Quality Enhancement of Open and Distance Teacher Education through E-Learning 2.0

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Abstract   Quality of teacher education in the Open and Distance Learning (ODL) has been posing a question for pretty long time. Stake holders at different levels have been working to design innovative strategies to raise the standard to meet the demands of the children. The open teacher education scenario is passing through a paradigm shift in respect of teaching –learning process and other related dimensions. Quality enhancement of teacher education via Open and Distance Learning can be possible by adopting creative use of technology which, by a large is interlinked to e-learning 2.0. E-learning 2.0 is the use of web 2.0 technologies in teaching-learning processes visa-a-visa blogs, wikis, RSS feeds and social networking sites etc. Design of e-pedagogy along with e-learning strategies paves a path to make learning free of social political cultural barriers and thus enhances the quality of learning. This paper discusses various aspects of e-learning 2.0 strategies in the open and distance teacher education, role of e-learning 2.0 methods in improving the quality of education and latest e-learning 2.0 tools and its application in open and distance education, especially teacher education. It helps stakeholders to build a sound knowledge in e-learning 2.0 strategies and its application for the daily teaching-learning practices at all levels of open and distance teacher education.

Keywords: E-learning 2.0, Blogs, Wikis, RSS Feeds, Social networking

INTRODUCTION

Quality enhancement of open and distance teacher education poses the question of implementation of creative teaching learning strategies. Relevance to e-pedagogy to some extent helps us to rethink about the traditional teacher oriented complex classrooms. Technically literate learners of this century prefer innovative learning methods. This insists the implementation of technologically rich pedagogy to equip teacher trainees with knowledge in e-learning 2.0 tools. Are our teachers technically literate? An illiterate teacher community strive to adjust to the needs and desires of student community and thus declines quality of teaching. At this stage appropriate measures should be taken to adopt e-learning 2.0 resources in the open and

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distance teacher education curriculum for better comprehension of objectives of the programmes.

Face to face teaching and distance education are the two prevalent methodological approaches of teacher education and each has their own chief characteristics. Whatever may be the approach, development of teaching skills in teacher training has been given an important place and these skills are imbibed for the benefit in organising teaching activities. It is important to mention that teaching learning actives have changed exhorbitantly especially in learning methods. Today, children are labelled as i-kids because of the fact that, lion's share of their time is devoted to technology related activities and the effect is they prefer technology oriented learning processes. This insists the implementation of e-learning strategies in teacher education programmes. First importance should be given to develop technology rich teacher education curricula to produce technologically rich teacher community. As a result it helps them to develop a wide range of technologically abundant learning methods suitable for student community.

WHERE ARE WE NOW?

The dimension of teacher training education in both traditional and open education has undergone massive changes which paved a pathway to integration of intriguing technological instruments in daily teaching –learning processes. In old age, the process of distribution of knowledge was mostly verbal. As time passed, massive changes occurred to teaching-learning processes, teaching methods and other related aspects of education. A brief sketch of today's teaching –learning scenarios in the open and distance teacher education tells an entirely new dimensional change of learners, who accomplish desired objective with the support of advanced technological instruments.

Teachers are considered as the distributor of knowledge and enjoyed all privileges in the society. The dominant oral method of disseminating knowledge partially eradicated and modern methods had evolved. Today tech savvy students prefer new teaching-learning methods, where they themselves believe that a part of whole education process, starts from curriculum construction to the end of course and learners are able to contribute and use technology in their teaching learning process.

What is the status of teacher training programmes in the open and distance education mode?

Most of the teacher training programmes irrespective of open or face to face, prepare teachers who are unfit for 21st centuries and trained teachers

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find difficult to teach tech-savvy students and to manage techno oriented classrooms. The intense practice sessions in teacher training programmes fail to produce technologically literate teachers for the future. Implementation of modern teaching methods is as important as new methods of learning. In educational process both teaching and learning play a prominent role. According to Benjamin .S. Bloom (1956) learning is the basis of development in the three imaginative domains of an individual viz: cognitive, affective and psychomotor domain. Traditional and modern classroom learning focus on enhancement of knowledge through preliminary concepts that fall under the cognitive domain as described by Bloom. Are we still focusing on these three domains? Definitely not. Apart from developing basic skills, nowadays twenty first century skills are to be inculcated among learners. Unfortunately the demands of twenty first century have been never met by teacher training institutions. What are these twenty first century skills? Table given below will give a brief description:

Table 1: Twenty First Century Skills

Learning and Innovation Skill	Digital Literacy Skill	Carrier and Life Skill
Critical Thinking and Problem Solving	Information Literacy	Flexibility and Adaptability
Creativity and innovation	Media Literacy	Initiative and Self Direction
Collaboration	ICT Literacy	Social and Cross Cultural Interaction
		Productivity and Accountability
		Leadership and Responsibility

(Source:http://www.p21.org/overview retrieved on 23/01/2014)

Twenty-first century is so complex that we require firm knowledge and strategies to overcome complications of the scenario for a satisfactory life. The skills demanded by twenty first (as mentioned in the table) century help the individuals to tackle complicate situations of the complex society. At present teacher education system focuses on skills mentioned by Bloom, while the twenty first century learner demands skills that will support in resolving complex issues of life.

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Trends of Change in Learning

Nowadays children make use of different learning methods. Some children use audio for learning while others prefer visual learning. Learning has transformed to self learning methods. Let us examine, what is the nature of today's classrooms? Education system today is rigid, fixed and are teacher dominated. Student's role in the teaching-learning process is limited to a receiver of knowledge. As passive listeners, children are forced to internalise knowledge provided within the classrooms. The mechanical teaching –learning process, tries to complete syllabus within the prescribed limit of time and fails to create healthy and better personality of learners and hence are not able to perform well in practical situations of life.

Teacher education today competes to provide a good quality of education but day by day the quality deteriorates. Irrespective of deteriorating quality of teaching, there has been a drastic development in the learning methods of children. During last five decades, teacher dominated classroom has been shifted to learner oriented classrooms. Teacher dominated classroom focuses to deliver learning materials directly to the children and contributes less cognitive development of children involved in learning. The proper cognitive growth is possible only when children are actively involved in learning processes. Today, this aspect of learning has been given importance in the curriculum. This provides learners an opportunity to participate actively in the learning. This transformation in learning reflects on learning processes also.

What are the changes in learning processes? Learners prefer to use their own learning strategies, i.e. identify the learning contents included in curriculum, select strategies to study concepts, seek peer help, query with experienced people, use search engines on internet and variety of audio-visual learning tools, use technological tools to collect information about various sources are a few among them. The core concept of all these processes is, learners prefer active participation in the learning processes. To a large extent this is possible through self-learning methods that provides the learners an opportunity to explore various learning strategies.

Twenty first century visualises a massive change in learning methods. As we have seen twenty first century demands new skills and competencies that should develop in children to compete with complex situations. This is possible only when teachers are e-literate.

Why is E-Learning Important for Teacher Education in ODL?

The major characteristic of twenty first century learners are that, they prefer to use technological instruments in learning and are better known as digital

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learners. Learners are adopting innovative learning strategies available in World Wide Web. But teacher training methods still focus on traditional methods of learning and teacher trainees get less opportunity to practice innovative learning approaches during their training periods. Hence they fail to adopt modern teaching learning methods of classrooms. Technologically illiterate teachers are of less useful in modern classrooms. Teacher trainees must be well equipped with skills and potential to use technology in teaching –learning process. Similarly open and distance teacher education demands the use of e-learning strategies due to the lack of face to face teaching. These reasons underline the importance of e-learning in the open and distance teacher training programmes.

What is e-learning? JISC defines "e-Learning can be defined as 'learning facilitated and supported through the use of information and communications technology'. It can cover a spectrum of activities from the use of technology to support learning as part of a 'blended' approach (a combination of traditional and e-learning approaches), to learning that is delivered entirely online. Whatever the technology, however, learning is the vital element."(Retrieved from http://www.jisc.ac.uk/ e-learning on 23/01/2014). In the present context associated stake holders should think on rejuvenating the open teacher education curriculum to adopt the web related tools. E-learning is imperative in teacher education due to the following reasons:

- Internet sources are available locally
- Digital learning materials are user friendly
- It provide latest information about subjects
- Tools available are interactive in nature
- Opportunity to share and exchange ideas in less time.
- Learning materials are self motivated and interesting.
- It cater self development
- It replenish creativity of learners
- Virtual environment duplicates real classroom environment
- Reduces cost of education(economical)
- Option to select learning materials according to our interest
- Self paced learning is possible.
- It supports different learning methods of learners.
- It provide flexibility, convenience and accessibility
- Student –teacher interaction is made easier.

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Learning 2.0: A New Form of Learning

Learning is defined as the modification of behaviour through experiences and is made possible through the participation of children learning activities. There are different stages of development in learning viz: learning 1.0 to 2.0. In learning 1.0, learners are confined to text materials and being a passive recipient of knowledge, their creative skills are fully neglected. Teachers dominated instruction and the methods of teaching that are important in e-learning 1.0 and learning materials formulated by the teacher were passively perceived and reproduced during the assessment stage of learning. Even though e-learning 1.0 is web based training model; freedom to involve children are limited and it uses LMS to support learning. Creation of contents, management of courses, design and delivery of contents, registration, monitoring of learners, and certification of courses were managed with the use of LMS. The focus of the system is on content and learning objects.

The emanation of Web 2.0 gave birth to e-learning 2.0. The influence of new practices on the Web has resulted in a new array of services that collectively termed as "e-learning 2.0". Gonella and Panto (2008) present the following definition: e-learning 2.0 refers to a second phase of e-learning based on Web 2.0 and emerging trends in e-learning. The term suggests that the traditional model of e-learning as a type of content, produced by publishers, organized and structured into courses, and consumed by students, is reversed; so that content is used rather than read and is more likely to be produced by students than courseware authors.

How is e-learning 2.0 different from e-learning 1.0? E-learning 1.0 focuses the distribution of materials mainly in the form of text, other static media while e-learning 2.0 places learners at the centre of instructional processes using various interactive tools. Self- directed and self- regulated learning methods are main principles of e-learning 2.0 which, equip learners to develop skills using various learning principles and procedures and brings out the maximum potential growth through collaboration, social networking and sharing of knowledge among learners across the globe. Information sharing and interaction is fast compared with e-learning 1.0.Learner's interaction with peer help them to share and refresh subject knowledge with less time. Learning speed increases and becomes enjoyable through web 2.0 tools. Now we are in e-learning 2.0 scenario and hence require complete knowledge on e-learning 2.0 strategies.

Significant Features of E-Learning 2.0

E-learning 2.0 focuses on the use of web 2.0 technologies in the teaching learning process. In e-learning 2.0 children get an opportunity for self-learning and that

help to develop twenty first century skills. These skills are helpful for a learner to lead successful life in competitive twenty first centuries. Web 2.0 technology has many characteristics. The prime characteristic is interaction that is possible within seconds of time. Similarly it presents material in appealing nature to learners. It is a fact that web 2.0 technology acts as the basis to frame features of e-learning 2.0.The significant features of e-learning 2.0 are given below:

Pupil-Centred learning: E-learning 1.0 is "material centred learning" in the sense that the material developed by subject experts and its delivery was given prime importance rather than creating materials by learners. In contrast e-learning 2.0, targets on children initiated learning. E-learning 2.0 enable children participation in learning, and hence learning is "pupil centred learning".

Bottom up learning approach: In conventional systems, instructor prepares course materials and uploads in the learning management system (LMS) which is a top down approach. In e-learning 2.0, children are given the freedom to participate in courseware creation. The autonomy of preparation and publication lies with the learners.

Material creation: In e-learning 2.0 learners play active role in preparing materials. Students discuss the course and contents with instructors and help to design learning materials.

Dynamic content publishing: The materials developed by learners are published instantly in website through social networking sites. Students can read and edit the posts of others and can comment on it and thus forms a group of social networking community. This allows content updation time to time and that is why e-learning is treated dynamic.

Folksonomy: The materials created are systematic and standardised with the help of learning management systems (LMS) in e-learning.1.0. The arrangement is in the form of modules, lessons, test and discussions which are rigid in nature. A student couldn't find opportunity to create materials by themselves while tools of e-learning 2.0 provide ample freedom to organise materials in personalised way. Here the emphasis is given to folksonomy than taxonomy.

Generations of E-Learning

The developmental stages of e-learning are taxonomical in nature. In early stages, e-learning used learning management system (LMS) and authoring tools

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Table: 2-Generations of E-learning

Characteristics	E-Learning 1.0	E-Learning 1.3	E-Learning 2.0
Main components	Courseware LMSs Authoring tools	Reference hybrids LCMSs Rapid authoring tools	Wikis, Blogs, Add-in Social networking and book marking tools, Mash-ups
Ownership	Top-down One-way	Top-down Collaborative	Bottom-up, Peer planning Learner-driven
Development time	Long	Rapid	No
Content size	60 minutes	15 minutes	1 minute
Access time	Prior to work	In between work	During work
Virtual meetings	Class	Intro, Office hours	Peers, Experts
Delivery	At one time	In many pieces	When needed
Content access	LMS	E-mail, Intranet	Search, RSS feed
Driver(Starting)	ID	Learner	Worker
Content creator	ID	SME	User

(Source: http://www.astd.org/Publications/Newsletters/Learning-Circuits/Learning-Circuits-Archives/2007/07/Understanding-E-Learning-20 retrieved on 23/01/2014)

E-learning emanated from e-learning 1.0.The first generation of e-learning, deliver materials via webs and use synchronous methods to gimme materials through virtual classrooms. The learning materials are developed by the instructor and have provisions of an authoring tool .It follows a traditional method of designing and developing materials which were distributed through learning management systems (LMS).

The next generation of e-learning focuses on delivering materials in small chunks and more quickly. E-learning 1.3 has emerged in recent year's. Unlike in e-learning 1.0 where learning material is transferred through learning management systems (LMS), here the material is sent to the learner via e-mail or made available through links in the organisations website. Learning materials are developed by subject experts that use rapid e-learning tools or Learning Content Management Systems (LCMSs). Even e-learning 1.3 makes use of virtual meetings to meet the purpose.

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The participation of learner in teaching-learning process is limited both in e-learning 1.0 and 1.3. Emergence of e-learning 2.0 is a huge achievement in the scenario of e-learning. It combines the creation and delivery of materials in an intergraded mode. In learning.2.0 creation and delivery of materials incorporates the involvement of learners. The evolution of web 2.0 tools paved the pathway to creation of virtual learning environments in teaching learning processes. The freedom of material creation, delivery, access and sharing knowledge has eased with the introduction of virtual learning .The boundary of classroom widened and the capability of student to access study materials has grown to infinity.

How 2.0 Learners Learn?

The drastic shift in learning methods has forced twenty-first century learners to adopt new learning strategies. The traditional teaching –learning process manoeuvre to learners focussed learning methods and use different strategies to enhance quality of learning. The talk and chalk method is replaced with innovative technological instruments. Text book oriented learning has been totally eradicated and learners considered internet resources as valuable tool in learning. Let us discuss the features of learners of twenty first centuries:

- They prefer information coming from various sources such as textbooks, internet, experiencees etc.
- They are multi skilled and prefer to work in various environments.
- They are highly visual learners, hence learning through audio, video and visuals are preferred than text materials.
- They are experiential learners and follow the motto "learning by doing", "learning by experiencing" and "self-learning".
- They have short attention spans, so prefer learning material presented in crisp form rather than content loaded materials.
- They highly social in nature. They like to share and exchange ideas with others and enjoy working in group environments. Interaction is key component of learning.
- They are ready to accept and play different role in learning process like as student, facilitator, supporter etc.
- They prefer to learn "just in time," that is, they have access to relevant information and can apply immediately.
- They need immediate feedback, responses, and ideas from others, as they are used to instant gratification.
- They are independent learners, and they don't require instructions like their predecessors.

- They prefer to construct their own learning – assembling information and tools from different sources.
- Learners are tech savvy and prefer to acquire knowledge via digital resources.
- Thirst for knowledge, a character of learner's is free of time barrier. They can fetch information at any time i.e. learning is 24*7

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E-learning 2.0 widely uses web 2.0 technologies in teaching-learning process and provides the learner freedom to involve in learning activities. This active participation in learning enhances the skills of learner, makes learning enjoyable and help to retain knowledge in depth. What are web2.0 resources? According to Devis *(2010), "web 2.0 is a social philosophy that aims at abandoning the individual control over matters and gaining a greater number of participation". It provides freedom to the learners to involve actively in learning activities. Miller *(2010), "defines the web 2.0 as an equal regrouping of the evolution and revolution which benefitted from existing standards such as HTML, CSS and XML and the Web browser". The use various information resources and tools are one of the chief attributes of web 2.0. According to Richard Mac Manus, "Web 2.0 is social and open; it leaves the control of data and combines the global with the local. It corresponds to the new manners to search and access content. It is a ready platform for educators, media, politicians and communities and for everyone else".

How can we enhance the quality of open and distance teacher education through inculcation of web 2.0 tools?

Twenty first century demands certain twenty first century skills to develop among children who are technically literate and ready to incorporate innovative technical instruments in learning. To accomplish such an aim, teachers should be technically well equipped. Here comes the relevance to open and distance teacher education. A large quantity of future teachers can be moulded as per the need of the system and is easily possible through technology. Whenever teacher education is provided through open and distance education mode, appropriate measures should be taken to incorporate technology in the curriculum and the teacher trainees should be given adequate training to use technology so that they can practice it in the future and thus help in increasing the quality to a greater extent.

The principle tools of Web 2.0 are blogs, wikis, social networks, RSS feeds, tags, podcast and video cast. Apart from these webs 2.0 has wide range of creative tools for the use of learner community in particular. Web 2.0 can be utilized in ODL teacher education to make learning more understandable, meaningful and updated. Children can make use of social networks in different ways. Learning materials are exchanged faster between learners and the teacher. It helps the learners to get first hand information instantly. The duration of learning is reduced and made easy. Web 2.0 tools serve different purposes. It is well equipped with different tools to design creative ideas. The tools available are user friendly in the sense it helps users to create, share, and alter contents as per their freedom. The different e-learning 2.0 tools and their use in open and distance teacher education are given below:

Blogs: Blogs are personal websites where contents are organised like a diary or journal. In blog the material can enter in chronological order. The learning material can be posted in blogs and can be used by the learners across the country. Even teachers and other associated employees involved in open and distance learning can use their own blogs to post teaching material for the benefit of the learners. Learners can refer to the personal blogs of teacher's and get benefited out of it. Even students can create their own blogs and can exchange learning materials with peers. Learners having common ideas can form "Group Blogs". Blogs help teaching–learning process in the open and distance teacher education in following ways:

- Used for posting self-made data related to the course of study;
- Class blogs can be formed to get instant information related to the courses, to give quick feedback to students, and with each other;
- Network of students can be formed to develop deeper knowledge in subjects;
- Update data regarding assignments, homework and other related aspects is possible;
- Help to improve writing skill of learners.

Wikis: Wikis are open dynamic websites where collaborative constructed knowledge is available for the use of public. It provides the freedom to the learners across the world to edit, add and delete learning materials. The materials added will be verified for its truancy by the controlling authority. Wikis related to each course, subjects and particular topics are available in the web, to which one can add the latest information. In teacher education both teachers and learners can update the information available to them. This will

provide learners the current information related to the subject and can widen knowledge network. Wikis help teaching –learning process in the open and distance teacher education in following ways:

- Freedom to select and edit subject contents available in the web;
- Help students to get latest information in the subject concerned;
- Creativity is promoted by posting or writings in wikis;
- Provide opportunity for critical analysis of learning materials; and
- Helpful for group work between of teacher and learners.

Podcasts: Every individual has enough capacity to create audio and video files related to various topics. Technology is equipped well enough to meet the requirements of individuals for creating audio or video files. **The digital video and audio files containing meaningful learning content available in the web are termed as podcasts and the process of creating and distributing such materials are known as podcasting**. Teachers engaged in the open and distance education can create different types of audio and video files related their subject and can make available in the web. For example one can create video related to "microteaching skills" and can be posted in the web. Even learners can create such files related to their subjects. Podcasts help teaching–learning processes in the open and distance teacher education in following ways:

- Attractive learning materials can be created in the form of audio or video files;
- Podcast increases the learning power and retentivity;
- It increases the confidence level of learners since podcasts appear with sound and motion picture;
- Podcasts can be shared by the learners across the country; and
- It increases creativity and skill of writing.

RSS feeds: Rich Site Summary (originally RDF Site Summary, often dubbed Really Simple Syndication) is a tool to provide updated information of website entries. The information available in different websites gets frequently updated. If RSS feeds are provided the learners and teachers gets informed on these entries automatically. During teaching–learning process, both teacher and learner can make use of various websites related to their subject of study. They can refer various websites also. But generally it is difficult for them to get the updated information available in the web. RSS help to overcome such issues. RSS helps teaching–learning process in the open distance teacher education in following ways:

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- Helpful for carrier development by using updated information;
- It is time saving since no separate request has to send for getting updated information;
- Information from various sources helps to form collaborative knowledge;
- Traditional tools like email, chat may be replaced to get updated information with less time; and
- Information can be sent to other learners of the same course of study.

Social Bookmarking: It is an online service that helps users to add, annotate, edit and share bookmarks of documents available in the web. The pages in websites that they want to remember or share can be saved as links, they can share among individuals or group and can share with certain networks or the combination of both public and private domains. The people who are allowed can view these bookmarks chronologically, by category or tags, or via a search engine. Many social bookmarking services provide web feeds for their lists of bookmarks, including lists organized by tags. This allows subscribers to become aware of new bookmarks that are saved, shared and tagged by others. Learners can use this facility to save the web pages related to their study and can share with peers. Similarly teachers can suggest web pages to students through bookmarking. Social bookmarking helps teaching –learning process in the open and distance teacher education in following ways:

- Web resources related to course of study can be saved as book marking;
- It helps to share resources with peers and teachers;
- Information is available for 24*7 and can be retrieved at any time;
- Help to know about latest information; and
- It prevents the loss of data since it is available on internet.

Social networks: It is one of the most influential learning tools of the twenty first century which renders the opportunity to maintain social relationships with people. **Social network serves as a platform to frame social relations among people who share common interests, activities, backgrounds, or any real-life connections**. In social network websites, people create an account through which they can interact with other people, post their feelings and share others idea. Most social network services are web-based and provide platform to interact over the Internet, such as e-mail and instant messaging. The two most popular sites are currently Facebook and MySpace. Social networks help teaching–learning process in the open and distance teacher education in following ways:

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- Help to share and exchange ideas;
- Maintain relation between learner and instructor;
- Provides updated information;
- Help to post ideas of individuals involved in learning; and
- Opportunity to frame communities of common interest.

All these characteristics act as an eye opener to stake holders and curriculum designers to adopt web 2.0 strategies technologies in ODL teacher education programmes so as to build up the tech savvy teacher trainees. First develop an understanding on various e-earning 2.0 and try to adopt it in the open teacher education programmes and as a result e-literate teachers community are created. So always focus to incorporate e-learning 2.0 tools in the open teacher education programmes to make teacher trainees aware about the changing trends of learners.

CONCLUSION

The traditional face to face learning integrates web 2.0 tools to form into a new learning culture i.e. E-learning 2.0. Unlike in e-learning 1.0, learner's involvement in teaching-learning process is one of the core features of e-learning.2.0. Learners of twenty first centuries are tech savvy/i-kids and they prefer to use modern technological instruments during the course of their studies. Unfortunately, a larger teacher community has failed to cope up with the changing demands of learners. It is due to the antagonist behaviour of controlling authorities on teacher training programmes that they fail to integrate e-learning tools in teacher education curricula. Teacher training programmes in the open and distance education do not utilize e-learning 2.0 tools and as a result teachers unfit for the scenario are prepared. To overcome such a situation, open teacher education programmes should make extensive use of e-learning 2.0 tools for the teaching-learning process so that the children imbibe and develop positive attitude to use technology when they become real teacher.

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