

## The Role of Teacher and Technology in Perspective of Classroom Teaching

K.Venkat Satish (Corresponding Author)

Mother Teresa Institute of Science and Technology, Kotturu-Sattupally, Khammam-507303 , Andhra Pradesh-India

Email: [Kodhmuri.satish72@gmail.com](mailto:Kodhmuri.satish72@gmail.com)

Boggavarapu Krishna Priya

Zilla Parishad Secondary School, Dammapeta-Khammam

### Abstract

Classroom teaching is a demanding job. Teacher spends most of his time in teaching. Teacher is responsible for many tasks in the classroom teaching. Teacher plans and implement the instructions. He plays the role of managers, psychologists, counselors, custodians, communicators, social ambassadors and entertainers. Sometimes teacher becomes disillusion and frustration while performing the multi tasks because the classroom demands, distracts and challenges the teacher to use new tools to brush up the key concepts and skills in regarding Science, Social Studies, Art and other curriculum standards. He tries to focus on effective teaching with the help of new tools. The practice of new tools able the students to read, reason, powerful writing, communicate productively with global community and conduct thoughtful research. The teacher faces the success in the right implementation of tools i.e. *technology*. Now a day the integration of technology in teaching and learning process has become a perennial one. Technology liberates to reestablish the role and value of the individual classroom teacher. The two things are compulsory for the usage of technology “first the perspective of the classroom must change to become learner centered, second, students and teachers must enter into a collaboration or partnership with technology in order to create a “community” that nurtures, encourages and supports the learning process” (Cognition and Technology Group at Vanderbilt). This paper focuses on the relation between teacher and the technology in the classroom teaching.

### Introduction

In teaching and learning, technology should apply as a process rather than as a single, isolated and discrete activity. The *American Heritage Dictionary* defines process as “a series of action, changes, and functions bringing about a result” (AHD). Technology in education is not a mere object to introduce into teaching and learning activities without considering basic principles of learning and sound teaching methodology. Technology is an object that can be used at any time. Technology in education is guided by learning principles and individuals. It retains the knowledge and required skills. Technology satisfies the student’s expectations of the outcome of learning, application of knowledge, enrich practical life experiences. Technology in Education is often considered, erroneously, as synonymous with instructional innovation. Saetler argues that “educators are correct to resist mere innovation, but they should welcome educational

technology” (1). Submission of technology helps the teacher in sound teaching, learning principles, avoids teaching hardware, out come of conventional mode of teaching, and helps to deliver instructions coherently. The integration of technology with education grounds the sound practice. Fletcher says:

When you go to the hardware store to buy a drill, you don't actually want a drill, you want a hole, they don't sell holes at the hardware store, but they do sell drill, which are the technology used to make holes. We must not lose sight that technology for the part is a tool and it should be used in applications which address educations concerns (87).

In many schools, teachers are isolated from each other and preoccupied; Fullan calls “the daily press” of getting through their schedule. The implementation of technology in the classroom brings creative exploration, invention and testing. It breaks down the conventional atmosphere of isolate teaching and boredom. Technology facilitates the work of teams and provides ample time for all round development. The teacher can spend much time and bring innovative changes in the teaching methodology. Gardening provides a useful metaphor for this process. We will see more growth if we cultivate the soil and fertilize before planting. An exclusive focus on skills and software is a bit like spreading seeds across a concrete playground. Henry Becker presents his research in this context that “the preferred teaching strategies and styles of teachers usually determine or shape the patterns of technology usage. He says “traditional” teachers are far less apt to allow students to use new technologies than “constructivist” teachers even when they have networked computers in their classrooms.”

The scope of implementing technology is examined with a view of showing its relation with pedagogy. Technology should be used to facilitate learning in the part of the instructional process. It should include theories about technology integration and the application of research findings. Teachers should select the desired technologies, skills to demonstrate the selected technologies, skills to evaluate technologies, skills to customize and skills to address instructional problems to the students. The objective and method of instruction include technology and outcomes of instruction. Diaz and Bontembal say:

Using technology to enhance the educational process involves more than just learning how to use specific piece of hardware and software. It requires an understanding of pedagogical principles that are specific to the use of technology in an instructional settings ... pedagogy- based training begins by helping teachers understand the role of learning theory in the design and function of class activities and in the selection and use of instructional technologies (2-6).

Technology in education is commonly used to enhance the instructions by the facilitator in the classroom. According to Lever-Duffy, McDonald and Mizell “educational technology might include media, models, projected and non-projected visual, as well as audio, video and digital media” and are likely to “confine

educational technology primarily to computers, computer peripheral and related software used for teaching and learning” (4-5).

Technology helps the teachers to improve their productivity and professional practice. While creating electronic documents, they can consider a variety of purposes and audiences, and effectively share information locally and globally. Through the use of educational technology, teachers can present and assess student work and communicate more easily with parents. The following table exhibits the productivity and professional practice by the teacher with the help of technology:

<b>Competency</b>	<b>Initial</b>	<b>Developing</b>	<b>Proficient</b>
<b>A.</b> Use educational technology to communicate/collaborate with students, parents and teachers.	I create electronic documents using word processing software as instructional materials and assessments tasks.	I use desktop publishing and multimedia tools to create newsletters, brochure and presentations.	I use technology to communicate and collaborate with students, parents and colleagues.
<b>B.</b> Use online resources to communicate/ Collaborate with school community (students, parents & teachers) and global community.	I use e-mail to communicate on a regular basis and search the Internet for curriculum related information.	I search the Internet and online resources to locate and retrieve curriculum-related information.	I incorporate online courses, distance learning and/or video conferencing as instructional tools.
<b>C.</b> Use technology to collect and manage data related to teaching and learning.	I use technology tools such as spreadsheets and databases to collect and manage data.	I use data to assist in making sound educational decisions regarding classroom management.	I use different applications to collect and manage data as an internal part of my classroom management.
<b>D.</b> Identify, use and evaluate technology to support the learning process for all students through ongoing professional development.	I consistently look for opportunities to learn about new software applications and skills that expand my working knowledge technology and promote best practices.	I align new skills with curriculum strategies for integration and share ideas and resources with colleagues.	I experiment with new concepts and pilot new practices, using technology for ongoing, embedded professional development.

It is very important for teachers to use a variety of teaching methods to evaluate and modify their students. Teachers engage students in an exploratory learning experience which is designed to stimulate thinking. Bruner states:

To instruct someone ... is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on that subject, but rather to get a student to think mathematically for himself, to consider matters as historian does, to take part in the process of knowledge-getting. Knowing is a process not a product (72).

Teacher explores the process of technology and searches the ways to accomplish his teaching effectively. It develops the rationale to examine the appropriateness of using technology are companionable with the lesson plan and learning outcomes. The process of exploring the relationship between technologies is on the part of teachers. Mezirow argues:

Thinking critically involves our recognizing the assumption underlying our beliefs and behaviors. It can give justification for our ideas and actions. Most important, perhaps, it means we try to judge the rationality of these justifications (p xvii).

The usage of advance technology can be adopted by the teachers from training institutions, coaching centers, learning advance courses, attending workshops, crash courses or online learning programs. It offers many advantages, such as:

- Learning independently
- Self- paced
- Customized
- Competency
- No heroes need
- Uniformity
- Cost effective
- Learning Vs Teaching
- Driving Forces
- Shows Impressive Track Record
- Knowledge of training
- Explore New World
- Competency Based Learning

Weizenbaum argues that, lack of appropriate guidelines limit the teachers' to use the technology for instruction and limits the desire to explore the use of technology beyond basic applications, "computers can be a powerful metaphor for understanding many aspects of the world." It enslaves the mind that has no metaphors and few resources to call on – the mind that has been educated with only facts and skills" (51).

The personal constraints of the teachers can't fully integrate the technology into their own

practices because of organization, administration, pedagogy and personal. Leh claims that the teachers acknowledge “technology was more of problem with multiple facets rather than a solution ...” (19). Imparting technology into a curriculum makes an impact on students’ learning. Technology should not be treated as a separate entity but should be considered as an integral part of instructional delivery. The teacher should select the objective of the lesson, methods of instruction, evaluation, feedback and follow-up initiatives. Most of the teachers have a narrow view on technology. They fail to relate it to pedagogy to improve the teaching or facilitate learning. Teachers are not making widespread use of their networks now that many more schools and classrooms are wired. Most teachers are not well prepared to use new technologies. Teachers are isolated from each other and preoccupied with their regular schedule. Means points out that technology training must go beyond focusing on the acquisition of technical skills but attention should be given “to the instructional strategies needed to infuse technological skills into the learning process”(92). Technology for teaching and learning should be part of the instruction milieu. Technology training tends to focus on computer applications such as word processing, spreadsheets and databases. Sprague et al argues:

Using technology for instruction should include mastery of the techniques to apply it to teaching (24).

Technology helps teachers to think how to integrate it into day to day instructions in the classroom teaching because:

- Technology used as a *cognitive tool* helps students to understand concepts, develop conceptual models and solve problems.
- Technology used as *communication tool* fosters discourse and collaboration among educators, students, parents, and the community.
- Technology used as management *tool* increases efficiency for teachers and students.
- Technology used as an *evaluation tool* helps teachers reflect on and modify instruction and provides feedback on student learning.
- Technology used as a *motivational tool* encourages and engages students in learning.

The teacher recognizes his relation with technology in education and pedagogical decision – making. Anderson and Borthwick evidences “participants whose technology instruction was integrated in their methods course reported more frequent use of technology for both teacher productivity and student project during both on – campus courses and their first year of actual classroom teaching” (5). The relation between teacher and technology explores the pedagogical issues which are relevant and consider successful application of technology into teaching and learning. It is very important to perceive technology as a part of pedagogical process. Teachers must understand the basic pedagogical principles that govern the application of technology into teaching and learning. Technology implementation should be identified by the teacher at the planning stage, students readiness, lesson objectives, methods of presenting, evaluation strategies,

follow-up activities etc. the poor implementation of technology by the teacher may affect the desired outcome.

#### WORKS-CITED

1. Anderson, C.L. & Borthwick, A. Results of separate and integrated technology instruction in pre-service training. ERIC Reproduction Document # IRO21919, P.14.
2. Becker, Henry. Internet Use by Teachers. 1999. <http://www.crito.uci.edu/TLC/FINDINGS/internet-use/start> page.htm.
3. Cognition and Technology group at Vanderbilt (1992). "The Jasper Experiment: An Exploration of Issues in Learning and Instructional Design." Educational Technology Research and Development, 40 (1), 65-80.
4. Diaz, D.P & Bontenbal, K.F. Pedagogy-based technology training. In P.Hoffman & D.Lemke (eds.), *Teaching and Learning in a Network World*, P. 50-54. Amsterdam, Netherlands: 105 Press.
5. Fletcher, G. Former director of the Division of Educational Technology, Texas Education Agency, executive Vice President of T.H.E. Institute quoted in *T.H.E. Journal*, 24 (4), P.87.
6. Fullan, Michael G. *The New Meaning of Educational Change*, New York: Teachers College Press.
7. Lever – Duffy, J. Mc Donald, J.B & Mizell ALP. *Teaching and learning with technology*, San Francisco: Pearson.
8. Mezirow, J. *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco: Jossey – Bass.
9. *The American Heritage Dictionary of English Language* (3<sup>rd</sup> edition). Boston, MA: Houghton Mifflin Company.
10. Weizenbaum, J. *Computer power and human reason*. San Francisco, CA: W.H. Freeman.
11. Leh, A.S. Learned from service learning and reverse mentoring in faculty development: A case study in technology training. *Journal of Technology and Teacher Education*, 2005 13(1), pp.15-41.
12. Means, B. Introduction: Using technology to advance educational goals. In B. Means (Ed), *Technology and education reform: the reality behind the promise*, San Francisco: Jossey-Bass, 1994, p.92.
13. Sprague, D., Kopfman, K & Dorsey, S. Faculty development in the integration of technology in teacher education courses. *Journal of computing in Teacher Education*, 1998, 2(14), pp.24.
14. Saetler, Paul. *The Evolution of American Educational Technology*, Dencer, Co:Libraries Unlimited, 1990, p.1.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:**

<http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

### **IISTE Knowledge Sharing Partners**

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

