Making ICT based child society by collaborative learning with SLMS: Ideas for Bangladeshi primary school leaders

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Abstract: *LMS is a well known teaching method of ICT in the world. As in many other countries, it is not familiar in Bangladesh. However, to make the country a "Digital Bangladesh", it is necessary to introduce ICT by LMS from primary education. Primary education is the basic of all education systems, so if all the primary school children learn to use ICT in their learning, they will be able to make knowledge based society in future. For Bangladesh, with nearly 15 million people (Cencus Report:2011), it is hard to make ICT access in primary education. At the moment only a small number of university students get this access. In this situation the researcher wants to give some ideas and recommendations for the primary school leaders of Bangladesh which are obtained from an Indonesian school, SD Muhammadiyah Condongcatur. The researcher used participatory observation and interview method for this idea. By using this idea from SD Muhammadiyah Condongcatur, the researcher wants to give a new idea for making an ICT- based child society in Bangladesh by simple learning management systems (SLMS).*

Keywords: primary school leaders, ICT- based child society, SLMS

1. Introduction

Bangladesh is a developing country in the world and as a developing country the facalities of Information and Communication Technology (ICT) are not available in the education system in Bangladesh. There are about 14757 million (census report, 2011) people living in Bangladesh where the literacy rate is only 51.8 % (both sexes). Although some urban and university students use this ICT facilities in their education system, the rate of this users is not so high.

At present Bangladesh is struggling to achieve quality education in the primary level. In order to achieve this goal as early as possible, it is important for school leaders to introduce ICT in primary education.

But as a developing country, Bangladesh has many factors and sub-factors working as a barrier to make ICT-based learning. Learning Management System (LMS) is a well known teaching method all over the world to build children's creativity and developing mind. "A tool for teaching ICT in primary level LMS is a type of software designed to deliver, track, and manage training and education (Steven, 2009)". LMS is also a well known teaching system in ICT of Indonesian primary schools. But as a developing country, it is very challenging to use this LMS system in primary education in Bangladesh.

Although Bangladesh has taken some projects for LMS and LCMS in education, the result of this project was not satisfactory

because "the functionality and reliability of this technological infrastructure of this LMS and LCMS, are critical for attaining and success of E-learning environment" (Khan, 2011). However, by this paper, the researcher emphasizes these challenges and gives some ideas which are obtained from an Indonesian primary school and this researcher will give some recommendations to remove this barrier for making an ICT-based child society.

2. Method

The researcher used a mixed methodolgy including an observation and interview. At first the researcher used a participatory observation system in an Indonesian school named Muhammadiyah Condongcatur SD. After observing Indonesian schools the researcher wants to apply this system for Bangladesh. For applying this system the researcher made an Interview schedule for interviewing ICT instructors at SD Muhammadiyah Condongcatur in Yogyakarta city in Indonesia. After finishing the observation and interview, the researcher used the ICT instructors school, report and research paper of Simple Learning Management System (SLMS) and made some ideas for Bangladeshi school leaders. And finally, after finding out challenges and successes of this SLMS in SD Muhammadiyah Condongcatur, the researcher put some recommendations for Bangladeshi school leaders.

3. Findings and Ideas

The first finding is related to ideas for Bangladeshi School Leaders from SD Muhammadiyah Condongcatur School Short Description of Muhammadiyah Condongcatur SD School in Yogyakarta.

SD Muhammadiyah Condongcatur is an Islamic school in Yogyakarta city in Indonesia which is situated in Jalan Ringroad Utara Depok Sleman. This school has some visions which can lead this school in a creative way. The visions of this school are:

- Optimizing the potential of the learner with the competency-based method
- Making the school as a living laboratory of civil society
- Developing in accordance with the dynamics of education management
- Developing quality of human resources.

SD Muhammadiyah Condongcatur school uses this LMS as an innovative way in their school. Moreover, Indonesia changed their curriculum in 2001 and the new curriculum was named competency-based curriculum. When this new curriculum worked as a pilot program in different areas that time this school included several new policies of ICT in the curriculum for their students. According to this new curriculum, ICT is introduced in a different way for their students. SD Muhammadiyah Condongcatur school uses this system for building children's creativity by collaborating lessons in the LMS system. They collaborate this lesson with their own curriculum and own mission for primary level students of 3rd to 6th grades, which they follow from LMS (ICT instructor, 2012). The school ICT instructors said that they use LMS for teaching their children but they collaborate it with their own lesson plan and syllabus and also they follow the national curriculum. They use more than 30 computers for teaching children and building their creativity.

By using LAN network teachers can use LMS as a simple way (ICT instructor of Muhammadiyah Condongcatur SD school). Although some Indonesian schools use LMS system, sometimes some Indonesian school teachers also feel lackings in their teaching but they cannot solve these many barriers. They want to use the Internet to solve their teaching lackings. The lack of funds for professional development of teachers on "how to use the Net" the demand on time to find relevant materials on the Net, the

limitations of inadequate resources, multiple modems or an ISDN line and the sheer drag speed of the Net itself restricts the ability of teachers to really use the Internet with any educational power. Therefore, an ICT instructor, of SD Muhammadiyah Condong-catur, Budianto (2011), did research about this problem. He identified the Internet technology as can be used to overcome some of these problems by only Local Area Network (LAN). LAN can give a faster and easier access and more is more easily built and it can manage database of instructional media at school. SLMS can also work by LAN network and can give students facalities the same as LMS.

The expected results by LAN Networking can be mentioned as follows (Budhi: 2011):

- Learning collaboratively using ICT
- Fun learning
- School server as knowledge repository
- Learning content enrichment and data-base
- Usability and creativity in learning developmen/experience
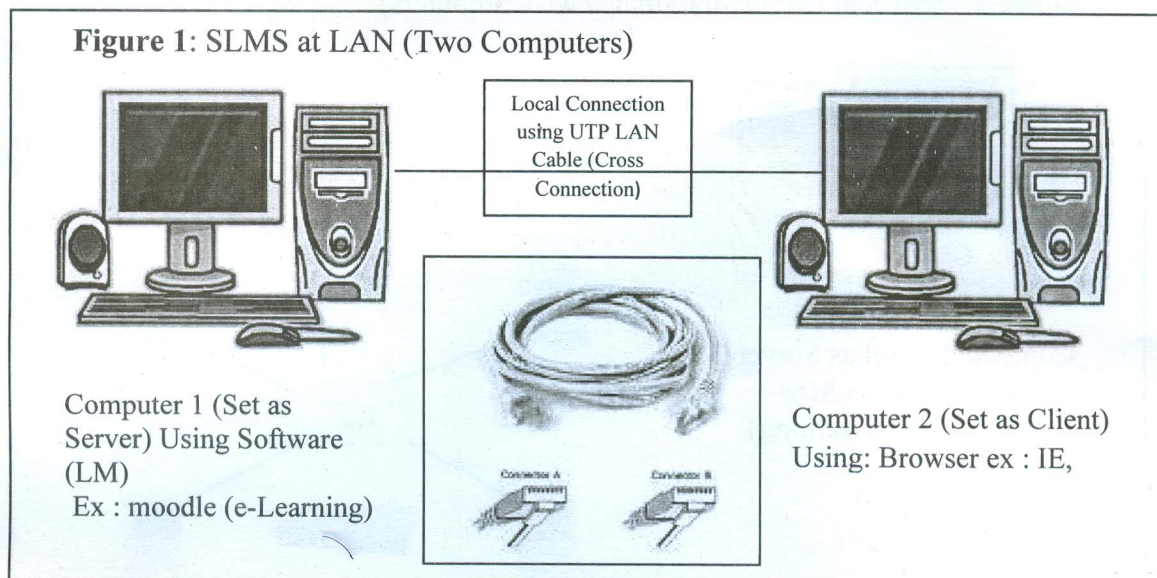- Introducing a school that could change the culture, by team work, assisting student cohesion and enhancing their knowledge of sense of "community" in the school.

The second finding is related to ideas for Bangladesh School Leaders by Using SLMS in Primary Schools.

Bangladesh school leaders can use this simple learning management system by LAN networking with only two computers, because schools do not have enough money to give one computer to one child. They can teach their children by simple learning management system with two computers by making some groups. They can help their children to make comments, discussions, and critical thinking. In the simple learning management system way, they also can reflect the Bloom's Taxonomy by their teaching. The system can be shown by Figure 1.

Figure 1 shows that the SLMS system can be used by Bangladeshi school leaders by only two computers. They can use UTP LAN cables for making cross-connection between two computers.

If any school leaders have only two computers then they also can use the LMS system as simple learning management

Figure 1: SLMS at LAN (Two Computers)

Local Connection using UTP LAN Cable (Cross Connection)

Computer 1 (Set as Server) Using Software (LM)
 Ex : moodle (e-Learning)

Computer 2 (Set as Client)
Using: Browser ex : IE,

system to teach their children and if any school leaders have more than two computers, they also can start simple learning management systems to teach their children. Actually LMS systems have many innovative ways to teach children.

Figure 2 shows that Bangladeshi school leaders also can use that SLMS system in their school by more then two computers. They can use one computer for a server and other computers for clients or students. They can use a hub terminal to connect all computers with the server.

By using this idea, it is expected that: 1) primary education Bangladeshi school leaders can improve education quality. By developing content learning and managing digital media learning they can make effective and efficient projects for Bangladeshi students. In this way they also can introduce technology in primary education and can enhance high productivity of knowledge for primary level students; 2) Bangladeshi school leaders can build ICT-based education and also can influence inventive thinking of primary school students. In this way, primary school teachers

can share their learning resources, educational media data base, innovative content of learning with other school teachers, and also can share their best experience by using LMS system to teach their students; and 3) Bangladeshi school leaders also can implement the government plan "Digital Bangladesh". Because by integrating ICT in education they can implement the government plan in the education system from the primary level to the higher level.

These can bring challenges to Bangladeshi school leaders. It is a question for Bangladeshi school leaders who have no building facilities for teaching their children "how they can give SLMS teaching" for making ICT based child society.

For accessing this, every school leader needs:

- At least two computers. If any school leader wants to use this SLMS in Bangladesh, every school needs at least two computers. In this way, one computer set is used as a server and the other computer sets as clients. Administrators and teachers can use the server computer

Figure 2: SMLS at LAN (More than Two Computers)

Computer 1 (Set as Server)
Using Software (LMS)
Ex : moodle (e-Learning)

HUB Terminal LAN

HUB
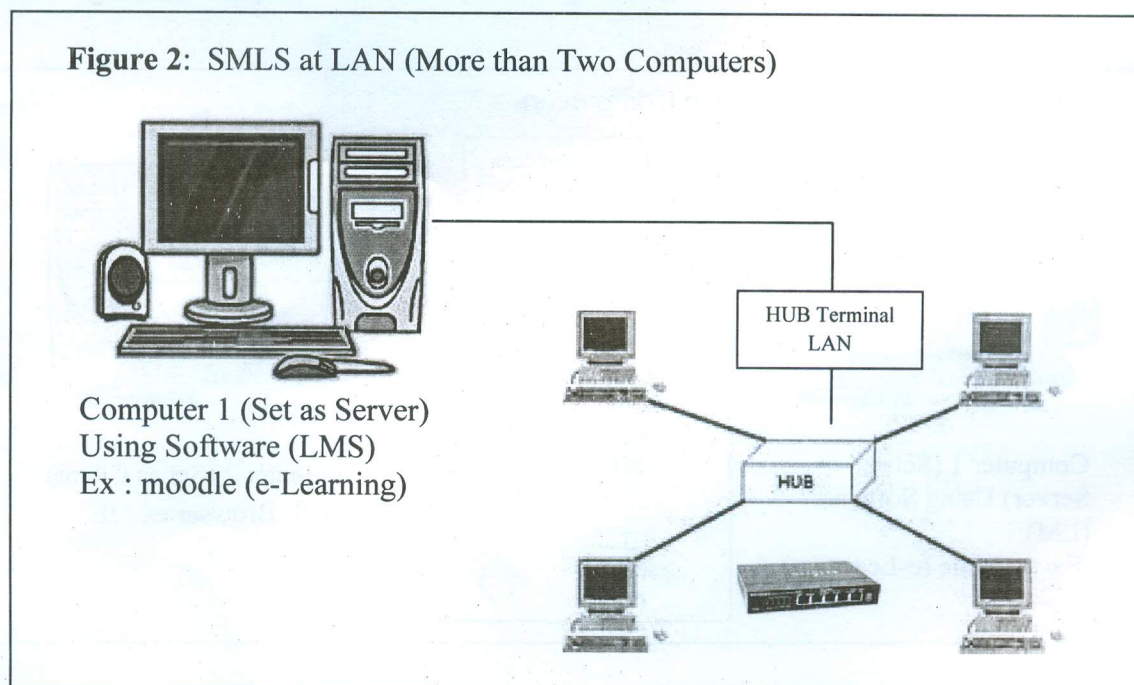
to teach their students and students can use client computers to follow their instructor.

- Electricity. Every school needs electricity facilities for starting SLMS in their places.
- Administrators and ICT instructors. Every school needs at least two ICT instructors to start this SLMS in Bangladesh. Between them, one can help as the administrator and other can help as an ICT instructor. Here, the administrator can download different data from the Internet related with lesson plans and can collaborate according to the curriculum. All subject teachers can give their materials and the administrator can modify these according to the curriculum. ICT instructors can help to teach the students.

4. Conclusion and Recommendation

A learning management system is a very well known system for teaching children in Indonesia but it is also true that this system is not well known in the primary level education in Bangladesh. However, by seeing the real practises and the effectiveness of LMS in Indonesian school of Muham-madiyah Condongcatur SD, and by considering Bangladeshi present situation, in this paper the researcher has given the ideas for Bangladeshi school leaders who are interested to make an ICT-based child society by SLMS with LAN networking to ensure the quality of education in the primary level.

For remote villages, a reccommendation can be given as follows. In Bangladesh, most of the village primary school leaders' economical condition is not good. In fact, many school leaders have no ability to give their teachers a salary every month. In this situation every school leader can take help from rich village people or government or Upazila resource centers for providing ICT

facilities and training facilities to any school setting.

Electricity is one of the problems, which can make barrier for a simple learning management system. They can change their schedule or they can use "Laptop Engkel" to give the charge facality in their laptop. To do that, they can use one computer as a server and one laptop as for teaching. The figure can be shown by Figure 3.
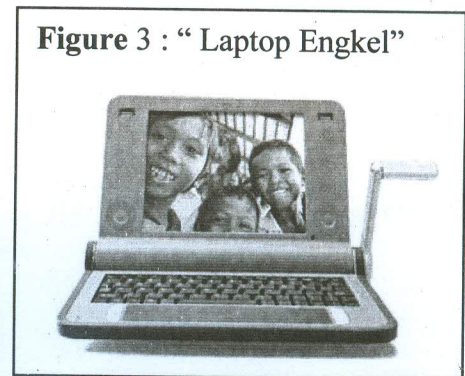

Figure 3 : " Laptop Engkel"

Figure 3 above shows, that a "Laptop Engkel" can give electricty facilities. Bangladesh school leaders can give charge by this "engkel" in their laptop.

It is not important to change the data everyday or for every lesson. The administrator can download different data from the Internet related with lesson plans. They also can edit this data out of class time. Any computer literate person can do it easily.

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