INFORMATION AND COMMUNICATION TECHNOLOGY A NEW INCLINATION IN PROFESSIONAL DEVELOPMENT

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Abstract

Internationally professional development for teachers in information and communication technology (ICT) is currently a major priority. This paper reveals why information communication technology is necessary for teachers. Paper includes causes and solution of information communication technology and different professional development approaches.

Keyword: Information and communication technology, professional development, approaches

INTRODUCTION

Information and communication technologies (ICTs) are widely believed to be important potential levers to introduce and sustain education reform efforts. Despite evidence of increasingly widespread use of ICTs in education initiatives around the world, however, there is little guidance available for policy makers and donor staff specifically targeted at countries contemplating the use of ICTs to help countries meet the education-related Millennium Development Goals.

Technology is a critical component of education in the 21st century; today's students live in a global world and need to compete intellectually with peers worldwide. Data suggest that digital tools and strong pedagogy may help schools employ the best strategies for student achievement of both traditional and 21st-century skills. The goal of information and communication technology (ICT) initiatives in schools is not simply to use ICTs more effectively in teaching; rather, the goal is to impact and improve economic development at

many levels through the use of ICTs. Learners around the world are comfortable using technology for daily connecting, creating, and sharing.

Education changes, in particular those changes associated with the rhetoric of the global information society, require staff development activities. In order for changes to be affected in the classroom, additional technical and pedagogical support is necessary. Professional Development programmes should include all 'staff' who are to contribute to the implementation of the intended changes – school principals, teachers, and technical and administrative support personnel.

Information and communication technologies have brought new possibilities to the education sector, but at the same time, they have placed more demands on teachers. They now have to learn how to cope with computers in their classrooms, how to compete with students in accessing the enormous body of information – particularly via the internet and how to use the hardware and software to enhance the teaching/learning process. Bhatta (2008) would contend that unless teachers are fully comfortable with new approaches to teaching inherent in ICT integration, providing students with computers and educational content alone will have limited impact on the teaching and learning process. It is also essential that teachers understand that ICT-based education only changes their role, rather than minimizing or eliminating their role altogether. Butler and Leahy (2003) would argue that there is a need to develop teachers' thinking to that of 'critical judgment' (Papert, 1990) to ensure that teachers are not limited by their current understandings and experiences of digital technologies as a somewhat intimidating new dimension to their classroom practices.

Today, new conditions exist that make it possible for technology to impact education for all. Technology is more readily available everywhere; even inexpensive mobile phones are capable of interacting with the world in ways previously unimagined. Our students are interconnected and ready; it is our teachers who require support for understanding when and how to use ICTs in teaching and learning in order to engage with and enrich students' experiences. Education change, however, is a complicated process; it rarely happens by itself, and all components of this system (access, teachers, administrators, learners, ICTs) are essential but still not sufficient to have the impact that is required for larger systemic change.

ICT for teacher education

"**I**f a country is to be corruption free and become a nation of beautiful minds, I strongly feel there are three key societal members who can make a difference. They are the Father, the Mother and the Teacher. " **-**

Dr. A.P.J. Abdul Kalam, Former President of India

There are a variety of approaches to professional development of teachers in the context of use of ICTs in education. Professional development to incorporate ICTs into teaching and learning is an ongoing process and should not be thought of as one 'injection' of training. Teachers need to update their knowledge and skills as the school curriculum and technologies change. Two aims of teacher training are fundamental: teacher education in ICTs; and teacher education through ICTs.

ICT's both the cause and the solution

The need for an effective use of ICTs in schools and the existence of clear guidelines for teacher competencies in this area has created an additional and urgent need for more effective professional development for teachers. At the same time, the effective use of ICTs also provides a part of the solution for this challenge, since each of the characteristics necessary for effective professional development, as identified by Garet et al. (2001), can be attained through the use of ICTs in professional development. For example, the first characteristic, **duration** (longer is better), has been problematic for educators. In the past, it was relatively easy to bring in experts and have them work with teachers for a given period of time, but in many cases there was little follow-up for the teachers after the experts departed. In contrast, today interactive ICTs provide an ideal set of tools to sustain contact and communication with experts over long periods of time and to obtain feedback from these experts on specific classroom challenges.

Similarly, teachers used to face immense challenges in regard to the second characteristic,

Collective participation (of groups of teachers from the same school, department, or grade), since many of them spent most of their working hours confined in classrooms with learners. Using ICTs, teachers can now communicate, create, and problem-solve with their colleagues at times convenient to their schedules, and therefore are no longer as isolated from

professional contact and stimulation. In addition, using ICTs to deliver professional development can greatly expand the teachers' networks of colleagues and experts. Teachers with high levels of ICT use and experience can connect with others at the same high level, and this way they can collectively work to develop their skills and thus become professional development leaders for their schools and localities.

Professional development approaches

Training

Sources	Strategies
External Organisations Training Videos Books	Mass training • Bi-annually or annually at the school or department level to develop the school ICT plan. This can be conducted during work plan seminar. • Weekly, fortnightly or monthly at the school or department level to introduce or reinforce ICT skills. This can be done through creating professional development time in the curriculum: o Allocate the first period, about 40 minutes weekly in the timetable. o Set up an even and odd week timetable. Allocate about 2 hours for enrichment programmes conducted by vendors. o Allocate a common test period monthly in the timetable. Small group training regularly at the department or academic level or by skill areas to equip teachers with the specific ICT skills based on learning needs analysis Individual training through workshops, e.g. TRAISI workshops or workshops offered by training agencies such as Institute of Policy and Management (IPAM). Self-paced learning through commercially produced training videos, books and online modules.

Sharing

Sources	Strategies
External Organisations	Attend sharing sessions organised by the zone or cluster on a regular basis to learn good practices of ICT planning from other schools. Attend ICT conferences and seminars (e.g. International Conference on Teaching and Learning with Technology) on a regular or annual basis to learn the latest updates in teaching and learning with technologies from local and overseas educators. Set up platforms for sharing at the school, zonal or cluster level: • Structure into contact time, about 15 minutes, for teachers to share their learning after attending courses and workshops. • Allocate a day to showcase ICT best practices for teachers to share their use of ICT in teaching and learning. • Structure protected time in the timetable and set up Professional Learning Community to discuss and share the impact and use of ICT in teaching and learning. • Arrange informal lesson observations for teachers to learn from peers in action. • Organise learning journeys to external organisations to learn their good practices and latest technologies in teaching and learning. • Set up a Learning Management System or online portals for sharing of lesson plans.

Coaching

Sources	Strategies
Schools	Appoint ICT Mentors to handhold subject teachers through lesson planning, pre and post lesson observation discussions and lesson reflections. Assign buddies or pair teachers who are more ICT-savvy with those who are less savvy. Coaching can be done through co-teaching and peer observations. Assign ICT champions by subjects or academic levels to handhold peers to develop ICT lessons and demonstrate the lesson during protected time.

Conclusion

Design your assessment forms (reporting to parents and stakeholders: Report Card) before you commence your pedagogical professional development. This is the mantra that you should always remind yourself about, since teachers understand that the measurement of their success is based on how successful the students perform. If teachers clearly know what the assessment is to be, they have a much clearer idea of how to use the technology in the classroom. Must include *quality time* in your teacher professional development sessions for meaningful exchange, for classroom trials and discussions.

A change agenda "in which the technology is fully integrated into the learning process" constitutes a complex pedagogical scenario according to Noss and Pachler (1999: 210) where "the teacher's role will be altered fundamentally". Tinker et al (2007:4) in their paper on recommendations for large scale 1:1 implementations, concur that TPD programmes should not be planned as singular interventions where teachers are simply exposed to opportunities for tinkering with the new technology.

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