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# Role of Head Teachers in Enhancing Quality Education in Primary Level through ICT

**Bijendr Pradhan***

## INTRODUCTION

The role of education in improving the choice and quality of lives enhancing social and economic productivity and initiating the process of empowerment and redistribution of resources is well defined and well documented in the past fifty eight years of research. Despite India's commitment to provide free and compulsory education for all children until they complete the age of 14 and achieve Universalization of Elementary Education (UEE) with substantial improvement in the quality, the average years of schooling has remained low at less than three years. Around 35 million children, in the group of 6 to 14 years are still estimated to be out of school and the percentage of girls and other disadvantaged sections are disproportionately high among these children.

There has been a growing realization that a system wide transformation is crucial for the attainment and sustainability of the goal of UEE with improved quality. The objective of improved access and increased participation reduced drop-out rates and enhanced learning achievements cannot be met and sustained without improving the quality, effectiveness and efficiency of services in the elementary education system.

It is the foundation stage where we can sow the sound seed to get a sound plant which can give an appropriate fruit in future life. But who is responsible for this stage? Teacher is solely responsible for this. Especially head teacher has the prime duty to perform the activity of whole school. There is a saying that "There are cattle-sheds in *Mathura* due to *Lord Krishna* only". He is fully responsible for both qualitative and quantitative improvements of the school.

Now a days the discussion brings about the IT education in School level & teacher plays an important role imparting this. The question arises that why the IT education need & What is the role of a teacher to impart this education in school?

Technology involves the application of knowledge, resource materials, tools and skills in designing, producing and using products and also it is used to extend human capability to control and modify natural and human-made environments (Raizen et al, 1995). In other words, technology offers new capabilities that lead to significant changes in the organization. It shows the new way of distributing information throughout the organization.

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In discussion about the potential role of technology in education, Fiske and Hammond (1997) stated that instructional technology is considered to be a key to educational quality as we enter the new millennium. Many educators believe that computer use for instructional purposes can be employed effectively to enhance teaching and learning. In other words, computer technologies can change the teacher's role from information giver to facilitator, counselor, advisor, guide, coach, co-learner, mentor, resource and technology managers, and mediator to the students (Jonassen et al., 1999). Similarly, Attaran and Vanlaar (2001) pointed out that technology reduces record keeping time in schools and simplifies administrative tasks. Also, computer networking is creating a professional band between teachers and administrators. On the other hand, it offers teachers valuable methods of enhancing successful instructions. Besides, computer use assists students in meeting basic educational requirements and it fulfills an instructional need by individualizing the material to the competency level of the learner. In this way, computer use provides an active cooperative learning environment and offers the flexibility that is now mostly absent in the traditional classroom.

In addition, Otto and Albion (2004) reported that although ICT are now widely available in schools, it does not integrate fully into teaching and learning. In line with this idea, Sheingold and Hadley (1990) pointed out that integrating technology is not about helping people to use computers but it is about helping teachers to integrate technology as a tool for learning. In fact, in the ideal teaching and learning setting, technology should be as transparent a tool as a pencil. Therefore, technology integration in classrooms is more about teaching and learning than it is about technology (Mills and Tincher, 2002).

Based on research studies, a wide range of factors has been found to affect technology integration in the school. Of these, leadership role of principal is the single most important factor affecting the successful integration of technology (Byrom and Bingham, 2001). School principals have a major responsibility for initiating and implementing school change through the use of ICT and therefore facilitate complex decisions about integration of ICT into learning and teaching (Schiller, 2003). Although the role of the principal in supporting ICT integration is critical, much of the ICT literature has tended to overlook the role of the principal (Michael, 1998) and the principal's current technology leadership capabilities and the necessary role the principal must play as technology leader. This gap in the research is rather strange because many studies relating to school effectiveness, school improvement and change show that principals play an important role in creating successful change in schools (Schiller, 2003). However, little is known about the use of ICT by Iranian principals, their perceived computer competence, and their leadership style that they should play in the area of technology leadership. Therefore there is a need to investigate the role the principal should play in the area of technology leadership.

## THE KNOWLEDGE REVOLUTION AND ROLE OF TEACHER

The pace of technological revolution and emergence of knowledge society can change the traditional role of the teachers and students. Traditionally, the teacher used to be the source of knowledge for the students. There is some cooperation among students to explore new knowledge. In many cases, the teachers do not posses adequate knowledge to supplement the view of the student and the main source of knowledge remains limited to textbook. The development of ICT changes the epic center of knowledge. At present, in a number of cases the student is more informed than the teacher furthermore, there is likely to be confusion in the teachers mind about his/her new role in relation to the use of these technologies i.e. teachers find themselves in a situation where they are no longer the principle source for delivery of information. In the new phase of the knowledge revolution the source of knowledge has shifted from one source to a different source. In other words, we can say that there is a decentralization of the knowledge source. This has an overall impact on the development of learning abilities among the children. Teachers should change the mind set according to the changing needs and demands of the society. He should accommodate with the super computer era. Primary children are the bases of whole nation. Now a days we should admit that teachers are made, not born at all. They should upgrade their knowledge with the demands of the day.

## IMPORTANCE OF LEADERSHIP-ROLE OF THE SCHOOL HEAD

Leadership is a key component in guiding the teaching-learning process necessary for preparing today's students with relevant knowledge and skills in today's society to become a productive citizen of the 21st century. According to Dinham (2005), leadership is important in developing effective, innovative schools and in facilitating quality teaching and learning. Today's principals must not only manage the day to day activities of a school but also focus on student learning, standards, data driven, decision making and restructuring efforts.

As stated above, the principals play an integral role in technology integration (Wilmore and Betz, 2000). This role is crucial in helping teachers create today's ideal learning environment for students. In line with this idea, Wilmore and Betz (2000) stated that "Information Technology will only be successfully implemented in schools if the principal actively supports it, learns as well, provides adequate professional development and supports his/her staff in the process of change" (p. 15). Hence, principals are one of the key leaders of change at the school level. Their actions, interests and self-efficacy can have a profound impact on program change and instructional practice. Therefore, effective administrators must have knowledge, dispositions, and performance. The knowledge are those things that an effective administrators should know; the dispositions are what an effective administrators should believe or value; and the performance are what an effective administrator should do.

In the age of information, principals must be able to integrate ICT into their daily practice and to provide consistent and positive leadership for technology use in the teaching-learning process. In fact, they must be technology leaders. According to Hope, Kelly and Guyden (2000) technology leadership involves both understanding the technologies and how they can be applied to accomplishing tasks. In a study that examined the role of administrators in the integration of technology into the learning environment of three United States school districts, Gibson (2002) stated that school principals must focus their energies on ten technology categories: existing practice, planning, curriculum, resources, staff issues, communications, support, obstacles, staff development, and implementation. In this way, principals need to understand the capacities of the new technologies, to have a personal proficiency in their use, and be able to promote a school culture, which encourages exploration of new techniques in teaching, learning and management (Schiller, 2003). Therefore, schools need leaders who can facilitate the change process and support a learning community for technology integration.

As leaders, the principals must create supportive conditions to foster the integration of technology (MacNeil and Delafield, 1998). According to Yee (2000), successful school principals should inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision. Also, these principals should portray passionate commitment to providing appropriate ICT professional staff development for their staff members (Yee, 2000). In this way, the principal's role changes as she/he leads technology integration. Similar to Yee's research, Schiller's findings highlight the key role that the principal must play not only in supporting technology, but also facilitating change and intervention strategies in the teaching-learning process (Schiller, 2003). Also, he stated that principals must work collaboratively with the teaching staff to effectively lead the integration of technology in their schools. To lead this integration, they must be trained and continually supported on the use of technology. Hence, administrators who are informed and comfortable with technology become key players in leading and supporting technology into the schools. Then, principal must act as a role model and they should be competent users of ICT tools.

As described above, leaders who are using technology while they are studying theory are much more successful at understanding it and then placing it in the context of teaching and learning. In this way, leaders must know how to use technology to change practice to reach new goals as a catalyst for change and as a tool in creating, implementing, managing, and communicating a new conception of teaching and learning (Johnston and Cooley, 2001). These new models share instructional practices that include active engagement, communication, collaboration, problem solving, critical thinking, independent exploration and real life tasks (Johnston and Cooley, 2001). Hence, leaders must be able to adapt to change as the environment shifts and develops. Then, the question becomes what leadership style is needed for principal to help teachers cope with the demands of this technological and pedagogical change.

A more recent study in Texas (USA) by Macneil and Delafield (1998) examined principal leadership for successful school technology implementation. This study was one of the first focused research studies carried out in this area. One hundred and twelve principals and assistant principals were surveyed. Sixty-four returned the surveys. This is a significant number and gives reasonable credence to their claims that the majority viewed technology as very important in their schools and that it was important for teachers to utilize and learn technology as a curriculum tool. Some of the more important findings of the study were:

1. The main barriers for implementing technology in the classroom were lack of financial resources, poor infrastructure and lack of time for professional development and planning.
2. There needed to be a closer alignment between the amount of time given for professional development and its perceived importance.
3. At each level, funding, training and leadership issues must be addressed simultaneously if technology in the curriculum is to grow and have a significant impact on the reform of education.
4. Principals and school leaders must accept the challenge to create supportive conditions, which will foster innovative use of computers.

The emergence of a globalize world underscoring a framework of competition, and coupled with the pressure of an exploding knowledge base has given birth for a new challenges for schools as social institutions all over the world. New demands are placed on the school, often in addition to the existing ones, to be equipped with current knowledge and modern methods of acquiring new knowledge. This has become particularly complex with the far reaching impact of ICT on almost every sphere of human life. It is clear that the school continues to hold its supremacy, more through the invincible mechanisms of the centralized curriculum and examination than by virtue of what transpires in the school.

So a quick review of the situation in many parts of the world would help to appreciate the challenges that the Indian school system faces in redefining the roles and functions of school heads in the country.

Reviews of recent development in the school education sector across most countries shows that the teacher on the school has come to occupy a more central position than ever before. Invariably, all the responsibilities are essentially placed on the head teacher. So three sets of development in this regard are important. So head teacher should keep those three things in his mind as mentioned below:

## 1. School as the Unit for Planning and Development

Head teacher has the ownership for the developmental works for his institution by keeping proper co-operation and co-ordination with other teachers, managerial staffs, VEC. PTA, MTA, and other community members, educational functionaries, other stake-holders as well as head of the system. As a result, every school has to acquire an institutional identity and meet the social as well as official expectations in a competitive framework.

### 2. Accountability Based on Performance Linked to Outcomes of Schooling

Open choice, competition and official assistance linked to performance define the emerging framework for assessing school functioning. School head should be accountable for his school work and he should not follow as like as buffalo in middle of the road. He should rethink, redesign, re-frame and replan of every activity is going to be implemented in his school. Because, he is aware about the status of the teacher, students level of achievement, level of aspiration, status of both teacher and student to accept practices through ICT Program, standard of school fund and estimated helps and calculated supports.

### 3. Increased Internal Autonomy

S. Radhakrishnan told, "Respect is not demanded, rather it is commanded." That means he should be an effective leader who can get freedom, autonomy automatically and he should create such an environment for all who are associated with the system. As a result, every teacher can be expected to lead the school towards improved standards of functioning by shared understanding of the goals of the school and securing the contribution of everyone.

## ROLE OF ICT IN BRINGING EFFICIENCY OF DELIVERY MECHANISM

In this 21st century, the role of ICT is as much as important for the ultimate development of the children. But who is responsible for children? Teacher has the pivotal role to lead the human civilization towards progress. In this context, the role of ICT has immense value by helping them in positive direction. ICT can provide the efficiency of delivery Mechanism of educational Services by. Supplementing conventional delivery mechanism.

Technology's capacity to reach learners in any place and at any time has the potential to promote revolutionary changes in the educational paradigm. This means eliminating the premise that learning time equals classroom time. Students can be encouraged to revisit the lesson/topics to reinforce learning without active intervention by the teacher.

Another illustration of efficiency is the domain of virtual laboratories. All school systems want to provide labs because science is empirical. But few schools have furnished them with equipment and supplies and fewer yet are willing to risk using them. Technology allows for video and digital demonstrations as well as digital simulation of laboratory activities in a very real manner – but without the risks and costs associated with laboratory experiments. Simulations will not replace hands on activity completely. Rather, they prepare the learners to conduct real life experiments in the same manner.

Multimedia enabled learning modules can be developed by a group of master teachers and instructional designers, which can then be shared with all school to assure quality standards of learning delivery.

Concerns about cost are always raised in discussions relate to technology depending on the technology used. Start up costs can be high. But economics of scale are significant. That is, the more the technology is used i.e. when more students use the product, the unit costs of producing educational content were decreased proportionately.

So head of the institute should be as much as responsible as well as resourceful for the cost – effectiveness of the programme being done in school. Now central government declared that each child will get the facilities available through ICT. So head teacher is the main threshold of the entire school. Head teacher should organize different training and orientation program for upgrading the knowledge of all teachers.

Through ICT project, the head teacher as an in charge of his school should keep in his mind that how effectively innovative learning can take place, which includes:

- All the teachers use methods that ensure success for all learners.
- Teachers implement a data-driven curriculum designed to improve instruction.
- There are high expectations for achievements.
- Learners can clearly articulate instructional outcomes and assessment procedure.
- Learners provide input on assessment standards and can clearly articulate the assessment procedure for activities.
- Assessment should be for learning of learning and as learning.
- Learners' feedback is encouraged.
- Multiple forms of feedback is provided to learners for further improvement.
- Learners are willing to take initiatives to solve problems.
- Learners are actively engaged in authentic, meaningful tasks that develop critical thinking and problem-solving skills within the context of their lives.
- Student's peer learning such as an open discussion is encouraged.
- Learners have access to accurate and reliable information resources (print and non-print)
- Learners' displays pleasure in learning.
- Learners have access to multiple audiences.

In a nutshell, it can be concluded that to become confident and competent adults, students must possess critical thinking and problem-solving skills as well as solid grasp of technology. A variety of initiatives are helping educators to achieve these outcomes by looking beyond traditional methods of teaching methods and learning process.

ICT aims at enquiring minds which aims to empower students to take a more active role in their own education and to develop important lifelong learning skills such as critical, creative as well as constructive thinking, teamwork, problem-solving attitude and conducting independent research.

Technology plays an important role in enquiring minds of the children not as the primary focus, but as a tool to facilitate exploration and research, which helps students to organize and present their ideas. The students those who are involved in the program, they are learning how to think for themselves, to listen and to analyze the opinions of their peers and to construct and to defend arguments based on solid reasoning and evidence.

In short, they are learning how to think critically and be lifelong learners. Skills that are just as crucial in today's society and workplace as factual knowledge and specific technology skills know how to implement it. New technology has enabled some fascinating models of effective learning. Children of today can chat with scientist, engineer and other experts in online communities. So it can be estimated that it is possible for each child of this era to go to mars and space. They can solve their inhabitant problem by making house at deep sea. So it is the high time for our teachers to construct the brain of the child not like pot maker, but like the modern architect.

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