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Teacher's Perceptions about the Usefulness of IT Labs Project in Schools of Punjab, Pakistan

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Abstract

ICTs can provide relevant and high quality knowledge and this knowledge helps students in field work. A strong ICT framework in education is an essential for knowledge- based development. The Punjab IT Labs was the first project of its type launched by the provincial government of Punjab. 4286 computer labs were established in public secondary schools of province Punjab in 2009 under this Project. The objective was to investigate the views of teacher about the usefulness of Punjab IT Labs Project. The population of the study was included all teachers of Govt. Secondary and Higher Secondary Schools equipped with IT labs in Punjab. Six (6) districts were selected randomly among all 36 districts for study. Data was collected by developing survey questionnaire. The questionnaire was consists of questions designed to collect data concerning perceptions of teacher about the usefulness of Punjab IT Lab Project. A five points Likert scale questionnaire was adopted for measuring teachers' perceptions about the usefulness of Punjab IT Lab Project. SPSS 19 was used to analyze the data. Most of the teachers do not use IT Lab due to lack of time and lack of knowledge about computer. The study recommended that the teachers should be provided training about computers. There is also need to provide technical support and maintenance fund to get better results of this mega project.

Keywords: IT, teachers, secondary, project.

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1. Background of research

Every human being has a right to access education, having any ethnic group, gender, system of belief, culture etc. According to Dakar Education Forum Information and Communications Technology (ICT) should be used to achieve Education for All goals. (UNESCO, 2001). ICT can play an important role in educational development by providing quality education and developing human resources, which can take part in economic development of a country. Information and communication technologies (ICT) can create ability of confidence and efficiency in learners. These technologies can anticipate about economic development of a country. ICT's are accounted for as indicator of economic development and job opportunities (Campbell, 2001).

ICTs can provide relevant and high quality knowledge and this knowledge helps students in field work. According to Gibson, O'Reilly and Hughes (2002) "As ICTs are crucial in terms of lifelong learning, an enormous challenge for educators awaits since they are supposed to equip students with relevant and high quality ICT experience before students emerge into the workplace."

Teo (2009) has described ICT as focal point for long term development. He considers that "ICT use has made world economies more competitive and interdependent; therefore knowledge creation and its use have become focal points for long-term development strategies."

ICT improves the standard of living, modernizes societies, promotes equity in education and enhances the quality of teaching and learning. The education sector has been using computers for many years because of radical changes in society. According to Bates T. (2001) "As a knowledge-based economy demands technology-ready workers, governments and business communities put enormous pressure on educational institutions to use ICT in their daily routine tasks."

A strong ICT framework in education is an essential for knowledge- based development. Isman et al. (2010) and Ojo et al. (2007) remarked that "Lack of ICT facilities and infrastructure in the workplace is significant barriers to ICT use." Many researchers have discussed the issues of ICT integration in education and suggested that policy makers and teachers can play an important role in this regard. The policy makers establish the ICT framework, and make high-level decisions, while the teachers ensures the sufficient, effective, and sustainable use of ICT. It is imperative that policy makers as well as teachers in Pakistan should understand how ICT and the education system relate with each other. According to Erkunt, (2010); Shaikh (2009) and Ng et al. (2006) "The appropriate financing, sufficient training, careful planning, restructuring the teaching process, and an organized way are needed when integrating ICT in education."

Although, Pakistan is growing nation in terms of mobile use, yet it is painful that use of ICT in Pakistan is not promising. Shaikh (2009) described this situation in these words "It is observed that due to fear of a difficult learning process, lack of responsibility and ownership, and poor attitude teachers deliberately do not adopt ICT in classroom instruction."

The education system is normally divided into three levels: These levels have different duration of time in different countries. These are Elementary, Secondary and Tertiary levels of Education. In Pakistan Secondary education begins from grade 9 and it takes four years. The students are required to appear in examination which is conducted by Boards of Intermediate and Secondary Education. Secondary education is a gateway to the opportunities and benefits of economic and social development. Demand for access to higher levels of education is growing dramatically as Pakistan approaches universal primary education. The global movement Education for All (EFA) provides driving force for the advancement in secondary education. Globalization and the increasing demand for well-trained labour force combined with the growth of knowledge-based economies increases the importance of secondary education many folds. Secondary education has become a crucial sector of the entire education system. This is the most important stage of individual development. At this level the competent and professionally trained teachers are required to teach to incoming generations.

According to Evoh (2007) "Improved secondary education which can meet the international standards is essential for the creation of effective human capital in any country".

The need for ICT at Secondary and higher secondary level cannot hardly be overemphasized. ICT is being used in every field of life. Secondary and tertiary education levels should be given preference when integrating ICT in education. Adomi and Anie (2006) described the importance of ICT in these words, "In this technology-driven age, everyone requires ICT competence to survive. Organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other ICT facilities." ICT contributes to eliminate social inequalities based on gender, income and race. The schools equipped with ICT facilities provide benefits in a better way. On the other hand, the schools without ICT would fail to provide new knowledge, skills and abilities. The digital divide is a result of social injustice and biasness.

There is lack of factual data to assess the utilization of ICT in Pakistan. Data are also not available to specify any impact of ICT on productivity. In some cases the evidence has been non-existent due to recent developments, rapid revolution of ICTs and methodological challenges such as a deficiency of assessment variables etc. The quality of teaching, learning and the research efficiency of teachers and students can be improved by the effective use of ICT. As Kashorda et al. (2007) said "The use of ICT in education has the potential to enhance the quality of teaching and learning, the research productivity of teachers and students, and the effectiveness of institutions."

Developing countries are facing a number of challenges to integrate ICT in education. Access to ICT facilities is a major challenge faced by most of the developing countries. "Physical capacity and connectivity issues also challenge developing countries to acquire these technologies." (UNESCO 2005). No doubt our generation will never proceed in skills and knowledge to attain good outcomes in the 21st century, if they are taught by teachers using a model chalked out in the 19th century. There is a need to reconsider and rebuild the teaching and professional development programs, so that we can optimally achieve our objectives. In developing countries majority of teachers use a blackboard and chalk in the classroom. Audio-visual aids such as pictures, charts and maps are rarely used in classroom instruction. Library books or magazines are used regularly in some educational institutions in these countries.

The public sector schools in Pakistan are facing many problems in integrating ICT in schools. There is a lack of physical and professional facilities to reinforce ICT infrastructure in Pakistan. Inadequate school buildings, shortage of electricity power and lack of telecommunication facilities are major problems. According to Sohaib, A. (2010) "Capacity- building in different areas like teacher professional developments, technical support specialist development and content developers development are really challenging in Pakistan due to budget constraints and inadequate policies of education." One of the major problems in integrating ICT in education is a financial constraint. A large amount is required to integrate ICT in education. Computer Studies is an optional subject at secondary and higher secondary level in Pakistan. Provision of sufficient ICT resources in education and to fulfill the teaching and learning needs of the teachers and students of the country is a really big question. Government of Pakistan is facing tremendous difficulty to prepare and implement plans to reduce digital divide, which can play an important role in carrying out a variety of activities for human resources development.

Integration of ICT in the curriculum and to set up state of the art computer laboratories is a key focus in the policy framework in all developing countries. As a result most actions have been taken by the governments in the South Asian region to provide computer laboratories to schools especially secondary and higher secondary schools. According to UNESCO (2010) "Perhaps the most visible efforts to introduce ICT in education across the countries in South Asia are focused on creating computer laboratories in schools especially in secondary and higher secondary schools." Many private and non- government organizations, either independently or in joint efforts with the government, have also been providing computers to schools. Some countries have also made available other ICT

facilities to schools such as satellite broadcasting, video-conferencing and multi-media storage technology.

ICT usage in government schools is drastically lesser than the private schools. ICT is used as instrument for improving teaching learning rather than focusing completely on a particularly IT curriculum-based approach. On the other hand private schools systems in Pakistan such as the Beaconhouse School system have been making effective use of advanced ICT tools to enhance their teaching learning practices (UNESCO 2010). However, given the relatively high fee structure in private institutions cost of ICTs is met by the students themselves, which is not applicable for government schools.

There have been many studies conducted related to ICT and education. A study was conducted by Ezer. J. F(2005) to examine that how the idea of ICTs was constructed at Indian universities, and how this process was impacted by institutional forces. The research findings indicated that for a variety of reasons, higher ICT education in India was markedly western-focused, instrumental and technocratic.

According to the conclusions of the Torok. B (2007) study the majority of the teachers surveyed claimed to be inexperienced in ICT-use connected with teaching. They were motivated to expand their ICT-use in teaching, but without proper management or guidance. The teachers were on their own and limited in using IT hardware and software in their teaching. Empirical data showed that teachers need conceptual orientation in using computers in education.

Rodden N.B (2010) to investigate the barriers that prevent the integration of ICT in a center of Education. The findings of this study indicated that particular factors such as lack of time, lack of training, lack of confidence and access to resources all affected the teachers' perceptions and use of ICT in Yothreach Center. Webb.I (2007) has identified a set of key factors that influence the success or otherwise the use of ICT in teaching and learning. Wong, K.P. (2005) conducted a study in which several important issues related to ICT implementation in education were identified by the responses of teachers and head teachers of Schools.

Tahir, A. Q. (2005) have determined the more adequate approach by use of computers in subject of mathematics at secondary level. Hussain, I. (2005) conducted a study to assess the adequacy of technologies in teaching process at Pakistan. It was inferred that due to new technologies distance education have become more effective and use of these technologies have promoted the leaning and pedagogical skills of teachers.

Akhtar S.H (2009) evaluated the use of educational technology, problems, emerging trends and status of educational technology. The utilization and availability of educational technology was discussed in this study. Computer was not available in educational institutions according to the results of this study. The outcomes of the study conducted by Tabassum, R. (2004) demonstrated that the learners taught through computer as supplementary method performed fundamentally better.

The major issues discussed in these researches were to evaluate the impact of emerging technologies on teaching learning process and to investigate the barriers that prevent the integration of ICT in education. The issues discussed in these researches were to assess the effect of educational technologies on learning and academic achievement. There were studies conducted to assess the effects of use of ICT in learning but there was no study to assess the educational technologies provided in educational institutions especially in province of Punjab.

2. The research context: Punjab IT Labs Project

The Punjab IT Labs was the first project of its type launched by the provincial government of Punjab. The project was completed in November 2009 and 4,286 secondary and higher secondary schools of Punjab were equipped with ICT facilities. In Punjab IT lab project, every school is provided with 3 desktop PCs and 12 virtual desktops powered by Microsoft technologies and high speed

internet connection. The Microsoft Partner and Microsoft Team have provided widespread trainings to master trainers in order to improve the skills and teaching techniques to fulfill global needs and requirements (UNESCO 2010).

It was estimated that more than 3.4 million secondary and higher secondary school students will benefit from IT labs each year. It was also included in expected benefits and impacts of the Project that the treasure of knowledge will be just one click away from the students because of internet access. The key changes in traditional teaching at government schools will bring about a change in attitude of teachers and students. There is strong evidence of a "digital divide" - a gap between those individuals and communities that have access to these information tools and those who don't (Punjab IT Labs Project, 2009). Punjab IT Lab Project was an effort of bridging the digital divide between private and government schools.

The Punjab Government has invested heavy amount (Rs. 4787.590 million) in IT lab Project (Punjab IT Labs Project, 2009). Now it all depends upon the school leaders to benefit from ICT provisions. The teachers are responsible to infuse ICT into classroom activities in order to bridge the gap between theory and practice.

Now days there have been done work in research on role of computers in education but there is shortage of studies linking information technologies with the education system of Pakistan. A number of studies (Torok, B 2007; Rodden N,B 2010; Web, I 2007; Wong, K,P 2005) have focused on information and communication technologies infrastructure issues, while some studies (Tahir, 2005; Hussain, 2005; Mahmood, M., K., 2004) have been conducted to measure the effectiveness of computer assisted instruction on teaching and learning process in Pakistan . There was a need to study the usefulness of ICT faci1ities provided to educational institutions by government. The mega project, Punjab IT Labs has been working for two years in secondary and higher secondary schools in Punjab. It is desirable to study the usefulness of IT labs at secondary and higher secondary level so that gaps for improvement can be identified

3. Research questions

1. What are the views of teachers about the usefulness of Punjab IT Labs Project?
2. Is there any relevance of the Punjab IT Labs Project to academic needs of students in secondary schools of Punjab as perceived by teachers?
3. Is there any association between male and female teachers regarding use of IT Labs?
4. What are the weaknesses and strengthens of Punjab IT Labs Project as perceived by teachers?

4. Theoretical Framework

There was used Technology, Organization and Environment(TOE) model as theoretical framework for this research study

Tornatzky and Fleischer presented TOE model in 1990. According to Tornatzky and Fleisher (1990), "The process by which a firm adopts and implements technological innovations is influenced by the technological context, the organizational context, and the environmental context."

This model describes the three aspects that impact the methodology and process to adopt and implement of technologies. These aspects are described as follows:

(a) Technology context describes the inner and outside innovations which are related to the firm. This incorporates current practices and equipments of the firm which are accessible.

(b) Organizational aspect of the model discusses the management of the firm within the provided technology to the firm.

(c) In environmental setting it is discussed that how a firm deals with its competitors and with the legislature.

The framework was presented for business and industrial purposes, but it was applied in use of technological studies in education. It has a functional systematic structure that is useful for IT enhancement in educational studies.

The TOE system has a strong hypothetical premise, reliable observational support and the potential of requisition to Information System enhancement, however particular elements distinguished inside the three settings might differ crosswise over diverse studies.

This framework is reliable with the Diffusion on Innovation (DOI) theory. In Diffusion on Innovation theory individual qualities and internal and external characteristics are given importance for the successful implementation organizational. These factors are the same in Technology Organizational Environment framework, but the TOE framework is consists of another and significant component, which is environment factor. The environmental factor is most important for implementation and development of technology. According to Hsu et al. (2000), "The TOE framework makes Rogers' innovation diffusion theory better able to explain intrafirm innovation diffusion."

In internal environment, institutional environment play crucial role in molding organizational structure and activities.

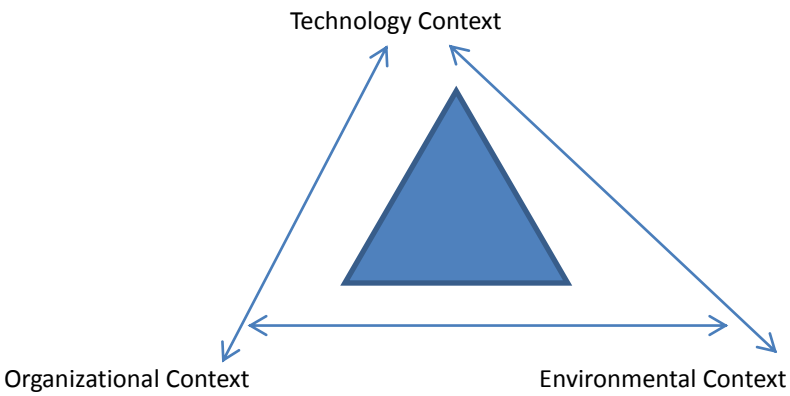

Figure: Technology, Organizational and Environmental framework

The usefulness of IT Labs Project was studied through different factors on the basis of theoretical framework. These factors are resources, accessibility, relevance, support, connectivity and monitoring. The usefulness of IT Labs Project was studied through fowling factors:

1. Resources: Hardware, Software and Physical facilities like sufficient furniture, and Human resources.
2. Accessibility: Access of IT Lab to all teachers, Access of IT Lab to all students, Time allocation for all students and teachers to use IT Lab.
3. Relevance: Integration of computers in all subjects - Professional Development- Knowledge Acquisition, School Management -Assessment of Students
4. Support: - Technical Support- Instructional Support which includes teachers training- Financial Support for Maintenance of IT Labs.

5. Connectivity: - Telephone- Internet- Electricity
6. Monitoring: - Provincial Level - District Level- School Level student

The factors 'Resources' and 'Connectivity' is related to technological context. Accessibility of IT Labs, integration of computers in all subject, Technical and instructional support, Monitoring of IT Labs can be studied through organizational context. Teachers interest and attitude to use computers is related to environmental context of theoretical framework of research.

5. Research design and methods

The population of the study was included all teachers of Govt. Secondary and Higher Secondary Schools equipped with IT labs in Punjab. Six (6) districts were selected randomly among all 36 districts for study. To select the sample of the study Stratified random sampling method was used.. Data was collected by developing survey questionnair. The questionnaire was consists of questions designed to collect data concerning perceptions of teacher about the usefulness of Punjab IT Lab Project. There were two parts of the questionnaire. The first part was about the demographic information while the part second was five points Likert scale questionnaire for measuring the level of opinion about the usefulness of Computer Labs. The items were improved after discussing with experts. The quality of language, format and content of the instrument was enhanced through experts' opinions . The reliability of instrument was determined by conducting pilot study. Cronbach alpha was calculated. Its value was .82 which is an acceptable value. The questionnaires were sent to teachers by post. 1000 questionnaires were sent to the secondary school teachers. There were 652 teachers who responded the questionnaire. The response rate was 65.2%. There were 374 (57.4%) female and 278(42.6%) male participants in the study.

6. Results and Findings

The study results showed that 335 (51.4%) teachers had a facility of internet at their home while 48.6% teachers had no internet at their home. According to the findings of the study 301(46.2%) teachers out of 652 teachers never used IT Lab, 131 teachers (20.1%) seldom used IT Lab ,16 teachers (2.5 %) used IT Lab on monthly basis , 17 teachers(2.6%) used IT lab after two weeks,77 teachers (11.8%) used IT Lab weekly,58 teachers out of 652 (8.9%) used IT Lab almost daily and 52 teachers (8% respondents) used IT Lab daily. The value of Chai-Square was 46.288 and there was no significance difference between male and female regarding use of IT Lab. 352(54%) respondents were of view that they did not use computer in IT Lab due to lack of time, 217(33.3%) not used computers in IT Lab due to lack of knowledge, 42(6.4%) teachers responded that they not used computers in IT lab due to lack of confidence,25(3.8%) respondents not used computers in Lab due to fear, 237(36.3%) teachers not used computer in IT Lab due to lack of training, age was the factor of 96(14.7%) teachers for not using IT Lab. 78(12%) teachers responded that computers are not accessible that is why they not used computers in IT Lab. The Table.1 shows the descriptive statistics of different variables. The table shows that most of the respondents were agreed that sufficient hardware are available to teachers whenever they need in IT Lab. (Mean Score= 1.326, St.dev= 1.47). Most of the respondents were of view that interest in learning has increased due to IT Lab (Mean Score= 4.11, St.dev= .905). Majority of the responded were of view that there is lack of basic knowledge to use computers in IT Lab (Mean Score= 3.75, St.dev= 1.056). The statement that the IT Lab was used as official and clerical offices was favoured by the majority of respondents. (Mean Score=4.20, St.dev=1.034).

Table 1 : Mean ,Standard Deviation and St. Error of different variables

Variables	Mean*	Std.Error	Std.dev
Hardware availability	3.26	.053	1.347
IT Lab accessibility for teachers	3.59	.052	1.338
IT Lab accessibility for students	4.19	.042	1.068
Interest in learning and IT Lab	4.11	.035	.905
Use of Lab as official/clerical work	4.20	.040	1.034
Knowledge about ICT Integration	3.70	.041	1.045
Computer as Compulsory subject	4.06	.045	1.140
Computer Integration in all subjects	4.02	.039	.987
Connection Problems	3.83	.047	1.188
Security of Lab equipments	3.60	.049	1.250
Lack of basic knowledge	3.75	.041	1.056
Lack of training	4.41	.032	.827
Use of IT for Preparation of lesson	3.09	.048	1.228
Encouragement by head teacher	3.68	.047	1.189
Encouragement by IT teacher	3.75	.045	1.144

To find association between different variables Chi-Squre and Liklihood Ratio was calculated. It was found that there was statistically significant association between Subject taught and Impact of IT Lab (Chi-Square= 26.373,P<.05;Liklihood Ratio=30.236,P<.05). There was significant association between age and use of IT Lab(Chi-Square= 61.790,P<.05;Liklihood Ratio= 63.740,P<.05). Although there was no significant association between educational qualification and use of IT Lab (Chi-Square= 28.802, P>05; Liklihood Ratio=38.401, P>.05).There was significant association between Locality of School and Use of IT Lab (Chi Square=3.583

Table 2. Association between variables about Use of IT Lab

Variables	Chi-square	Likelihood
1.GE-UITL	46.288	46.826
2.GE-IITL	43.006	27.603
3.SUB-IITL	26.373	30.236
4.AG-UITL	61.790	63.740
5.EDQ-UITL	28.802	38.401
6.LOS-UITL	3.583	33.203
7.PRQ-UITL	47.215	54.095
8.UNH-UITL	445.553	388.219

GE-UITL(Gender and Use of IT Lab).GE-IITL(Gender and Impact of IT Lab).SUB-IITL(Subject taught and Impact of IT Lab).AG-UITL(Age and Use of IT Lab).EDQ-UITL(Educational Qualification and Use of IT Lab).LOS-UITL(Locality of School and Use of IT Lab).PRQ-UITL(Professional Qualification and Use of IT Lab).UNH-UITL(Use of computer at home/net café and Use of IT Lab)

P<.05; Liklihood Ratio= 33.203,P<.05). The results shows that there was significant association between professional qualification and use of IT Lab(Chi-Square=47.215,P<.05; Liklihood Ratio=54.095,

P<.05).The significant association was reported between use of computer at home /internet cafe and use of IT Lab(Chi-Square= 445.553,P<.05; Likelihood Ratio=388.219,P<.05).

As we see in Table 3, the correlation matrix was calculated. Correlation between different variables was determined by Spearman co-efficient formula. There was significant correlation between availability of IT Lab for Instructional use (AITI) and School Management and IT Lab (SMIT), (r=.09, P< .05). Significant correlation was reported between IT teacher and Use of Lab and IT Lab role in School Management (r=.08 , P< .05). It was found that there was significant correlation between IT Lab role in School Management and hardware availability (r=.15, P < .05). There was significant correlation between interest in Learning and IT Lab (ILIT) and (AITI) Availability of IT Lab for Instructional Use (r=.15, P < .05).It was indicated that there was significant correlation between ITSO (IT Lab used as School Office) and ITU(IT teacher and Use of Lab(r=.18, P < .01). The results shows that there was significant correlation between IT Lab used for Administration Instructions(ITAI) and IT Lab role in School Management (r=.13, P < .05). There was significant correlation between (ITVTP) IT Lab as Valuable teaching Point and role of IT Lab in school Management(r=.16, P < .01). Significant correlation was found between ITPL (Preparation of Lesson) and Interest in Learning and IT Lab(r=.24, P < .01). There was also correlation between Knowledge about Integration of ICT and interest in learning(r=.12, P < .05). Table 3 shows the correlation between different variables.

Table.3 Correlation between different variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1.HA	1											
2.AITI	.03	1										
3.ITU	-.01	-.02	1									
4.SMIT	.15*	.09*	.08*	1								
5.ILIT	-.01	.08*	-.03	.19**	1							
6.ITSO	.01	.04	.18**	.31**	.22**	1						
7.ITAI	.03	.02	-.06	.13**	.36**	.28**	1					
8.KITI	.13**	-.01	.19**	.21**	.08*	.22**	.07	1				
9.ITVTP	.01	.02	-.06	.16**	.40**	.10**	.23**	.02	1			
10.ITPL	.11**	.04	.02	.33**	.24**	.20**	.04	.27**	.36*	1		
11.ITPQ	.08*	.06	-.03	.16*	.27**	.09*	.20**	.07	.29**	.24**	1	
12.KII	.35**	.13*	-.12*	.09	.12*	.01	.08	.11*	.08*	.24**	.24**	1

Note: HA(Hardware Availability). AITI(Availability of IT Lab for Instructional Use); ITU(IT teacher and Use of Lab); SM1T(School Management and IT); ILIT(Interest in Learning and IT Lab.); ITSO(IT Lab used as School Office);ITA1 (IT Lab used for Administration Instructions); KITU! (Knowledge about Instructional Use); ITVTP(Valuable teaching Point);ITPL(Preparation of Lesson);ITPQ(Preparation of Question Paper); KII(Knowledge about Integration of ICT).

**.The correlation is significant at the 0.01 level.

*. The correlation is significant at the 0 .05 level

7. Discussion

The use of information and communications technology in teaching and learning is considered as a medium in which a variety of approaches and pedagogical philosophies may be implemented. However computer as a teaching tool is more complicated in that it demands more specific skills from the teachers. Moreover, teachers are faced with some challenges and barriers that prevent

them to employ ICT in the classroom or develop supporting materials through ICT. This study concluded that the secondary school teachers are familiar with IT however they do not integrate computer in curriculum. Insufficient technical supports at schools and little access to IT Lab prevent teachers to use computers in the classroom. Duration of class period and time needed to learn using computer-assisted techniques were reported as two key barriers for teachers to use computers in IT Lab.

Teachers do not use IT Lab due to lack of time and lack of knowledge about computer. No doubt, it demands time to prepare lesson using instructional technology, so the curriculum should be improved according to needs of this age. To improve the usefulness of Punjab IT Labs Project teachers should be provided appropriate and sufficient training. It is necessary for all teachers to be able to use computer to help students to get benefit of IT labs. Inadequate maintenance funding for IT Labs equipment is one of the problems for effective use of IT labs. There is also need to provide technical support and sufficient funding for maintenance of Labs. IT labs are being used for official letters and Performa's composing, registration of students. Actually clerical staff of schools is not trained in computer and IT teacher is only a person in school who has to compose the official letters. There is need to train clerical staff of schools so that IT teacher may get rid of clerical job. Mostly teachers were in favour that all students should be given opportunity to use computers in IT labs. In current situation only those students attend IT Lab who are studying "Computer" as a subject at secondary level and only IT teacher uses computer in delivering his lesson. The results of this study are accordance to previous researches. The findings of this study indicated that particulars factors such as lack of time, lack of training, lack of confidence and access to resources all affected the teachers perceptions and use of ICT. These factors are the same which were indicated by Rodden N.B (2010) who conducted a study to investigate the barriers that prevent the integration of ICT in a Youthreach Center.

There was significant association between Locality of School and Use of IT Lab. The teachers belonging to rural areas were not using IT Labs while teachers in urban schools were in touch with computers because they had own computers at their homes. Majority of teachers suggested that computer should be integrated in all subjects at Secondary level so that all students can get benefit of IT Lab. There is a need to introduce computer-assisted instructional techniques. IT labs are useful to get directions and policies of administration immediately. The usage of IT lab could contribute to radical changes in school management.

8. Limitations and future directions

This study has some limitations that create opportunities for and further research. This study was conducted on teachers. There are also other stakeholders of Punjab IT Labs Project. Further studies may be conducted on students and education administrators. In this study the response rate of questionnaire was about 65%. There may be teachers who never use the IT-Labs and therefore don't bother to complete the questionnaire. This was also a limitation of the study. Only quantitative method was applied in this study. Qualitative data may be collected for future study. Observational method and interviews from students and teachers may contribute to the study of the Project. Especially opinions from IT Lab teachers and head teachers may be beneficial for further study.

9. Conclusions

The main objective of the study was to find the perceptions of teachers about the usefulness of Punjab IT Lab Project. Previous studies (Mahmood, 2004; Hussain, 2005) have determined the impacts of ICT on academic achievements; however, few researchers have tried to find barriers to integrate ICT in education. The results of this research show that all the teachers want to use

computers in IT Lab, but they have lack of knowledge to use the computer. A huge amount of money was spent for IT-Labs, but this mainly wasted when half of the teachers don't use them at all because they just don't know how to use a computer. There is need to train all the teachers of schools. This study fills the gaps in researches by finding the perceptions of teachers about the usefulness of Punjab IT Lab Project as teacher can play important role to get full benefits of this mega Project which was initiated by government of Punjab for bridging the digital divide between public and private sector.

References

Adomi, E.E., Anie, S. O. (2006). An Assessment Of Computer Literacy Skills Of Professionals In Nigerian University Libraries. *Library Hi Tech News, 23*(2), 10-14

Bates, T. (2001). The Continuing Evolution Of ICT Capacity: The Implications For Education. *The Commonwealth Of Learning*, 29-46.

Campbell, D. (2001). Can The Digital Divide Be Contained? The Digital Divide: Employment and Development Implications. *International Labor Review, 140*(2), 119-141.

Erkunt, H. (2010). Emergence Of Epistemic Agency In College Level Educational Technology Course Pre-Service Teachers Engaged In CSCL. *Online Journal Of The Turkish Educational Technology*, *9*(3), 38-51. Retrieved on July 8, 2011 From: http://www.Tojet.Net/

Evoh, C.J. (2007). Policy Networks And The Transformation Of Secondary Education Through Icts In Africa: The Prospects And Challenges Of The NEPAD E-Schools Initiative. *International Journal of Education and Development Using Information And Technology, 3*(1), 64-84.
From: http://www.Articlesbase.Com/Educationarticles

Gibson, I.S., O'Reilly, C. & Hughes, M. (2002). Integration Of ICT Within A Project-Based Learning Environment. *European Journal Of Engineering Education, 27*(1), 21-30.

Hsu, P.F., K.L. Kraemer & Dunkle, D. (2006) Determinants Of E-Business Use In Us Firms, *International Journal Of Electronic Commerce*, *10*(4), 9-45.

Isman, A. & Isbulan, O. (2010). Usability Level Of Distance Education Website.*The Turkishonline Journal Of Educational Technology. 9*(1), 243-258. Retrieved on July 15, 2011 From: Http://Www.Tojet.Net/

Kashorda, M. Et Al. (2007). E-Readiness Survey Of Higher Education In Kenya, Kenya Education Network (KENET), Nairobi.

Ng, W. Et Al. (2006). Capacity-Building For ICT Integration In Education. Digital Review Of Asia Pacific 2009–2010, 67 – 76.

Ojo, A.Et Al. (2007). South Cooperation In Software Technology Technical Report 371, NU-IIST, Macau, April 2007

Punjab IT Labs Project (2009). Official Website Of Punjab IT Labs Project. Retrieved on July 8, 2011 From: Www.Punjabitlabs.Edu.Pk/About.Aspx

Rodden, N. B. (2010). An Investigation Into The Barriers Associated With ICT Use In The Youthreach Classroom.

Rogers, E., M. (1995). Diffusion Of Innovations (4thed.). New York: Free Press.

Shaikh, Z., A. (2009). Usage, Acceptance, Adoption, And Diffusion Of Information And Communication Technologies In Higher Education: A Measurement Of Critical Factors. Journal of Information Technology Impact (JITI), 9(2), 63-80.

Sohaib, A. (2010). Integration Of ICT In Curriculum Expected Achievement And Challenges Article oOn Articlebase, A Free Online Articles Directory Retrieved On July 8, 2011

Teo, T. (2009).Modeling Technology Acceptance In Education: A Study Of Pre-Service Teachers. *Computers & Education, 52*(1), 302-312

UNESCO (2001). Dakar Framework For Action. Education For All: Meeting Our Collective Commitments.Text Adopted By The World Education Forum. Dakar, Senegal.

UNESCO (2005). Information And Communication Technologies In Schools: A Hand Book For Teachers Available On Retrieved on 15 July, 2011 From: Www.Unesdoc.Unesco.Org/Images/0013/001390/139028e.Pdf

UNESCO (2010).Survey Of Icts For Education In India And South Asia, Country Studies. On Retrieved on 15 July, 2011 From.../Ict.Education.../Ict-For-Education-In-South-Asia

Webb, I. (2007). *Key Factors In The Use Of ICT In Primary Schools* (Doctoral Dissertation, PHD Thesis).