



**ICT-Integrated Teaching Learning Project, Janakpur
January-December 2011
Final Report**

Submitted to:
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Submitted by:
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1. Introduction

Open Learning Exchange (OLE) Nepal is a Nepali not-for-profit organization registered with the Kathmandu District Administration Office, the Kathmandu District Development Committee and the Social Welfare Council. The organization, officially registered in September 2007, is dedicated to improving equality of education and reducing disparity in quality and access in Nepal's public education system through the integration of Information and Communications Technology (ICT) in daily teaching learning processes. It seeks to fulfill this mission by developing and disseminating high quality open-source digital educational materials that are accessible and available free of cost to all, and by preparing teachers to use the materials effectively in their classrooms. The integration of ICT-based teaching-learning approaches into the regular school curriculum and mainstream pedagogy can significantly improve Nepal's potential to meet the Education for All (EFA) goals.

2. Project Background

OLE Nepal undertook the project to implement ICT-integrated classes at Saraswati Namuna Higher Secondary School located in Janakpur, Dhanusha. The school had received 50 OLPC laptops (E-Paati) from Mr. Aditya Jha of POA Educational Foundation, and the Nepal Library Foundation (NLF) affiliated with the Non-Resident Nepalese Association (NRNA) had provided the funds necessary for the implementation of the project.

This also marked the first time that OLE Nepal had implemented a 'shared model' using OLPC laptops. Since there were not enough laptops for each student, OLE Nepal proposed a model whereby each class would take turns using the laptops. Although different classes share the laptops, each student will have direct access to individual laptop when his or her class is scheduled for laptop-based lessons. Likewise, the training programs were designed with extra components on maximizing the use of laptops in a shared setting and on proper management of the laptops and scheduling. Different effective ways to use the laptops in shared setting were discussed during the trainings, including allocating free time for students to use laptops to explore other educational activities and to read books available in E-Pustakalaya.

3. Project Activities

3.1. School Survey

Prior to commencement of the project, OLE Nepal Engineer had been to Janakpur to conduct a school survey of Sri Saraswati Higher Secondary School on September 11, 2010.

As per the survey, the OLPC laptops were kept at the residence of District Administration Officer (DAO), which is located in the same compound as that of office. Out of three suitcases, only two suitcases were found, and there was no trail of the third one. And no one had any idea as to where the third one was.

3.2. Grades and Subjects

The project covered students from grades 2 to 6 on a shared-model basis. Similarly, an entire set of curriculum based education learning activities were provided for grades two to four in English, Nepali and mathematics, for grades five and six in English and mathematics, and for grade five in science.

3.3. Teacher Training

3.3.1. Basic Teacher Training

OLE Nepal carried out seven-day training program for primary school teachers on effective integration of digital content from January 30 to February 5, 2011. Trainers from OLE Nepal and the National Center for Educational Development (NCED) jointly carried out the training for seven teachers at the Education Training Sub-centre of NCED located in the school premises. The overall logistics management was done by the Head Teacher of the school, Mr. Satya Narayan Mandal. One Resource Person from the District Education Office (DEO), Mr. Sukhachandra Lal Karna, and Mr. Dhan Kumar Shrestha from Nepal Library Foundation (NLF) also attended the final day of the training. Also attending part of the training was Mr. Amarendra Jha from Janakpur.



Training module and content was slightly different from OLE Nepal's usual ICT-integrated teacher training program in order to accommodate suggested shared model of teaching at the school.

3.3.2. In-school Training

The in-school training at the school was conducted on May 9-11, 2011. The training was conducted by OLE Nepal. The OLE Nepal team observed laptop-integrated classes conducted by the trained teachers and gave feedback, clarified confusions that teachers had about ICT- based teaching-learning practices, and addressed technical and pedagogical issues brought up by them. A technical support staff from OLE Nepal provided technical and logistical assistance during both basic and in-school training programs.

3.3.3. Refresher Training

A refresher training for trained school teachers was conducted in Janakpur from December 20-22, 2011. Five teachers participated in the training, which mainly revolved around operating E-Pustakalaya, use of E-Pustakalaya in the classroom, and other functions such as chat, download, copying, creating files, on the laptop. During the refresher training trip, E-Paatis and school server at the schools were updated with the latest E-Paath software and educational content respectively. Similarly, the teachers were given a refresher on how to update the rest of the E-Paatis themselves.



The refresher training package was developed based on feedback from teachers of pilot schools and in conjunction with relevant government bodies. The objective of the refresher training was to a) reinforce the concepts of E-Paati-integrated teaching learning method that were covered during the main training; b) address issues, difficulties, and challenges teachers may have had in integrating E-Paati based approach in mainstream pedagogy; c) Clarify misconceptions associated with various aspects of the project; d) train teachers to integrate E-Pustakalaya in daily teaching process and e) cover advance topics in E-Paati usage (since they would have at that point been using the laptops for several months).

3.4. Laptop Deployment

A total of 50 OLPC laptops (E-Paati) were deployed in the school during the first visit by the OLE Nepal technical team. The laptops were received from Mr. Aditya Jha of POA Educational Foundation, and the Nepal Library Foundation (NLF) affiliated with the Non-Resident Nepalese Association (NRNA) had provided support for the implementation of the project.



3.5. Network and Power Infrastructure

The power and network infrastructure within the school were completed. The school was given prior notice on how to wire the classrooms. OLE Nepal's team assisted in schools in completing the wiring, and set up access points (routers) in the classrooms so that students can connect to the school server through wireless from their laptops. Each school was also provided with specially-made charging racks for the laptops. The racks were designed to store and charge the laptops when they were not being used. OLE Nepal paid special attention to safety precautions when designing the charging racks. In addition, a power backup system was placed at the school to get the school server and wireless routers running even during power outages.

3.6. Monitoring and Supporting the schools

Providing regular support at the school have included the following tasks:

- Updating new E-Paath activities
- Updating the E-Pustakalaya with new materials
- Fixing software related problems in laptops and servers
- Fixing hardware problems in laptops and servers
- Ensuring that network within the school is operational
- Providing support and refresher training to teachers

The E-Paath activities have been bundled in a whole package which is sufficient for the whole academic year. Also, most software related problems in the laptops can easily be fixed locally by simply re-flashing the laptops with the help of a USB key. Anyone who knows how to use a computer can do this with some instructions.

Monitoring was carried out by members of the visiting OLE Nepal team as part of the support visits to monitor progress using the tools developed by OLE Nepal together with Department of Education (DoE) and other government officials, and to gather feedback.

4. Other Related Activities

4.1. Education Content Development

Digital content is the backbone of ICT-based education and at the core of what OLE Nepal does. Providing laptops with relevant and localized education content increases the possibility of them being used regularly in the classroom process. At OLE Nepal, the development of interactive learning activities is driven by educators who have a solid understanding of education theories, and a thorough knowledge of the national curriculum.

4.1.1. E-Paath

OLE Nepal has recently started creating interactive digital learning activities for Grade 2, 3, 4 and 6 (Grade 5 activities have already been completed) for the entire academic year designed to teach children about agriculture, food and nutrition, with special emphasis on the need for balanced gender roles in agriculture and food production. These activities are being developed in both English and Nepali languages, and will be correlated with the 'Science, Health and Physical Education' subject prescribed by the Curriculum Development Center (CDC). The development of these activities are scheduled to be completed by July 2012.

These activities will be included in the larger collection of similar learning activities E-Paath that OLE Nepal has developed for grade 2, 3 and 4 English, Nepali and mathematics, grade 5 English, science and mathematics, and grade 6 English and mathematics. OLE Nepal's curriculum experts are working together with CDC officials to ensure close relation to the learning objectives outlined in the national curriculum. Such alignment with the Science, Health and Physical Education curriculum will increase the likelihood of the activities being used regularly by teachers and students in daily classroom teaching-learning process. Experts in agriculture, food and nutrition, health and hygiene will also be consulted to ensure that relevant issues are adequately and properly presented to students at various grades.

These new E-Paath activities, like all our other activities, will be accompanied by teachers notes detailing how to integrate the lessons and exercises package as well as suggested practical hands-on activities children should do outside the classroom to promote exciting and effective teaching practices.

OLE Nepal has already prepared 428 E-Paath activities, and the collection will contain over 500 modules by mid-2012. The following table shows the breakdown of learning modules by grades and subjects.

	English	Mathematics	Science	Nepali
Grade 2	36	27	15*	18
Grade 3	36	24	15*	21
Grade 4	39	39	20*	20
Grade 5	39	39	30	-
Grade 6	22	38	30*	-

- *Under development: Will be completed by June 2012*



4.1.2. E-Pustakalaya

In addition to working to increase the content volume of the digital library, OLE Nepal organized series of workshops and interactions with various stakeholders to promote the library and increase the the volume of material. Currently there are around 3000 titles that can be accessed in the library. As part of the deployment, the E-Pustakalaya was installed in the school servers at all 34 program schools so that students and teachers have access to the vast number of digital resources without the need of the Internet. It maybe noteworthy to mention that OLE Nepal has currently signed an MoU with Practical Action, and has received permission

from The British Council and E-Learning for Kids to add their educational content on E-Pustakalaya.

An Advisory Panel that was created last year for E-Pustakalaya consisting of prominent members from Nepali literary circles: Geeta Keshary, Chudamani Bandhu, Dhruva K. Ghimire, Rambabu Subedi, Vinaya Kasajoo, Bishwambhar Chanchal and Hiranya Kumari Pathak actively meet at OLE office and give valuable advice and suggestion to improve and increase the volume of the library.

OLE Nepal's E-Pustakalaya project has been receiving continuous support from the Nepal Library Foundation (NLF) since 2009.

Screenshot of E-Pustakalaya



5. Conclusion

Looking at the state of the laptops and the lack of regular usage of the laptops by the school, we can arrive at a conclusion that the program in the school is not running as well as it should have been. On every visit to the school, the OLE Nepal team has noticed that the laptops have been kept in suitcases, and the reason the school management has given is apparently security reasons.

This could largely be attributed to the following reasons:

- Weak leadership of the school

- Lack of enthusiasm from teachers
- Lack of community support due to absence of School Management Committee (SMC)

The only good thing to notice in the last school visit was that furniture had already been made ready for ICT-integrated teaching-learning in the computer lab as per the principal's promise in one of the earlier visits.

6. Recommendation

One of the weakest links of the school is the weak leadership of head teacher and the apathy of teachers towards the program. This could possibly be overcome by a few motivated teachers. The laptops could also have been utilized by the students had there been regular ICT-integrated classes and enough opportunity for students to use them.

We found out that SMC had not been formed, and this has led to lack of support from the community. The SMC could, otherwise, have been used to create some sort of pressure to the school administration to better utilize the laptops. The transfer of program to a more responsive school in the district is yet another possibility which is, though, the last option.

Annex A: List of teachers trained

S. No.	Teachers	Subjects
1.	Ms. Gayatri Mallik	Nepali (Grade 5), English (Grade 4)
2.	Ms. Gita Rimal	English (Grades 6, 7), Nepali (Grades 6, 7, 8)
3.	Ms. Rama Rimal	Math (Grade 4), Science (Grade 4)
4.	Mr. Shankar Kumar Das	Math (Grade 3), English (Grade 5)
5.	Mr. Udaya Yadav	English (Grades 6, 7), Nepali (Grades 6, 7, 8)
6.	Ms. Sunita Mishra	Mathematics (Grades 2, 3), Nepali (Grade 4)
7.	Mr. Dilip Kumar Karna	Administrator

Annex B: Visits to the school in chronological order

- September 11, 2010
- January 23, 2011
- January 29, 2011
- March 19, 2011
- May 09, 2011
- December 20, 2011