



# IOT: A Catalyst for Education Innovation

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Open Access

Manuscript ID:  
BIJ-SPL4-Jan26-MD-094

Subject: Computer Science

Received : 01.09.2025  
Accepted : 22.01.2026  
Published : 31.01.2026

DOI: 10.64938/bijssi.v10si4.26.Jan094

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## Abstract

*Today the world is transformed into digitalized. Growth of technology is rapidly increasing and reshaping the society in various aspects. IoT stands for Internet of things. The usage of internet is widespread in our country. All the happenings in the world are captured and updated daily. The education is the basic needs of the person. The education increase the knowledge of the human. IoT in education enhances learning through increased engagement and the accessing of education is got by the human who are in remote place. IoT in education transform the conventional classrooms into a smarter place to learn. IoT has bought lot of changes in the every human being. The innovation in IoT makes the human smarter and think them in a creative way. The traditional classroom fail to satisfy the learning needs and wants of the people after the COVID 19 period.*

**Keywords:** collaborative system , electronic gadgets, cloud storage, sensors

## IoT

The IoT is the system of interconnected devices that can communicate with each other. IoT applicable in many fields and devices such as sensors, camera, robots, social media. IoT helps to connect and transfer the data to the connected devices. The sensors captures, collects, process and finally store the data in cloud storage and shows the newly updated data.

## Role of IoT in Education

IoT plays a vital role in the field of education which can be more accessible, interactive and collaborative system. It has changes the learning process from traditional classroom learning to modern learning. Modern learning can be done on any stream connected

to the internet. IoT makes students to learn in an interactive way. Traditional classroom learning has become big hindrance after the outbreak of Covid'19.

The IoT in education helps the learners to improve their skills and knowledge and also provide detailed information on their learning skills. IoT make live sessions learning from various countries and states more easy.

## Features of IoT in Education

IoT plays a crucial role in student's education and all the equipment's are connected with the students who are living in remote places. The ideas and thoughts of the students are shared all over the world. The electronic gadgets like laptops, smartphones, smart



watches become a part of IoT which helps in education. IoT connects the teacher and students in real time and makes the student to learn their portion or revise their lesson regardless their location. With the help of IoT the student progression is analysed and allowing them recommendation to improve their performance

### **Integration of IoT in Education**

IoT in education integrate many activities.

### **Tracking of Attendance**

Tracking Attendance of students and making report becomes flexible.

### **Remote Learning**

By recording the sessions students can able to recap the portion which is taught in the class after returning home.

### **Physically Challenged People Assistant:**

IoT in education not only play role in normal students but also to the physically challenged people. The sensor developed in IoT converts the verbal language to sign language.

### **Augmented Reality in Class Rooms**

With the help of IoT learning will be in animated way. Learning becomes more effective in animated way than with board and chalk piece.

### **Tools used in IoT for Education**

According to Demski.J. The Internet of Things, and laptops in particular, help students develop and strengthen fundamental competencies. It improves pupils' ability to learn quickly, thoroughly, and effectively. The learning through white board and chalk is the tradition but learning is done through smartboards and Power Point slides makes them to learn interactively. The class is taken is done through audio and visual aids which helps them to learn in a creative way.

### **Challenges in implementation of IoT**

Through IoT has positive impact there is a challenges in implementation of IoT in education

1. Implementation Cost: The initial cost to implement in IoT is high like hardware, software, networking, Configuration. Still IOT implementation is not affordable to all one.
2. Privacy: IoT is vulnerable to cyber attackers and hackers. Transparency in IoT makes privacy issues guarantee in education.
3. Social Challenges: Human take time to adapt to new technological impact leading to social inequalities.
4. Limited Connection: IoT devices network range will be limited when network signal in poor condition.

### **Future Approach**

The future of IoT in education drive medium like sensor, personalized learning and immersive learning environment through devices that are connected security with data interconnects. In future IoT will be a game changer in education field. In future the IoT helps to learn in Virtualized labs with IoT simulation.

### **Conclusion**

In the digital world, Robot and AI play an important role in human life. **“The education is the powerful tool for transformation”**. IoT will be become effective and secured tool in delivering the education to all the people. The IoT make students to think beyond the sky. IoT act as catalyst to transform the student progression and student activity is monitored which helps the students to gain knowledge. IoT bridges the gap between theoretical knowledge and practical application. IoT helps students to learn in a immersive way in Virtual way. The students learn with their lesson in practical way that helps the student to learn in an interactive way.

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