CHAPTER - III

REVIEW

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3.1 Introduction

Generally a review of related literature helps the researcher to have an analytical mind to grasp the quantum of work done in the area and further possibilities in the field. This chapter deals with the perusal, analysis and critical review of isomorphic studies pertinent to the problem of research and that forms the foundation of the contemplated study. The present chapter discloses relevant studies and attempts that have been made to study the effectiveness of media based instructional strategies especially video based instruction. The studies reviewed are classified under the following heads of Studies conducted abroad and Studies conducted in India.

3.2 Studies Conducted Abroad

Experiments with instructional films were conducted as early as 1918 (Hober and Vanor - Mer, 1950, Green hill, 1967). More than seventy-four research studies had conducted by Kumata (1956) on educational films and T V programmes. He concluded that students viewing educational films did better in the terminal test that were not in the habit of viewing educational films. Superiority of televised instruction was reported by Pasewark (1956) in teaching, typewriting, advertising; high school chemistry to Negro Students (University of Alabama, 1961), geometry (Johnson and Harty, 1960) and Mathematics lessons (Berger, 1962). High ability level students learned
significantly more by TV than by conventional methods in Psychology (Dreher and Beatty, 1958) and in science (Jacobs and Bollenbacher, 1959) Barrow and Weastley (1959) found that televised programmes on current events produced significantly greater learning of factual information than comparable programmes presented by radio, even though the same experienced script writer prepared both versions of the lesson with relatively equal emphasis an various aspects of the content and both scripts targeted to utilize the full potentialities of the media for which it was written.

Gropper and Lumsdaine (1961) pointed out that student characteristic as well as conditions of infrastructure must be considered when deciding have to maximize achievement for each student. Students having high IQ performed better than conventional when the TV Lesson required students to respond both on a test of immediate and delayed retention. Students having low IQ retained significantly more as measured by the delayed test when they learned by the conventional TV lesson as compared to the active response of programmed TV lessons.

Lumsdaine and May (1965) in their chapter on Mass Communication and Educational Media, prepared for the Annual Review of Psychology concluded that from the stand point of stimulus properties “film and TV can be considered substantially identical media for many purposes.” Mac Knight’s research revealed that teachers would prefer video assisted instruction because they believed that it would motivate students by bringing the real life into the classroom situation. This belief had been born out of the research done in BBC.
Chu and Sehram (1967) reviewed four hundred and twenty-one separate comparisons taken from two hundred and seven published reports. 380 showed no difference. 63 proved, television teaching superior. They arrived at a conclusion that any subject matter could be taught with the help of the TV. Studies conducted by Atkinson (1968) showed that CAI students performed significantly better on their achievement in reading at Stanford's CAI programme than their peers in normal class.

Ball and Bagatz (1970) conducted studies on the use of Television in education. Using a large sample of students from four different geographical areas of US they obtained the results of learning measures from the first year “sesame street.” It was found the students from ghetto community, middle-aged suburbs and rural areas. The amount of learning was directly related to the amount of viewing television by students. The follow up study conducted by Ball and Bagatz (1971) showed same of the subtle differences that could occur in teaching using T.V. ‘Sesame street’ had noticeable effects in teaching children to name letters but no effect on alphabet recitation.

Kar nadt and Abankova (1975) in a comparative study between TV classes and conventionally taught classes concluded that students in the TV classes obtained higher achievement scores. Tennyson, (1980) and Tennyson & Buttery, (1980) found that student control with advisement was superior to unaided student control. Without advisement, student tended to terminate study of the lessons more quickly. Thomas Good (1981) conducted a TV study
with the objective of improving the comprehensive ability of the students through TV programmes. Twenty-three students of the III grade participated in the study and they had to watch TV programmes for fifteen minutes for five weeks. The programmes covered language and social science. It was found that training improved their ability to comprehend.

Learning by school TV programmes found to be more effective in comparison to traditional method. Phutala, (1980) Oberoi (1981) found that radio vision method was more effective in comparison to the traditional method. In a research by Jane Willis (1983) regarding visual elements in VIDEO ASSISTED INSTRUCTION he emphasized that English teachers should not only distinguish the visual aspects which formed part of the message but also the visual features in terms of non - vocal communication which were in fact worth teaching. Massoudi and Symin (1983) started the development of evaluation of an interactive video computer programme compared with traditional approach. The study showed that there was significant difference in achievement with the experimental group and control group.

Thomas Good conducted a TV study in Britain aiming at proving children's comprehension in TV Programme. Twenty-three third grade children participated for 15 minutes per day viewing TV Programme for 5 weeks. The Programmes included language, arts and social studies. It was found that training improved their comprehension. After each programme they were asked to complete work sheets. Such students answered more questions correctly. Wanked Mary Jane
(1984) attempted to compare the use of videodisc to the use of hands on equipment on students' achievement in the learning of spatial concept in Physics and Wave motion. The videodisc appeared to be quite stimulating, mobile instructional tool on the basis of research observations and students' comments.

Greenberg (1984) compared the effectiveness of CA Videocassette lessons with that of videocassette lessons and paper pencil practice. The findings revealed that there was no significant difference existed between the posttest performances of the two groups.

Andrews, Kenneth Gerald (1985) studied the effectiveness of instructional feedback provided by Interactive Video Instruction. The use of interactive video technology as an instructional medium was compared to a traditional lecture and videotape presentation involving the learning of complex medical task. The results of the pre test and posttest were used to compare the groups. In both tests the Interactive videodisc groups and control groups achievement significantly higher results than the treatment group. Corbett, Julie Webb (1985) studied the effects of cognitive ability and TV viewing habits on achievement following mediated instruction. It was found that the sample that received video treatment scored significantly higher than the total sample. The relationship between reading comprehension and achievement from narrative learning showed a moderate amount of correlation and the relationship between auditory memory and achievement was slightly lower than the results obtained from reading comprehension. A study by Stibravy (1985) showed that more
educated students expressed less favourable attitude towards instructional Television.

In 1986, Abrams, Arnold studied the effectiveness of Interactive Video in teaching basic photography skills. A comparison was made of the relative effectiveness in interactive and linear video as delivery modes in the acquisition of basic photography skills in an independent learning environment at college level. It was found that the Interactive Video group recorded significantly and consistently larger achievement than the linear Video group.

Chambers & Jerry Roy (1986) did a historical research of Missouri instructional TV from 1953 to July 1995. It was concluded that video and computer technologies should lead to new applications in the classroom, new delivery system and new opportunities. Yet the old problem of uncertain findings and improved benefits to student achievements and learning will continue to exist.

Kwan (1986) and McLean (1986) observed that interactive video programmes were more effective for teachers' training. Peterson, Donna (1986) attempted to determine if students' achievements in Mathematics and students' attitude towards in Mathematics and students' attitude towards Mathematics were increased in first grade through integration of video recorded lessons into a traditional Mathematics classroom. The experimental and control group students were taken from rural Colorado. The experimental treatment included exposure to 107 teacher prepared videotape Mathematics lessons corresponding to the DC health first grade Mathematics programme. Wicklein, Robert Cart (1986) conducted a
study on the effect of learning styles and instructor controlled and
student controlled interactive video programme on student
achievement and task completion rates. The results showed no
significant difference between the dependent variables of the study.
There was a significant difference in the scores of the two interactive
video programmes.

Silverstein, Mark Alan (1987) attempted a research on social
interaction analysis of elementary school students and a level-one
videodisc system in an educational environment. Results indicated that
the pattern of behaviour suggested the presence of active acceptance.
The educational implication of the study include the recognition that
student appropriately actively engage the video system in an accepting
manner.

Holly (1987) reported that achievement of video substituted
group achieved significantly higher than textual programme. Douglas,
Patrician Jeanne (1988) researched on the effectiveness on
interactive satellite delivery versus traditional delivery in selected
courses. The study showed that courses presented on Corporation
Education Network (CENET) was equivalent to the same courses
taught in their traditional manner in terms of content, objective of
teaching, interaction, graphics and exercises. Lashley, Lynette
Margaret (1988) studied the dissemination of agricultural information to
farmers in Trinidad and Tobago through T.V. A comparison of the two
groups of farmers revealed parity on seven and of ten questions on the
pre test. The results of the main group in the study viz. The pasea-
macoya farmers show that there was significant improvement in the
correct number of responses on the post-test. The TV programme undoubtedly was responsible for the increase of agriculture knowledge of these groups. TV therefore was proved to be a viable medium for disseminating agricultural information to small farmers in Trinidad and Tobago.

Brund, Earlese (1989) studied the Map literacy designing, an educational videotape to teach map-reading skills to high school students. The study revealed that a significant increase in students’ academic performance, a more positive attitude towards map reading and a tremendous liking for use of VCR in classroom.

Cemiamo, Katherine Sears (1989) studied the relationship of preconceptions and the effects of interaction and covert patience in the context of video based learning. The findings indicated that farmers who are provided with interactive video lesson that includes practice question and feedback recalled than students who receive lesson on TV without practice question or feedback.

Dawson, Brace Alan (1989) researched the effectiveness of interactive video simulation in teaching discipline theory to pre-service teachers. The study concluded that interactive video simulation could help pre-service teachers to learn discipline theory. The promise that interactive video simulation can be beneficial in equal measure to either sex is supported. The personality factors seem to play no role in the ability seem to play no role in the ability of pre-service teacher to learn discipline theory with the aid of interactive video simulation.
Mc Neil, Barbara Jean (1989) conducted a study on 'A Meta-analysis of interactive video instruction: a ten-year view of achievement effects.' It revealed that traditional form of instruction should be totally abandoned for interactive video finding shows that interactive video can be useful as an alternative strategy for group paced learning and a supplement to traditional instructions.

Steele, David Brook (1989) studied the effect of non-programmed, non-remediated and interactive videotape instruction on the achievement of multi grade students. Results showed a significant difference among posttest means at the level 0.001 level. The controlled group showed 1.5% increase in achievement from the pre-test mean to post-test mean.

Anyanetu, Patrik Emeka (1990) researched on videocassette recorder as an optional extension service delivery tool. The potential of VCR as an alternative for delivering extensive service to the co-operative extension service clientele in a changing information environment was examined in the study. The result was that majority of VCR users perceive it as a means of improving skills and acquiring more agricultural competencies in the privacy of their farms.

Katkanant, Chanida (1990) studied the simulation of using interactive videodisc lab simulation on problem solving and learning performance of high school Chemistry students. Findings of the study indicated that the interactive videodisc group had significantly higher scores on problem solving strategy and spent less time in completing the experiment.
Stafford, Janice Yvonne (1990) studied the effect of active learning with Computer Assisted Instruction on Interactive Video Instruction. Results indicated that active learning did facilitate the learning process. It also indicated that learning outcomes for different areas, subjects, grade levels types of learning and most formats and interactive techniques. Active learning was associated with positive achievement results for both high and low aptitude students. Retention was significantly higher for instruction presented with interactive video as opposed to CAI. Results were not different between students that controlled instructional time and those with equivalent instruction but not instructional time.

Ziegler, John Herman (1990) studied the effect of interactive video on learning, perceived effectiveness and user attitudes in academic library orientation programmes. The purpose of the study was to determine if there were any significant difference in recalling, perceived effectiveness and preference scores between groups using IV with student control, student interactive video and conventional tours to orient themselves to academic Library. The results indicated that the IV students with control treatment group significantly outperformed both the linear interactive video treatment group and library tour groups in both scores of learning recall and perceived effectiveness.

Milheim & Martin, (1991) noted that when technology was used for presenting course content, it was possible that certain decisions about, learning - for example, about pacing, the sequence of instruction and the specific content to be covered - could be made by
either the student or the computer. Empirical studies of computer-based instruction by Milheim & Martui, (1991) and Steinberg, (1989) frequently demonstrated an advantage for computer control over student control. Bennet, Berely Jean (1991) studied the influence of TV from an African American male perspective. Results of this study indicate that TV was influence in the liver of African American males. Although the respondents considered TV programmes to be unrealistic, they still had an impact on the aspirations, values and attitudes of the young man.

Libler, Rebecca, W (1991) is a study gathered and analyzed date about the impact of interactive television on student achievement and attitude in high school Physics classes. 85 students enrolled in a distance-learning programme using ITV to teach physics were to study population. The result showed that students enrolled in the interactive TV physics course held slightly more positive than negative attitude towards interactive TV or the method of instruction students in the interactive TV classes generally held positive attitude towards the content of Physics. Emmans, Clindy (1991) studied on interactive Video Laser Disc - a skill analysis of the educators. The findings of the study revealed that the best way to educate educators in the case of Interactive Video Disc Technology would be first through one or more formal workshops. The most important aspect of training however is adequate time for individual interaction and practice with equipment. Gbermier, Thimothy Ronald (1991) studied the academic performance of video based distance education students on campus students. It revealed that:
a. Academic performance does not differ between graduate students receiving their instruction via traditional on campus instructed method.

b. Students of Video-based distance education instructional delivery performed as well as their campus counterparts.

c. Graduate students of Video based distance education do not differ in their academic achievement performance as compared to on campus students in the discipline areas of Natural Science, Engineering and Business.

Grahim, Edward (1991) studied the effectiveness of video and the formulation of hierarchical models of student understanding in Mechanics. The team reported firstly, the evaluation of the effectiveness of video as a resource for the teaching of Mechanics and secondly investigations into students' understanding of the Mechanics concepts. The two areas have been based on controlled experiments and to determine whether the use of video can lead to improved levels of understanding among sixth form Mechanics students. The data that has been collected revealed that there are virtually no statistically significant difference between the understanding controlled group and experimental group involved in experimentation.

Hall, Arlie (1991) conducted a study on interactive video instruction effects of module instructional design on reaction and achievement. The study compared effects of traditional and mini module instruction delivered through an interactive TV system in an industrial setting. Effects upon the students' attitude and achievement
are evaluated. The instruction was a service of mini modules versus traditional lecture style delivery. Hreez, Rita Arlene (1991) studied the impact of interactive video and role-playing strategies on student learning and attitudes about substance abuse and taught by pre-service teachers. The results showed that there was no significant difference in learning between interactive videodisc group and other groups. Jaw Jiunn-Jyh (1991) studied the impact of television on Chinese students’ value. The study revealed that if TV did not have an impact on Chinese students’ acceptance of American values, this impact was likely to range from being mild to moderate.

Leitner, Rana Karan (1991) compared the effects on reading comprehension of educational video, direct experience and print. The study showed that the educational video was more effective when compared to the traditional lesson for all ability levels. The video lesson generated a larger effect size than the hands on lesson for low ability readers and the traditional lesson for high ability readers. The video lesson generated a higher mean score for all ability readers than the hands on lesson, but the findings only approached significance. In addition 24% of the variance was explained by the ability level, 5% by the treatment and 2% resulted from an interaction between the treatment and ability level. Libler, Rebecca (1991) studied the effectiveness of interactive television as the primary mode of instruction in selected high school Physics classes. The results of the study revealed that students in the interactive TV classes generally held positive attitude towards the content of Physics. Mason, Lynn Merrick (1991) studied the effect of interactive video simulated Chemistry labs
on learning outcomes and attitudes of students enrolled in a beginning college Chemistry laboratory course. The study found that the students were able to acquire knowledge of laboratory safety procedures and experiments via interactive video simulated Chemistry laboratory experiments without a decrease on attitude.

Mc Whirter, Michael Edwin (1991) studied the effect of level-one videodisc technology on VI grade students’ achievement in science. The effectiveness of a level-one videodisc instructional format as opposed to a traditional textbook instructional format on 6th grade students’ performance in Science on a two-week unit of ‘weather’ quazi experimental study was investigated. The conclusion was that a level-one videodisc instructional format could influence student achievement in science.

Naggy, Linda Farinelli (1991) conducted a case study to investigate a document project designed to introduce interactive video technology into the secondary Science curriculum at North Allegheny school dtr, Pennsylvania. The study was based on the theory and research surrounding instructional design, diffusion of innovation interactive video and technology in Science education.

The results of the study imply that because of the complexity of this innovation, teacher in a typical school setting may not have the amount of time or expertise required for development of interactive video materials. Although teachers are anxious to utilize this technology when they are made aware of its potential, districts may have to look to outside sources for development of appropriate
materials of interactive video is to enjoy widespread use in educational settings.

Meshot, Carole Jean (1991) conducted a study of interactive hypermedia - a comparative study of the effects of real time motion videodisc version still frame and cognitive style on certain animals, knowledge test for second grade students. Plowman, Lydia (1991) investigated the design issues for group use of interactive video. This study investigated group use the interactive video in secondary schools and used the findings to inform design guidelines. The focus is on group use as this encourages learning through discussion. The main form of data collection is video recording supplemented by questionnaire and transcript of children's talk. Boyd, Sandy Anne (1992) conducted a study on training effectiveness of interactive video system for the use of lethal force decision-making. This study investigated the trainers' perception of training effectiveness of interactive video system as compared to other types and methods of training that he had used to in the past for training use of lethal force decision-making. When compared to past training experiences interactive video was perceived as more effective than any other training method listed. This research provides important data regarding the perception of training effectiveness while using interactive video system.

Dawson, Val Wallace (1992) studied the student mediation styles, satisfaction and achievement in electronic distance education environment. The results of the study supported the notion that a student taking university classes in Electronic Distance Education
(EDE) environment can achieve and experience course satisfaction regardless of his/her meditation style, his or her teacher's style.

Hart, Paul Douglass (1992) conducted a study on Interactive Video strategic implications for self-directed training. The aim of the study was to compare the effectiveness of an existing IV network of Federal Express Corporation with alternative forms of self-directed learning and demonstrated through job knowledge gains and to determine if individual and demographic employee characteristics could influence the level of interactive video instruction stage.

Rutherford Andren Jane (1992) compared the training personal interviews with computer based interactive video (CBIV) and video. The results of the study indicated that interviews in the video group achieved significantly higher performance scores in their mock interviews. However interviewers in the CBIV group scored somewhat higher on scales that assessed cognition and self-concept. The main treatment effects of team of control and experience in relation to level of performance were not interpretable due to the interaction between variables.

Mason, Lynn Merrick (1992) studied the effect of interactive Video simulated Chemistry laboratory as learning outcomes and attitudes of students enrolled in a beginning college Chemistry laboratory course. The introduction of new technology into the educational environment necessarily entails questions of how the technology can be most effectively used in the cognitive and affective domains. The study found that students would be able to achieve knowledge of laboratory safety, procedures and experiments via
interactive video simulated Chemistry laboratory experiments without a decrease in attitude.

Chuckran, David Andrew (1992) studied the effect of student produced interactive multimedia modules on student learning. The study was designed to measure the effectiveness and feasibility of students' production on interactive multimedia was conducted with 70 High school students in EVS course. The study revealed that students with little computer experience and no hyper condition experience produced interactive multimedia in high school setting.

Acuna Limon, Alejandro (1993) studied the effect of a situated orienting activity and practice in an interactive videodisc lesson. The study was designed to determine the effects on learning when a realistic situation was presented as an advance organizer to a lesson on how to watch American football. Results suggested that the use of situation as an orienting activity facilities procedural learning.

Moody Kathyryn, Currier (1993) researched on early experiments in school TV production. The research showed that media programme tended to enable students to find new relevance in school life, introduce a greater degree of experimentation provided new avenues for the visual tactile aptitude as well as helped develop self-esteem and critical viewing skills in participation.

Steele, Jerry Reed (1993) attempted a study on bridging distances to the individual student: the converging of video, voice and data technologies. The major learning was examination and faculty
experience confirms that the students performed better than students in traditional classroom.

Investigation of Kanning (1994) describes that the multimedia approach is most successful in helping students to attain existing curricular goals. Burkman, Thomas A (1994) attempted an analysis of the relationship of achievement, attitude and sociological elements of individual learning style of student in an interactive television course. The study examined relationship of individual learning style with achievement and attitude of students receiving instruction via two-way interactive television. The technology of interactive television is making it possible for school departments to cooperate and share instruction for low incident students.

Lalley (1997) compared the effectiveness of textual feedback to video feedback that included sound during Computer Assisted Learning and indicated the video feedback resulted in superior learning and comprehension than text and students preferred video to text as feedback. In a study by Mayer (1997) it was concluded that students learn better when on-screen text and visual materials are physically integrated rather than separated. Schnackenberg (1997) showed that a relatively full version of computer based instructional programme was more effective for improving student achievement and student control in an instructional programme was more appealing for students than programme control.

Emerson and Mosteller (1998) concluded that computer technology can support good teaching and can provide active participation. It was also found that multimedia has advantages using
multiple senses and could accommodate varying needs of students and enhance learning efficiency. A survey of new teachers reported that only one third feel either "very well prepared" or "well prepared" to integrate technology in their classrooms (Market data Retrieval, 1999 a). A study conducted by Mayer, Moreno, Boire & Vagge (1999) showed that the students learnt better when verbal and visual materials are temporarily synchronized rather than separated in time. In a study by Moreno & Mayer (2000) it was concluded that students learn better when the verbal information is presented auditory as speech rather than visually as on-screen text both made a study in for concurrent and sequential presentations. Three groups of students, one viewing text while viewing animation, another viewing text following animation and the third viewing text piece ding the animation scored significantly lower than three groups of students listening while viewing animation, listening the narration following the animation, and listening narration preceding the animation respectively in problem solving transfer.

In another study conducted by Moreno & Mayer (2000) in which two groups of students learned with an animation and concurrent explanation via narration and on screen text and two groups of students learned with an animation preceding the explanation via narration or via narration and on screen text. The students who learned with sequential presentations generated more conceptual creative solutions on the transfer test than those who learned with simultaneous presentations.

According to Ausubel (1963) meaningful learning occurs when new experiences are related to what a student already knows.
Like Ausubel, Wittrock (1974 a, 1974 b, 1982, 1992) argues that students should establish connection with their existing knowledge rather than storing isolated elements of information. Computer based presentation; potentially using some combination to text, pictures and video, involves generating the elements of information and creating meaningful links among the elements.

3.3 Studies Conducted in India

The Studies conducted in this area in different years are briefly given in this section: Mishra (1967) studied the impact of Television on farmers. It was found that a significant increase in farmers' knowledge about the content of the telecasts varied from programme to programme from 10.12% to 23.15%. With regard to telecast dealing with improved agricultural practices, the increase in knowledge was found to the extent of 20.27 %. Dey (1968) studied the relative effectiveness of radio and television as mass communication media in the dissemination of agricultural information. It was found that farmers gained an average of 31% knowledge over a base line with an average retention of 24% and 19% after a lapse of 15 and 30 days respectively. NCERT (1968) conducted a study to evaluate seven agricultural telecasts. It was found that the tele-viewers gained significantly to their counterparts who did not view the telecast.

Sekhon (1968) studied the effectiveness of Television as a medium of communication for imparting technical know how to the farmers. It was concluded that due to farm telecasts there was an increase of 62% knowledge among farmers of Delhi. Dey and Sharma (1970) studied the relative effectiveness of radio and television on
mass communication media in dissemination of agricultural information. It was found that television was significantly more effective than radio with respect to gain in knowledge. But deterioration of knowledge due to lapse of time was not noted in both cases. Nagarajan and Selvan (1976) conducted pre operative survey on TV viewing and community learning needs. The main findings of the study had provided information to programme planners on the usefulness and effectiveness of the existing TV programmes. The study implied some alteration in the plan of producing adult education programmes.

Roy (1979) researched on the cognitive effects of the ETV programme broadcast by the Delhi Television center. The study showed that the students did not have overall cognitive effects out of the TV lessons. Agarwal and Rai (1980) made an evaluative study of SITE. It was revealed that the women gained more knowledge from viewing TV in area of agriculture, health and other areas of feminine interest when compared to men. Sachidananthan (1980) conducted a study on the farm telecast viewing behaviour of small-scale farmers. Two third of the respondents showed significant change in the post viewing behaviour related to viewing the farm telecasts as compared to their pre viewing behaviour.

Basu (1981) developed a multimedia programme using semi programmed text tape - slide, workbook, film, kit transparency etc. and concluded that the strategy enabled students to reach the level of mastery learning. Varghese (1981) experienced the higher effectiveness of teacher assisted programmed approach over the conventional approach in teaching Biology in Kerala High schools.
Ravindranath (1982) in his study on development of multimedia instructional strategy level noted that the strategy was effective to the extent that 70% if the experiment group students obtained 60% and above on all unit tests.

Krishnan (1983) made a study on the development of multimedia package for teaching a course on audiovisual education. This study showed that 98% of the trainers scored more than 80% of the marks of the final test. The mean gain in the total scores of all modules was found to be significant at 0.01 level. It was concluded that the multimedia package in modular form could be used for training programmes in vocational institutions.

Seth, Indu (1983) studied the effectiveness of educational Television on the educational development of primary school children. Following were the findings of the study: The scholastic achievement of students exposed to educational TV programmes along with intervention was higher than ETV and non-ETV groups.

Singh (1983) strongly advocates the use of media treatment in the teaching learning process that results in creating ideal classroom situation and is helpful in achieving high scores in students. Wad (1984) studied the scope of mass media such as radio and television in education and at High School level at Maharashtra State. The study revealed that teachers and parents had felt the need of communication media in the teaching learning process also, yet the radio and TV programmes did not attain much value in learning. They were keen at using these media in learning process of the syllabus to be completed was not heavy. Kande (1985) attempted to study the impact of
instructional TV on the behaviour of rural elementary school children. The creative behaviour of elementary school children in the rural setting was found to be positively influenced by their exposure to instructional television.

Mruthyunjayan (1987) analyzed the farm telecast programme. It was found that majority of the respondents were in average gain of knowledge in case of rice, maize and groundnut crops. The mean gain knowledge score indicated a significant gain in knowledge by respondents in all the three forms of telecasts. Hainman and Purushothaman (1988) conducted a study about the instruction through interactive video. It highlights the effectiveness of instruction through interactive video in developing the skills viz Keen observation, Identification of a problem, Inference drawing, Formulating hypotheses, Divergent thinking and Generalization. The analysis of the data revealed that students develop the above-mentioned skills better compared to the control group.

The study of Karpagakumaravel (1988) aimed at comparing the effectiveness of video assisted instruction over the conventional method of teaching English. The study revealed the VIDEO ASSISTED INSTRUCTION is more effective in teaching English. Dhanabhagyam (1989) studied the effect to video assisted instruction on students' achievements and attitudes towards learning Botany at Higher Secondary level. This study concluded that TV teaching method was better than the conventional method of teaching for promoting student achievement and attitudes. Antony Samy (1989) studied the effectiveness of teaching environmental concepts to school dropouts.
through video and charts. The major findings were teaching environmental concepts through video was more effective than teaching the environmental concepts through charts. Teaching the environmental concepts to the dropouts through video was found to be more effective. No difference between the scores of boys and girls was observed.

Indrani (1989) compared the retention of science concepts among the students of StdVIII learnt through conventional method and video recorded instructional material. This study revealed that video recorded instructional material (VRIM) was better than conventional method of teaching certain concepts in Science. The medium of VRIM resembles real life experience very closely because of the combination of sound, motion and colour. The retention power is increased by VRIM because it broadens and enriches the experience of the children; verbal explanation supplemented by a visual aid is far more effective in attracting attention, creating and sustaining interest than conventional teaching.

Laksh mipathi Raju (1989) studied the use of instructional material and television in teaching science in secondary school. This study revealed that the programmed instructional material in the book format and T.V. programmes were found to be suitable means of instruction for teaching science to the students of std X in secondary schools. The TV programme was found to be superior to book format programme so far as the time taken for the instruction was concerned.

Selvaraj (1990) conducted a study on the effectiveness of video teaching on farmers' affective, cognitive and psychomotor
behaviour. The study revealed that the selected modes of video exposure - documentary, discussion and drama, were effective in determining the technology related to the management of Heliothis pest on cotton with considerable variation in their effectiveness of gaining knowledge by the farmers and they acquired skill in Heliothis management.

Sinnathambi (1991) developed a video programme on energetics in Chemistry for higher secondary students and Narayana Samy (1991) prepared a video programme to teach Tamil vocabulary for sixth grade students. Both studies concluded that the performance of experimental groups were superior to the control groups.

Idayavani (1991) conducted a study on developing a video programme on weathering and work of rivers in Physical Geography for high school students. The study has found that the students taught by video method performed well than the students taught by traditional lecture method in the learning of the concepts of the area selected.

Kalimuthu T. (1991) attempted developing a video programme on environmental pollution in Biology for high school students. The findings are: both males and females improved their learning of the concept on environmental pollution after viewing the programme; both males and females learned more concepts of pollution than were taught otherwise.

Stella and Purushothaman (1991) studied the instruction through interactive video. It revealed that experimental group which was exposed to closed circuit television (CCTV) (non interactive
technique) and conventional methods of instruction for the control group. The ideal interactive video group is effective when it is used as a student controlled delivery system for individualized instruction. But the densely populated classrooms in India may have to choose the teacher controlled interactive video system in which students interact with the video through the teacher.

Edwin (1991) studied the effect of level of videodisc technology on 6th grade students’ achievement in science. The effectiveness of a level-one videodisc instructional format as opposed to traditional textbook format on the performance in science of 6th grade students on a two-week unit of ‘weather’ was the primary focus of the quasi experimental study.

Egavalli (1992) conducted a quasi-experimental study to find out the impact of developing communication on adult cognitive behaviour with the help of 25 pre-taped and tailored video programmes. The major conclusions drawn showed that the selected pre-taped twenty-five video programme influenced the gain in knowledge of the adults of the experimental group at pre, mid and post study score. When compared with the control group it was found that there was significant difference in their gain in knowledge.

Kiran Jaiswal and Sandhya Jaiswal (1992) studied the child development through television. It was found that the TV programmes for children were effective in terms of understanding and reaction towards TV programmes.
Shanmugasundaram, Stella and Purushothaman (1992) studied Video Assisted Instruction in English language and teaching. The study showed that Video Assisted Instruction is a potential instructional technique in improving the skill of pronunciation in English. Based on the assumption that the teachers are competent in using their techniques for group instruction, the study proves the supremacy of VA1 in developing the pronunciation skills in English language teaching.

Raja guru (1993) conducted a study to understand the effectiveness of VA1 on to achievement of slow students. The results showed that the male slow students of these groups (VA1 and conventional class group) were alike in immediate retention whereas female slow students of VA1 group performed better in immediate retention than conventional learning group.

Vidhya (1993) studied adult participation in informal learning strategies and its effect on learning. Findings of the study showed that the informal learning strategies (Video forum and video programme) employed definitely provide opportunities for adult participants to gain knowledge, modify the attitude and to attain the skill on the development aspects. The video forum strategy was found to be effective as an informal strategy of learning.

Balasubramanian and Charles Enigo (1994) studied the effect of instructor controlled interactive video in agriculture extension. The result showed that the instructor controlled interactive video was more effective in modifying the cognitive behaviour among farmers when compared to lecture method and non-interactive video.
Mallick and Sahpp (1994) studied the effectiveness of school level ETV programme with and without feedback facilities in terms of achievements of rural background students. The post-test result shows that ETV plus talk back group had slightly higher achievement than the ETV without talk back group of students. It was also found that there could be several programmes on which ETV could bring significant positive effect on students' achievements whenever they are supported by video having talk back interactive facilities as against one-way communication without having feedback.

Balasubramanian, Charles Enigo and Philip (1995) studied the effectiveness of instructor controlled interactive video programmes with varying formats in agricultural extension. It was found that instructor controlled interactive video was more effective in agriculture extension when compared to other group communication strategies for instruction. It was also found that the instructor controlled interactive video is more effective in modifying the cognitive behaviour of knowledge, understanding application when compared to conventional and non-conventional video and lecture method in the context of video programme of documentary format.

Sahoo and Mallick (1995) studied the attitude of students of higher education towards ETV. The study shows that there exists significant difference between the under graduate students of urban and rural areas. The rural area undergraduate students express low positive attitude towards ETV. They valued it as a distance education mode. Those who were deprived of appropriate facilities for face-to-
face interaction with subject experts found ETV as a more effective mode of instruction.

Charles, Enigo (1996) studied the effectiveness of Instructor Controlled Interactive Video as compared to conventional Non Interactive Video and Lecture method in modifying the cognitive behaviour among farmers in agriculture. The result of the study showed that there was significant difference between the mean of the pre test and post test scores of the control and experimental groups at all levels of cognition in the selected content areas in agriculture. It was also concluded that Instructor Controlled Interactive Video is more effective when compared to Non- Interactive video and Lecture method in modifying the cognitive behaviour among farmers at all cognitive levels except at understanding level in agriculture.

Sagy, John (1996) studied teaching Genetics through programmed instructional method and conventional teaching method and its effect on learning among the higher secondary school students in Coimbatore city. The significant conclusion associated with the study was when compared to conventional teaching method, programmed instruction needs 50% less time for learning the topic and this method was equally effective to conventional way of teaching.

Pushpa (1996) studied video programme on vitamin A as extension method in nutrition education and its impact on rural women. The study showed that the three different forms of video programme of vitamin A (viz documentary, interview and discussion formats of video programme) have definitely provided an opportunity for the participants to gain knowledge between post study and after 15 days of post study.
Illangovan (1997) researched on the effectiveness of audiovisual intervention in developing listening comprehension in English at Higher Secondary stage. The main conclusions of the study were that conventional media based non interactive group instruction and audio visual presentation as support system are effective in developing micro skills with regard to listening comprehension among Higher Secondary School students.

Marthandavarma (1997) studied the effectiveness of instructional media in modifying cognitive and affective behaviour in prevention and control of AIDS. It was concluded that conventional lecture method was more effective than video (English) Audio (English). Reddy (1997) suggested the effectiveness of multimedia instructional strategy in teaching science to slow students and the result revealed that it enabled the slow students to cope with the normal students to a considerable extent. Suresh Kumar (1998) studied media employment in PG students learning showed that there was no significant difference in the media employment for self learning among post graduate students - Arts students and commerce students of Madurai Kamaraj University.

Madanakumar (1998) found that media based instructional strategy is more effective in creating environmental theory and application awareness than conventional text book approach among primary school students in Kerala. Balasubramanian and Sundara Bashyam (1999) studied the effect of Video Assisted Instruction in relation to personality traits. The review of related literature helps to make the following general outline based on the various aspects of
studies undertaken from time to time. The demographical variables of the viewers on educational television have no influence on their attitude towards educational Television (Kamjanpun and Supit, 1984; Stibravy and Ishu, 1984). However, the attitude of the viewers towards educational Television has been influenced by its effectiveness (Peterson Donna, 1986; Kapali and Ratna, 1987; Ziegler John Herman, 1990; Mason, Lynn Merrick, 1991; Sahoo and Mallick, 1995). The effectiveness of different instructional media varies with respect to their effectiveness in realizing the instructional objectives (Corbett and Julie, 1985; Abrams Arnold, 1986; Hoelscher, Karan, 1989; Desai, 1985; Balasubramanian and Charles Enigo, 1995). There is no significant difference between conventional instructional methods and instructional media in their effectiveness in realizing the instructional objectives (Douglas, Jeanne, 1988; Jones and Gaynellsara 1982; Mc Weilbarban Jean, 1989; Roy, 1979; and Dhamija, 1985). There is a sex difference among teachers in the use of media material in learning process (Warner and William, 1988; Brasel and MicLoelloris, 1989; Golani, 1982 and Ramachandran 1982.)

3.4 Conclusion

Based on group comparison studies regarding effectiveness of video mediation, the results range from mildly negative to extremely positive. It has also found that the mediation has helped to improve the students' attention and retention. The studies conducted abroad and in India showed that interactive video is more effective in learning and it can be presumed that technology, if properly applied, could improve the effectiveness of both formal and informal education.
A number of studies have summarized studies comparing traditional instruction with various types of videodiscs or interactive multimedia presentations. What we are witnessing today is a fusion of technology. Movies of films are replaced by video technology in compact cassettes and then in Compact Discs (CD) and then video discs: screens to TV and to monitors in digital format. Now with the help of multimedia computer and digital camera desktop production of videos are possible. Computers became user-friendlier and available to educational purposes and became common in instruction and learning. It is being used in teacher-centered instruction; and in student centered learning apart from management and educational research. So a user-friendly programme combining the effect of video and computer assisted instruction was contemplated. The review of related literature has guided the researcher to design the study reported in this thesis and to explore more into the effectiveness of Teacher Controlled Video Assisted Instruction the achievement in Biology among VIII standard students.

The computer has entered the classroom and slowly the classroom is entering the computer as it can fuse the technology into one single media. The question now emerges is about the need to rethink teacher–student relationships. The role of the teacher changes from performer, when the curricula and resources are available on the screen and the student is given chance to proceed at his pace of learning. The teacher can concentrate more on planning, resource development and management and less into delivery.