Integrating Technological Trends In Teachers Education

Runu Show
Department of Education, Assistant Professor of Chandrokona Vidyasagar Mahavidyalaya, Chandrakona Town, Paschim Medinipur.

Sutapa Bose
Assistant Professor, K.S.S Jain Collage of Education, 6 Ram Gopal Ghosh Road, Near Chitpur Thana, Cossipore, Kolkata.

Sonali Negel
Assistant Teacher, Arambagh Girls High School, Arambagh, Hooghly

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Abstract

In 21st century, Information and communication technology presented new ways of working in Education. The quality of education depends upon the teachers of a nation. Education is a potent instrumentation for bridging between changing society and teacher. So, they are to play a crucial role in this novel venture. Teacher education is the milestone for improving quality of education. Today’s world is very much affected by technology. Technology have great impact in every spear of a person’s life. This effect is also taking place in education field. Various technological trends are a potential tool for expanding educational opportunities formal as well as non-formal. In this changing arena, it is expected that teachers are very much aware about this paradigm shift and also have training on the use of various technology trends. The purpose of this paper is to explore how the teacher education institution can integrate technological trend with teacher education and enhance teacher’s digital proficiency. In this way they can able to handle different needs of today’s digital natives and their professional developments. So, that they can motivate this students to use technology in increasing their skills and knowledge.

Key words: - Teacher education, Technological trends, Integrate technology, professional development.

Introduction

Education is a ladder of development that removes darkness and brings light. It is a powerful tool and fundamental force in the life of man. It plays an instructional role in shaping the density of the individual and the future of mankind. So, the quality of Education depends upon the teachers of a nation. With a view to promoting quality and quantity of education, it falls essential to develop the professional competencies of teachers through integrate technologies trends. “A teacher can never truly unless he is still learning himself. A lamp can never light another lamp unless it continues to
burn its own flames”, a creations of Rabindranath Tagore. World education is in constant search for finding out the emerging role of Education in every sphere of life. They think that Education both formal and non-formal must survey society as an instrument of fostering the creation of good citizens. In 21\textsuperscript{st} century, technology is popularly using in educational field for making teaching-learning process successful and interesting for students and teachers both. Technologies play an important role in training programme of teachers. Students accesses knowledge an information through TV, digital media, internet and Facebook, Twitter, Whatsapp, etc. In the way, there is a technological gap between the progress of the society and instructional activates of the the classrooms. Now a day’s new trends’ in teacher education are inter-disciplinary approach. According to research, today’s students are looking at social media not as separate thing that you do occasionally but as a pervasive part of the way, their living their lives outside of the school. They want to connect with their lives inside the classroom. So, to follow a trend you must not only be aware of what is currently happening but acute enough to predict what is going to happen in the future. Because “trend is a pattern of gradual change in a condition, output or process, or an average or general tendency of a series of data points to move in a certain direction overtime, represented by a line or curve on a graph, on the other hand, in education trend is a shift or tendency with in a system. So, current trends’ in the field of education indicates a shift in pedagogical perspectives and theoretical frame works with students interactive at the heart of learner centric constructivist environments. Because the learner is the most important element any educational programme. It is the teacher who is mainly responsible for implementation of the educational process at any stage. The importance of competent teachers to the nation’s system in no way is owner emphasised. The national curriculum frameworks 2005 places dements and expectations on the teacher, which need to be addressed by initial and confining teacher education, which decompresses teaching skills, pedagogical theory and professional skills. And this skills would serve to create right knowledge, attitude, and proficiency in teachers, thus promoting holistic development.

So, according to Goods Dictionary of Education, Teacher Education means, “All the formal and non-formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession or to discharge his responsibilities more effectively.” In 1906-1956, the programme of teacher preparation was called teacher training. It prepared teachers as mechanics or technicians. It had narrower goals with its focus being only on skill training. The perspective of teacher education was therefore very narrow with limited scope. As W.H Kipatrick put it, ‘training is given to animals and circus performers, while education is for human beings.’ Now-a-days teacher education has to become more sensitive to emerging demands from the school system.

**For this it has to prepare teachers for a dual role of:**

- Encouraging, supportive and humane facilitator in teaching-learning situations, who enables learners to discover their talents, to realise their physical and intellectual potentialities to the fullest, to develop character and desirable social and human values to function as responsible citizens. And
● An active member of the group of persons who make conscious effort to contribute towards the process of renewal of social curriculum to maintain its relevance to the changing societal need and personal needs of teachers, keeping in view the experiences gained in the past and the concerns and imperatives that have emerged in the light of changing national development goals and educational priorities.

These expectations suggests that teacher operators in the larger contexts and its dynamics as well as concerns impinge upon her functioning. That is to say, teacher has to be responsive and sensitive to the social contexts of education. The various activities in the backgrounds of teachers as well as in the macro national and global contexts, national concerns for achieving the goals of equity, parity, social justice as also excellence.

To be able to realise such expectations, teacher education has to comprise such features as would enable the student-teachers to:-

- Understand children within social, cultural and political contexts.
- View learning as a search for meaning out of personal experience.
- Understand the way learning occurs, possible ways of creating conducive conditions for learning, differences among students in respect of the kind, pace and styles of learning.
- View learning as a search for meaning out personal experience, and knowledge generation as a continuously evolving process of reflective learning.
- View knowledge not as an external realities embedded in textbooks but as constructed in the shared context of teaching-learning and personal experience.
- Own responsibility towards society and work to build a better world.
- Appreciate the potential of productive work and hands on experience as a pedagogic medium both inside and outside the classroom.
- Analyse the curricular framework, policy implications and texts.
- Have a sound knowledge base and basic proficiency in language.

Keeping all these points in concern, the objectives of teacher education would therefore be to;

- Provide opportunities to observe and engage with children, communicate with and relate to children.
- Provide opportunities for self-learning, reflection, assimilation and articulation of new ideas, developing capacities for self-directed learning and the ability to think, be self-critical and to works in groups.
- Provide opportunities for understanding self and others, developing the ability for self-analysis, self-evaluation, adaptability, flexibility, creativity and innovation.
- Provide opportunities to enhance understand knowledge and examine disciplinary knowledge and social realities, relate subject matter with the social milieu.
- Provide opportunities to develop professional skills in pedagogy observation, documentation, analysis, drama. Craft, story-telling and reflective enquiry.
Current technological trends in education:

Cultural:

1. **Diversity:** As seen in pedagogies that cater for diverse learners and groups of learners UDL different belief systems and multiple languages in schools

2. **Digital fluency:** Driven by personal responsibility, online identity, digital theories and citizenship, cyber security access and equity of opportunities.

Technology:

3. **Equitable access:** Including BYOD, home access, leaves, berries, public places, and spaces. OER and the digital divide

4. **Data driven organization:** The smart use of data and analysis, evidence, driven organization.

Structural

5. **Network community:** The rising importance of communities of schools. Communities of learning IES. With new roles for teachers and leaders.

6. **Community focus:** Strategies for engaging parents, using protocols, two-way interactions and effective community participation in schools

Economics:

7. **Sustainability:** Education for sustainability, green waste and climate change in an educational context

8. **Computational thinking:** The impact of STEM on curriculum coding drive for skills for employment v/s holistic education outcomes for all and play based curriculum.

Process:

9. **Design thinking:** The emphasis on innovation creativity and the use of design thinking in education transformation.

10. **Change leadership:** The crucial role of professional learning and development based on enquiry coaching’s and mentoring in change leadership

In Dynamic classroom, the teaching and learning process is becoming more nuanced more seamless, and flows it back and forth from students to teacher. And advancement in science and technology are definitely influencing student behaviours and also teachers, both from the positive
and negative sites. The contextual changes have conferred some benefits, like the greater range of educational and occupational opportunities. Here look at effects of major technology trends in education:

1. **Personal Access to Mobile Devices:** - According to the 2013 results, students overwhelmingly have access to personal mobile devices. “If there was any doubt in our mind that we were beyond the tipping point in term of kids carrying a computer in their pocket, backpack or purse”, she said, “We’re there”. High schools students have access to internet connected smart phones, while many of the student access to tablets and laptops. In addition to personal access, the survey found about a third of students have access to a device (typically laptops or tablets) in their school.

2. **Internet Connectivity:** - The students generally connect to the internet when at home. According to the study, students surveyed identify 3g or 4g enabled devices as their primary means of connecting to the internet, while others remains connect through an internet enabled device or Wi-Fi. When asked why traditional broadband access wasn’t their primary means of connectivity students said there was less contention for access with other members of the family through these non – traditional devices.

3. **Use of Video for classwork and homework:** - Video is another tool that has been on the rise in recent years while her presentation focused on students, Evans noted that 46 percent of teachers are using video in the classroom. One third of students are accessing video – online – through their own initiative – to keep with their homework.

4. **Mobile devices for schoolwork:** - According to the 2013 results, students are leveraging mobile devices both to be more efficient in their day to day task and to transform their own learning process. Sixty percent of students are using mobile devices for anytime research, 43 percent for educational games and 40 percent for collaboration with their peers. Thirty three percent of student surveyed use mobile devices for reminders and alerts related to their academic lives, 24 percent for taking photos of their assignments, and 18 percent for in-class polling. Surprisingly, even the students responding said they use mobile devices to text questions to their instructors while in the classroom “I do wonder”, she added, “how many of the teachers are responding to those texts”.

5. **Using different tools for different tasks:** - Evans admitted, with the proliferation of so many tools, it isn’t surprising students are designing “best fit” solutions for their very specific needs. Rather than using one or even a few platforms for various tasks, students are increasingly say about taking advantage of the benefits of the goals available. “We find them, using video, social media and cell phones for communication they use e – readers for reading text and articles; they write, take notes and do research on laptop. But she paused, “Where does that leave tablets”? Tablets were the second third choice device for computing. Many of the academic tasks students are faced with, “They like the devices, but they are more focused on using the right tool for the task at hand “, and many time tablets don’t seem to fit.

6. **Paying attention to the Digital Footprint:** - Digital footprint was a new research area for the 2013 survey and according to Evans, showed some interesting results, Sixty four percent of
high school students responding admitted to being careful about the things they post online, 39 percent said they advise friends about the content they post with 32 percent saying they stopped interacting with friends who post inappropriate content online. Finally 41 percent of high school students said they believe a positive digital footprint is the vital part of their future.

7. **An increased interest in online learning**: This year’s speak up found that students who have not taken an online course are increasingly interested in, the opportunity, citing a desire to have more control over their learning and believing that they will get more support from an online teacher. Math was the subject student were most interested in taking online, with foreign language coming in second and Science a distant third.

8. **Gaming is growing and the gender gap is closed**: Another interesting area for Evans was student gaming. This year’s results showed 60 percent of students are using laptops as gaming device. Cell phones and game console tied with 54 percent use, while tablets clocked in at 44 percent. Of particular note is students’ interest in taking. Gaming technology and applying it to learning difficult concept, as well as their interest in using games as a way to explore career opportunities. Evans also noted no gender difference in students’ interest in games, with younger girls actually showing more gaming activity than their male counterparts.

9. **Social media in schools**: Another set of questions resolved around the place of social media in the school. When showing the data for text messaging, networking sites (twitter, Facebook, Instagram, etc.) and chat rooms, it was clear the student expectations for the use of these technologies for outpaced those administrators, teachers and parents. Administrators scored the highest among the non–student groups represented. According to research, nowadays students are immersing at social media, so they want to connect their lives inside the classroom.

10. **What Devices Belong in ‘The Ultimate School’**: The final piece of date Evans shared focused on students’ ranking of relative importance of devices in their classroom experience. Fifty–six percent of students said laptops were most important; 51 percent chose digital readers”, and 48 percent selected tablets “this is still an evolving area”, said Evans and one she said project tomorrow plans to keep an eye on in the coming years. Something of interest, she added, that may not come as a surprise is that 62 percent of students want to bring their own self esteemed power.

So, globalisation and technological change process that have accelerated in tendon over the past fifteen years have created a new global economy powered by technology. The need and urgency for developing technological literacy, although not a new idea emerged with greater emphasis in the world. With this increasing awareness and interest emerging technology was recognized as a powerful vehicle for offering educators innovative ways to enhance student learning and also for teacher education. Even, the international society for technological in education established
standards defining technological literacy for teacher education. The ISTE standards recommended that all teachers should be prepared in the following areas:

- **Basic technology operations**: Teacher should use computer system to access, generate and manipulate data, and publish results. They should be knowledgeable about both hardware and software components of computer systems and apply basic troubleshooting strategies as needed.

- **Personal and professional use of technology**: Teachers should apply tools for enhancing their own professional growth and productivity. They should use technology in communicating, collaborating, conducting research and solving problems.

- **Application of technology in Instruction**: Teachers should apply components and related technologies to support in their grade level and subject areas. They must plan and deliver instructional units that integrate a variety of software, application and learning tools.

But the main purpose of this paper is to explore how the teacher education institution can integrate technological trend with teacher education. Technology has become an integral part of teaching as well as learning for both students and teachers. The International Society for Technology in Education (ISTE) first provided the integration model through their Foundation standards. **There are some essential conditions that helps teacher education institutions for successful integration. These are:-**

1. **Shared Vision**: Proactive leadership and administrative support i.e. support from teacher educators, office staffs, authorities, communities etc.
2. **Proper Planning**: Proper planning is very essential in this case. Without proper, effective and comprehensive planning this work cannot be successful. Besides this, yearly review of the plan is also required.
3. **Access**: Teachers and students must have access to current software, networks and internet connections.
4. **Financial Support**: Ample amount of finance is necessary to provide technological support to the teacher trainees.
5. **Skillful Support**: Teacher trainees must provide continuous support by the institutions so that they can able to know the process of operating and maintaining various technological devices.
6. **Curriculum Framework**: While developing the curriculum, curriculum planners must include a paper related to technology.
7. **Evaluation**: Continuous evaluation is required to follow-up. Self-evaluation methods can also be followed.

It is well known that the quality and extent of learner achievement are determined primarily by teacher competence sensitively and teacher motivational. So, teacher education is a programme that is related to the development of teacher proficiency and competence that would enable and
empower the teacher to meet the requirements of the professions and face the requirements of the professional and face the challenges there in. Also, teacher is the main part of the educational field in our society. He more works for the improvement level of our society in the every filed. Skilled teachers can make the creative students in form of the good social worker, poet, philosopher etc. for the society. Teachers can play a friendly role with individually and without any unnecessary outer pressure and fear. But rapid development of technology has made creatively changes in the way, we live as well as the demands of the society. Recognising the impact of new technologies on the everyday life. And today’s teacher education institutions. Try to restructure their education programs and classroom facilities, in order to minimise the teaching and learning technologies gap between today and the future. Teachers and instructors are in favour of using technology in an out of class activities. This positive attitude is an important indicator of willingness and first step in effective integration. And this effective integration has great need and significance because this study shows roles of technology trend in teacher education:

- Technology tools help teachers in both pressurise and in-service teachers training.
- This tools (such as computer, mobile device, internet, Facebook, social media) assists teacher to interact with students.
- It helps theme in preparation teaching provide feedback.
- It also helps teacher to access with institutions and universities, NCERT, NAAC, NCTE, and UGC etc.
- It also helps an effective uses of software and hardware for teaching learning process.
- It helps in improve teaching skills, help in innovative teaching and effectiveness of classroom.
- It also need in professional development and educational management as well as enhances active learning of teacher trainees.
- Technology tools as a popular tool for organisation and management in institutions. Teacher must provide technological support to learn using motion picture, animation, simulation training, which help student teachers to give mole presentation.
- It used as an assisting tool for example while making assignments, communicating collecting data and documentation and conduct research.
- It is store house of educational institution because all educational information can safely through this technology tools. And it is a tool for teaching and learning itself, through the medium which teacher can teach and learners can learn. It amperes in many different forms, such as seal and practice exercises in simulations and educational networks.

So, we must say that it is now replacing the ancient technology. And now-a-days students are always having competitive mind. So, teacher must have the knowledge of the subject. This can do through only technology tools. It removes the traditional method of teaching and prepared teacher to apply modern method of teaching and also helps teacher to design educational environment and to identify creative child in educational institute.
Conclusion

This is the age of technology. Everyone and everything seems to have something to do with computers and communications. Our future generation is already showing signs of becoming totally technology dependent. It is fact that over the years, education has become increasingly complex, with more and more information communicated to the student. In this environment, it is important for student to have an interesting interactive and experimental mode of instruction that will make learning enjoyable and effective. So, integrating technologies trends in teacher education is defiantly the direction towards which the whole world is progressing. We know that occupies and honourable positions in the society. So, this study reveals that integrating technology trend helps teacher to update the new knowledge, skills to use the new digital tools and resources. For this, student teacher will become effective teachers. Teachers in India now stated using technology in the classroom, such as laptops, LCD projectors, desktop, EDUCOM, smart classes. Memories sticks are becoming the common media for teacher education institution even mainly teacher training institutes can develop their curriculum and communication network using this tools. It also helpful for design learning situations which are needed for both vocational education and the training of future teacher. (In the teacher training institute). Because creative teachers at all levels of educations have always found ways to incorporate innovative teaching aids and strategies in their class. Hence, this teacher must to motivate students and growing interest in learning. And helping them to think and communicate creatively. It will also prepare our students for successful life’s and carriers’ in an increasingly technological world. So, integration of technology in teacher education in 21st century, as because now teachers only can creative a bright futures for students.

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