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Remarking
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Multiple Dimensions of ICT: It's Relevance to Schools Education of Rural Areas of Chattisgarh State

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Abstract

More than ever, the advent of the knowledge economy and global economic competition compel governments to prioritise educational quality, lifelong learning and the provision of educational opportunities for all. Policymakers widely accept that access to information and communication technology (ICT) in education can help individuals to compete in a global economy by creating a skilled work force and facilitating social mobility. They emphasis that ICT in education has a multiplier effect throughout the education system, by enhancing learning and providing students with new sets of skills; by reaching students with poor or no access (especially those in rural and remote regions); by facilitating and improving the training of teachers; and by minimizing costs associated with the delivery of traditional instruction.

However, beyond the rhetoric and of equal importance to policymakers are basic questions related to the measurement of ICT in education, its usage and potential outcomes, including retention and learning achievement. There are those who contend that computers and other ICTs have properties or affordances that directly change the nature of teaching and learning. For instance, it is believed that ICT can help to bring abstract concepts to life using images, sounds, movement, animations and simulations. Others meanwhile argue that ICTs are merely a delivery mechanism for teaching and learning, while it is the foundational pedagogy that matters. Regardless, a better understanding of ICT in education and how it is integrated across national education systems must be a priority for all countries.

Keywords: ICT, Communication, Education, Teaching etc.

Introduction

Nowadays the role of Information and Communication Technology (ICT), especially internet in the education sector plays an important role, in the process of empowering the technology into the educational activities. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Technology (internet) in another side can be the most effective way to increase the student's knowledge.

Being aware of the significant role of ICT in our life, education authorities should be wise enough in implementing the strategies to empower ICT in supporting the teaching and learning process in the classroom. ICT is not just the bloom of the educational activities, but also to improve the effective and meaningful educational process.

The main purpose of the Strategy for Information and Communication Technology Implementation in Education is to provide the prospects and trends of integrating information and communication technology (ICT) into the general educational activities.

Objectives of the Study

1. To find out the integration of ICT in education through Govt policies and other formal committeemen's.
2. To identify the parameters of teaching learning such as improvement in education quality, enhancing learning, technical and non- technical skills enhancement, life long learning, global impact.
3. To measure the effectiveness of ICT in education of Rural Areas
4. To give suggestive measures for improving the effectiveness of ICT in education especially in Rural/ Backward Areas.

For satisfying these objectives the researcher has taken primary as well as secondary data.

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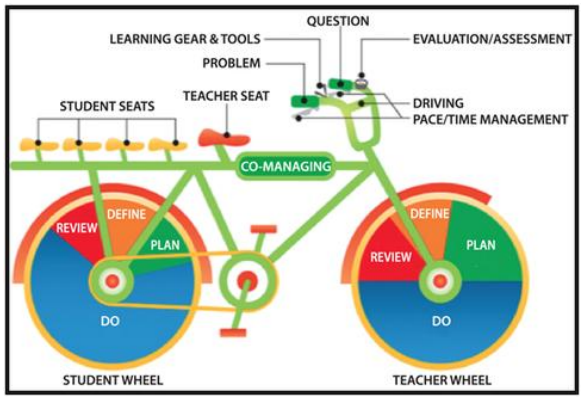
Why do We Measure ICT in Education?

The UNESCO Institute for Statistics (UIS), which is the United Nation's repository for statistics on education, science and technology, and culture and communication, is mandated to administer international data collections on the availability, use and impact of ICT in education. Through the establishment of internationally-comparable and policy-relevant indicators, the UIS contributes significantly towards international benchmarking and monitoring of the integration of and access to ICT in education, which are fundamental for policymakers to select priorities and adopt and develop policies. For instance, policymakers may use UIS data to inform decisions related to:

1. National capacity and/or infrastructure levels (e.g. electricity, Internet, broadband) for integrating new ICT tools in schools;
2. The types of ICT currently being neglected and/or emphasized in relation to concerns of usability and affordability (e.g. radio- versus computer-assisted instruction);
3. Whether ICT-assisted strategies are evenly distributed nationwide;
4. Whether girls and boys have equal access;
5. The types of support mechanisms currently in place or the lack thereof; and
6. The relative level of teacher training provided in relation to the demands placed on them to teach and/or use ICT in the classroom.

Education policymakers have been formalizing ICT policies as part of educational renewal and reform for almost four decades. At the international level, policy for integrating ICT for development was first formulated in the Millennium Development Goals (MDGs) Target 8.F, which states that "in cooperation with the private sector, make available the benefits of new technologies, especially information and communications" (United Nations, 2000; 2012). Moreover, while not mentioned explicitly in the Education for All goals, it is arguable that ICT plays a pivotal role in achieving these goals, including broadening access, eliminating exclusion, and improving quality.



Research Methodology

The study has been taken from secondary as well as primary data. More focus is given to the basic school education in Chhattisgarh State.

Study Area

Ten schools having Hindi syllabus including both the primary and secondary levels are selected. Some Information about The Ten Schools is as follows in Table I

Table 1

S. No.	Category of Schools	Number of Schools in Chattisgarh
1	CBSC Schools	206
2	ICSE	18
3	SBS	33
4	Play Schools	38
5	Total	295

Respondents

In this research purposive sampling is used to select respondents. All the respondents are involved in ICT use in rural schools including both male and female. For getting desired sample size and studying related information, 30 respondents including primary and secondary level students and teachers and other administrative staffs are interviewed from the selected study sites. Sample Size: 30 Respondents

Integration of ICT in Education through Govt. Policies

These will not only include hardware devices connected to computers, and software applications, but also interactive digital content, internet and other satellite communication devices, radio and television services, web based content repositories, interactive forums, learning management systems, and management information systems.

These will also include processes for digitization, deployment and management of content, development and deployment of platforms and processes for capacity development, and creation of forums for interaction and exchange.

Challenges before the Education System in India

The challenge of developing alternate modes of education, continuing education, teacher capacity building, information systems for efficient management of the school system are being addressed. With Information and Communication technologies becoming more accessible, reliable and mature, the prospect of leveraging ICT for education is becoming increasingly feasible.

Information and Communication Technologies in Schools

Information and Communication Technologies have enabled the convergence of a wide array of technology based and technology mediated resources for teaching learning. It has therefore become possible to employ ICT as an omnibus support system for education. The potential of ICT to respond to the various challenges the Indian education system poses are:

1. ICT can be beneficially leveraged to disseminate information about and catalyze adaptation, adoption, translation and distribution of sparse educational resources distributed across various media and forms. This will help promote its widespread availability and extensive use.
2. There is an urgent need to digitize and make available educational audio and video resources, which exists in different languages, media standards and formats.

3. Given the scarcity of print resources as well as web content in Indian languages, ICT can be very gainfully employed for digitizing and disseminating existing print resources like books, documents, handouts, charts and posters, which have been used extensively in the school system, in order to enhance its reach and use.
4. ICT can address teacher capacity building, ongoing teacher support and strengthen the school system's ability to manage and improve efficiencies, which have been difficult to address so far due to the size of the school system and the limited reach of conventional methods of training and support.
5. Using computers and the Internet as mere information delivery devices grossly underutilizes its power and capabilities. There is an urgent need to develop and deploy a large variety of applications, software tools, media and interactive devices in order to promote creative, aesthetic, analytical and problem solving abilities and sensitivities in students and teachers.

Parameters' of Teaching Learning

1. Shared Beliefs and Understandings Among All Staff

a. All students can achieve high standards given the right time and support
b. All teachers can teach to high standards given the right assistance
c. High expectations and early intervention are essential
d. Teachers need to be able to articulate what they do and why they teach the way they do

2. Designated Staff Member for Literacy

a. Literacy teachers have time scheduled to work with classroom teachers to support focused literacy instruction e.g. during Literacy block
b. They are lead learners and team builders
c. Literacy teachers are knowledgeable about literacy instruction and assessment, and about the management of change
d. Literacy teachers work alongside classroom teachers, modeling successful literacy practice
e. They plan and facilitate professional learning

3. Daily, Sustained, Focused Literacy Instruction

a. At the elementary level, a Literacy block of at least 100 uninterrupted minutes per day is scheduled.
b. Strong literacy practices require focused time on balanced literacy assessment and instruction.
c. Balanced literacy is an instructional framework designed to teach all students how to make meaning and communicate effectively. Focused lessons occur using the following components: read/write aloud; shared reading/writing; guided reading/writing; independent reading/writing
d. Literacy instruction is free from all distractions and interruptions
e. The Literacy teacher's timetable aligns with the Literacy block at the elementary level with teachers and students most in need of support at the secondary level

4. Principal as Literacy Leader

a. Such principals use data to inform instruction and school planning
b. They acquire a deep understanding of effective literacy practices in the classroom
c. They take part, with their literacy leadership teams, in regional learning sessions
d. They strive to develop sustainable professional learning communities in their schools

5. Early and Ongoing Intervention

a. Individual student need is determined through the ongoing examination of a range of assessment data
b. Teachers must be skilled at using effective
c. Instructional strategies matched to student need
d. A collective effort by all teachers--- classroom, special education, English language learner, and literacy—is necessary to design and deliver programs that support all students
e. District and school administrators support teachers in building capacity in literacy Instruction and assessment, and also in how to use collaborative structures.

6. A Case Management Approach to Monitoring Student Progress

a. This approach requires teachers in a school to work as a group to analyze student data and make decisions on differentiating instruction and selecting resources
b. A common understanding and use of diagnostic and formative assessment tools support the monitoring of data
c. Data are gathered and displayed in such a way that they become the focus of problem-solving dialogue among teachers involved in each student's case
d. Data collected help plan next steps to meet the needs of each student and to meet the professional development needs of the school and district

7. Job-Embedded Professional Learning In Literacy

a. Job-embedded professional learning focused on literacy takes place with teachers and with staff when they meet as a whole group; it is responsive to the school's specific needs
b. District leadership and school staff meetings are key forums for focused discussions that promote professional learning about literacy
c. Sessions include a balance of theory and practice, and are informed by current research
d. Teachers share leadership in planning and designing their professional learning

8. In-School Grade or Subject Team Meetings

a. Teams meet regularly to discuss the Literacy achievement of individual students
b. Teachers assess student work collaboratively, using common assessment tools and exemplars
c. Analysis of student work supports the development of a common understanding of the expected standards across a grade or course; it also serves to support consistent practice between classrooms in a school

9. Shared Literacy Resources in a Designed Area of the School

a. Resources that support differentiated Instruction are compiled and organized in a book room or resource centre.

b. Resources meet a range of abilities and needs and address a range of interests.

10. Commitment of School Budget to Acquiring Literacy Resources

a. Administrators allocate budget for literacy resources that address instructional needs revealed by school and classroom assessment data

b. High-quality resources are purchased to support student learning (leveled text, rich literature) and teacher learning (common resource for book study, researched –based pedagogic books)

c. In-school and cross-school dialogue leads to a deeper understanding of what constitutes a high-quality literacy resource

11. Staff Commitment to Learning and Professional Development

a. Action research is one example of job- embedded professional learning that involves a structured process of teacher inquiry

b. Teachers work collaboratively to design a specifically focused question that pertains to literacy issues and student achievement as identified in school and classroom assessment data

c. The district supports the work of school teams by providing funds and by offering professional development sessions focused in collaboration and research skills

d. At the end of the research cycle, action research teams produce reports that document their learning journeys and findings

12. Parental Involvement in Supporting Literacy

a. Literacy leadership teams work toward establishing strong community-home- school relationships

b. Schools build strong relationships with parents by keeping them informed about their children's progress and about their approach to the teaching of literacy

c. These relationships are supported in schools where parents understand how they can support their children and where schools invite parents to help them understand how the schools can support them

13. Appropriate Literacy Instruction in All Areas of the Curriculum

a. The components of balanced literacy instruction allow teachers to support students in developing meaning-making skills in all subject areas

b. Assessment data determine what literacy skills students will need to develop in order to access the subject's content

c. Teachers in all content areas can further students' achievement in literacy by modeling the skills, sharing in the making of meaning, guiding students toward independence, and monitoring their independent work

14. Shared Responsibility and Accountability

a. Triangulation of data informs the professional learning needed in districts and schools

b. Ongoing use of formative data provides descriptive feedback for students, differentiates instruction, and impacts the selection of resources

c. The district disaggregates and delivers data to administrators' and teachers' desktops to put individual faces on the data and assists in the development of improvement plans to collaboratively take action

d. Administrators and teachers can name at-risk students individually and clearly articulate what they are doing for each one

e. School staffs work on finding results of action research question based on schools' data

f. The district hosts an evidence-based Literacy Learning Fair for all school teams to share student improvement and learn from other schools

g. Schools host their own Literacy Learning Fairs for parents and the community

Challenges in ICT Based Education Iplementation

Lacking Holistic Approach

To implement any national project, several ministries get involved in implementation process so top level executives in the government body should be more careful about the coordination, which is missing in several ICT enabled education projects.

Sometimes it happens that budget allocation for a project implementation is very low relative to the demand which causes the lengthier of the project.

Lacking ICT Infrastructure

In many rural schools students are not getting proper ICT based education because of lack of ICT infrastructure. Internet connection is not available in the remote areas and the number of computers distributed by the government is very low so government should ensure adequate computers and the Internet connectivity across the country especially in the rural school to facilitate the ICT based education of rural school students.

Teachers' Training Problem

Another issue identified is the lack of training for new teachers in rural schools [2]. Teachers who are newly transferred to these schools are not given specific teaching training and have difficulties fitting into their new roles as teachers in a student oriented system which requires teachers to reposition themselves from instructors to facilitators in the learning process of their students. Therefore, there is a pressing for Ministry of Education to look into the ICT competency of teacher in rural schools to ensure that all teachers attain a prescribed minimum ICT competency level which encompassed the areas of knowledge of key ICT applications, Internet literacy, Web technology and Digital media.

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Findings and Suggestions

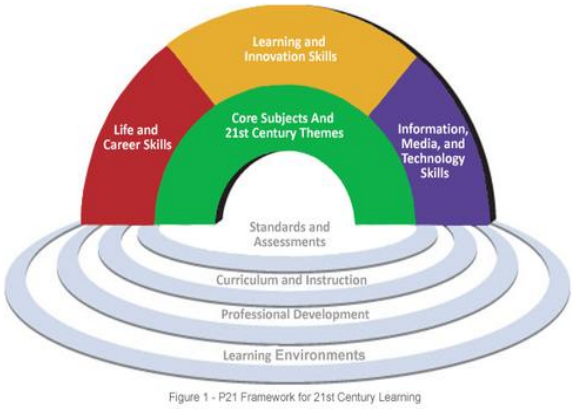

Figure 1 - P21 Framework for 21st Century Learning

Source: The Dakar Framework for Action (UNESCO, 2000)

There are some unavoidable facts in the modern education;

First, the ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities.

Second, the influence of ICT open source tool cannot be ignored in our student's lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones.

Third, the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. In such situation, education institutions play an important role to eradicate these problems. One of which is by facilitating the students to do edutainment or educational games. Schools can let their students be familiar with educational games adjusted by their teachers. Besides, they can also support and facilitate their students to have their own blogs in the internet. A lot of Web Blog providers are free to the users, such as Word Press. In their blogs, the students can create and write something, like an article, poem, news, short stories, features, or they can also express their opinion by an online forum provided in the internet. They are able to share experiences throughout their blogs to others from all over the world. I think it will be an interesting activity for them, and it will lessen their time to visit the negative or porn sites existed.

By doing so, I think our young generation will get more and more information and knowledge by browsing in the internet. They can also create innovation in web design that it may be out of the formal curriculum content, but it will be useful for their future.

Fourth, the implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school.

Fifth, the teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

Sixth, the followings are the aim and objectives of ICT implementation in education:

1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To promote equal opportunities to obtain education and information.
4. To develop a system of collecting and disseminating educational information.
5. To promote technology literacy of all citizens, especially for students.
6. To develop distance education with national contents.
7. To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)
8. To support schools in sharing experience and information with others.

Suggestions

1. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.
2. Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to, and complete, free and compulsory primary education of good quality.
3. Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes.
4. Achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.
5. Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus in ensuring girls' full and equal access to and achievement in basic education of good quality.
6. Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

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