Peer learning for ICT in open and distance learning

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Peer Learning for ICT in Open and Distant Learning

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Abstract

In the Theory paper of ICT in MA Education (II) of IDOL -the distance education course at University of Mumbai, that is studied online by synchronous as well as asynchronous mode. The students enrolled were diverse in their educational backgrounds, learning orientations, and academic specializations. In such a situation the true learning of ICT was made possible by peer learning activities. Peer learning has been a much useful strategy for learning and one of the most efficient ways of learning. In the case of distance education , the opportunities for conventional(face to face) learning in class is to the minimum, whereas the purpose of distance learning is to facilitate teaching learning in virtual environment . This is possible through an interactive, asynchronous mode by being present in the virtual class room. During every teaching session in distance education, the teacher planned to be generative. The design for teaching took the central role. The context of the learning as the source of all learning arose out of teacher's understanding of learner needs. The five phases of the learning design process by the learners were: 1. Discovery 2. Interpretation 3. Ideation 4. Experimentation and 5. Evolution.

The study of the attempt to teach by peer learning was a revelation. There are not many research groups in education with the capability of using various innovative ways within the University of Mumbai, its affiliated colleges and also at national level in India.Even today the traditional methods are favoured over inclusions of new trends and use of technology in education. The success in learning in the present pilot study makes one wonder, if this is due to the result of constructionist environments. It is observed that the learning is done by epistemology and process orientations which is unique not due to its diversity but the underlying social constructionism as the unifying learning factor. The creation of a multitude of learning situations gives constructionism the status of the study its epistemological dimension and is oppose to instructionism as a means of transmission of knowledge. This acquisition of knowledge depends upon the nature of knowledge and the nature of knowing. The huge positive responses to learning with social constructionism indicates the need for adoption of proper learning design and decide the learning paths for open and distance learning.

Keywords: Peer learning, social construtionism, learning paths, learning design, distance education.

Introduction

The National Mission on Education through ICT offers a momentous opportunity for all the teachers and experts in the country to pool their collective wisdom for the benefit of every Indian learner and, thereby, reducing the digital divide. Under this Mission, a proper balance between content generation, research in critical areas relating to imparting of education and connectivity for integrating our knowledge with the advancements in other countries is to be attempted. Although disjointed efforts have been going on in this area by various institutions / organizations and isolated success stories are also available, a holistic approach is the need of the hour. This Mission seeks to support such initiatives and build upon the synergies between various efforts by adopting a holistic approach. It is obvious that emphasis on ICT is a crying need as it acts as a multiplier for ca pacity building efforts of educational institutions without compromising the quality. The Mission is also necessary to sustain a high growth rate of our economy through the capacity building and knowledge empowerment of the people and for promoting new, upcoming multi-disciplinary fields of knowledge.

The National Programme on Technology Enhanced Learning (NPTEL) is a project funded by the Ministry of Human Resource Development (MHRD), India to pave the way for introducing multimedia and web technology to enhance learning of basic science and engineering concepts. The NPTEL is generating a vast pool of learning modules for various branches of Engineering/ Technology, a huge contribution towards OER for engineering education in formal and distance courses.The current learning methods through the use of technology in a variety of forms:

- Computer-Assisted Learning (CAL), Computer-Managed Instruction (CMI) . The instruction itself need not be delivered via a computer, although CAL is often combined with CMI. Education delivery through electronic of mail and learning is catered to by adequater startegies.

- Computer-Mediated(CME) consisting instruction to facilitate the classrooms.

ICT at IDOL Univeristy of Mumbai, India

The government of India has a policy to promote use of ICT in formal and distance education programmes. The distance education course for ICT in the MA Education (II) programme at University of Mumbai, Institute of Distance and Open Learning (IDOL) is an optional paper , wherein out of 500 students that enrolled for the MA Education out of which 180 and 190 students enrolled for ICT paper (Optional) in the years consequtive academic years 2011 – 12 and 2012 – 13. This optional course uses only the ICT mode for learning , which is indeed the most appropriate strategy of studying the course. The for the course were from varied backgrounds in terms of their experiences, academic backgrounds as well as digital efficacy.

In the course for MA Education (II) of distance education, earlier there was no inclusion of any digital technology for content delivery or evaluation. The students earlier collected the print materials from their centres and no hands on training or any such opportunities existed prior to 2011 at IDOL, University of Mumbai.

The present study is a pilot study which hopes that the university for IDOL would invest into use of ICT for this course or distance education programmes only if it proved to be feasible. There were apprehensions by distance education policy makers that there would be limited access to internet and also the use of computer technology for teaching learning. Hence it was indeed a challenge and an opportunity to incorporate the use of digital technology for this ICT course of MA Education (II) aptly to make it relevant and meaningful. The success story of this endeavour would definitely facilitate a policy making to use ICT for distance education programmes. In India, other than the few bodies or organization like NPTEL and Indian Institutes of Technology the premier institutes for engineering education , had made great attempts to include ICT for distance education at free or no cost. This challenge was the starting point to design the learning path and learning design based on solid philosophical foundations of constructivism and social constructionism.

According to Seymour Papert's constructionism in learning (1990), the focus is on 'learning to learn', and on the significance of making things in learning. This philosophy of Papert was the foundation of **peer learning** that was used for this ICT course at IDOL. The philosohy of constructivism had been observed where in the students enrolled were self directed in their learning and facilitated construction of new knowledge within the frame work of their readings, experiences and creativity. Papert also stresses on tools media and context in learning. The ICT was utilised as tools and media along with pedagogy. The varied learners used the tools and media to create assignments that were original, novel to them and were happy to present it , boosting their confidence and self esteem in use of technology. The guidance and interactions were given initially by peers and peer tutors helped them to optimize their submissions .

The MOODLE environment was used for LMS and the student enrolment was done online followed by teaching learning sessions mostly by asynchronous mode. The fig 1 is the screenshot which indicates the learning path for distance learners.The sessions were planned to initaite the enrolled students to use of computers and internet for accessing study materials , reference materials as well as submissions of their assignments. There were few synchronous sessions using the A-View and WIZ-IQ. The A-VIEW Classroom is a framework that provides a rich interactive social environment for E-Learning and the WizIQ is an online learning platform. During the online day sessions the response was not very encouraging because the students were employed and were not available. The recordings were viewed more than synchronous mode.

The Learning Path

The site is designed to help students and teachers find each other, and to provide an online virtual classroom learning environment. The major part of the learning was done in interactive asynchronous mode. The course led the students to be participants as learner observers and also as peer tutors. The diferent roles taken up by the passed out students and the course students worked in harmony helping each other to use ICT for their assignments and make online submissions as a part of their evaluation. The student clientielle were mainly inservice teachers in schools or higher secondary schools having completed their B.Ed or B.A as entry to this course. Their exposure to computers in education were diverse , hence the learning from peers created an environment of learning unlike impersonation of distance mode. It was intended to use peer tutors but the passed out students volunteered to help the enrolled students through discussion boards and messages. Later on the computer savy students of the same batch were peer tutors for the other students.

The discussions centered around use of marathi or devnagri fonts in regional languages of India and encouraged ideas to be creative in use of digital technology for teaching.
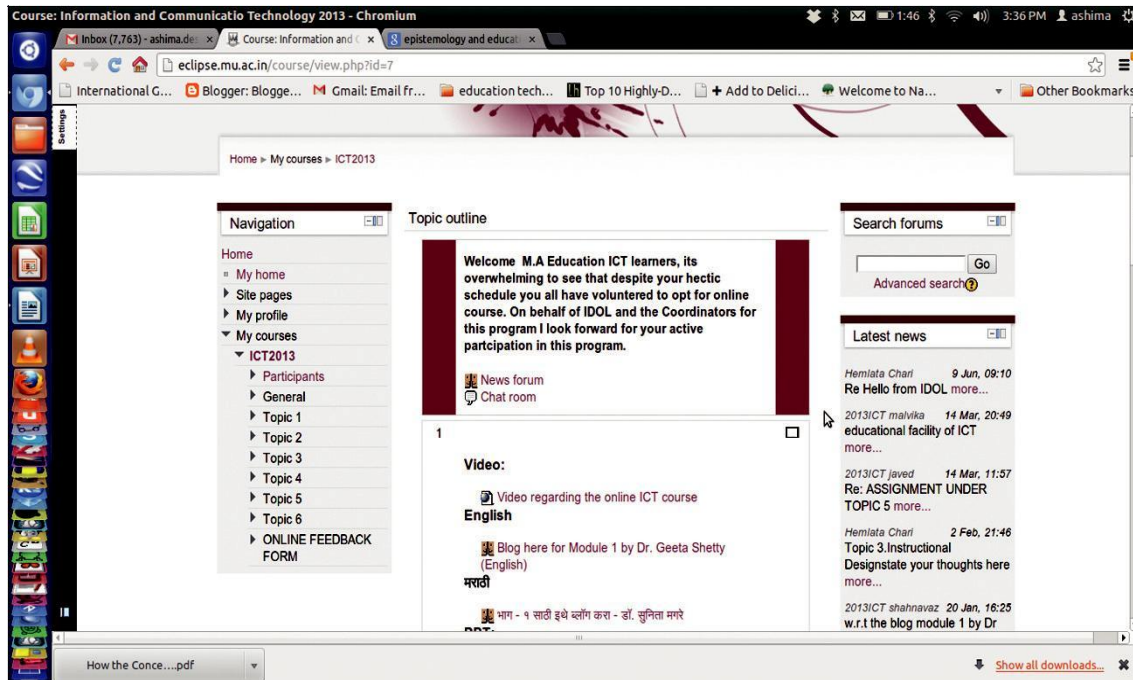

Figure 1 Screenshot of the LMS for ICT paper

The students were asked to read reference materials given by their teachers for each unit of the course. The students responded by writing blogs , make creative presentations in their school subjects for teaching and participating discussion forums. The attendance was almost 95% except for the 5% who had not very positive attitude, had various excuses or unavoidable problems to access the internet and use computers.

The focus of the good attendance and response to the learning activites arises by analysis of the forums, their attendances and interaction due to social constructivism of the peer tutors and learning from peers.

Learning Design

Learning by **constructivism** and **social constructionism** as given by Papert (1990) helped to design and put into practice the couse transaction. These were the basis of learning design where the peer learning was observed due to the context of the learning arising out of teacher's understanding of learner needs. The five phases of the learning design process by the learners were: 1. Discovery 2. Interpretation 3. Ideation 4. Experimentation and 5. Evolution.

The students were asked to explore different softwares like geogebra, youtube videos, that could be used for teaching as a discovery and to relate its use for preparing a study material by class students in the schools where they taught. The students who were inservice teachers had to interpret for themselves what would be the appropriate topic to use technology for teaching learning. For example, biology teachers prepared presentations to teach biology using the technology features best suited to the topic. Similarly the mathematics teacher and the language teacher used their interpretations of the digital technology best suited for their class. These were submitted as assignments to the course for evaluation. During the creation of these materials the students sought help about the digital technology as tools and media ,without hesitation and most important observation was that there was no forced change in learning styles.
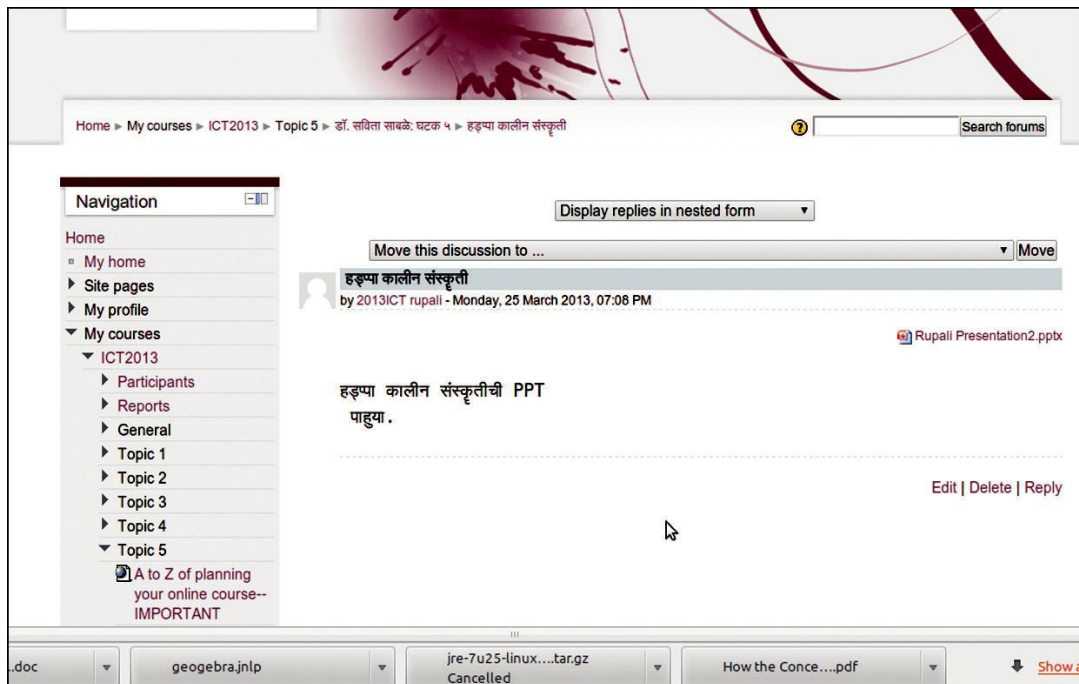
The aspect of experimentation was evident from observations and dialogues from the discussion forum, when students submitted more than one type of digital technology. The multimedia use and also using regional language fonts was indeed a high point of learning of the distance education programme which had never happened earlier in IDOL programme. Their sense of humour was evident, even at times there was an overuse of pictures. They were so involved to the extent that they even felt saturated from learning and called it a day working late in the night. As the learning progressed the peer tutors and facilitators whio were experts in their areas of the course took over and one tutor was a professional in media was also there as a peer tutor. The facilitators were teacher educators of B.Ed colleges who were also involved in the ICT course.

The varied ideas of the topics selected for use of technology in teaching indicated the good understanding which they were ready to put into the practice. It was observed that the learning was done by epistemology and process orientations.

Simultaneously the students who were trying to cope using technology for teaching and learning in ther schools were also given leverage in order to inspire them to eventually see the potential of it in their profession.

There was no destruction in their learning which was the key to peer learning, an important aspect of social constructivism as well as constructionism. When one learns by interaction and makes own understandings it is social constructivism .While the peer tutors and facilitaors cater to needs of learners, they contribute to each other due to their understandings and thus learn due to social constructionism .The success in such learning makes one wonder, if this is due to the result of constructionist environments in addition to peer tutors' social consrtuctionism. Thus learning orientations even in its diversity was surely due to the underlying social constructionism as the unifying learning factor. The evolution is seamless and unstoppable and will eveolve as the students use ICT more and more for education. Thus the last step is the culmination of the learning design that is generative and liberal, a key factor for distance education programmes.

The following **Figure 2** is the screen shot of the blog and presentation submission by students on the LMS using regional language and devnagri fonts.

Figure 2 Screenshot of the LMS of assignment submission in regional language

According to Papert's philosophy (1990) , the creation of a multitude of learning situations gives constructionism as the status of this study. It also lends constrctionism its epistemological dimension as opposed to instructionism for transmission of knowledge. This way of acquisition of knowledge depends upon the nature of knowledge and the nature of knowing. On analysing the response forms after their assignments, the learning design has indicated positive results and the very purpose of the course on "ICT in education" with learning pedagogy was achieved. The huge positive responses to learning with social constructionism thus indicates the need for adoption of proper learning design and decide the learning paths for open and distance learning. The following **Figure 3** is the screenshot of the discussion forum.
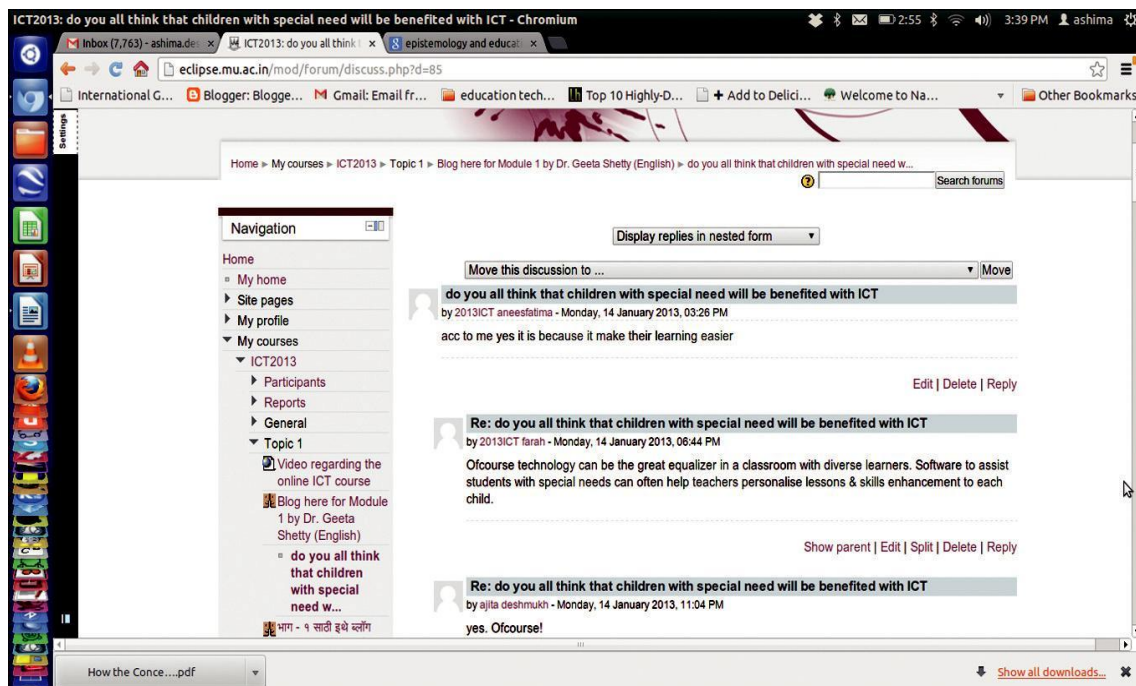
Figure 3 Screenshot of the discussion forum

Conclusion

The study indicates that peer learning is feasible, and a learning design that can adress diversity of learners of distance education programme, leads the learners by motivation into the world of ICT for education and the most important aspect is, that it does not curb the learning style of the learners. The dimension of peer learning with help of many learing situations, interactions gives the learning as a part of real world , and empowering its learners into ICT for education.The absence of any cost for including ICT education in IDOL was due to the volunteer teacher educators from B.Ed colleges and peer tutors . If the format of ICT in MA Education (II) programme is accepted then a proper costing and staffing would surely help with the tried learning path as well as the learning design of Peer learning would be adopted.

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