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# Use of ICT for Enhancing Students' Experience and Engagement in Educational Institutions

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## ABSTRACT

Education stands to be the process of which individual add values to themselves. It brings about making people to think towards a particular direction that will make them achieved their desired goals. Technology has brought so much changes in educational systems. The most impacted technological innovation within the educational institutions is Information and Communication Technology (ICT). Most institutions consider it as a powerful tool for acquiring knowledge in addition to reading, writing and numerical analysis. ICT has added values to the process of learning as well as organization and management of learning institutions. Many educational institutes have adopted the use of ICT in various aspects of teaching and non-teaching activities. The students are meant to interact and make use of these ICT infrastructures both for acquiring knowledge and administrative purposes. The teachers also exposed students to ICT facilities through learning activities and other related tasks that will be given to them as assignments. However, students of educational institutes have different ways of using ICT infrastructures in handling their learning process within and outside the institutions. They make use of internet facilities provided within the schools as well as services of their mobile operators. Therefore, this research will explore various experience of students regarding the use of ICT in their educational institutions as well as their level of engagement with ICT infrastructures in the learning process.

**Keywords:** Education, ICT, Students' Experience, Students' Engagement, Digital Technology

## 1. INTRODUCTION

Education is the process of acquiring knowledge, skills and attitudes by individuals through formal, informal and accidental means. It's all about training minds of people in a particular direction to bring about desired change (NCERT, 2014).

Information and Communication Technology (ICT) literacy and usage is becoming increasingly important in every sector and disciplines. It is assumed to serve as a key to competence and success in the 21<sup>st</sup> Century (Kunina-Habenicht and Goldhammer, 2020).

ICT is the main pillar of modern generation. It has significantly affected the requirements and procedures of nearly all forms of activities and practices within academics and governance. The revolutionary change which is taking place in Information and Communication Technologies (ICTs) has dramatic effects on the way educational institutes carry out their functions of teaching, learning and research, particularly on the creation, dissemination and application of knowledge (Alam, 2016). Integrating ICTs and other digital technologies into classroom will provide an effective way to reduce number of repetitive tasks and time-consuming of duties undertaken by the teachers. Time and energy will be saved when day to day operations such as attendance tracking, performance monitoring etc. are being automated (Haleem *et al.*, 2022).

ICT has brought about transformation in teaching and learning process as well as providing a powerful learning environment so that students can deal with knowledge in an active, self-directed and constructive manner. The innovative use of ICT is believed to significantly strengthen the higher education system and address the three fundamental challenges of access, equity and quality. Education is the driving force of every nation's economic and social development. Although, there are several factors that strengthened and encouraged moves to adopt ICTs into classrooms and learning settings within educational institutes which include growing need to explore efficiencies in terms of program delivery, opportunities and ideas for flexible delivery provided by ICTs; the capacity of technology to provide support for customized educational programs that will meet the needs of the students; and finally the growing use of Internet and world wide web (WWW) as tools for information access and communication (Alam, 2016).

ICT has boosted the level of students' engagement and experience within academic institutions. Students can freely interact with their teachers irrespective of the distance and time factors. It brings social interactions among the students as well.

Educational applications and websites are commonly means of students and teachers' interactions in terms of resource sharing and feedback (Haleem *et al.*, 2022).

Adoption and integration of ICTs in educational institutes have many impacts on teaching and learning which expose students to self-learning and independent mode of study. It brings about flexibility in the teaching environment with motivation to the actors involved. Stakeholders in educational institutes can have several benefits if ICT is adopted in the learning environment. These may include benefits related to students, employers as well as policy makers. It will also help students to compete with global economy and also to be part of the global skilled workforce. ICT will support seamless administrative activities in terms of discharging managerial functions and services (School Software Pro, 2021)

Increase in the growth of the developing countries' population with high rate of young people seeking for formal education system require the implementation of technological innovations into educational institutes. This is because, education is regarded as an important bridge for social, economic and political movement (Richard, 2015).

Some of these developing countries like India faces barriers or challenges related to infrastructures, teachers and the processes quality. The barriers can be broken into lack of learning materials, teachers, remoteness of education facilities, high dropout rate etc as pointed out by UNESCO. Therefore, innovative use of ICT can potentially solve these problems. It can remove the barriers that are causing the problems of low rate of education in any country as well as serving as a tool to overcome the issues of cost, a smaller number of teachers, and poor quality of education as well as to overcome time and distance barriers (Richard, 2015).

The advent of ICT has brought about online teaching and learning which help in facilitating students-teacher interactions smoothly and easier. The online teaching and learning is mostly supported by Learning Management System (LMS) through which resources are being shared, tasks are given to the students, and teachers also assess the performance of the students (Ong and Quek, 2023).

Therefore, this research will explore various experience of students regarding the use of ICT in their educational institutes as well as their level of engagement with ICT infrastructures in learning process. This can be achieved with the following objectives:

- i. To identify the teaching and learning process covered by the introduction of ICT in educational institutes

- ii. To identify the administrative activities within the coverage of ICT in educational institutes

## 2. METHODOLOGY

The paper is a descriptive paper that uses model to describe process and activities in educational institute that adopted the use of ICT. The modelling technique used is unified modelling language (UML). Data were collected from the secondary sources (i.e. journals).

## 3. RESULTS

This section presents the results of the study, it is presented according to the objectives of the study.

### Objective one (i)

Teaching and learning process identified from the adoption of ICT in educational institutes are categorized in the table below:

**Table 1**  
**Teaching and Learning Process**

S/N	LEARNING PROCESS	REMARK
1.	Email Interaction	Student – Teacher Interaction Student – Student Interaction Student – Management Interaction
2.	Social Media Interaction	Use of WhatsApp, Facebook, Twitter etc.
3.	LMS	Resource Sharing Performance Assessment & Evaluation

**Source:** Mohammed *et al.* (2017).

The above table indicates various ICT learning process used in educational institutes. It shows email interactions among the stakeholder (i.e. student, teacher, and management). The students use email interactions in sending assignment and other tasks to their respective teachers, they also interact among them in sharing resources related to their subject disciplines obtain from the teachers or other sources, they received messages, circular and other notification from the college management regarding any decision related to the academic affairs.

The table also shows that students engaged themselves with social media interaction for learning purpose. The use Facebook and WhatsApp to interact among themselves as well as with their teachers. Students usually create pages or groups related to them

and invite their colleagues to join the platforms. This platform serves as the communication medium for them, sometimes they even communicate through private chat in sharing resources and information related to their studies.

The last aspect indicate in the table is learning management system (LMS). Some schools and colleges adopted the use of e-learning system within their teaching and learning process. Students usually interact through the platform to access learning materials and modules uploaded by the resource persons or teachers. The platform can as well provide room for performance evaluation and assessment.

Therefore, from the above table and discussion we can state that:

- i. Introduction of ICT in educational institutes increases the level of engagement of the students among themselves as well as with their respective teachers. This can enhance their learning capabilities and encourage them for independent studies.
- ii. The use ICT will enhance student – teacher relationship as well as student – student relationship. This will in-turn make the students to engage into activities that will make them succeed in their studies.

### Objective two (ii)

Administrative activities involving the use of ICT by the students in educational institutes include:

**Table 2**  
**Administrative Activities Involving the use of ICT**

S/N	ACTIVITIES	REMARK
1.	Registration	Payment Courses Hostel
2.	Examination	CBT (Computer-Based Test)
3.	Attendance	Class session Exam Session
4.	Complaint/Notification	Both students and teachers

**Source:** Mohammed *et al.* (2017).

The above table present major ICT activities that engage students in educational institutes. The table shows registration process, this deals with payment of fees and other financial related matter, capturing biodata as well as courses or subjects of the

students, and finally hostel registration for students that stays in campus. The students will usually access the portal or registration platform and complete all the necessary requirements and submit for approval.

Some schools and colleges also adopt the use of computer-based test (CBT) especially in subjects or courses that have large number of students where administration of examination in such situation may be difficult. Other aspect of the table include attendance which could be during the class and exam session. Schools or colleges may introduce digital attendance system so that it can clear any foul that may occur.

The last section of the table indicates that students can forward their complaints through mail or any electronic form provided by the management of the school or college. They can equally receive notifications about policies and activities of the school or college. This can be from management to students or from teachers to students.

#### **4. CONCLUSION AND RECOMMENDATIONS**

Education is an important aspect of life in any society. Students in various institutions of learning acquire knowledge through interactions with teachers in class rooms. However, introduction of technology such as ICT into learning environment has help students to explore other means of their intellectual capabilities in addition to the class room interactions.

This paper explores experience of students concerning the use of ICT and their level of engagement within educational institutes. The result shows that students use ICT in some of their learning process. Teachers interact with the students through email, social media and LMS in addition to the class room interaction. This make the students to use ICT infrastructure in acquiring more knowledge.

The study also shows that students performs some administrative activities like registration, attendance, examination, and forward complaints or receive notifications through electronic means. The study therefore makes the following recommendations:

- i. Teachers in educational institutes should encourage students to use ICT while delivering their respective lessons. This can be done by giving them more tasks or assignment to be submitted electronically.
- ii. Educational institutes should provide adequate ICT infrastructures for both students and teachers accessibility.

- iii. Educational policy makers should enforce the adoption of ICT at various level of education.

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