning more accessible compared to traditional classrooms. Using technology in social studies teaching makes the teaching learning process meaningful, integrated and active.

Social Studies are a field of study which deals with man and his relation with other men and his environment. Secondary school social studies include History, Geography, Economics and Civics. Education is a means for full and balanced development of person in social environment. Historically, the most
commonly used method in social studies classrooms has been a lecture format. Active learning in social studies involves providing opportunities for students to participate meaningfully by talking, listening, writing, reading and reflecting on the content, ideas, issues and concerns of an academic subject. Unfortunately, many social studies classroom continue to be dominated by a single medium and this is usually the printed textbooks. This dominance prevents teachers from reaching all students. Instead it forces them to cater for those who find the texts accessible and this creates barriers for those who do not (Meera, 2008).

Social studies are concerned about natural and social phenomena which cannot be easily expressed without the support of instructional methods and materials. To promote the development of social skills among students, collaborative group activities should be used while teaching social studies. It enhances learning opportunities for all students, teach important social skills through imitation, practices and reinforce concepts as students discuss different ideas among the members of their group. Besides this, other visual aids such as slides, filmstrips and models are extremely useful in the learning of social studies. It is true that the use of epidiascope and various kinds of projectors, records and cassettes is expensive but they are worth the expense. Teachers would be well advised to work out a proper balance between books and audio visual aids. Visual aids by providing a refreshing change from the stereotyped lecture method increase motivation and interest on the part of the students. It is of vital importance that every effort be made to utilize available instructional materials. They help to economize time and effort, to promote learning through actual experience. They strengthen the memory and make better participation (Nagel, 2008).

One of the biggest drawbacks in the use of instructional materials is inadequate supply of instructional materials.

It is a settled fact in literature that a very important mission of teaching social studies and other related fields is not only to stimulate desired social
behavior in the learner but equally to facilitate social change and development. The use of appropriate tools of instruction such as electronic media speeds up the accomplishment of these objectives. They are valuable assets in learning situations because they make lessons practical and realistic. Knowledge acquired with the use of instructional materials is retained longer than the one acquired without learning aids. Using instructional materials in social studies classrooms widens the channel of communication between teachers and their students. It allows the growth of specific learning abilities and enhances intellectual skills and motor skills. It should therefore, be noted by social studies teacher that no social studies lesson is well taught without the use of instructional materials. Effective instruction of social studies at the secondary school levels have been so seriously difficult to achieve as a result of non-use of instructional materials. Technology in the social studies classroom has been identified as a successful motivator to “serve” learning to students (Chinedu, Nwanna-Nzewunwa and Michael, 2005).

Teaching of social studies in respect to its scope and nature which is multidimensional, integrative and dynamic, cannot effectively take effects without the use of instructional materials. The teaching of social studies contents must focus not only on making teachers competent at using such instructional materials, but at the same time promote strategies that enables the integration of instructional methods and materials to enhances teaching and learning of social studies goals and objectives. Instructional materials grasp the learners’ intellect and eliminate boredom. Some of the unique qualities of instructional materials are speedy learning and accuracy. They make the work easier, more appeal, accurate, neater and boosting for clarity of social studies concept. There are ever increasing numbers of audio and visual materials available to schools that teachers should take advantage of the opportunities to procure excellent films and recordings covering a wide range of subject matters in social studies curriculum. Social studies is a core and integrated curriculum, and without the use of instructional materials in its teaching and learning process, its goals and objectives will not be achieved (www.docstoc.com).
D. ROLE AND SIGNIFICANCE OF INSTRUCTIONAL TECHNOLOGY IN EDUCATION

Instructional technology is one of the most important factors which can improve the quality of instruction. In advanced countries, a vast array of educational media and methods are being developed and utilized successfully to improve the quality of teaching learning process. The principle role of educational technology is to improve the overall efficiency of the teaching learning process. By the use of instructional methods and materials pupil actively participate in the teaching learning process. They are easily motivated, and learning quickly with the help of teaching materials and aids. Excitation level and enthusiasm level of the students are also very high by the use of aids and illustrations. Lesson learned through extensive use of aids are remembered for a longer period. Group of students can be easily managed and teacher saves lot of time and energy in the class since most of the teaching aids are powerful enough to teach the concept effectively (Jayachandran and Roy, 2007).

The aids being concrete will be able to secure the attention of students, motivate, enable the students form accurate concepts and ensure permanent retention of the knowledge gained. A teacher using appropriate aid can make clear a difficult concept even to a below average student very easily (Mulcahy, 2008).

Demirel (2005) states that utilization of instructional technology in teaching –learning process provides a more effective presentation of subject, moreover, it makes instruction more meaningful and enjoyable. Teachers should acquire the quality of technology literacy to provide students rich learning environments integrated with new technologies. Instructional materials motivate students and encourage them to study lesson providing them with opportunity to have an access to information and evaluate it. Instructional materials are a significant element in raising the quality of education.
Ellington et al. (2003) stated that technological media enabled the adaptability of the educational process to the individual students’ differences in pace, temperament, background, and style of learning. These media can perform many of the following functions involved in the educational process

- It can present the information to the student through various senses and in many modes
- It can give the student the opportunity to react to the material and respond in many ways
- Increasing the quality of learning
- Decreasing the time taken for learners to attain desired goals
- Increasing the efficiency of teachers in terms of numbers of learners taught without reducing the quality of learning
- Increasing the independence of learners and the flexibility of education and training provision.

**Research Highlights**

(1) International Scenario

(2) National Scenario

**International Scenario**

Stout (2004) made a study on the effects of student centered teaching method in teaching 8th-grade US history which included students analyzing and interpreting the historical documents working in collaborative teams, presenting their interpretations, and making comparisons. The findings of the study showed that students developed confidence and they were able to work collaboratively to develop deep understandings of historical content.

Al-Rabaani (2008) conducted a study on “Attitudes and skills of Omani teachers of Social Studies to the use of computer in instruction”. The study revealed that social studies teachers lack computer skills but had positive attitudes towards their application in teaching. Teachers depended on themselves in developing their computer skills. Teachers’ computer skills and attitude towards using computer was found to be differed according to the
region and stage they teach but there were no differences according to gender. The study recommended developing teachers’ computer knowledge and skills to benefit for effective teaching.

Latchanna and Dagnew (2009) studied the attitude of teachers towards the use of active learning methods. This study was conducted on a sample of 23 university teachers at Bahir Dar University in Ethiopia, they found that the teachers had positive attitude towards active learning methods.

Pye and Sullivan (2001) examined the effectiveness of computer based instruction in middle school social studies. They gathered data from middle school social studies teachers in Missouri. These teachers asked to respond to a questionnaire determining the use of computer based application during classroom instruction. The results indicated that more than 73 per cent of teachers use one or more computer based strategies on a regular basis. It was found that student seemed to be quite enthusiastic in learning social studies and also had positive effects on the classroom learning environment after computer based instruction was regularly used in the middle school social studies classroom.

Spurlock (2001) made an attempt to study the impact of student centered instructional approach on high school students’ motivation, academic performance and autonomy. The teacher participants used discussion method in teaching learning process. The findings indicated that students felt a sense of autonomy and were likely to score high marks in exam. Thus the student centered teaching approach helped students to develop positive school experiences and being motivated in the class and feeling competent in their abilities.

A study on “Exemplary Social Studies Teachers Use of Computer-Supported Instruction in the Classroom” conducted by Acikalin (2011) in U.S. This study was designed to examine the use of exemplary social studies teachers' computer-supported instruction in the classroom. Case study methodological approach was used for this study. Four exemplary social
studies teachers who use computer-supported instruction in their teaching practices were selected as participants. It was found that all the participants agreed that the computer is a powerful research tool which facilitates students’ to learn faster and easier. The participants used various types of computer-supported instruction in their classrooms. The use of the Internet and software programs such as Microsoft Power Point, Word, and Excel were the most common use of computer-supported instruction in the classrooms teaching.

Jones and Cuthrell (2011) conducted a study on “YouTube: Educational potentials and Pitfalls” This study explores the potential uses of YouTube as an instructional aid in classroom teaching. Emphasis is placed on using YouTube directly in social studies instruction and as a teaching resource in elementary classrooms. The result showed a positive gain in student outcomes as a result of the integration of video technology in instruction.

Berkeley et al. (2011) conducted a study on “Improving Student Comprehension of Social Studies Text: A Self-Questioning Strategy for Inclusive Middle School Classes”. This study employed a randomized experimental design to investigate the effectiveness of a self-questioning strategy for improving student reading comprehension of social studies text material. Fifty-seven seventh grade students with a range of abilities, including students with learning disabilities, from three inclusive middle school classes participated. Results showed that students in the self-questioning strategy group out performed in a typical practice group on both multiple-choice and open-ended comprehension tests of the social studies content.

Another study on “Teachers' Reflections of Cooperative Learning (CL): A Two Year Follow-Up” was undertaken by Gillies and Boyle (2011). The purpose of the study is to report on the reflections of seven middle-year teachers who had embedded Cooperative Learning in their social science curriculum for the past two years to investigate their responses to this pedagogical practice, and to gauge their perceptions of how students with behavioral and learning needs responded to it. Results indicated that all teachers believed that their lessons were found more interesting, the children
learned more, felt more confident, and they learnt to work more closely with their colleagues.

**National Scenario**

Kaya (2008) conducted a study on “Social Studies Teachers’ views towards learner centered instruction”. The study revealed that the participants had positive attitude towards learner centered instruction which is enjoyable, involving, challenging, and relevant to students’ learning. They also viewed that it is an active learning process and promotes students responsibility in the learning process.

Niwas (1990) compared the effects of two models of teaching—Advanced Organiser Model (AOM) and Inquiry Training Model (ITM) with the conventional teaching in terms of students’ achievement in Social Studies. Sample comprised of three groups-The AOM consisting of 29 students, ITM consisting of 28 students and the control consisting of 29 eight standard students. Results revealed that AOM model and ITM model were more effective in terms of students’ achievement in Social Studies in comparison to conventional teaching.

Hansraj (1992) examined the effectiveness of innovative teaching methods and traditional methods for the teaching of science subjects. Sample comprised of 266 high school students, of ninth grade from four secondary schools for boys in backward hilly region of Jammu, were selected. Of them 100 were finally selected for the conduct of experiment and were further divided into five identical groups with 20 students in each group. Each group was taught using one of the four curricular activities: brainstorming, problem solving, project and quiz or traditional method of teaching. The study revealed that the group of students who were taught science using various curricular activities gained significantly in their verbal fluency, flexibility, originality, elaboration, total non verbal creative thinking and total creative thinking as compared to the group of students taught through the traditional lecture method.
Dahar and Faize (2011) conducted a study on “Effect of the Availability and the Use of Instructional Material on Academic Performance of Students in Punjab”. The population of the study comprised of all secondary and higher secondary schools, secondary teachers and secondary students in Punjab. A total of 288 schools, 20 students and 10 teachers from each school were randomly selected as the sample of the study. The study concluded that the less availability, misallocation and the deficiency in the use of instructional material lead to the wastage of resources, the less effectiveness of instructional material and lower academic performance.

Lee (1997) studied the effects of group learning on student academic achievement. A sample of 66, fifth grade female students were randomly assigned to two experimental groups: a co-operative learning group and a traditional learning group. Results showed that the co-operative learning group had greater gain in achievement and had positive attitude towards school than the traditional learning group. Cooperative instructional methods may thus be viable for changing traditional methods of instruction.

Mohanty Susandhya (1990) studied a sample of 370 students in class 10 in full fledged high schools of Cuttack. A standardized test in general science was used. Study revealed that schools possessed only charts and models, but they were deficient in audio-visual aids like projector, kaleidoscope, TV etc and study showed that proper care was not being taken for the development of effective teaching. A well qualified teacher, good laboratory, audio-visual aids, science clubs, science fairs and exhibitions, science museums, good library facilities, projects are all important necessities to improve science teaching and thereby creating interest among students.

Kosar (2003) investigated the effects of cooperative learning on the achievement of 7th class students in the subject of Social Studies. The sample comprised 40 students of 7th class equally placed in experimental group and control group on the basis of scores obtained in the social studies annual examination. In this experiment of two weeks, cooperative learning resulted in higher achievement as compared to routine method of teaching social studies.