

# **Annual Report**

## **U.G.C. Minor Research Project**

File No. 23-520/08 (WRO)

Title of the Minor Research Project :

**“Development and Try out of  
Educational Program Based on  
Multimedia Technique for Teaching  
History At Secondary level”**

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## **Introduction**

History of Indian Education system; begun with the “Gurukul” type of organization has now travelled and reached to system called “Online education”. Transfiguration of this education world is only due to advancement in technology. Technology has mastered every corner of education system; on learning- teaching duo. It has been reported that modern techniques of teaching are more effective than conventional methods. Audio-visual means of learning has been proven more useful than the former one.

Our country has plethora of regional languages; which of course are of owed importance. Unfortunately, Hindi is not yet accepted as National language by all and English is not an acceptable medium of teaching everywhere so regional languages owe its dominance.

Use of technology in teaching regional languages is not yet commandeering, consequently group associated in teaching in regional languages cannot avail this technological advancement. Main reason behind this lag is aversion of regional teaching-learning materials. Teaching-learning materials in regional language in our system are not ample amount.

Researcher in more interested in audio-visual methods of learning-teaching rather than conventional method of education. If multimedia is used for teaching or supplementing learning; enhanced annotations can be given. For this; teaching materials should be prepared in regional languages so that students can avail these facilities and attain higher achievements in their educational career.

Mentioning the importance of school education; it has been written in a book named National curriculum frame work for school education (2000) that, “School education in recent time has emerged as an important segment of educational system and is expected to contribute significantly to the individual as well as the national development process”. Report of UNESCO International Commission (1974) also draws our attention towards quality education. It gives equal importance to excellence in education; its syllabus and effective methods of delivering the same.

Invention of computer in our century is a revolutionary creation. Computer has become an indigenous part of each and every field; including education system. Today a teacher

uses computer features like models, charts, filmstrips, maps etc. to make its teaching effectual. Only an expert teacher can make appropriate use of these features; but still it's an easier approach to teach. Computer programming enables a teacher to easily represent his teaching in form of charts, pictures, maps, audio-visuals etc.

Based on this literature studied researcher has decided to undergo this study.

## 1. Statement of Research

Topic of current research statement is as follows:

“DEVELOPMENT AND TRY OUT OF EDUCATIONAL PROGRAMME BASED ON MULTI MEDIA TECHNIQUE FOR TEACHING HISTORY AT SECONDARY LEVEL”

Present research includes development of an educational programme and its effect of students' educational career has been studied. So, this research is associated with educational technology.

During the course of research, researcher has developed an multimedia capsule based educational programme and has tried to analyse the achievements obtained though it via developmental trial, achievement trail and its results. Researcher has also conducted the research in relation to gender and geographical location of the subjects selected. So, it can be supposed that these trials are parameters to measure the required aspects.

## 2. Operational Definitions

Given below is the list of operational definitions used in the research and its explanation:

### 2.1 Development:

According to oxford dictionary, Development means to grow or change into a more advanced form. The act or an instance of developing.

In context of present study the multimedia capsule based educational programme includes chapter “On the path of Mahatma (Part 1 and 2)” of subject History, Social Science of standard 8<sup>th</sup> as curriculum.

### 2.2 Try Out:

According to Oxford Dictionary,

Try out means experimental test of efficiency, Popularity.

Put to the test.

In context of present study: analysis of understanding of student when chapter “On the path of Mahatma” of History will be taught to them via multimedia capsule based programme.

### 3.3 Educational Programme:

According to Oxford Dictionary, Educational programme means, the act of process to educate or being educated. A development of character of mental power.

Programme: A plan of activities to be done for things to be achieved.

In context of present study: Multimedia capsule based educational programmed analysis of contents of chapter “On the path of Mahatma (Part 1 and 2)” of subject History, Social Science standard 8<sup>th</sup>.

### 3.4 Multimedia Technique:

According to N-Karta Dictionary, Multimedia Technique means, " computing sound and video on computers, programmes, software and hardware capable of using a wide variety of media such as film, video and music as well as text and numbers". Educational use of media in teaching: the use of film, video and music in addition to more traditional teaching materials and methods (often used before a noun)".

Multimedia capsule is based on collection of chalk and cheese approaches. For this, terminology commission has given follow definitions:

"This method is based on the principle that when audio-visual observations are combined with teaching materials; they complement each other or consolidate each other's value. Some of these materials provide an impetus to the facts while some are helpful in removing the misconceptions and some in a better understanding of concepts".

When a matter is presented in proper order or when it is explained using more than one methods simultaneously it may be called as multimedia approach; which in present study is a multimedia capsule prepared with the help of experts, academicians and various books to teach the students.

In present study same multimedia approach had been used to prepare teaching material of some chapters of history; social science for 8<sup>th</sup> students in which power point presentation was used. Power point presentation of teaching material was shown via LCD alongwith discussing related examples in class.

### 3.5 Teaching history:

According to Oxford Dictionary, Teaching History means, it is a scientific study and a record of our complete past. It is the study of man's evolution on earth.

In present study; a customary, conventional classroom approach or newly made teaching material study of 8th standard's history chapters presented by government of Gujarat.

### 3.6 Secondary level:

According to rules of Department of Education, Government of Gujarat, Secondary level

means, Secondary school for children of 12 to 14 years, part of secondary school, that which gives education of standard 8 to 10.

According to Gujarat government means schooling of standard 8 to 10. This curriculum is based on student's age.

When researcher started his research; 8 to 10 standards were included in secondary section. According to 'secondary section 2010' new education system; 1 to 5 std are called lower primary, 6 to 8 standard is upper primary and 9 to 12 is secondary section, So, accordingly on our study upper primary education is taken in research.

### 4. Significance of study:

Scientific research education system has many audio-visual methods to teach. To instigate proper teaching and make it effective; selection of proper method is must. According research conducted in developing countries; teaching via audio-visual methods leads o 70-80% success.

Vet (1971) says that modern teaching methods don't assist teaching rather these educational television programmes, educational software are itself an education system. So, audio visual methods are not actually the materials but now have become an integral and important part of education field.

Practical education has its own importance in teaching. Along with theoretical knowledge; explanation via pictures, charts and models expresses the concept, theory or process on more lucid way.

In today's era, mix of education and technology is very effective. Researcher hypothesized that if multimedia approach is used in teaching subject like history; it will have an innovative, effectual and long lasting effect on students. Teaching

process will become attractive as well as its ability, capability and expertise will increase. It will also create an healthy atmosphere in class.

Teaching through multimedia approach in history is more important than in other subjects because it is connected with past; and as past is ambiguous, non-attractive and deceased it needs such materials to teach it. So that it can be made live and attractive. Audio visual methods can prove an admirable source in fulfilling the aims and making the past live. In these circumstances, teaching students via audio visual capsule will be very successful.

Considering the above facts, researcher has decided to develop a material to check the knowledge gained and emotional quotient of students if Social science especially history is taught via such method. Researcher will also check the effect of innovative material developed by his own on career prospects of students.

Researcher had developed several unit tests to analyze the knowledge gained of students at the end of the research. Unit test consisted of MCQs. Unit tests and subjective tests taken will be helpful to measure the knowledge gained by students in subject of history in social science field. These tests will also be helpful in identifying weak students in class in turn helping out them to do away with their weakness.

Such studies had been carried out in other subjects but in subject of history it is first of its kind. Gandhiji had paramount importance in Indian history. History textbooks of std 8 has chapters related to Gandhian era. Researcher is also interested in studying Gandhian era. Keeping this into the mind, researcher has prepared an audio visual capsule. Researcher has prepared this material so that today's generation can understand Gandhian era more effectively and can have a better knowledge of independence struggle.

#### 5. Limitations of study:

- This research has been carried only for chapters " On the path of Mahatma- part 1 and 2" of 8th standard's history chapters presented by government of Gujarat.
- This research is limited to conventional and multimedia approach of study only.
- This research is only for Gujarati medium students.
- This research is only for 8th standard students.
- This research has studied variables on only 200 students selected as subjects.

- This research is only for Gujarati medium students studying in schools of Anand district Gujarat.

#### 6. Research objectives:

- To develop audio visual teaching module for history chapter named "On the path of Mahatma- part 1".
- To develop audio visual teaching module for history chapter named "On the path of Mahatma- part 2".
- To develop various test to analyze knowledge gained of students.
- To compare conventional and multimedia approach of teaching.
- To take students' opinion regarding multimedia approach of teaching

#### 7. Research Hypothesis

1. Average of means obtained of experimental group and controlled group studied under multimedia teaching approach will have no significant difference.
2. Average of means of knowledge gained obtained of urban experimental group and controlled group studied under multimedia teaching approach will have no significant difference.
3. Average of means of Knowledge gained obtained of rural experimental group and controlled group studied under multimedia teaching approach will have no significant difference.
4. Average of means of tests conducted between boys' experimental group and controlled group studied under multimedia teaching approach will have no significant difference.
5. Average of means of tests conducted between girls' experimental group and controlled group studied under multimedia teaching approach will have no significant difference.
6. Average of means of tests conducted between boys' urban group and rural group studied under multimedia teaching approach will have no significant difference.
7. Average of means of tests conducted between urban group and rural group studied under multimedia teaching approach will have no significant difference.
8. Average of means of tests conducted between boys' urban group and rural group studied under multimedia teaching approach will have no significant difference.

9. Average of means of tests conducted between girls' urban group and rural group studied under multimedia teaching approach will have no significant difference.
10. Average of means of tests conducted between boys and girls of urban group studied under multimedia teaching approach will have no significant difference.
11. Average of means of tests conducted between boys and girls of rural group studied under multimedia teaching approach will have no significant difference.

8. Research Variables:

Given below are the variables considered for the present study:

8.1 Independent Variables:

Teaching method was the independent variable in present study which had two types:

1. Conventional classroom teaching
2. Teaching via educational curriculum materials

Independent Variables  
(Teaching method)

Conventional classroom teaching	Teaching via educational curriculum materials
Class 1	Class 2

8.2 Dependent Variable

In present study, self made and conventional teaching learning module prepared for chapters "On the path of Mahatma (Part 1 and 2)" of subject History, Social Science of standard 8<sup>th</sup> as curriculum is independent variable while knowledge gained by students in dependent variable. So, in course of research effect of independent variable on dependent variable will be studied.

8.3 Controlled variable

To consider that dependent variable (knowledge gained) is affected by independent variable (Teaching methods) in class 1 and 2 student is an error prone assumption. To analyze the knowledge gained by students and effect of factors on it; researcher has tried to consider all possible variables. Researcher has divided equal number of subjects in urban and rural areas on gender basis in two groups considering the expected results.

8.4 Alternative variables

Present table denotes the alternative variables chosen by researcher to check the effect on subjects

Summary: Alternative variable affecting the subjects

Sr. No.	Variable	Class
1	Gender	1 Boys 2 Girls
2	Area	1 Urban 2 Rural

#### 9. Type of research

Data obtained after the completion of present research will be in form of numbers; which have been statistically analyzed. So, this is a type of quantitative research.

Also, considering the historical, educational and comparative aspects of research it of experimental type.

#### 10. Research Broadening

Below are points which broadens the research

- Present research is only for students of std 8th of secondary section of Gujarat state (Now- Upper Primary).
- Students of std 8th of secondary section of Gujarat state are taken as universe.
- 8th standard's history chapters taken from textbook of history subject presented by Gujarat state educational board, Gandhinagar is taken as material.

#### 11. Selection of subjects;

Researcher has selected one school each from urban and rural areas of Anand district.

Selecting std 8 students; pre test prepared by teachers were given to them; on basis of which students were divided in group of 50. So, in total 200 students were selected.

## 12. Tool of study

Researcher prepared given tools considering the research objectives:

- Pre test (Computer based teaching material)
- Multimedia capsule
- Unit test
- Subjective test
- Questionnaire

### 12.1 Selection of teaching material:

8th standard's history chapters taken from textbook of history subject presented by Gujarat state educational board, Gandhinagar is taken as material:

1. On the path of Mahatma -part 1
2. On the path of Mahatma -part 2

This units were divided further into sun units and teaching material was prepared; which are the core chapters in this section. This units has description of Indian era in which Indians were under British colonization. It is an summary of long struggle Indians did against British.

### 12.2 Collection of material

Social science s study of human and scoiety. History is an important part of social science. History speaks about man's evolution and progress. Considering this, researcher has tried to prepare the best possible comprehensive teaching material. Thereafter, history textbooks which are considered are popular and perfect source to study it were vividly studied and material was collected. In this way, related materials were collected and teaching material was prepared out of that.

### 12.3 Scrutiny of materials collected

To improvise and proofread the prepared material; it was given to 11 experts of social science especially in history. The material was modified according to the suggestions given by them and the final copy was prepared which is included in appendix. This material is divided into sections and sub sections considering the age and class of students.

### 12.4 Review of related literature

Reviewing the related literature to develop a new system is the key foundation. In present research, to study computer programs developed in subject of history or any other subjects, analysis and inspection of its related material was done. Programmes developed by world famous Microsoft company were studied; which were

connected to computer skills. In addition researcher had also studied teaching material published by Navneet publishers, Ahmedabad and Topper education.

So, after reviewing the literature researcher has prepared a blueprint of the multimedia capsule that was to be prepared.

#### 12.5 Preparation of multimedia capsule

First of all, researcher studied units associated with the material. Thereafter, every unit was computerized with the help of computer expert by using Microsoft power point programme. To make the material effective and lucid charts, maps, text, videos, animations and audio was used. The complete material was divided into 15 different period. After each period to increase the knowledge of students and make their foundations strong several MCQs were asked to them. Graphic effects were used for the entire programme. Researcher only conducted the complete programme in the class; so that students as well as teachers can have an interactive sessions with the researchers.

#### 12.6 Computer expert check:

Multimedia teaching capsule was prepared using Microsoft Power point programme. To check any technical impairment in the programme, the module prepared was given to computer expert. Graphic effects were used more in this programme. Audio, video and animations were also used. Required modifications were made as suggested by computer expert.

#### 12.7 Subject expert check:

The material prepared was related to the events occurred in Gandhian era. This material prepared experts was given to subject specialist so that students can gain proper knowledge about history and historical people. Specialist gave their opinion regarding the module. Required modifications were made as suggested by them to prepare an effective teaching module.

#### 12.8 Preparation of various test:

To select the groups from the subjects; researcher has prepared a 25marks MCQs test based on class 7 social science textbook.

During the research, two unit tests each of 25 marks MCQ questions based on history subject was prepared. This unit test were conducted to check the social science related knowledge of students which included information, understanding, utility and expertise.

All of these tests were prepared with the help of school teachers and subject expert.

In present study, a questionnaire was prepared by the researcher in order to know the opinion of students regarding the multimedia teaching module prepared. This questionnaire consisted of 36 questions. With the help and guidance of experts, 25 statements were selected.

### 13. Core experiment:

1. Researcher first asked permission from principals of both the schools to carry out this study. Both the principals were agreed to provide the support. This study was carried in beginning of the academic year so that school teachers need not to repeat that chapters selected by researchers for his study.

2. In the first phase to obtain the experimental and control group from std 8 students, a per test was prepared by school teacher based on history syllabus of std 7 and the marks obtained were used to divide the groups. Schools were from urban and rural area. Both groups contained 50 students.

3. In second phase the groups were given an overview of the study that was going to be conducted. From the next study the research was started taking the groups as subjects. Researcher was pre-prepared and then he presented the multimedia capsule to the class. The presentation alongwith with speakers attached was given on big screen projected through LCD so that every student can easily see it. Researcher completed one unit in one period. Along with the presentation, researcher gave verbal explanation when needed and made them take notes also. Every question of student was addressed. The module contained charts, maps, text, videos, animations and audio. At the end of the period, conceptual questions were asked, analysis was done and then answers were also given.

Same experiment was conducted in which history related questions were discussed in front of control group but with conventional teaching method. Researcher himself conducted conventional teaching. This method took 15 periods to complete one unit. Unit test was conducted under researcher's vigilance.

Researcher taught himself in both the groups. Working yourself can solve the problems arose during the study. Moreover, the study carried objectively yourself makes oneself enjoy the results.

After teaching the experimental and control groups with different methods the very next day they were subjected to the test prepared by the teacher. Objective behind taking the test was to compare the effect of conventional teaching and multimedia based teaching on students. The entire test process was carried out by researcher; so that the test is presented well and discussion can also be carried together.

Finally the experimental group were given a questionnaire to take students' opinion regarding multimedia approach of teaching

#### 14. Statistical analysis

Knowledge gained by both experimental and control group on the basis of test taken was analysed statistically. Average, standard deviation and student's t-test was performed from the marks obtained from the test.

Percentage of answers given by experimental group for multimedia based capsule in the questionnaire was calculated and the percentage calculated was analyzed.

#### 15. Conclusions:

Conclusions from the research are:

##### 15.1 Test related conclusion:

1. Experimental group scored more than the control group in terms of knowledge gained after the test.
2. Experimental group of rural area scored more than the control group in terms of knowledge gained after the test.
3. Experimental group of urban area scored more than the control group in terms of knowledge gained after the test.

Above results states that multimedia approach of teaching is more effective mode of teaching than the conventional classroom teaching.

##### 15.2 Related conclusions based on area

1. Knowledge gained by rural experimental group was more than the control group after the test.
2. Knowledge gained by urban experimental group was more than the control group after the test.

Above results states that multimedia approach of teaching is more effective mode of teaching than the conventional classroom teaching in both rural and urban areas.

##### 15.3 Related conclusions based on gender

1. Knowledge gained by boys of rural experimental group was more than the control group after the test.
2. Knowledge gained by boys of urban experimental group was more than the control group after the test.
3. Knowledge gained by both boys and girls of experimental group was almost same after the test.

4. Knowledge gained by both boys and girls of rural experimental group was almost same after the test.
5. Knowledge gained by both boys and girls of urban experimental group was almost same after the test.

Above results states that multimedia approach of teaching is more effective mode of teaching than the conventional classroom teaching in both rural and urban areas irrespective of gender. So, if it is a boy or girl the effect of multimedia approach is same in both the cases.

#### 16. Appendix:

##### Appendix 1: Statement of research problem:

Present study includes title, objectives, hypothesis, significance of research, limitations, variables, broadening etc.

##### Appendix 2: Background of research and review of literature

It contains background of preparation of multimedia capsule and literature surveyed related to study done in past on this subject and abstract obtained from it.

##### Appendix 3: Work Plan

Objectives of the study has been discussed in present appendix. It contains the study conducted by researcher, its preparation, selection of subjects and its procedure, variables selection etc

##### Appendix 4: Statistical analysis:

This contains core of the study. The marks obtained by students were analyzed scientifically, statistically and then conclusions were drawn according to that.

##### Appendix 5: Conclusions and future prospects

This includes the conclusions and future prospects of the research conducted.

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