



# ISSUES AND CHALLENGES IN THE USE OF INFORMATION COMMUNICATION TECHNOLOGY (ICTs) IN EDUCATION IN INDIA

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## Abstract

Schooling is one of the numerous areas that have been impacted by the advancements made in the domain of data and correspondence innovation (ICT). The progression of ICT has exhibited that it is playing a significant supporting capability for the equivalent, as schooling is viewed as a correspondence cycle all by itself. Higher education is post-secondary education, training, and research-related advice. At this level, the learner is also expected to comprehend higher-order concepts, which are frequently challenging to absorb. ICT utilization suggests a number of strategies to streamline the strategy. ICT aids in accelerating learning, ensuring consistency in

education, enhancing understanding, conducting effective evaluations, streamlining training administration, generating successful results, and similar other advantages. On the other hand, dealing with connected difficulties is equally crucial. Thusly, the essential objective of this review is to look at how educators see the hardships related with utilizing ICT apparatuses in the study hall. The data was haphazardly accumulated utilizing a quantitative report plan from an example of 100 optional teachers in the Malaysian province of Melaka. Through the dissemination of a changed, embraced study poll, proof has been accumulated. By and large, it was resolved that the accompanying basic worries and difficulties kept educators from successfully utilizing ICT devices: restricted openness and organization association, restricted specialized help, deficient preparation, time requirements, and an absence of instructor skill. By-products from this research are expected to assist those responsible for integrating new innovations into education and the educational experience in schools by providing accurate data and recommendations.

**Keywords:** Information Communication Technology (ICT), Higher Education, ICT tools, Learning, Sustainability.

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## 1. INTRODUCTION

We now live in a new world that is sometimes referred to as a small town thanks to information and communication technologies (ICT). We now have the chance to grow as individuals thanks to quick and simple knowledge access. Nearly every profession, including education, is affected. However, education, which is considered to be a communication process in and of itself, has not yet been able to catch up with the most advanced and ideal level of ICT. Higher education in particular, where the need for visualization and in-depth concept development is essential. This study article focuses on the problems, obstacles, and potential solutions for the advanced development of ICT for higher education applications.

Radio, television, telephone, the internet, and many other technologies are all part of information and communication technology. We all know that we can access any kind of information and even travel the entire world at the touch of a button thanks to the internet and other modern technologies. ICT can be summed up as the use of technology and software for methodical and organized information management. The technology used to input, save, generate, share, transmit, or exchange the specific task is often referred to as this.



**Figure 1:** Education Quality

The amount of scientific and technological discoveries, which have also increased communication speed and security, directly affects the efficiency of ICT in education. ICT is becoming a crucial component of the new era. ICT encompasses a variety of communication tools, including video conferencing, distant learning, radio, television, mobile phones, and satellite systems. It can also be viewed in a specific context, such as the use of ICT in libraries, hospitals, or schools, and as a result, it can play a variety of functions in many different industries. The advancement of ICTs nowadays has led to the creation of a "global village" where people from all over the world may contact with one another. Technology is evolving daily, and while there are many benefits, there are also many drawbacks and difficulties. It is not enough to simply improve communication tools or networks; we also need to understand how to use them and what ICT literacy is all about.

Stages of ICT Integration:

- Familiarization
- Utilization
- Integration
- Reorientation
- Evolution

## 2. LITERATURE REVIEW

ICT's association in advanced education in India was researched by Pegu (2014) in his paper, "Data and Correspondence Innovation in Advanced education in India: Difficulties and Open doors". According to the study, there is a lack of ICT program adoption in higher education, and

local/regional language content creation is required because of linguistic diversity. Additionally, there are a ton of options because these programs have a high likelihood of effectively achieving the desired learning goals.

Chandha (2015) expressed her viewpoint on technological learning tools for learning in her study named "ICT & Present Classroom Scenario". She discussed various methods for integrating ICTs into regular classroom instruction, sought to establish a positive attitude toward the successful use of ICTs, and offered helpful suggestions for doing so.

Deol (2015) attempted to determine the efficiency of Computer Assisted Instruction (CAI) programs on the achievement in the teaching of social studies in his research work on "Effectiveness of CAI Programs on the Achievement in Teaching of Social Studies". He selected 50 ninth-grade Sant Sundar Singh Public School pupils from the district of Ludhiana (Punjab) as a sample. He completed the sample by giving the kids whose scores were declining on average on the Standard Progressive Matrices Test (created by Raven). He then conducted his investigation after randomly choosing 14 students for the experimental and control groups, respectively. After using the CAI program, he found that the experimental group's accomplishments were superior to those of the control group. This implies that ICT initiatives helped with text comprehension.

Kaur (2015) observed that the transition to technology-integrated classrooms necessitates a change in teacher preparation in her study titled "ICT Culture in Teacher Education". She recommended various types of inputs in teacher training, such as knowledge of fundamental hard drive skills, understanding system software, using multimedia, introduction to opensource software, and social, legal, ethical, and health issues, among other things, that are worth implementing in teacher training programs in order to make student educators aware of ICTs and ensure their compatibility with cutting-edge technologies.

The difficulties and stresses encompassing the joining of ICT in educator schooling programs were the principal subject of Sandhu's (2015) paper, "Reconciliation of ICT in Educator Training". She brought up a significant topic, stating that one of the most important things to think about is how to make instructors comfortable using cutting-edge technologies because their comfort will help integrate ICTs into classroom instruction. To do this, teacher education needs to change in order to better prepare instructors for dynamic situations.

Analyze the teachers for shifting conditions. In their paper "ICT in Instructing Growing experience for Advanced education: Difficulties and Potential open doors", Girish and Sureshkumar (2017) focused on the troubles and conceivable outcomes of coordinating ICT in the study hall for the instructing and educational experience. Additionally, they focused on the changes that must be made in order to fully utilize ICT programs for improved teaching and learning. They encountered a number of difficulties, including high costs, a lack of necessary infrastructure for the intricate operation of ICT-enabled learning tools, and the unavailability of

basic necessities like electricity. But ultimately, given that using ICTs has greatly enhanced learning outcomes, there are prospects for their application.

### **3. RESEARCH METHODOLOGY**

#### **3.1. Research Design**

The information assembled from every respondent in this study was gathered and dissected utilizing a quantitative procedure. Prior to conveying it to the expected gathering of respondents, the specialists concocted and finished a survey all alone. The survey was made with a particular spotlight on concentrate on objectives on educators' view of utilizing ICT devices in open optional schools.

#### **3.2. Data Collection Procedures**

Data collection describes how the researcher will gather data. 100 teachers have been randomly given the questionnaire. They had a week to complete the survey and send it back to the researcher. Each and every one of the volunteers gave their time freely to the study. Some questionnaires were missing details, making it impossible for the research to benefit from them. Finally, 80 surveys were returned to the researchers so they could do data analysis.

#### **3.3. Validity & Reliability**

This review uses Cronbach's coefficient alpha ( $\alpha$ ) to check internal consistency. This method, often called test re-test, is used to determine the relationship between the aftermath of each test item and the overall results of the test. A high-Test Retest Relationship value indicates high reliability, a low-Test Retest Connection value indicates solid quality and is excluded from testing. Cronbach's alpha incentive (discovery dependent) for this review is 0.817, which is a preference (between 0.65 and 0.95). The alpha value of an instrument indicates its constancy. In fact, each part of the instrument has more than 7 levels. Alpha levels range from 0.847 to 0.799, with 0.847 being the highest.

### **4. FINDINGS**

#### **4.1. Demographic Factors of the Respondents**

Table 1 below provides information on the research participants' racial and ethnic backgrounds.

Table 1 displays the demographic findings, with the age categories of under 25 being frequency 6 and 6%, 26–35 being frequency 66 and 66%, 38–47 being frequency 29 and 29%, 46–55 being frequency 5 and 5%, and over 55 being frequency 4 and 4%.

Male frequency is 27 and male percentage is 27%, while female frequency is 77 and female percentage is 77%, according to the gender analysis. Less than one year frequency is 5=7 and the percentage is 7%; one to four years frequency is 27 and the percentage is 27%; five to ten years

frequency is 18 and the percentage is 18%; one to twenty years frequency is 3 and the percentage is 3%; and twenty years or more frequency is 3.

A study of ethnicity reveals that the frequency of Malay people is 39 (39%), that of Chinese people is 21, that of Indian people is 46, and that of other people is 2. Language (frequency = 40 and percentage = 40%), Mathematics (f = 38 or percentage = 38%), Science subjects (f = 24 or percentage = 24%), and Other (f = 6 or percentage = 6%) are the disciplines that the respondents teach. According to the data collected, the majority of the study's participants are female, between the ages of 5 and 10, and between the ages of 36 and 45.

**Table 1:** The sample's demographic findings

| Factors        | Category         | Frequency | Percentage (%) |
|----------------|------------------|-----------|----------------|
| Age            | Under 25         | 6         | 6%             |
|                | 26-35            | 66        | 66%            |
|                | 36-45            | 29        | 29%            |
|                | 46-55            | 5         | 5%             |
|                | 55+              | 4         | 4%             |
| Gender         | Male             | 27        | 27%            |
|                | Female           | 77        | 77%            |
| Experience     | Less than 1 year | 5         | 5%             |
|                | 1-4 years        | 27        | 27%            |
|                | 5-10 years       | 55        | 55%            |
|                | 10-20 years      | 18        | 18%            |
|                | 20+ years        | 3         | 3%             |
| Ethnicity      | Malay            | 39        | 39%            |
|                | Chinese          | 21        | 21%            |
|                | Indian           | 46        | 46%            |
|                | Others           | 2         | 2%             |
| Subject Taught | Languages        | 40        | 40%            |

|  |             |    |     |
|--|-------------|----|-----|
|  | Mathematics | 38 | 38% |
|  | Sciences    | 24 | 24% |
|  | Others      | 6  | 6%  |

#### 4.2. Hypothesis Testing

H1: Guidance and the use of ICT advances to further develop teaching and learning in the classroom are irrelevant ideas.

H2: The use of ICT to support classroom teaching and learning and orientation is broadly consistent.

**Table 2:** Test Using Independent Samples

|    |                             | Levene's Test for Equality of Variances | t-test for Equality of Means |      |        |      |                 |                       |   |      |
|----|-----------------------------|---|------------------------------|------|--------|------|-----------------|-----------------------|---|------|
|    |                             |   | F                            | Sig. | t      | df   | Sig. (2-tailed) | Std. Error Difference | 95% Confidence Interval of the Difference |      |
|    |                             |   |                              |      |        |      |                 | Lower                 | Upper                                     |      |
| G3 | Equal variances assumed     | .057                                    | .817                         | .176 | 99     | .864 | 0.42            | .227                  | -.417                                     | .497 |
|    | Equal variances not assumed |   |                              | .174 | 41.031 | .865 | .042            | .232                  | -.426                                     | .506 |

**Table 3:** Group Statistics

|    | Gender | N  | Mean | Std. Deviation | Std. Error Mean |
|----|--------|----|------|----------------|-----------------|
| G3 | Male   | 27 | 3.10 | .999           | .197            |
|    | Female | 77 | 3.06 | .994           | .117            |

Given the free t-test in Table 2, the use of ICT devices in classroom teaching and learning by male assistants ( $M = 3.10$ ,  $SD = 0.999$ ) is significantly higher than that of female assistants ( $M = 3.06$ ,  $SD = 0.994$ ), which is It was not very large ( $t = 0.176$ ,  $d.f. = 99$ ,  $p = 0.0006$ ). However, given that the invalid speculation on page 06 has been discarded and the election speculation is: is sufficient to prove.

## 5. DISCUSSION & CONCLUSION

This review is primarily focused on determining how teachers view the use of ICT devices for teaching and learning in the classroom. In addition, she examines the problems teachers see in using her ICT devices for teaching and learning in the classroom and recognizes the feasibility of how much ICT devices support teaching and learning in the classroom. According to the results of the review, the teacher has a typical level of judgment in using her ICT device for We face great challenges and recognize the value of that valuation. ICT equipment that supports education and learning in the classroom.

Since the introduction of ICT (Information and Correspondence Progression) in tutoring, teachers have developed unique views on the value of ICT as a visual gadget and their level of expertise and confidence. Reconciliation of ICT in educating and learning faces difficulties. Absence of cash, time, access, and mechanical help are a portion of the outer difficulties that educators should survive. The aftereffects of this review show that educators were all the while remarking on the troubles in utilizing ICT apparatuses for instructing and learning in the homeroom. Indeed, even with current endeavors to coordinate ICT into schools, numerous provincial families actually miss the mark on information important to utilize ICT devices in their day-to-day routines. Surprisingly more terrible, they had no clue about how to utilize the ongoing techniques to really look at the exhibition of their children. Few out of every odd home has regular admittance to PCs and the Web. The essential issue in such manner is really appropriating important ICT apparatuses to both metropolitan and rustic networks.

Future exploration ought to put a more prominent accentuation on administration procedures and strategies to address the difficulties educators experience while using ICT innovations for instructing and learning. Assuming the deterrents that teachers defy can be eliminated, it will further develop the learning results for our children. Studies having a similar orientation conveyance might give a more valuable examination to inspecting orientation points of view.

Although there are many benefits to using ICT in education, there are also drawbacks. If problems and obstacles are resolved, ICT in education can play a variety of roles and provide beneficial outcomes. There are several benefits to this technology, but only under certain circumstances. ICT is the finest future prospect for us in many respects, provided that certain factors are taken into account, such as implementation requirements, specialists, administration,



etc. Although technology offers many benefits, there are also many problems and difficulties with it. This technology may become a key tool in education and other sectors in the future if such problems

are addressed.

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