Impact of educational technology in teaching learning process

Educational technology covers two aspect in teaching learning process i. e. technology as a things and technology as a social process. Educational technology is the embodiment of the practical information which is the out come of the application, science of teaching and learning to observe it practically in the classroom together with the aids and teaching strategies developed to give a feed back in its application.

In the field of education there are a number of products joint instructional procedures with instructional tools. Learning theories play a pivotal role in teaching learning process, which help teachers, and to integrate them in to teaching. Each theory of learning has its own procedures for instruction general and for the use of education technology in particular.

Evidently, the educational technology began to offer its services as early as the teaching started. In 1959 the term education technology yet to be introduced, however to pay share of educational television and instructional technology had already been commenced. In 1967 the word educational technology was recognized with the establishment of national council for educational technology in the United Kingdom.

The use of technology in education has witnessed many series of change from nearly a way of instructing to development of educational technology as a system. Aggarwal (1995, p. 19) stated that: " One of the important components of education is teaching. Therefore, teaching technology is a special branch of education technology. Education technology involves teaching, learning technology and systems approach, etc. Teaching technology is related to systematization of the teaching process and in order

to make the process of teaching effective and inspirational, it provides for necessary theory and practice for the teachers. Education is not restricted to just a teaching process and it much more than this similarly education technology is much more than teaching technology."

Educational technology is correlated with the application of audio-visual aids. A trained instructor use these audio-visual aids to make his instruction effective. Electronic revolution is engulfed in educational technology, which has led to a stage of remarkable software and hardware. The audio-visual aids such as projector, tape record, radio and television has completely changed the background of education that why educational technology was given importance in teaching learning process.

Literature

Technology describes a process that is something that the people do to solve problems or to achieve objectives and products such as instruments and tool, something that can be touched and exists and can utilize to satisfy the community needs.

Jagannath Mohanty (1992, p. 4): " It is believed that the application of different modern methods and instruments is needed for assisting the teacher to perform his job better whatever he has been previously doing for a long time. In view of this objective the audio-visual movement has not been initiated for the past two generation. But because of the absence of coordinated and sincere efforts, the audio-visual material have not been utilize sufficiently. Many of this type of aids have been found lying idle and dusty and some have been out of order all the time. However there are some

instructors who are keenly interested in the use of the audio-visual materials available to them."

The idea of systematic technology for education and training is not a new one. But the last two decades it has got much attention. Researches have been carried out in developing scientific instruments for improving the educational and training programme. It is also be kept in mind that educational technology is not only a mechanical process but it is a social activity as well including human resources, ideas, methods, instruments and communications system. Venkataiah (1996, p. 17): " The teacher has to play a fundamental role for the success of the Educational Technology The teaching aids either new or old just supplement the attempts of the teacher to improve the learning process. ET cannot be a substitute for the instructor. The technologies help him to perform his duty in an efficient way to achieve the educational goals."

The area regarding the application of educational technology are concerned with mass media i. e. radio, tape record, TV and computer etc, and system approach which means the designing, carrying out and evaluation of teaching learning process based on research. Educational technology is concerned with learner behaviour and behaviour cannot only be resoled by biological technology. So in this regard physical sciences should also be given importance. In short the main focus of educational technology is to enhance the teaching learning process. Rashid M. (1998, p. 45) stated that: " The traditional teachers depended too much on verbal exposition. The pupil hears and forgets, but how it is possible to see and do every thing in the classroom. Although it is very difficult, yet educational technology makes it

possible. With the help of electronics, teaching and learning can be enriched and a number of scenes may be shown in the classroom in a short time which is impossible to see in actual position for every one."

The usual explanation for ET is that it will take the place of teacher and the result will be unemployment. No technology can give new thing because out put is dependent upon the nature of input. The input side is more necessary and it is dependent on educator the instructional material cannot be made by ET therefore, ET will not replace the human teacher but will assist him in improving teaching learning processes.

Venkataiah (1996, p. 17) observed that: " The teacher has to play a fundamental role for the success of the Educational Technology The teaching aids either new or old just supplement the attempts of the teacher to improve the learning process. ET cannot be a substitute for the instructor. The technologies help him to perform his duty in an efficient way to achieve the educational goals."

Educational technology has the ability to improve the teaching learning process. Educational technology in use of self-instructional programme known as individualize instruction, to improve the quality of teaching learning process and helps us in using more varied, rich and motivating programmes through different media. It also helps in solving the problems of mass education. Education technology helps in using audio-visual aids for teaching learning process. These aids include TV, computer etc. it also helps in bringing equality in education regarding the economic, social and

geographical status of the students. It also helps in the continuous flow of education through different materials.

According to Hazemi(2007, p. 54) " Economic development depends on national productivity which requires a work force with proper skills, knowledge and work ethics to match the needs of employers. In many developing countries, the education and training infrastructure has not been able to fully equip their work force with the skills and knowledge demand by industries of both domestic and abroad."

Objectives

Objectives of the study were to:

Determine the impact of educational technology in teaching learning process.

Identify the range of use of educational technology at secondary schools

Analyse the problems faced in the use of education technology at secondary schools.

Point out the emerging trends in the use of educational technology at secondary s

Assess the status of educational technology in teaching learning process.

Methodology

Survey and questionnaires were the main means of data collection. Three different self assessment questionnaires were administered on sampled

principals, teachers and students at secondary level in six selected Districts of North West Frontier Province (Pakistan) i. e. Mardan, Nowshera, Peshawar, AbbottAbad, Kohistan and Shangla. Chi Square was applied to measure the availability, usefulness, emerging trends, utilization, status and impact of educational technology. Heads of the schools, SSTs, students of secondary schools and GHS/GGHS schools total population 1, 2, 3 and 4 were taken as a sample 1, 2, 3, 4 i. e. 25%, 25%, 25% and 5% respectively.

Results

The following results are presented after the data were analyzed statistically.

Table No: 1 Opinion of principals regarding the Availability of E. T

S No

Statement

SA

A

UN

DA

SDA

 £2

1

The principal possess skills in use of educational technology

46

39

4

0

1

113. 01

2

Educational Technology allows direct access to other supporting sister's organization.

52

33

2

2

1

121. 22

3

Educational Technology provides access and linkage with expert and other professionals.

27

39

19

2

3

55. 78

4

The principals has have knowledge of E. T resources and the organization dealing with it.

14

45

18

6

7

56. 11

5

E. T provides a systematic, approach to achieve curriculum objectives.

32

36

13

5

4

50. 56

6

The principal has have related training in use of E. T.

14

16

18

24

18

3. 11

7

E. T stimulates and promotes critical thoughts in case of non availability of E. T..

52

33

2

2

1

121. 22

8

The teachers has have related refresher courses regarding E. T.

9

14

15

35

17

22. 01

9

The principals faced problems in having access of E. T. .

9

24

21

26

10

3. 11

It is observed from the above analysis that the calculated value of Chi-square is greater than table value of ╪£2 = 9. 488 at P = 0. 05. So as a whole the result is significant. Therefore, it is supported the statements that Educational Technology are not properly available at secondary level.

Table No2 Suggestions of the Principals

S / No

Suggestion

Frequency

% Age

1

To aware the students about the usefulness of

educational technology

15

17. 44

2

Trained staff should be provided

12

13. 95

3

Teacher refresher courses should be enhanced

10

11. 63

4

Teacher should create interaction with students

9

10. 47

5

Budget should be allocated for educational Technology

8

9. 30

6

Trained staff should be provided

High Authorities should take interest for the promotion of Educational

Technology

8

9. 30

7

Head of the institutions should be authorized for purchases of Educational

Technology equipments.

7

8. 14

8

Teacher presence should be ensured

6

6. 98

9

Teachers should adopt advance teaching methods

6

6. 98

10

Models should be utilized during teaching learning process

5

5. 81Table No: 2 shows the suggestions of the principals about the utilization, status, emerging trends and availability of Educational technology.

Table No: 3 Opinion of Teachers about the usefulness, provision and availability of E. T

S No

Statement

SA

A

UNC

DA

SDA

⫯ £2

1

Teachers faced problems in having access and use of radio as a medium. .

125

276

56

42

19

418. 89

2

The teachers faced problems in having access of ETV as a medium.

98

262

52

55

51

317. 7

3

E. T encourages access of students to video cassettes.

90

242

75

83

28

253. 85

4

Cds have involved more senses for effective teaching and learning.

140

156

71

77

74

64. 84

5

The teachers has have related training in use of ET.

94

119

80

163

62

59. 32

6

The teachers has have related refreshers courses regarding ET.

95

99

93

153

78

31. 88

7

Institutions have providing ET items for the benefits of the students.

74

124

81

186

53

107. 66

8

It was difficult to provide enough places for the use of ET..

70

61

154

154

79

83. 30

9

Institutions were providing adequate ET for technical subjects.

45

59

139

157

118

93. 97

It is observed from the above analysis that the calculated value of Chi-square is greater than table value of $\chi^2 = 9.488$ at P = 0. 05. So as a whole the result is significant. Therefore, it is supported the statements that students faced problems in having in having access and use of emerging technologies.

Table No 4Suggestions / Comments of Teachers Regarding the Utilization of Educational Technology

S / No

Suggestion

Frequency

% Age

1

Computer should be included in curriculum as a compulsory subject

60

33. 33

2

Enough spaces should be provided for educational technology

40

22. 22

3

Teachers refresher courses should be enhanced

24

13. 33

4

Proper lab should be established

18

10. 00

5

Computer lab should be provided

15

8. 33

6

There should be a continues system of curriculum revision accordance with the job opportunities

13

7. 22

7

The course content should be extensively supported through radio and television programs

10

5. 56

The table No: 4 shows the frequency and percentage various suggestion / comments regarding the availability, usefulness, problem, emerging trends and status of educational technology at secondary school level of N. W. F. P.

Table No: 5 Opinion of students with respect to availability of E. T

S No

Statement

YES

T. S. E

NO

⚦ £2

1

Access to radio as a medium is cheaper for students than such media.

702

492

670

41. 2

2

Educational television is the effective source of increasing enrolment rate.

1101

449

314

570. 12

3

Latest information's about the course was provided through ETV.

84

66

1714

2882. 58

4

Students felt the difficulty to access of audiocassettes.

792

370

702

159. 02

5

ET encourages access of students to computer-mediated communication.

781

314

769

228. 14

6

It was difficult to provide computer mediated technology facilities to remote areas.

1083

322

459

529. 65

7

The internet as a medium of instruction was quite expensive.

841

551

472

121. 51

8

It was difficult to provide scientific laboratories facilities to remote areas.

1696

77

91

2788. 3

9

Students felt the difficulty to access of scientific equipments.

943

684

237

410. 58

It is observed from the above analysis that the calculated value of Chi-square

is greater than table value of ╪£2 = 5. 991 at P = 0. 05. So as a whole the

result is significant. Therefore, it is supported the statements that there was

no provision of radio, television, computer and computer mediated communication.

Table No 6 Suggestions / Comments of the Students Regarding the Usefulness of Educational Technology

S. No

Suggestion

Frequency

% Age

1

Utilization of educational technology should be insured

80

16. 49

2

Computer should be provided

65

13. 40

3

Proper guidance & counselling should be given to each

Students

58

11. 96

4

Trained educational technology should be provided

52

10. 72

5

Television channels should be launched

50

10. 31

6

Internet facilities should be provided

45

9. 28

7

Label should be managed properly

41

8. 45

8

Science subject should be taught an experimental based

34

7. 01

9

Teacher presence should be assured

30

6. 19

10

Enough places should be provided for educational

Technology

30

6. 19

The table No: 5 shows the frequency and percentage of various suggestion / comments regarding the availability, usefulness, problem, emerging trends and status of educational technology at secondary school level of N. W. F. P.

Conclusion

It was observed from the analysis of data that students in rural as well urban areas have no access to radio and ETV as a medium of instruction.

From the data analysis it was also pointed out that teachers in general do not use audiocassettes in teaching learning process.

The students faced the problems like scarcity of trained educational technology teacher, shortage of computers and Internet facilities.

There is a wide range of issues relating to the lack of well-integrated media with content difficulties and learning from media and the lack of provision of guidance of counselling.

The study identified that the teachers are not using computer-mediated communication for counselling, instructing and delivering lecture.

The students pointed out that computer is not used in science practical, which could enhance the teaching learning process tremendously.

It was also found that refreshers courses and workshop are not arranged for teacher's regarding Educational Technology.

It was also revealed that Internet facility is not available both in rural as well as urban areas.

It was found that computer mediated communication is not used for counselling and science subjects both in urban as well rural areas.

It was found that projected instructional technology is not used both in rural as well as urban areas.

The students complained that the teachers do not use flash card, felt board, static model, sectional model, slides, opaque projectors and models both in rural as well as urban areas.

It was noted that the teachers do not send their recommendations about the problems faced in subjects due to the lack of modern resources.

Recommendations

Keeping in view the restrictions with respect to in-adequate educational technology facilities the researcher presents a few general recommendations.

The researcher firm in his belief that: if the existing in-adequate resources are optimally utilized and efficient management is corrected; the motivation for innovation in using Educational Technology would start in no time in the schools of rural as well as urban areas.

As computer promotes active participation of students therefore it should be included in curriculum as a compulsory subject.

There should be a continuous system of curriculum revision at all levels in accordance with national needs, market requirement and capabilities of students to improve intellectual level of students and pedagogical skills of the teachers.

School should devise flexible timetable to give considerable space for the use of Educational Technology.

Long term and short-term training should be conducted for teachers at secondary level.

School should be fully equipped with emerging technologies having up to date guidance and counselling facilities.

The course contents should be extensively assisted through radio and television programmes.

Systematic and advance teaching strategies should be adopted..

Computer should be used in science practical to promote objectively.

Teachers should be properly guided and counselled from time to time regarding Educational Technology.

In order to gain maximum benefits of emerging technologies teacher may be provided opportunities of refreshers courses in order to develop skills of using these technologies effectively.

Recommendations for Future Research Studies

It is further recommended that this type of study may be conducted at higher secondary level in NWFP and through out the country.

It is also recommended that future researchers to fulfil the modern challenging needs and emerging technologies may conduct this type of study.

It is further recommended that this type of study may especially be conducted in Tribal Areas of NWFP of Pakistan to systemize and upgrade the teaching learning process.