

Role of Teachers Amidst Educational Reform – Passive Bystanders or Active Participants?

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Abstract- Tertiary Education has always played an important role in the overall economic and social development of any country by virtue of its contribution to the quality of education and research, which is its principle domain. A corollary to this is the training of future teachers for the effective use of ICT, and consequent transfer of these skills to successive generations. The researchers attempted to study Teacher awareness and perceptions related to their roles as 'managers of learning resources' i.e. having an in-depth understanding of learning resources and their respective potentials.

The Study concluded that, Teachers will have to address these emerging challenges if they must become active participants in the education reformation process. Keeping abreast of the latest in one's profession involves an acceptance of 'continuum of learning' and, today technology is both the *raison d'être* and the panacea for this.

Consequently, Teacher training programs must incorporate components, which familiarize teachers-to-be with skills related to the meaningful usage of ICT in support of student-centric methodologies.

I. INTRODUCTION

Teachers are the principal agents of socio-economic change in any country. The National Policy on Education of India (1986/1992) has given very clear directives on this issue, 'The status of teachers reflects the socio-cultural ethos of a society; it is said that no people can rise above the level of its teachers'. The Policy emphasizes that education is a continuous process and teacher education programmes must reflect the same...improvement in the status and professional competence of teachers is envisaged as the cornerstone of educational reconstruction'(NPE, 1986).

The teacher education system responsible for the training of teachers-to-be thus becomes an important vehicle to improve the quality of school education and revitalization and strengthening of this system, a powerful means for the upliftment of educational standards in the country.

Post-independent India has been witness to dramatic changes in the area of Teacher Education – the most important one being the according to Teacher Education, the stature of an independent area of specialization looking to the importance and relevance in the contemporary context. This transformation was necessitated by the conditions and context after Independence (NCTE, 1998). Education had to be responsive to the needs of the nation especially in the training of school going children who would be able to don the mantle and responsibilities of the coming future. This required better quality 'grassroot level'

functionaries, teachers and administrators who would be able to recognize, understand and work towards the realization of such targets.

They had to realize the changed role of education in democracy; to represent to school children through school experience the new value orientations, emerging concerns and changes needed for a better future both for the individual and the nation (NCTE, 1998).

The Govt. of India realized the importance of teacher education in maintaining educational standards and brought in reforms to restructure, modify and make the program relevant to the times it was catering to. The first step towards realization of this goal was according accessibility to the program, countrywide. Today, India has probably one of the largest systems of Teacher Education in the world. During 1947-48, only 51 Teacher Education Institutions existed. The number had increased to 1300 Teacher Education Institutions for Elementary education and more than 700 colleges of education/University Departments preparing teachers for Secondary and higher secondary schools as per NCTE (1998) and by the year 2007, it is approximated that there would be 3429 Secondary Teacher Training Institutions in India (NCTE, 2007) with the possibility of many more being added to this number.

II. TEACHERS FOR QUALITY EDUCATION – THE GLOBAL SCENARIO.

The figures given above are indicative of the quantitative expansion of the Teacher Education system in the country keeping pace with the demands of rapidly changing times. However, while quantity is necessary to ensure equity and access to wannabe teachers, the quality of the program is equally important and demands our constant attention (Education Commission, 1966).

The Parliament of India, through an Act, set up in 1995 the National Council for Teacher Education (NCTE) and gave it statutory powers for framing regulations and norms for maintaining standards of teacher education in the country.

The World Education Report (UNESCO, 1998, pp. 19-20) too confirms the central role of teachers in any education system, emphasizing that the quality of education is directly linked to how well teachers are prepared for teaching. It emphasizes that the existing traditional educational system will no longer be able to provide students with the knowledge and skills requisite for the 21st century knowledge based economy.

The new knowledge-based global society is one in which

- The world's knowledge base doubles every 2–3 years;

- 7,000 scientific and technical articles are published each day;
- Data sent from satellites orbiting the earth transmit enough data to fill 19 million volumes every two weeks;
- Graduates of secondary schools in industrialized nations have been exposed to more information than their grandparents were in a lifetime;
- There will be as much change in the next three decades as there was in the last three centuries (National School Board Association, 2002).

The challenge confronting the educational system in view of the above facts is how to transform the existing curriculum and groom students to function more effectively in this dynamic, information-rich, and continuously changing environment.

To counter these challenges, teachers need to be equipped not only with subject-specific expertise and effective teaching methodologies, but also the capacity to assist students to meet the demands of the emerging knowledge-based society. Information and Communication Technology can provide an array of powerful tools that may help in transforming the present isolated, teacher-centered and text-bound classrooms into rich, student-focused, interactive knowledge environments. Teachers therefore require familiarity with new forms of information and communication technology and need to have the ability to use that technology to enhance the quality of teaching and learning.

III. E-LEARNING IN THE DIGITAL ERA.

Teaching-learning is being revolutionized with the gradual onset of the e-learning environment. The major boost to e-learning comes from the seamless online connectivity, open source tools for organizing and delivering content, world standards to help resource discovery and more attractive components such as multimedia elements in disk and transmission efficient formats. E-learning most often means an approach to facilitate and enhance learning through the use of devices based on computer and communications technology. Such devices would include personal computers, CD-ROMs, Digital Television and Mobile Phones. Communications technology enables the use of the Internet, E-mail, discussion forums, and collaborative software. E-learning covers a wide set

of applications and processes such as Web based learning, computer based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, and CD-ROM (Madalli, 2006).

E-learning acquaints the learner with a scenario in which he is going to be placed in the future and for which he needs to be consequently trained in preparation for its requirements and demands. E-learning could play a vital role in the post-classroom life-long learning processes as well – namely future realities such as Distance Education, Continuing Education, Professional Enrichment, accessibility to Digital Library services and many other technology enabled utilities. Thus e-learning and e-literacy will play a crucial role in determining the nature and extent of learner participation in the digital era.

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In order to meet this challenging scenario, educational Institutions must embrace the new technologies and appropriate the new ICT tools for learning. They must move toward the goal of transforming the traditional paradigms of learning (UNESCO, 2002)

How Information and Communication Technology is used in education specifically, is largely dependent on the techno-pedagogical competencies of educators. They must be familiarized not only with the needed techno-competencies but also how to meaningfully incorporate these in the pedagogy so that the instructional processes become more effective and relevant to contemporary times.

In order to effectively harness the potential of ICT, there should be sufficient access to technology together with the understanding that its usage be pertinent to the needs of the specific learner.

A need assessment survey conducted among practicing teachers revealed that teachers although aware of the significance of inclusion of ICT, were to a very large extent ignorant of the knowledge of basic and required software, needed trouble shooting techniques for an independent usage of technology in education and the pedagogical relevance of the usage of different technology enabled facilities.

Given below is the data analysis of the responses elicited in this connection.

	<i>Section I. Technology operations and concepts</i>	Yes%	No%	Not Sure%
1	I can explain the difference between software and hardware.	76	15	9
2	I can operate PC fully.	27	32	41
3	I can explain terminology related to computer technology.	17	50	33
4	I can demonstrate installing content-based software.	12	61	27
5	I can use the below listed software (tick only those which you know)			
	1. M S Office (a) word (b) excel (c) PowerPoint	70	16	14
	2. Desktop Publishing	2		

	3. Multimedia	-	-	-
	4. Image processing	-	-	-
6	I can demonstrate the basic features of presentation/multimedia software (i.e. PowerPoint, Corel draw, etc).	22	50	28
7	I have the knowledge of Internet and can use it.	73	16	11
8	I know to create an email account.	63	24	13
9	I have the knowledge of below listed hardware and can use it. (Tick only those which u know)			
	1. Camera 2. Compact disk 3. Video camera 4. DVD player 5. Printer	46		
	6. Scanner 7. Digital camera 8. Computer 9. Projector 10. Net meeting	-	-	-
10	I am confident with basic troubleshooting techniques.	5	58	37

	<i>Section II. Planning and designing learning environments and experiences</i>	Yes%	No%	Not Sure%
11	I can design lesson plans implementing technology that are developmentally appropriate and support the needs of diverse learners.	16	52	32
12	I can apply knowledge from current instructional research on the use of technology to my future classroom.	27	28	45
13	I believe that technology- enhanced environment is important for students in their learning activities.	95	2	3
14	I can plan strategies using technology to enhance student learning.	26	40	34
15	I can identify and locate online resources dealing with learning activities and teaching strategies.	39	27	34
16	I believe that it is important for teachers to know how to utilize technology-based materials to plan for their lessons.	94	4	2
18	I can apply technology to develop students' higher order skills and creativity.	23	35	42
19	I can operate and apply content-specific software to support students' learning.	17	54	29
20	I believe that it is important for teachers to have basic knowledge of concepts and operations of computer technology for their classrooms.	82	9	9

	<i>Section III. Assessment and Evaluation</i>	Yes%	No%	Not Sure%
21	I can demonstrate my knowledge to evaluate content- based software.	16	46	38
22	I can demonstrate different ways to organize student performance data using technology resources.	11	43	46
23	I can apply my knowledge to determine students' appropriate use of technology resources.	28	33	39
24	I believe that it is important for teachers to apply technology to facilitate a variety of effective assessment and evaluation strategies.	91	4	5
25	I can evaluate content-based software.	12	53	35
26	I can apply technology resources in assessing students learning of subject matter knowledge.	16	53	31
27	I can apply information collected from Internet resources to improve my teaching practice.	77	15	8
28	I can evaluate the appropriateness of students' use of technology resources.	23	38	39
29	I understand educational technology as (tick on any one)			
	a) Teaching through computers	44	32	24
	b) Use of machines and other items of hardware	23	51	22
	c) Development, application and evaluation of systems, techniques and aids in the field of learning.	22	50	23
30	Do you appreciate the use of technology in education?	100	0	0
31	Techno based evaluation promotes increase in objectivity	86	5	9

IV. MAJOR FINDINGS OF THE STUDY

The data analysis revealed the following major findings:

- 94% teachers believed that it was important for all teachers to know how to utilize technology-based materials to plan for their lessons;
- 82% teachers believed that it was important for teachers to have basic knowledge of concepts and operations;
- 91% teachers believed that it was important for teachers to apply technology to facilitate a variety of effective assessment and evaluation strategies;
- 91% teachers believed that the use of productivity tools (i.e. Microsoft word, Excel, PowerPoint, Hyper studio.) would affect the quality of teaching practice and,
- 100% teachers believed that teachers should continuously be informed about new technology tools for their professional development.
- 100 % teachers appreciated the use of technology in education.
- 86 % teachers believed that Techno based evaluation promotes increase in objectivity

Despite a positive attitude towards the use of technology in Education, the Study revealed a contradictory existing reality. Only

- 16% teachers could actually design lesson plans implementing technology that were developmentally appropriate and supported the needs of diverse learners,
- 17% could operate and apply content-specific software to support students' learning,
- 22% teachers could demonstrate the basic features of presentation/multimedia software,
- 16% teachers could apply technology resources in assessing students learning of subject matter knowledge,
- 23% teachers could apply technology to develop students' higher order skills and creativity,
- 26% teachers could plan strategies using technology to enhance student learning.

V. ICT AND TEACHER TRAINING: THE PATH TO TEACHER PROFESSIONALIZATION

Tertiary Education has always played an important role in the overall economic and social development of any country by virtue of its contribution to the quality of education and research, which is its principle domain. In this context, the training of future teachers for the effective use of ICT, and consequent transfer of these skills to successive generations assumes great significance.

The data analysis established the need for a more far-sighted and thoughtful approach with regards to ICT integration in the Teacher Education program and the need to update the future teachers with necessary associate skills as well. The knowledge of one without the other would lead to partial and superficial learning - the need of the hour is not merely the knowledge of Information and Communication Technology but what it can do to address the new and emerging paradigms of learning. Thus, the need for concerted efforts and a holistic approach.

In order to make this a reality, Teacher training programs must incorporate components, which familiarize teachers-to-be with skills related to the meaningful usage of ICT with the requisite technical skills so as to facilitate the creation and designing of ICT integrated content in support of student-centric methodologies.

In order to make integration meaningful, teachers need to be sensitized to the fact that 'pedagogy is central and technology - the tool'. (Passi, 2006). Thus, the need to realize the importance of ICT as a 'curriculum enrichment tool'.

Teachers need to be trained as effective 'managers of learning resources' i.e. having an in-depth understanding of learning resources and their respective potentials. Thus, they need to be familiarized with a range of hardware and their specific applications. This is necessary for the judicious integration of technology during instructional sessions, greater access to educational resources and enabling interactive and individualized learning environments.

Teachers need to be trained to know the difference between 'presentation' and 'investigative' software so that the focus of integration is deeper, reflective and self-directed and higher order learning.

Teachers will have to address these challenges if they must become active participants in the education reformation process. Keeping abreast of the latest in one's profession involves an acceptance of 'continuum of learning' - today technology is both the *raison d'être* and the panacea for this.

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