## SUMMARY, FINDINGS AND RECOMMENDATIONS

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CHAPTER – 7

SUMMARY, FINDINGS AND RECOMMENDATIONS

7.1 SUMMARY

The 21st century will be an era of acute modernization and both teacher and students will have to cope with the changes and challenges in new media and technology. The information society requires a higher level of skill and knowledge of all individuals than did the industrial economy, geared to factory production. Environmental changes are inevitable and therefore a teacher is effective if he/she can adapt to and improve his/her environment. Teacher must be able to increase conceptual understanding and analytical ability among students through the use of diverse media.

Audio-visual materials are very important and useful in education because, the normal learner in so far as the functions of his preceptor mechanisms are concerned, gains understanding in terms of multiple impression recorded through the eye, ear, touch and other series.

According to Eze (n.d.)¹, when properly combined and appropriately used, these media and aids could help the teacher to teach more efficiently and effectively and learner to learn faster, better, retain longer and transfer learned material more effectively.

With its rapid development, information and communication technologies (ICT) are indispensable to human society. Its integration in schools or universities is essential in order to achieve various objectives, as well as to improve the quality of lessons.

Since ICT is a crucial element in the advancement of society, every person should become technology-competent. Thus, all schools have to be equipped with the necessary ICT tools in order to provide the next generations with the needed tools and resources to access, use and attain the expected skills for a modern society.

ICT provides powerful tools that may help in transforming the present isolated, teacher-centered, and text-bound classrooms into rich, student-focused interactive knowledge environments. To meet these challenges, learning institutions and schools

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¹ Eze, n.d.
or universities must incorporate the new technologies and appropriate ICT tools for learning (Shuva, 2010)\(^2\).

Teachers’ attitudes towards ICT integration into the curriculum play a crucial role in the teaching and learning process, especially when it comes to positive attitudes. Teacher effectiveness can be judged through many factors through their competency and their performance in classroom. The act of teaching along with their competency and performance results in effectiveness in the classroom. Besides, due to the availability of modern technology, the advance media have to be incorporated in the teaching learning process.

Quality of students’ outcomes is very important and is influenced by the effectiveness of teachers’ teaching methods. As a result, this requires that the teachers have a positive attitude towards ICT integration and implementation into the curriculum.

So, teacher effectiveness in relation to media utilization and attitude towards use of ICT among primary school teachers must be emphasized on the improvement of the teaching learning process for increasing educational quality, integration of ICT in education, improvement of the teacher’s competencies on ICT skills as well as media skills and improvement of teaching quality by incorporating different types of media in teaching learning process.

The present research studied the problem as under:

“A STUDY OF TEACHER EFFECTIVENESS IN RELATION TO MEDIA UTILIZATION AND ATTITUDE TOWARDS USE OF ICT AMONG PRIMARY SCHOOL TEACHERS OF GUJARAT STATE”

**Definition of the important terms**

1. **Media:**

In the present study media means non projected media, projected and electronic media, and mass media such as Books, Charts, Models, Figures, Maps, Slides, CCTV, Teleconferencing, Projectors, Video Camera, Slide and Film Projector, OHP (overhead projector) and Transparencies, TV Programs, Newspaper, Films, Role play and Educational tour etc.
2. **Media utilization:**

In the present study media utilization means use of non projected media, projected and electronic media, and mass media mentioned above.

3. **ICT:**

In the present study ICT means computers, the Internet, CD-ROM, WWW (World Wide Web), LCD Projector, Multimedia, CBT (Computer Based Tutorial) and Computer assisted Instruction.

4. **Use of ICT:**

In the present study use of ICT means use of computer based techniques as mentioned above.

5. **Attitude:**

In the present study Attitude means Primary school teachers’ attitude towards media utilization and attitude towards use of ICT.

6. **Teacher effectiveness:**

In the present study effectiveness means effectiveness of primary school teachers in relation to attitude towards media utilization and attitude towards use of ICT.

7. **Primary School Teachers:**

In the present study primary school teachers means primary school teachers of Bharuch district of Gujarat State during the year 2013-14.

8. **Gujarat State:**

“One state amongst India’s total 29 states and 7 union territories which is located in western direction. Gujarat is having North-South length is approximately 590 Km and East-West breadth is approximately 500 Km with population of 60,383,628 according to the 2011 census data.”
**Objectives of the study**

There were eight objectives in the study:

1. To construct and validate Media Utilization Checklist for Primary school teachers.
2. To construct and validate Media Utilization Attitude Scale for Primary school teachers.
3. To construct and validate Use of ICT Attitude Scale for Primary school teachers.
4. To construct and validate Teacher Effectiveness Scale for Primary school teachers.
5. To compare the Male and Female Primary school teachers with regard to
   - Media Utilization
   - Attitude Towards Media Utilization
   - Attitude Towards Use of ICT
   - Teacher Effectiveness
6. To compare the Rural and Urban Primary school teachers with regard to
   - Media Utilization
   - Attitude Towards Media Utilization
   - Attitude Towards Use of ICT
   - Teacher Effectiveness
7. To compare the Government and Private Primary school teachers with regard to
   - Media Utilization
   - Attitude Towards Media Utilization
   - Attitude Towards Use of ICT
   - Teacher Effectiveness
8. To study the Teacher Effectiveness of Primary school teachers in relation to
   - Attitude Towards Media Utilization
   - Attitude Towards Use of ICT
Variables of the study

There were two types of variables included in the study:

1. **Independent Variables**

   Gender (Male, Female), Area (Rural, Urban) and School Type (Government, Private) were the independent variables of this study.

2. **Dependent Variables**

   Attitude towards Media utilization, Attitude towards Use of ICT and Teacher effectiveness were the dependent variables of this study.

Hypotheses of the study

The researcher studied 11 major hypotheses as follows:

**Hypotheses related to Attitude towards Media Utilization**

1. There will be no significant difference between the mean score of Attitude towards Media Utilization of Male and Female primary school teachers.
2. There will be no significant difference between the mean score of Attitude towards Media Utilization of Rural and Urban primary school teachers.
3. There will be no significant difference between the mean score of Attitude towards Media Utilization of Government and Private primary school teachers.

**Hypotheses related to Attitude towards use of ICT**

4. There will be no significant difference between the mean score of Attitude towards use of ICT of Male and Female primary school teachers.
5. There will be no significant difference between the mean score of Attitude towards use of ICT of Rural and Urban primary school teachers.
6. There will be no significant difference between the mean score of Attitude towards use of ICT of Government and Private primary school teachers.
Hypotheses related to Teacher Effectiveness

7. There will be no significant difference between the mean score of Teacher Effectiveness of Male and Female primary school teachers.

8. There will be no significant difference between the mean score of Teacher Effectiveness of Rural and Urban primary school teachers.

9. There will be no significant difference between the mean score of Teacher Effectiveness of Government and Private primary school teachers.

Hypotheses related to relationship between Teacher Effectiveness and Attitude towards Media Utilization

10. There will be no significant relationship between Teacher Effectiveness and Attitude towards Media Utilization.

Hypotheses related to relationship between Teacher Effectiveness and Attitude towards use of ICT

11. There will be no significant relationship between Teacher Effectiveness and Attitude towards use of ICT.

Significance of the study

The increasing use of technology in all aspects of society makes confident, creative and productive use of ICT an essential skill for life. ICT can be used to find, develop, analyze and present information, as well as to model situations and solve problems.

Increased capability in the use of ICT supports initiative and independent learning, as pupils are able to make informed judgments about when and where to use ICT to enhance their learning and the quality of their work.

Media promotes interaction. It helps students in better understanding and helps to create real life experiences. Projected media improve the quality of content presentation. Media promotes exactness in learning and facilitates students learning.

That’s why, it is mandatory to incorporate the effective usage of diverse media and ICT in teaching and learning process in schools.
The present study emphasis to find out teacher effectiveness in relation to media utilization and attitude towards use of ICT among primary school teachers. The findings of the present research may be a source of encouragement for teacher effectiveness in relation to media utilization and attitude towards use of ICT among primary school teachers. This study may also be a source of inspiration for researcher to increase teacher effectiveness and may give the idea about the importance of various media and ICT which can be applied for effective teaching to fulfill the objectives of educational quality development.

Research method

Descriptive research was selected to be the research method of the present study. The purpose of this type of research method is to answer the questions who, what, where, when and how. The description is used for frequencies, averages and other statistical calculations. It deals with everything that can be counted and studied. It is used to obtain information concerning the current status of the phenomena to describe “what exists” with respect to variables or condition in a situation. The method involved the survey which describes the relationship between variables. So the research method selected for present study was survey method.

Population and Sample of the study

Population of the present study was the primary school teachers who are teaching in 1206 primary schools of 8 different talukas of Bharuch, in academic year 2013-2014.

1140 Gujarati medium primary school teachers of Bharuch District were selected by stratified random sampling method to be the sample of the study.

Tools

The tools used in the present study were:

1. Media Utilization Checklist
2. Media Utilization Attitude Scale
3. Use of ICT Attitude Scale
4. Teacher effectiveness Scale
1. Media Utilization Checklist

Media Utilization Checklist measures response analysis of various types of media used by primary school teachers.

It consisted of 48 different types of media (27 Non projected media, 11 Projected and electronic media, and 10 Mass media) in the Media Utilization Checklist.

Each media item has five levels in the Checklist i.e. “Regularly”, “Frequently”, “Occasionally”, “Seldom” and “Never”.

2. Media Utilization Attitude Scale

Media Utilization Attitude Scale has five levels which measures attitude of primary school teachers towards use of media utilization was used as one of the tools of the study.

Media Utilization Attitude Scale consisted of 32 statements. Each statement has five levels of agreement i.e. “Strongly agree”, “agree”, “Uncertain”, “Disagree” and “Strongly disagree”.

3. Use of ICT Attitude Scale

Use of ICT Attitude Scale has five levels which measures attitude of primary school teachers towards use of ICT was used as one of the tools of the study.

Use of ICT Attitude Scale consisted of 30 statements. Each statement has five levels of agreement i.e. “Strongly agree”, “agree”, “Uncertain”, “Disagree” and “Strongly disagree”.

4. Teacher effectiveness Scale

Teacher effectiveness Scale has five levels which measures effectiveness of primary school teachers was used as one of the tools of the study.

Teacher Effectiveness Scale consisted of 40 statements. Each statement has five levels of agreement i.e. “Strongly agree”, “agree”, “Uncertain”, “Disagree” and “Strongly disagree”.

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Construction of Tools

The index of Item-objective congruence (IOC) was used for the judges' agreement in preparation or manuscript form of all the scales. After the IOC method was applied to the responses of the judges' agreement, the obtained scores were compared with the criteria. The statements having IOC value between 0.50 - 1.00 be accepted to be the statements included in the pre-pilot form of scale.

For finding out discrimination of all the scales, the Phi-Coefficient correlation (Ø) and Chi-square (χ²) was applied. It was found that after getting Ø value and converted in χ² with the help of formula χ² = N Ø² and the significance of χ² was checked with the table value of χ². All the items of the scales having χ² values greater than the table value of 3.84 were accepted. It can be concluded that 32, 30 and 40 statements in the Media Utilization Attitude Scale, Attitude Scale towards Use of ICT and Teacher Effectiveness Scale respectively have high discrimination power which can be used for the data collection with confidence.

In order to establish the reliability of the scales, split-half method, Flanagan formula and Cronbach’s Alpha method was applied. It was found that the obtained rₓᵧ and rₓtex values of the Media Utilization Attitude Scale and Use of ICT Attitude Scale between 0.71 - 0.90 indicated the high reliability of the scales. It was found that the obtained rₓᵧ and rₓtex values of the Teacher Effectiveness Scale between 0.91 - 0.99 indicated the very high reliability of the scale.

Item-Test Correlation was applied to the data obtained from 315 primary school teachers. The Pearson Product Moment was calculated for the rₓᵧ value from the total scores and the score of each item.

It was found that the score of each item in the Media Utilization Attitude scale, Use of ICT Attitude Scale and Teacher Effectiveness Scale obtained from 315 primary school teachers indicated the rₓᵧ value between 0.54 - 0.76, 0.55 - 0.75 and 0.60 - 0.77 respectively which were at adequate to excellence level.
Techniques of analysis of data

The data collected from the tools were analyzed according to the hypotheses. The following techniques of data analysis and statistical techniques were employed.

1. Descriptive Analysis techniques like, mean & standard deviation will be worked out to study the general nature of the sample employed.

2. t-test was used to test the significant difference between mean scores of the scales rated by primary school teachers belonging to different groups of gender, area and school type.

3. 0.05 and 0.01 level of significance were considered satisfactory for the acceptance or rejection of null hypothesis.

4. Correlation Coefficient was used to find the relationship between Teacher Effectiveness and attitude towards media utilization, and between Teacher Effectiveness and attitude towards use of ICT.

7.2 FINDINGS

1. Media Utilization

1. Male and female primary school teachers exhibited comparable media utilization.

2. Most of the urban primary school teachers used media more frequently than rural primary school teachers.

3. Most of the private primary school teachers used media more frequently than government primary school teachers.

2. Attitude towards Media Utilization

1. The gender has no effect on attitude towards media utilization of primary school teachers.

2. The area has no effect on attitude towards media utilization of primary school teachers.

3. The Government primary school teachers have more positive attitude towards media utilization than Private primary school teachers.
3. **Attitude towards Use of ICT**

1. The gender has no effect on attitude towards use of ICT of primary school teachers.

2. The area has no effect on attitude towards use of ICT of primary school teachers.

3. The Government primary school teachers have more positive attitude towards use of ICT than Private primary school teachers.

4. **Teacher Effectiveness**

1. The Female primary school teachers were found more effective than male primary school teachers.

2. The Urban primary school teachers were found more effective than Rural primary school teachers.

3. The school type has no effect on Teacher Effectiveness of primary school teachers.

5. **Relationship between Teacher effectiveness and Attitude towards Media Utilization**

There was relationship between Teacher Effectiveness and attitude towards media utilization. But the relationship was indifferent or negligible.

6. **Relationship between Teacher effectiveness and Attitude towards Use of ICT**

There was relationship between Teacher Effectiveness and attitude towards use of ICT. But the relationship was indifferent or negligible.
7.3 CONCLUSIONS

Following conclusions were derived based on the results of the analysis of data interpretation using Mean ($\bar{X}$), standard deviation (S.D.), t-test and Correlation Coefficient ($r_{xy}$).

Gender does not effect on the media utilization rated by primary school teachers. Male primary school teachers obtained equal value of score on the media utilization with female primary school teachers.

Area does effect on the media utilization rated by primary school teachers. Rural primary school teachers obtained smaller value of score on the media utilization than the urban primary school teachers.

School type does effect on the media utilization rated by primary school teachers. Government primary school teachers obtained smaller value of score on the media utilization than the private primary school teachers.

Gender and area does not effect on the attitude towards media utilization of primary school teachers. Male primary school teachers obtained equal value of score on the attitude towards media utilization with female primary school teachers. Rural primary school teachers obtained equal value of score on the attitude towards media utilization with urban primary school teachers.

School type does effect on the attitude towards media utilization rated by primary school teachers. Private primary school teachers obtained smaller value of score on the attitude towards media utilization than the government primary school teachers.

Gender and area does not effect on the attitude towards use of ICT of primary school teachers. Male primary school teachers obtained equal value of score on the attitude towards use of ICT with female primary school teachers. Rural primary school teachers obtained equal value of score on the attitude towards use of ICT with urban primary school teachers.
School type does effect on the attitude towards use of ICT rated by primary school teachers. Private primary school teachers obtained smaller value of score on the attitude towards use of ICT than the government primary school teachers.

Gender and area does effect on the teacher effectiveness of primary school teachers. Male primary school teachers obtained smaller value of score on the teacher effectiveness with female primary school teachers. Rural primary school teachers obtained smaller value of score on the teacher effectiveness with urban primary school teachers.

School type does not effect on the teacher effectiveness rated by primary school teachers. Private primary school teachers obtained equal value of score on the teacher effectiveness than the government primary school teachers.

It was found that there was relationship between teacher effectiveness and attitude towards media utilization but the relationship was indifferent or negligible. It was also found that there was relationship between teacher effectiveness and attitude towards use of ICT but the relationship was indifferent or negligible.

7.4 EDUCATIONAL IMPLICATIONS

1. For optimum learning outcomes, media could be used by teachers to capture attention of students and to bring variety in teaching situations.

2. A picture is worth a thousand words is true and visuals do have impact on the mind of the learner.

3. Media can help a teacher to assume the role of learner, mentor, facilitator, researcher and manager, but sadly technology is not easily accessible to teacher.

4. Required infrastructure should be there in schools. The primary schools should be equipped with a variety of traditional and new media.
5. Teachers with positive attitude towards media will surely use media if they are provided appropriate motivation and cooperation by the school administration.

6. Use of ICT in classroom can produce student centered learning environment, which could make student an independent learner.

7. Not all teachers are motivated to use technology. Teachers must realize that media and ICT can provide opportunities for new learning experiences.

8. Integrating media / ICT in teaching can make a real difference in how teachers teach. It enables the teacher to spend more time with individual students, less time teaching to the whole class and allows student to carry out more independent work.

9. Training should be provided to teacher for the use of media, especially ICT because in the era of acute modernization pupils are more well versed with computers than teachers.

10. Staff development programs should be held quite often for teachers to keep them up to date with the latest technologies in education.

11. Teachers must be provided with on the job training in the use of ICT in different subjects.

12. However, too much involvement in TV or ICT could have certain disadvantages such as social isolation and health problems like neck or back pain.

13. Support for research and development for technology application in education is critical to keep pace with emerging technologies.

14. Teachers should willingly perform new roles in the classrooms of the future. As students become more self-directed, it will prove an excellent opportunity for the teacher to not only learn from the student, but also model to being an information seeker, lifelong learner and risk taker.
15. The school administration should provide time to teachers for ongoing professional development. Some incentives (such as job security, financial) may be offered to teachers to use technology as they need to prepare students for the technological workplace of the future, enables teachers to spend more time with individual students, less time lecturing to the whole class and allows students to carry out more independent work.

16. Staff development that is individualized to the needs of the teacher should be provided, because technology can be an effective catalyst for educational reform.

17. Time should be provided to teachers for planning and learning about implementing technology applications.

18. Teachers should be involved in planning statewide, school and classroom uses of technology.

19. ICTs open a whole world of lifelong upgrading and professional development for teachers by providing courses at a distance, asynchronous learning, and training on demand. ICTs’ advantages include ease of revisions and introduction of new courses in response to emerging demands.

20. Being the prime actors in implementing ICT in learning and teaching, teachers should be in the center of attention. They should be involved in all stages of the implementation and meanwhile be assured that this approach is advantageous over the previous one, is compatible with their teaching practices and they will be given any technical help and training.

21. Technology in education contributes to both teacher effectiveness and student achievement.

22. In-service training should be provided to teachers. This is likely to help teachers to be more effective – both intellectually and attitude wise. Along with use of mass media especially e-media should be made integral part of teaching-learning process and all teachers should be made technology savvy.
23. Enhancing teacher effectiveness at the school level, the higher authorities in Education may form committee involving principals and subject experts to evaluate the teacher competence and effectiveness and may motivate them by giving awards or additional increments based on performance.

24. Teacher educators may apply integration of technology while they give training to pre-service teachers that they can effectively adopt them when they enter the career. In order to achieve maximum teacher effectiveness the teachers are motivated by the school principals, in attending various in-service training, workshops, conferences and seminars etc.

25. The teachers teaching in urban areas perceived themselves more effective than the teachers teaching in rural area. This fact revealed by the present study is an eye opener. The schools located in the rural areas should have the same human and material resources as the schools located in the urban areas have. The teachers teaching in these schools should have an access to latest developments in the field of education. Better facilities should be ensured to them so that they feel more satisfied and work with more dedication and whole heartedly. Welfare of the teachers teaching in rural area should be given top priority so that they are motivated to work more efficiently and effectively and only then we can achieve our goal and meet the challenges of twenty first century.

26. As per the results of present study there is more teacher effectiveness in case of female school teachers. It may be useful for the head of the institutions to understand the teacher effectiveness of male and female school teachers. An orientation to ineffective male teachers may be use for improving their teacher effectiveness.
7.5 RECOMMENDATIONS

The present study has opened up certain avenues for further research which are mentioned below:

1. There can be study on large sample of primary school teachers for validation.
2. There can be study on teachers other than primary school teachers. The present study was delimited to Bharuch district. Similar study can be extended in different parts of state.
3. There can be similar study by taking other demographic variables like experience, different age group, marital status, educational qualification, monthly salary, subject area etc.
4. There can be longitudinal survey of applications of ICT in primary schools, secondary schools, colleges and university of India may be conducted.
5. There can be study on Effect of use of ICT on student’ creativity, initiative and motivation may be conducted.
6. There can be more research to inform educators and software developers about the most effective & needed uses of technology.
7. There can be study on teachers teaching in school affiliated to different school boards.
8. There can be study for exploring the relationship of teacher effectiveness with institutions variable to compare different school systems such as Navodya and Central, and Public and Private on the phenomenon studied in this investigation.
9. There can be study to find out the relationship between teacher effectiveness and student achievement. Because teacher effectiveness is usually based on the self perceptions of teachers and learning outcomes could be a useful measure of teacher effectiveness.
10. There can be study of change in teacher effectiveness after training programmes should be undertaken to establish the usefulness of such training programmes. A number of teacher training institutions such as district institutes of education.
and training often conduct various seminars or training programmes for teachers to enhance the quality and standard of teaching.

11. There can be study on trends and issues related to the integration of ICT into the curriculum in the teaching and learning process.

7.6 OVERALL SUMMARY

At the end, one can say that media and ICT have great impact on education and teaching & learning process. The results of the study give the idea about the media utilization by primary school teachers and attitude of primary school teachers towards use of media utilization & use of ICT which can be applied for improving teaching and learning process. Usage of ICTs and different types of media assist educators to transmit the knowledge in an impressive way giving diversity to classroom teaching and making learning more effective.

It was found that area and school type did effect on media utilization rated by primary school teachers. Primary school teachers of urban area and private primary school teachers used media more frequently. School type does effect on the attitude towards media utilization rated by primary school teachers. Government primary school teachers have more positive attitude towards media utilization. School type does effect on the attitude towards use of ICT rated by primary school teachers. Government primary school teachers have more positive attitude towards use of ICT.

Gender and area does effect on the teacher effectiveness of primary school teachers. Female primary school teachers and urban primary school teachers were found more effective. It was found that there was indifferent or negligible relationship between Teacher Effectiveness and attitude towards media utilization. It was also found that there was indifferent or negligible relationship between Teacher Effectiveness and attitude towards use of ICT.

This study can lead to increase primary school teachers’ effectiveness and encourage them for incorporating various media and ICT in order to make teaching and learning process more effective. Primary school teachers can explore the ways for improving and enhancing learning and teaching.
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