Teacher Preparation Program for OLPC*

By

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1. Teacher occupies a nucleus position a teaching-learning system. A good teacher will inspire children and facilitate learning and is a blessing in the class room. Many developing countries do not have properly educated or qualified teachers in their schools that are deficient in space and are ill equipped. In addition, these schools employ instruction's methodology based on rote learning. School does not attract children because of deplorable conditions besides the educational process that does not comply with the way kids learn. Consequently half of the children drop out before they reach 5th grade. The significant consequence of this situation has made the teacher a strong and more authoritative figure to relay information to group of innocent children. Children within the normal range of intelligence let alone slow learners, become disoriented and in a state of confusion due to abnormal methodologies of teaching.

2. Research like Seymour Papert et al indicate that the best way children learn is through exploring, discovering, sharing with other children, and playing etc. Providing tools for developing such learning environment in our schools are economically not possible, Professor Negroponte of MIT came out with a novel invention that makes all the prerequisites available on a specially designed laptop, or OLPC. It runs on Linux and hence its name XO laptop. It enables the child to learn learning with little or no help from teacher. It does not imply that teacher is not important within the context of OLPC. The question is how to prepare them for a new role within the context of constructivism employing OLPC.

3. Based on experience with OLPC pilot and teacher preparation we propose three kinds of clinical workshops for teachers. The first one is meant to take care of basic level intensive preparatory activities while second type deals with more specialized activities based on what is learned in the basic course. The third type of workshop explores technical issues

4. The basic level teacher preparation workshop TPW 101 id meant for all teachers or beginners of OLPC. It lays down the philosophy and examines OLPC as a tool to realize concept of constructivism. It orients the teacher as a facilitator rather than an amplifier in the learning environment. It focuses on how to enable the teacher to use OLPC with confidence and to prepare him/her the new role as an agent of constructor than an instructor of knowledge. In the process, the teacher explores the concept underlying OLPC, masters all its activities, and stimulates them to think innovative and facilitate children in learning to learn.

5. The second level clinic TPW 201 will provide insight into specialized aspects of OLPC such as for example localization; to think and suggest new activities; content development based on teachers experience and curricular requirements and

6. The Third type of course TPW 301 is more advanced and specialized as it is centered on deployment issues such as HW, school server, telecommunication, and other aspects of OLPC.

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TPW 101: Teacher Preparation Workshop for OLPC
Beginners Course

	Objective	Content	Working Method	Expected outcomes
1	To refresh teachers knowledge about problems of school education in developing countries **Time: 1.5 Hours**	Problems and issues of education in Pakistan with special reference to quantitative aspects of schooling	Presentation and discussion	Teacher learn about what causes poor quality of education
2	To provide insight into constructivist theory of learning **Time: 1.5 Hours**	Different methods of learning with focus on Piagets and Seymour Papert's approach to learning	Presentation; group work; discussion	Knowledge about learning methodologies and constructionists theory
3	To enable the teacher explore and know OLPC **Time: 3 Hours**	1. Open and Close XO	Hand-on	Teachers has practical knowledge of OLPC
		2. Know different parts of XO		
		Antenna…..………..……..		
		Jacks……..……..…….......		
		Screen & how it rotates…..		
		Charge the battery…...…...		
		Changing the battery……..		
		The Key Board…….……..		
		3. Switching between languages		
		4. Different views of OLPC		
		5. Home view		
		6. Neighborhood		
		7 Caring, cleaning for XO - screen		
4	To enable the teacher to use Activities of OLPC **Time: 6 Hours**	**Activities on OLPC**		Teacher can use OLPC with confidence
		1. Quran: Read and recite	Individual activity	Teacher can use OLPC for Islamic studies
		2. Tarana (National Anthem of Pakistan)	Group activity	Teacher can compose in Tam Tam and explain the lyrics
		3. Write	Individual activity	
		4. Calculate	"	
		5. Recording: Audio video	Group activity	
		6. Speak	Individual	

				activity
		7. Paint	"	
	Time: 1.5 Hours	**Network Activities**		
		1. Different views HOME	Group activity	Teacher can connect to neighbor and exchange activities
		2. Group		
		3. Neighbor		
		4. Chat		
		5. Sharing activities		
		6. Explore School Bag (Grade V Text Books)		
	Time: 1.5 Hours	7. Tam-tam bundle – introduction – focus on one		
		8. Browse	Individual/Group	Teacher will be able to guide children use Turtle
	Time: 3 Hours	9. Turtle	Individual/Group	
	Time: 3 Hours	10. E-toys	Individual/Group	Teacher is confident to assist children in using e-toys
	Time: 10 minutes	11. Measure – acoustic tap. User to explore	Group	Teacher will have a better concept of aerial measurement
5	To enable teacher master all activities on OLPC **Time: 4 Hours**	Practice; exercises on each activity	Hands-on	Teacher has mastery over every using activities on OLCP
6	To enable teacher to guide children learning to learn in the light of knowledge acquired **Time: 4 Hours**	Teacher identify methods of project identification and supervision children projects	Group work	Teacher becomes a facilitator of learning with OLPC
7	End of Workshop Evaluation **Time: 2 Hours**	Written test & Practical	Individual	OLPC has knowledge about if and how much teachers benefited from the workshop. Drawbacks identified. Improved version of TPW for the next group

Total time: 30 Hours

TPW 201: Teacher Preparation Workshop for OLPC
Advanced Level

Objective	Content	Working Method	Expected Outcomes
1. Software / Hardware	• What is hardware • What is software • What is Open Source • What is hardware of OLPC • What is Operating System (Linux) • What makes XO hardware work	Presentation	Teacher will have over view of the basics of computing and role of open source in it.
2. What makes OLPC Software	• Why Linux • What is User Interface and Why Sugar • What are XO builds • What are software bundles	Presentation	Teacher will know about the software that is installed in OLPC
3. Explore your XO Software	• What are frames and what is their purpose (clipboard , presence , views , activity toolbar) • What are shortcut keys of Sugar • How to restart Sugar • How to refresh Frames • What are logs, how to find them and where to report the logs • Whom/where to consult for documentation/Assistance	Presentation / Hands on	Teacher will know about the XO/Sugar and how to rectify small level bugs/ errors
4. How to install new software	• What is a Software bundle • What is a content bundle • What are core Software • Installing software from browser • Installing software from USB • Installing software from xo-get (command line) • What is library and how to use it • ….	Presentation/ Hands on	Teacher will know how to install new software packages on XO
5. Using External Storage/ Backups	• How to use USB / SD cards • Exploring contents of USB from journal • How to un-mount USB • How to copy data to/from USB • Making backup and restoring it.	Presentation / Hands on	Teacher will know how to move data to/from the XO and how to backup their data
6. How to Upgrade XO Builds	• What are XO builds (Refresher / Detailed	Presentation / Hands On	Teacher will know how to install new builds and are

	Explanation) • What is firmware (Overview only) • How to upgrade build from USB • How to upgrade build from command line • How to upgrade firmware from USB • How to check the build number after upgrade • Some basic Linux commands		able to perform basic command line configurations
Localization of OLPC	• Why is the original activities on OLPC in English • Why should we undertake localization		Teacher has good inside view of localization process

TPW 301: Teacher Preparation Workshop for OLPC
Highly Specialized Course

Objective	Content	Working Method	Expected Outcomes
1. To enable the teacher have good knowledge of Sharing & Connectivity	• Why sharing • Connectivity • What is Wi-Fi Mesh • How XOs connect to each other • What is XO Networking Architecture • What is Internet • What makes Internet Work	Presentations, Discussions and hands-on	Teacher will have an overview of the basics of sharing infrastructure in XO.
2. Wi-Fi Mesh (Ad-hoc networks)	• What is Ad-Hoc Based Networks? • Why Use Ad-Hoc Networks. • What is Ad-Hoc Multi hop • What is 802.11s • What is On-Demand Routing • What is MPP/XMPP •	Presentation/ Hands on	Teacher will learn about Protocols & Network Infrastructure on XO
3. To explore School Server and understand its working and essential components.	• What is the need of using School Server • What is XS-School Server • How it works • Operating System used in XS • What is Active Antenna • Whom/where to consult for documentation/Assistance	Presentation Demonstration and hands-on	Teacher will learn about the XS-School Server
4. How to install XS-School Server	• Making an economical XS-School Server • Installation process • What are core Software • How to Configure Interfaces • How to install jabbered • How to configure Web services	Presentation/ Hands on	Teacher will learn how to install XS and its basic configuration.
5. How to install external application	• Describe other required application • Installation using Yum • How to configure	Presentation / Hands on	Teacher will learn how to install external application
6. How useful was TPW 301?	• Evaluation, assessment and feed back	Formal feedback; and discussion	OLPC will learn about effectiveness of TPW strategy