PROVISION OF EDUCATIONAL TECHNOLOGY AT SECONDARY SCHOOL LEVEL IN NWFP (PAKISTAN)

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ABSTRACT

The study looked into a descriptive research to evaluate the use of educational technology at secondary school level N.W.F.P (Pakistan).The study has defined the availability, usefulness, problems, emerging trends and status of educational technology. The main focus of the study was the utilization and availability of educational technology.
Data was collected through survey and questionnaires. Main objectives of the study were to determine the availability, usefulness, problems, emerging trends and status of educational technology.

The following results were made by the researcher in the light of the analysis of data. Majority of the teachers were not using educational technology in addition computer mediated communication for counselling was not used. Further computer is not used in science practical, over head projectors are not used, and educational trips and exhibition are not arranged. In-adequacy of trained educational technology teachers was also found. Lack of computers, non-availability of internet facility lack of well integrated media with content as well as lack of provision of guidance and counselling was also noticed. As for as objectives of the study were concerned, they were;

- To determine the availability of educational technology at secondary schools in NWFP.
- To identify the extent of use of educational technology at secondary schools in NWFP.
- To examine the problem of education technology at secondary schools in NWFP.
- To point out the emerging trends of use of educational technology at secondary schools in NWFP.
- To review the status of educational technology at secondary schools in NWFP.

Regarding the significance the present research study will evaluate the prevailing status of Education Technology at secondary school level. The present era is of technology. The foundation of all types of technology is laid down in educational institutions. The education at secondary level plays a pivotal role and is held responsible for the development of society. On the basis of previous research studies and insight of general literature, the following hypotheses were drawn to be tested by the present study.

- There is no significant difference in the status of the provision of educational technology at Secondary Schools in NWFP in rural as well as urban areas.
- There is no significant difference in the problems / issue of the educational technology at Secondary Schools in NWFP in rural as well as urban areas.
- There is no significant difference in the scope and opportunities of education technology at Secondary Schools in NWFP in rural as well as urban areas.

Total GHS, GGHS, SSTs, Heads of the GHS, GGHS and Secondary School Students were taken as a population of the study. Total GHS, GGHS, SSTs, Heads of the GHS, GGHS and secondary school students were taken as a population of the study. Population No: 1 in April 2007 total no of GHS, GGHS in six selected district i.e. Mardan, Nowshera, Peshawar, Abbott Abad, Kohistan and Shangla were taken 87, 63, 87, 82, 14 and 27 respectively. In the period of study total no of SSTs in Mardan, Nowshera, Peshawar, Abbott Abad, Kohistan and Shangla district were 511, 365, 640, 488, 84, 202 respectively. 360 Heads of the secondary schools were taken as population III of the study. Population No IV:39595 students of the secondary level from 360 selected schools were taken as population IV: Heads of the schools, SST Teachers, 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.

INTRODUCTION

Education is a continuous process through which societies plan their development. In these days in the field of education various developments are being brought rapidly. These developments are being adopted for the improvements of its goals, contents, methods and its roles for the development of the country. The improvement of a country can be achieved fully if education system is developed to the demand of the future. The burning question is of direction for education to improve its quantity and quality. Various trends for the progress of the education are being introduced. These trends are the result of various elements such as social change, impact of science and technology, population dynamic, social economic, the use of new method and media in education. All these elements have changed and developed content, curriculum and evaluation.

Educational technology is as wide as education at self. Some people confused it with electronic category. As a matter of fact educational technology is concerned with the design and evaluation of curriculum and learning experiences and with the problem of implementing and renovating them. Indeed, it is a rational problem solving approach to education, a way of thinking and systematically about learning and teaching. Educational technology can play in important role in planning for effective learning.
“In many parts of the world, new techniques of teaching, skills and tools are being tested and applied at all level of educations in the hope that these will help revolutionize

education system and set patterns which will have positive long term influences on the development of education." Rashid. M (1991, P.50)

The National Council for Educational Technology (NCET) in the United Kingdom quoted by Rashid M (1993, P.18) highlighted the nature of educational technology as:-
"Educational technology is the development application and evaluation of systems, techniques and aids to improve the process of human learning."

"We follow steps not unlike those of the scientists who begins by identifying a problem then comes up with the hypothesis to solve it or explain it, and who finally performs some test or experiments that allows him either to accept that hypothesis or else to reject in favour of an alternative which he then puts to the test in the same way. Like the scientists, we hope eventually to reach a satisfactory solution to our problem." Rowntree. (1947,P.6)

"As official recognition grows, problem of defining educational technology becomes even more acute in it is still the subject of length debate." Mitchell (1978, P.307)

Educational Technology comprehends a number of distinguishable areas of activity. The most familiar use of technical devices supports the process of teaching and learning. They include the visual projection apparatus; radio and television systems tap recorders for sound and vision, duplicating the photographing and other reprographic equipment. Language laboratories and teaching machines, from a very simple to the highly elaborate, some of which require staff with special training or experience to operate and maintain them (Rashid, M.1993, P.50)

"The policy makers must be aware about the role of educational technology which can be played in organizational management." This discussion shows that every individual in education who is laying at top or bottom has a need of awareness about educational technology. Rashid M.(1993,P.50)

An important aim of educational technology is to promote and educationally constructive interaction between the new facilities and the other elements on educational theory and practice. Its present prominence stems largely from the emergence of the new technical embrace not only the use of the new equipment and techniques but also their adoption and coordination to serve new patterns and systems of learning. This involves a shit from a predominantly and analytical approach. Rashid M (1998,P.30)

The practical consequences of this change in attitude include closer attention to the definition of objectives, selection and systematic use of the most appropriate and

effective techniques to the evaluation of results for the purpose of assessing or modifying the learning program.

The forecasting regarding the effect of technology on education has been slow to mature. This is mainly due to the field itself has been altering in response to outside pressure of late; the instructional system technology has been developing quickly. If any professional field is going to stay viable and continue to develop, it must be responsive to its competition and its customers E.T is no exception." Venkataiah (1996,PP.3-4)

E.T is a field made up of elements of other areas. Unique content is very little in this. It has taken components of cognitive psychology, perception psychology, measurement, evaluation, communication, management, media and system engineering. These components are organized synergistically to a point where the whole is larger than the total of its components. The field is quickly evolved from audio-visual education through educational communication to E.T. there are limits to be overlapping of ideas namely among three terminologists viz Educational Technology. Seattler (1990, P.168)

"System approach is one of the approaches of E.T. it is a systematic effort to coordinate all aspects of a problem towards specific aims. In the context of education, system is a unit as a whole including all its sides and parts, i.e. students, instructors, curriculum content and evaluation of instructional objectives. The teaching learning process is viewed as communication and control occurring among the parts of a system. Here the system consists of an instructor, a learner and a program of instruction, all in a special design of interaction." Venkataiah (1996,PP.7-8)

The components of the system are depending on each other and they interact to achieve the objective of the system. The efficiency and effectiveness of a system of learning really depends upon how compatibly the system parts interact. This can be achieved by choosing the correct part and arranging proper conditions so that the parts can work together. This approach may incorporate both hardware and software approaches to make learning move effective."

"The recent progress in Educational Technology is converting the previous to outdate. A few instances of technologies, which have united to make the communication revolution, and information age a challenging are for teacher are computers, electronic mail, interactive video, laser discs, satellites, teleconferences etc. Let us know about some recent technologies in education with their possible utilization." Venkataiah (1996,PP.8-9)

ANALYSIS

The analysis of the general opinion of principals regarding the provision of E.T

T.No	Statement	$\chi 2$
16	Opinion about the coordinated activity of personnel	113.01
17	Opinion about the support of principal for parents / teachers	121.22
18	Opinion about the possession of skills	55.78
19	Opinion about the awareness of educational technology	56.11
20	Opinion about the storage and retrieval of educational technology	38.34
21	Opinion about the successful utilization of educational technology	73.78
22	Opinion about the access of educational technology to other supporting sisters organization	50.56
23	Opinion about the access of educational technology to other professionals	29.78
24	Opinion about the facilitated dissemination of information through educational technology	38.89
25	Opinion about the function of educational technology	67.27
26	Opinion about the promotion of staff activities through educational technology	109.22
27	Opinion about the seeking consultancy through educational technology	74.67
28	Opinion about promotion of recreational activities through educational technology	49.78
29	Opinion about the dissemination of latest knowledge through educational technology	58.23
30	Opinion about the stimulation and promotion of teacher's critical thoughts educational technology	49.78
31	Opinion about the promotion of peer relationship through educational technology	59.78
32	Opinion about the teacher's know-how of educational technology resources and dealing of organization	26.33
33	Opinion about the achievement of curriculum objectives through educational technology	23.78
34	Opinion about the introduction of innovative instructional practices through educational technology	55.78
35	Opinion about the feedback of education technology	48.11
36	Opinion about the multifaceted responses of learner through	61

	education technology	
37	Opinion about the relevant training of educational technology	26.56
38	Opinion about the criticism of curriculum incase of non availability of educational technology	20.34
39	Opinion about sending of recommendations of subject to higher authorities	22.01
40	Opinion about the availability of chances for refresher courses regarding educational technology	8.11
41	Opinion about the consideration of educational technology and teaching learning process	22.45
42	Opinion about the usefulness of educational technology	14.12
43	Opinion about the sound environment for educational technology by teacher's	13
44	Opinion about the accessibility of educational technology	3.11
	Total of $\chi 2$ =	1390.90
	Average $\chi 2$ =	47.96

From table No: 16 to 44 it is revealed that the average $\chi 2$ (47.96) is greater than the table value of $\chi 2$ (9.488) at P (0.05), so that the opinion is different among the principals. There fore Ho is rejected.

Table show Availability of A.V aids at Secondary School Level in NWFP

S.No	A.V aids	Yes	%age	NO	%age	Total
I	Radio	23	25.56	67	74.44	90
Ii	Pictures	59	65.56	31	34.44	90
Iii	Flash Card	30	33.33	60	66.67	90
Iv	Maps	50	55.56	40	44.44	90
V	Poster	42	46.67	48	53.33	90
Vi	Charts	55	61.11	35	38.89	90
Vii	Writing Board	87	96.67	3	3.33	90
Viii	Felt Board	15	16.67	75	83.33	90
Ix	Magnetic Board	12	13.33	78	86.67	90
X	Models	60	66.67	30	33.33	90
Xi	Static Model	10	11.11	80	88.89	90
Xii	Sectional Model	4	4.44	86	95.56	90

Xiii	Film Strip	0	0.00	90	100	90
Xiv	Slides	12	13.33	78	86.67	90
Xv	Over Head Projector	11	12.22	79	87.78	90
Xvi	Opaque Projector	5	5.56	85	94.44	90
Xvii	Film	3	3.33	87	96.67	90
Xviii	Television	9	10.00	81	90.00	90
Xix	Educational Television	10	11.11	80	88.89	90
Xx	Video	8	8.89	82	91.11	90
Xxi	Computer	29	32.22	61	67.78	90
Xxii	Computer Assisted Instruction	28	31.11	62	68.89	90

It shows the opinion of principals about the availability of A.V aids items. Less then 20% principals stated that only 12 items of AV aids are available but in very less quantity. But more than 20% principal stated that only 10 items of AV aids are available in reasonable quantity

General Opinion of Teachers about usefulness provision and availability of E.T

T.No	Statement	$\chi 2$
84	Opinion about the accessibility of radio as a medium	204.66
85	Opinion about the usefulness of radio as a motivational tool	418.89
86	Point of view about the audio cassettes for group discussion	317.7
87	Point of view about the usefulness of audio cassette for drama in documentaries	253.85
88	Opinion regarding the accessibility of television as a medium	117.67
89	Opinion pertaining the accessibility of video cassette	64.84
90	Point of view regarding the suitability of computer as a medium of communication	253.96
91	Opinion about the usefulness of computer in teaching learning process	31.88
92	Opinion about the availability of Cd’s	100.63
93	Opinion about the usefulness of educational video cassette's	93.97
94	Opinion about the consideration of educational technology in curriculum development	106.04
95	Opinion about the criticism of curriculum in case of non availability of educational technology	167.57
96	Opinion about the guidance of head master regarding educational technology	31.03
97	Opinion about the enlistment of the educational technology by the curriculum developer	68.26

98	Opinion about sending of recommendation's of subject to higher authorities	76.54
99	Opinion about the frequent revising of syllabus	90.44
100	Opinion about the availability of chances for refresher courses regarding educational technology	59.32
101	Opinion about the accessibility of educational technology	74.46
102	Opinion about the availability of educational technology item's	107.66
103	Opinion about the availability of places for use of educational technology	83.30
104	Opinion about the development of science concept by using educational technology	75.42
105	Opinion about the availability of adequate educational technology for technical subject's	66.81
106	Opinion about the arrangement of educational exhibitions	53.91
107	Opinion about the arrangement of educational trips	20.57
	Total of $\chi 2$ =	2939.38
	Average $\chi 2$	122.47

From table No: 84 to 107 it is revealed that the average $\chi 2$ (122.47) is greater than the table value of $\chi 2$ (9.488) at P (0.05), so that the opinion is different among the Teachers. There fore Ho is rejected.

Table showing General opinion of students with respect to availability of E.T

T.No	Statement	$\chi 2$
137	Opinion about the accessibility of radio as a medium	1287.99
138	Point of view about audio cassettes as a medium in teaching learning process	246.14
139	Opinion about the usefulness of audio cassettes in teaching learning process	378.81
140	Opinion about the usefulness of audio cassettes for dramas and documentaries	1205.64
141	Opinion about the usefulness of audio cassettes for group discussion	2282.91
142	Opinion about the familiarity of television.	41.2
143	Opinion about the accessibility of television	2882.58
144	Opinion about the accessibility of audio cassettes	159.02

145	Opinion about the computer mediated communication	228.14
146	Opinion about the availability of computer mediated technology	777.92
147	Opinion about the usefulness of computer mediated communication for counseling	1026.72
148	Opinion about the usefulness of computer mediated communication	1706.4
149	Opinion about the use of computer in science practical	1055.65
150	Opinion about the availability of internet	2228.25
151	Opinion about the consideration of educational technology in teaching learning process	570.12
152	Opinion about the teacher's stress and existing educational technology	529.65
153	Opinion about the sound environment for educational technology by teacher	121.51
154	Opinion about the teacher's guidance and counseling in our crowded classes	906.62
155	Opinion about the demonstration of scientific concept's	460.14
156	Opinion about the use of over head projector	724.77
157	Opinion about the availability of scientific laboratories	2788.3
158	Opinion about the availability of scientific equipment	410.58
159	Opinion about the arrangement of educational exhibitions	144.69
160	Opinion about the arrangement of educational trips	237.65
	Total of $\chi 2$ =	22401.40
	Average $\chi 2$	933.39

From table No: 137 to 160, it is concluded that the average $\chi 2$ (933.39) is greater than the table value of $\chi 2$ (5.991) at P (0.05), so that the opinion is different among the Students. There fore Ho is rejected.

Items Related to the Use of A.V aids for Secondary School Students

S.No	A.V aids	Regularly	%Age	Some Time	%Age	Never Used	%Age	Total
i	Radio	36	1.93	508	27.25	1320	70.82	1864
ii	Pictures	319	17.11	1169	62.71	376	20.17	1864
iii	Flash Card	315	16.90	593	31.81	956	51.29	1864
iv	Maps	384	20.60	944	50.64	536	28.76	1864
v	Poster	398	21.35	1022	54.83	444	23.82	1864
vi	Charts	552	29.61	927	49.73	385	20.65	1864
vii	Writing Board	579	31.06	256	13.73	1029	55.20	1864

viii	Felt Board	351	18.83	454	24.36	1059	56.81	1864
ix	Magnetic Board	570	30.58	855	45.87	439	23.55	1864
x	Models	310	16.63	890	47.75	664	35.62	1864
xi	Static Model	373	20.01	496	26.61	995	53.38	1864
xii	Sectional Model	360	19.31	378	20.28	1126	60.41	1864
xiii	Film Strip	509	27.31	592	31.76	763	40.93	1864
xiv	Slides	387	20.76	723	38.79	754	40.45	1864
xv	Over Head Projector	375	20.12	378	20.28	1111	59.60	1864
xvi	Opaque Projector	451	24.20	202	10.84	1211	64.97	1864
xvii	Film	399	21.41	840	45.06	625	33.53	1864
xviii	Television	494	26.50	270	14.48	1100	59.01	1864
xix	Educational Television	310	16.63	246	13.20	1308	70.17	1864
xx	Video	547	29.35	405	21.73	912	48.93	1864
xxi	Computer	400	21.46	359	19.26	1105	59.28	1864
xxii	Computer Assisted Instruction	295	15.83	838	44.96	731	39.22	1864

Table shows that less than 20% students stated that only 8 items are regularly used. But according to more than 20% students stated that only 14 items are regularly used.

CONCLUSION

- It was discovered from the analysis of data that radio and television are not accessible as medium of instruction. It was also found that majority of the teachers are not using audio cassettes in teaching learning process, drama and documentaries.
- The study identified that majority of school are deprived from computer technology. The secondary school students were confronted with the problem like their teachers are not using computer mediated communication for counselling. There is wide spectrum of problem that computer is not used in science practical.
- The study identified that the teachers do not use over-head projectors during teaching learning process. In addition, it was found that the majority of school are not arranging the educational exhibition and educational trips.
- The students were confronted with the problem like in-adequacy of trained educational technology teacher, lack of computers and internet facilities.
- There is a wide spectrum 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.

RECOMMENDATIONS

Keeping in view the constraints due to in-adequate educational technology facilities the researcher makes a few general recommendations.

The researcher is firm in his belief that: if the existing in-adequate resources are optimally utilized and efficient management is corrected; the motivation for innovation would start with in rural as well as urban areas schools themselves.

1. Radio, television, Internet and computer should be provided to each school. The teachers should utilize the computer, videocassettes, audiocassettes and overhead projector for teaching learning process.
2. Each school should arrange educational exhibition. The provision of trained educational technology teachers should be insured.
3. The introduction of a continuous system of curriculum revision at secondary level in accordance with the national needs, market demands and capabilities of students should be ensured.
4. The utilization of computer in science practical should be insured and well-integrated media content should be provided in addition, sufficient budget should be allocated for educational technology.
5. The television channel should be launched and also the head of the institution should be authorized to purchase educational technology equipments.
6. Teacher's presence must be insured further refresher courses should be arranged for teachers as well as the head of the institution.
7. Availability of educational technology should be insured and advance method should be adopted.

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