POLICIES, PRACTICES AND BARRIERS OF ICT UTILIZATION IN SCHOOL EDUCATION IN NEPAL

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1.   Introduction

Information and Communication Technology (ICT) refers information and communication related devices as computer and internet and other dioceses associates with the term. It is fresh concept in pedagogical practice in educational institutions. ICTs have become one of the essential pillars of modern society, therefore, the mastery and understanding ICT basic skills and concepts is imperative.   It has been taking as tool of educational instructions.Developed countries are effectively using it in their pedagogical practices of school and university education. ICT devices are expensive for purchasing and need technological human resources for better settlement in institutions so developing countries may have some challenges.In the context of Nepal it is very new concept in school education. So it may have verities of barriers to implement regular pedagogical practices.

New technologies challenge the outdated outsets and ensure new thoughts in teaching learning process. Furthermore it supports to daily life events and in the field of education it supports to teaching learning process and makes it effective, qualitative, advanced and fruitful. ICT is fundamental obligation for work in the 21st century (UNIESCO, 2014). ICT has several roles in education like as educational, cultural, social, professional and administrative (Hepp et al., 2004) and it has integrated several streams in our life events (Geneva Plan of Action, 2003).Jones and

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Mather (1998) suggested that technological knowledge and an understanding of technological exercise must be combined with suitable conceptualizations of technology and technology based education. Educational technologies have been taken as a dominant component in national policies and integrated in curriculum of different disciplines in school to university level of many countries. Maximum numbers of the countries have integrated ICT school education. Also there are several organizations in the sphere providing formal education through online. Concept of online learning, e-learning, m-learning, virtual schools and university has taking place. The ideas that teaching and learning can successfully take place through the application of electronic communication facilities between teachers and students (Adeyinka et al., n. d.). In this sense every related forms should make admirable strategy, achieve related resources and efficiently implement in their teaching learning process.

2.   Some Benefits of Using ICT

In this age every individuals, organizations and nations are benefited by the utilizations of ICT. ICT has several assistances in learning Mdlongwa (2012) explored some benefits of using the ICT in teaching and learning as learners can connect to professionals and have access to global resources and quality learning material, learners can improve owns knowledge, makes communication easier and faster, information is easier to get from the Internet, improves learners' research and project management skills.ICT integration in teaching impacts on students learning and staff professional development(Ojugo et al., 2015), increases the knowledge, skill and achievement of the learnears (Harbi, 2014),it helps the professional development of teacher (Mirazchiyaski, 2014).Livingstone (2012) found positive relations between student achievement and the availability of computers both at home and schools. Teachers, parents, educational planner and student are beneficiated so they should be responsible on their sides for well implication of ICT in teaching (Gera &Vrema, 2014; Georgescu, 2013; Karami, 2013). So government, school holders, principals and teachers should focus on the use of technology in daily teaching learning activities.

3.   ICT Related Policies for School Education

Policy making is beginning, complicated, important and serious task of inauguration period. Effectiveness of any tasks dependent on its policy. Actions taken at the school level, such as the

development of ICT plan, ICT support and ICT training play critical role for ICT integration (Tondeur et al., 2008). IT policy 2000 firstly introduce information technology in Nepal it was revised in 2010. Provision of that was expansion of access of Internet to all schools, coordination and collaboration with national and international institutions to develop skilled human resources for continuous, relevant and quality education and formulation and implementation of special IT program focusing on students, teachers and schools in order to competent human resources (MoIC, 2000 revised on 2010). During that period up to 2010 none of the awareness programs held by government level for school education and only 50,000/- Nepali Currency (NC) provided for some government schools for the provision of computer purchasing and some NGOs/INGOs provided 10 computers in some schools of rural area.Secondly School Sector Reform Plan (SSRP) 2009-2015 was implemented and expands ICT associated teaching/learning strategies in all schools and to develop ICT infrastructures in schools (MoE, 2009) and during implementation of that policy Department of Education (DOE) provided 140,000/- amount for secondary schools for the purpose of purchasing 3 computers and one printeradditionally some non-governmental bodies had also provided computers in schools. Three Year Plan 2011-2013 focused on encouragement of using ICT in school education to increase accesses to quality education in rural areas, to reduced digital divide, and integration of ICT in all aspect of education (NPC, 2011). ICT in Education Master Plan 2013-2017 was the first separate policy related to ICT in school education aimed to expand equitable access to education, enhance the quality of education, reduce the digital divide and improve the service delivery system in education (MoE, 2013).

National ICT Policy 2015 has developed by Ministry of Information and Communication and that policy focused on integration and deployment of ICT in education system, e-learning system, ICT based teacher training, integration of computer skill into teaching and learning process, and development, deployment and utilization of electronic based distance education, training and education system (MoIC, 2015). School Sector Development Plan (SSDP)2016-2023 is like as extended form of SSRPhas recently developed by MoE and ICT related matters has also included on it. The plan has been focused on (1) the appropriate use of ICT to improve pedagogical practices (2) development of instructional materials, human resources and integration of technology in curriculum and (3) the use of ICT for the improvement and

increased effectiveness and efficiency of overall educational governance and management (MoE, 2016). These all policies have not mentionedessential strategies for human resources managements like technicians for computer repairmen and internet connectivity, expert management as in rural area, separate ICT based awareness programs as workshops, seminar, conference and trainings and strategies for ICT integration in all subjects because ICT has broad sense and we cannot limited it in only computer subject teaching. Furthermore the policies has not focused on related infrastructures like ICT based rooms of buildings, furniture, subject related software/tools. Only few schools have power supply and daily load-shedding rate is 5 to 17 hour/day(Nepal Electricity Authority, 2016) even government has no any plan or policy to provide regular power supply in educational institutions.

4.   ICT Related Practices in School Education

Department of Education and other some NGOs/INGIOs has been funding public schools in titled computer distribution, laptop and computer with printer distribution for schools, one student one laptop program and other for ICT instruments. Assist in expanding education suitable to the modern world by utilizing computer literacy at all levels of education; and teach the subjects related to ICT in the schools (NPC, 2002). Computer education is additional subject in secondary level (class 6 to 10) consisting basic concept of computer. Open Learning Exchange Nepal (OLE-Nepal) is an organization functioning to enhance quality and access through the integration of technology in classroom. It has distributed laptops to 225 public school students of 34 districts. It has two types of content e-paath and e-pustakalaya, and working towards teacher training, technology and network infrastructurefurthermore it has developed several ICT based documentaries for the support of class 1 to 8 students on the basis of school curriculum (http://www.olenepal.org/about-us/). Distance Education and Open Learning Division under NCED has been developing some mathematics, science and English curriculum related audio visual documentaries since few years and broadcasting by Radio Nepal and telecasting by Nepal Television for the support of students and teachers of school level. Furthermore UNESO and other some organizations in Nepal have been organizing some ICT based activities in different parts of the country. Even private schools have been managing ICT related activities and funding themselves for necessary instruments.

5.   Present Status of ICT Utilization

Up to 2012 only 24% secondary schools have electric power supply and 6% secondary schools were have Internet connectivity (UNESCO, 2014) and up to 2014, only 8.2% household have computer facility, 5.6% household have Internet facility and 15.4% individual were using Internet (ITU, 2015) furthermore ICT related policies has developed since 2009 with SSRP 2009-2015 which indicate that ICT is newly developing concept in Nepal. Level of infrastructure and resources, skill/training and policies related problems are high in Nepal (Joshi & Ram, 2016). Nepalese schools have electricity, connectivity computer lab, technical support and teacher preparation related problems (TVN, 2016). Shields (2011) showed that government practices were not effective in ICT implication, ICT practice in school education were slow in speed. Upper caste, higher educated and resource-rich people were more likely to access ICTwith their counterparts (Khatiwada& Tolentino, 2005). Computer subject has been teaching as optional subject in classes 6-8 but they have not seen computer in their practical life like remote area school as Jajarkot (DCnepal, Dec. 23, 2016). There are so many districts having comparableprogressivestatus in the country and schools in these districts may have similar problems. On the basis these overall analysis it can be said that ICT practices in school education is not satisfactory.

6.   Main Barriers

ICT has great utilities in the field of education and in all fields, computer works as scanner for individuals (Ni, 2012). Common barriers for ICT integration in institutions are lack of ICT infrastructure, digital learning resources and continuous professional teacher training in computers (Varughese, 2011), lack of knowledge about to integrate ICT in lesson, lack of ICT integration related training opportunities, lack of common mathematical software, lack of ICT integration in curriculum, lack of sufficient time management in schools, lack of network in school (Agyei&Voogt, 2010),lack of access to ICT resources, lack of technical supports, poorly update with new technology, lack of sustain on the use of ICT in learning environments (Oldfield, 2010).

Several policies are available in the field of education which related to ICT in Nepal. Aims of these policies are better for its improvement even financial investigation in that field is not

sufficient. In school education, computer subject is an additional subject but related school teachers are not familiar with it in everywhere. It is like as inverse order because at first all related facilities should be available in institution, teachers and other responsible bodies should be aware, then it can be easy to implement in practice level. Government only providing few amount for three computer and one computer purchasing amount for the schools but each schools have large number of students. So it can be said that these are only showing not to be used.In other hand schools of Nepal have so many problems and related bodies have to found its solution immediately.

7.   Future challenges:

Department of education under ministry of education provided only 140000 amount in each schools for four computer and one printer purchase in school by 60000 shares of school. Even maximum school are teaching computer subject in class 6-10 as a compulsory subject. In secondary level average students in each schools is more than 40. ICT utilization in education not only means to teach computer subject even other subject teachers should get opportunity to use it in their teaching practice. This indicates that if one class has to give one teaching period, at least 40 computers should be available in each school. On the other hand there are no any computer teachers in school even school has reported to district education office that those having basic skill of computer usage as a computer teacher which is their necessity because none of the schools have sufficient found to appoint new teacher for three computers. Behind this government schools are not allowed to take additional fee for computer management. Furthermore one grand reality is that those having good command in computer are not easily found in educational market. In other hand knowledge of computer and computer subject teaching are different discipline because there is no any separate programs in B. Ed. to M. Ed. related to computer education, so firs of all it should integrate it in higher education in related disciplines.

Maximum population of Nepal is under poverty level and they have not access to buy technological instruments like computer, laptop, iPaid and so on which indicated that it is challenging in public level. In other hand accesses of internet expensive and more than 80% of the population are living in remote area and there is no accessible of internet by which students

as well as teachers of that area are not facilitate by it.Infrastructure of schools are in traditional types like buildings, rooms, furniture so government should fund for modern ICT based infrastructure. School staffs and computer teachers have not ideas of brands of computers, safely use of computer and subject related applications hence related stakeholders should provide training and awareness program for them.

8.   Conclusion

ICT is current issues in the field of education which makes teaching more meaningful, creative, attractive and funny and encourage learners for self-learning. It opens all the doors of learning evidences. Some policies have formulated by government level and which are insufficient. In practice level private schools are trying to integrate it in their pedagogical practices even public school have poor exercises. So many problems are found in this field hence government, and schools have to focus on infrastructure management, human resources management, regular power supply in institutions, provide suitable applications for subject teachers, organize training and awareness programs related to ICT, develop special devices like CD/DVD on the basis of school curriculum and facilitate to each schools.

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