



“INFORMATION COMMUNICATION TECHNOLOGY –CAPACITY BUILDING OF TEACHERS”

Dr. KUMARA S.K

Faculty of Education,

Department of studies in Education, University of Mysore, Mysore.

Abstract:

India has achieved a high position in the international software sector. Even in other developed countries, Indians are in the forefront front in the Information Technology industry. But, these software personnel are completely involved in the industry and hardly contribute towards teaching, especially at primary and secondary level, their involvement is almost nil. In the present scenario, most of the teachers seem to be lagging behind in Information and communication Technology (ICT) awareness and skills because the curriculum they studied did not comprise of ICT as it is a new one. Hence the teachers need capacity building in ICT and this would result in better teaching.

A school-based and classroom-focused approach to teacher training in ICT use takes into account the fact that teachers need to ‘learn about technology ... in the context of their subject matter and pedagogy’ Teachers learn how to use ICTs more effectively when they see the technologies not as generic and decontextualized tools but as tools for teaching, that is, for motivating, managing, facilitating, enhancing, and evaluating learning. Thus, teacher training in ICT integration needs to be hands on, involving the application of skills learned (through formal training) in the classroom over an extended period of time. This in turn means that the teachers need access to technology resources (computers, training materials, educational software), support from technology managers (i.e. the computer lab manager or ICT coordinator), and support from colleagues and school administrators. Structured opportunities for retraining, upgrading, and acquisition of new knowledge and skills in-service, including workshops, courses, and postgraduate certificate and degree programs and continuous support are required for teachers to teach ICT effectively in class room. This paper deals with ways and means of ICT capacity building for teachers and also few case studies of already implemented case studies.

KEY: ICT, Curriculum and Assessment, Physical and technological infrastructure

Introduction:

ICT –Capacity building of teachers

Today, India has achieved a high position in the international software sector. Even in other developed countries, Indians are in the forefront front in the Information Technology industry. But, these software personnel are completely involved in the industry and hardly contribute towards teaching, especially at primary and secondary level, their involvement is almost nil. In the present scenario, most of the teachers seem to be lagging behind in Information and communication Technology (ICT) awareness and skills because the curriculum they studied did not comprise of ICT as it is a new one. Hence the teachers need capacity building in ICT and this would result in better teaching.

A school-based and classroom-focused approach to teacher training in ICT use takes into account the fact that teachers need to ‘learn about technology ... in the context of their subject matter and pedagogy’ Teachers learn how to use ICTs more effectively when they see the technologies not as generic and decontextualized tools but as tools for teaching, that is, for motivating, managing, facilitating, enhancing, and evaluating learning. Thus, teacher training in ICT integration needs to be hands on, involving the application of skills learned (through formal training) in the classroom over an extended period of time. This in turn means that the teachers need access to technology resources (computers, training materials, educational software), support from technology managers (i.e. the computer lab manager or ICT coordinator), and support from colleagues and school administrators. Structured opportunities for retraining, upgrading, and acquisition of new knowledge and skills in-service, including workshops, courses, and postgraduate certificate and degree programs and continuous support are required for teachers to teach ICT effectively in class room. This paper deals with ways and means of ICT capacity building for teachers and also few case studies of already implemented case studies.

Even with a coherent and detailed policy and careful planning, ICT integration in education is a complex and protracted process. Various studies in both developed and developing countries point to four broad stages of ICT adoption and use that educational systems and individual schools typically go through. The experiences and behaviors of teachers and learners learning how to use ICTs can be mapped on to the four stages. At the first stage, teachers and learners are discovering ICT tools and their general functions and uses, and the emphasis is usually on ICT literacy and basic skills. Discovering ICT tools is linked with the emerging stage in ICT development. The second stage involves learning how to use ICT tools, and beginning to make use of them in different disciplines. This involves the use of general as well as particular applications of ICT, and it is linked with the applying stage in the ICT development model. At the third stage, there is understanding of how and when to use ICT tools to achieve a particular purpose, such as in completing a given project. This stage implies the ability to recognize situations where ICT will be helpful, choosing the most appropriate tools for a particular task, and using these tools in combination to solve real problems. This is linked with the infusing stage in the ICT development model. The fourth stage is when the learning situation is transformed through the use of ICT. This is a new way of approaching teaching and learning situations with specialized ICT tools, and it is linked with the transforming stage in the ICT development model.

A 2004 study by UNESCO Bangkok of ICT integration experiences across six countries in Asia reports the following ‘lessons learned’ with respect to approaches to teacher training in ICT integration:

- Training teachers on ICT-related skills within the context of classroom objectives and activities ensures the development of skills in the integrated use of ICT in teaching.
- School-based training of teachers by their more experienced peers from other schools or senior instructors from the MOE (Ministry of Education) ensures that teachers are trained in the context of their workplace.
- Needs-based just-in-time learning and peer coaching ensure further development of teachers’ ICT and pedagogical skills.

According to Carlson and Gadio (2002, p. 122), the teachers require additional motivation and incentives to participate actively in professional development activities. Providing teachers with access to technology resources within the school post training is one motivational strategy.

Much can be learnt from past experiences in incorporating effective monitoring and evaluation into ICT for education initiatives. Three case studies have been chosen, each from different continents and each reflecting every different aims and objectives, to highlight some of the themes and principles of capacity building in ICT. Although Singapore and Chile are far from poor, the lessons drawn from their experiences in the field of monitoring and evaluation provide invaluable insights for those seeking to develop their own programs in this area. The ICT capacity building programme of China called Technical Assistance Project is also being discussed.

People’s Republic of China, in one important recent project, with the assistance of the Asian Development Bank, the government has focused on the key area of teacher quality and teacher training using ICT. The China technical assistance project places particular emphasis on soft components—i.e., educational content and materials, training of teachers to use new ICT tools for innovative teaching, peer support networks, and monitoring and evaluation—to add value to existing ICT facilities and capacity. Professional development and capacity building has been built into the project design, including:

1. Equipping local teachers of English and Science in grades 7-8 with skills and tools to adopt new pedagogies of student-centered instruction (SCI)—particularly inquiry-based and collaborative learning—to nurture pupil creativity, flexible knowledge mastery, and problem-solving ability.

2. Building effective networking mechanisms. This will include teacher peer networks (e.g., for sharing of lesson plans, and more broadly acting as “communities of practice” to spur grassroots-level innovation), support from head teachers and local educational officials, and an enhanced role of township-level host schools in supporting village-level primary schools.

In 1997, Singapore launched a Master plan for IT in Education (MPITE) was initiated to: enhance linkages between schools and the surrounding world generate innovative processes in education enhance creative thinking; lifelong learning and social responsibility promote management excellence in the education system. This has led to a highly successful and innovative ICT for Education program, based on four key dimensions:

1. Curriculum and Assessment: Focusing on achieving a better balance between skills and knowledge, encouraging pupils to engage in independent learning and including assessment modes that include information, thinking and communication.

2. Learning Resources: Emphasizing the development of appropriate educational software, facilitating use of relevant Internet resources, and providing effective procurement systems.

3. Human Resource Development: Training every teacher and trainee teacher in the appropriate use of ICT, and involving partnerships with industry and institutions of higher learning.

4. Physical and technological infrastructure:

Realizing the potential that new technologies have to transform education in a relatively poor country, the Chilean government initiated the Enlaces program in 1990. One of the key findings from this has been that ‘well-trained and motivated teacher can improve the learning conditions with ICT, and can acquire ICT skills together with their students, thus preparing them more properly for the emerging knowledge society’. Fundamentally, Hepp et al. note in reviewing this program that ‘introducing ICT into the schools, without a **proper staff development** plan and without a pedagogical perspective, is a low-return investment’. Thus, the ideas of hitherto discussed ICT Capacity building projects of Chile, Singapore and China may be applied to Indian ICT capacity building programme.

Conclusion:

Today, India has achieved a high position in the international software sector. Even in other developed countries, Indians are in the forefront in the Information Technology industry. But, these software personnel are completely involved in the industry and hardly contribute towards teaching, especially at primary and secondary level, their involvement is almost nil. In the present scenario, most of the teachers seem to be lagging behind in Information and communication Technology (ICT) awareness and skills because the curriculum they studied did not comprise of ICT as it is a new one. Hence the teachers need capacity building in ICT and this would result in better teaching.

A school-based and classroom-focused approach to teacher training in ICT use takes into account the fact that teachers need to ‘learn about technology ... in the context of their subject matter and pedagogy’ Teachers learn how to use ICTs more effectively when they see the technologies not as generic and decontextualized tools but as tools for teaching, that is, for motivating, managing, facilitating, enhancing, and evaluating learning. Thus, teacher training in ICT integration needs to be hands on, involving the application of skills learned (through formal training) in the classroom over an extended period of time. This in turn means that the teachers need access to technology resources (computers, training materials, educational software), support from technology managers (i.e. the computer lab manager or ICT coordinator), and support from colleagues and school administrators. Structured opportunities for retraining, upgrading, and acquisition of new knowledge and skills in-service, including workshops, courses, and postgraduate certificate and degree programs and continuous support are required for teachers to teach ICT effectively in class room. This paper deals with ways and means of ICT capacity building for teachers and also few case studies of already implemented case studies.

References

- Arinto, P.B. (2006). Reflections on ICTs in basic education policy and practice in the Philippines. Paper presented at the 2nd National ICTs in Basic Education Congress, Waterfront Hotel, Lahug, Cebu City, Philippines, 6–7 September

- Carlson, S. and C.T. Gadio. (2002). Teacher professional development in the use of technology. In W.D. Haddad and A. Draxler (Eds), Technologies for education: Potentials, parameters, and prospects. Paris and Washington, DC: UNESCO and the Academy for Educational Development. Retrieved 10 August 2008 URL_ID=22984&URL_DO=DO_PRINTPAGE&URL_SECTION=201.html
- Farrell, G. and C. Wachholz. (2003). Meta-survey on the use of technologies in education in Asia and Pacific, 2003–2004. UNESCO Bangkok. Retrieved 22 November 2008 from <http://www.unescobkk.org/index.php?id=1807>
- Gaible, E. and M. Burns. (2005). Using technology to train teachers: Appropriate uses of ICT for teacher professional development in developing countries. Washington, DC: info Dev/World Bank. Retrieved 10 August 2008 from <http://www.infodev.org/en/Publication.13.html>
- Guttman, C. (2003). Education in and for the information society. Paris: UNESCO Publications for the World Summit on the Information Society. Retrieved 23 November 2008 from <http://unesdoc.unesco.org/images/0013/001355/135528e.pdf>
- Haddad, W.D. (2007a). Part 1: Decision maker's essentials. ICTs for education: A reference handbook. ICT-in-Education Toolkit for Decision Makers, Planners & Practitioners Version 2.0. Washington, DC: infoDev/World Bank. (2007b). Part 2: Analytical review. ICTs for education: A reference handbook
- http://www.adb.org/Documents/TARs/PRC/tar_prc36518.pdf
- <http://www.moe.gov.sg/edumall/mpite/overview/index.html> - accessed 6th May 2005.
- <http://www.moe.gov.sg/edumall/mpite/professional/index.html> - accessed 6th May 2005.
- <http://www.enlaces.cl/> - accessed 6th May 2005.
- <http://www.moe.gov.sg/edumall/mpite/overview/index.html>, accessed 6th May 2005.

