# An Impact with IoT in the Indian Education System in the Connected World Scenario

**Dharmendra Singh**

Allana Institute of Management Sciences ,

Research Center Pune 01

**Dr. M. S. Kadam**

Professor ,AIMS,Pune

**Abstract:** Quality education is an essential requisite in today's competitive environment. Technology has affected us in every aspect.Today's school setting differ significantly from the traditional pen and paper environment of the post.This paper discusses the impact of the IOT in the smart classes as a modernized method of education in an Indian education scenario which provides quality education to students by helping them in better concept formation, concept elaboration, improvement in reading skills and academic achievement.technologies also help Indian education system with world education systems.

Keywords: Education,  IoT, smart class

**Introduction:**The Internet of Things will be further integrated into the education system in the near future. Most of the schools may use it to prepare their students to become highly tech-literate while others may use it to harness data, save money, and for other specific needs. Our understanding of education must shift if we want to integrate IoT into the education. The organizations that create reasonable, practical products the administrators, students, and teachers can get behind are the ones that get benefited first.Now Indian education system adapted technologies for learning like Medical education system, Pharma and technical education.

## II. INTERNET OF THINGS

IoT was first mentioned in 1999 by Kevin Aston of the MIT Auto-ID Center(Ashton ,2009).IoT is essentially a network of devices connected via the Internet.This technology eliminates the need for manual consumer input of data by merging our physical and virtual worlds and delivering real-time insights to a connected device such as a laptop, cell phone or tablet.

IoT not only provides insight,but it also democratizes that information through low-cost,low-power small devices,which still offer high performance .This technology aids in managing costs,improving the quality of education,professional development,and faculty management improvement through rich examinations of keys-student performance and behavior,Facility monitoring and maintenance,Data from other facilities.

**Benefit of IOT in Education:**The average  student spends 1025 hours in a classroom each year.Unfortunately,more than 308 of the 1025 hours are spent addressing anticipates interruptions such as the distribution of class materials,transitions,or beginning and ending a class.This data suggests that a student spends one out of every five minutes of education time on tasks that can easily  be eliminated by using a network of IoT in classroom.

Use of IoT technology offers a number of advantages to education providers and students Wireless storage of grades,lesson and assignments,Increased students performance,Enhanced physical security, increased energy efficiency,Enhanced collaboration among teachers and students,Mobility and availability,Increased connectivity

**Stakeholders Benefited**

### A)Educators:

Information provided by IoT empowers educators to deliver improved education.They have to window into the success of their strategic,their student's perspective. And other aspect of their performance.The application of technology improves the development of educator.IoT also enhances the knowledge  base used to device education standard and practice. IoT introduces large high quality,real-world datasets into the foundation of educational design.

### B) Personalized Education:

IoT facilitates the customization of education to give every student access to what they need.Each student can control their experience and participate in instructional design. And much of this happen passively.This combined with organizational and educator optimization delivers highly effective education while reducing costs.

### Student:

Student definition include pupil,scholar,learner.A student is one of the main chain links in the education process.Personalized learning that can be adaptive according to student's needs,Learn everywhere-due to the availability of gadgets and relevant software like personal assistant.

### Instructor:

College professors or school teacher -they are all referred to  instructors.They also get a lot of benefits form the IOT in education as Modern digital tools to explain new material in a better way, Improved attendance tracking new tolls to assess how students perceived new material.

### Administration:

Principal,dean,provost.Those ones who manage educating processes and facilities.Smart monitoring of the building Heating, ventilation, and air conditioning (HVAC)  system,lighting,locks etc.

**Communication Network:** Teachers and mentors can communicate with their students online using messengers or web cameras to organize education process.But it cannot allow two parties to imitate personal interaction as if they are sitting in class.But with the help of Internet of Things  in university or school,teacher and student can communicate devices like digital pens and interactive boards  display all information in a real-time mode.All text or picture can be sent to smartphone or tablet of mentor/Student.

**IoT platform for education:**

Technologies can work wonders and application of IoT education of IoT education proves it. Here some projects that take their high position on IoT market in education field.Internet of Things projects for students can simplify their learning process and improves teaching process as well.

### EdModo:

Edmode platform is designed for parents,teachers and students and it is oriented for schools and college predominantly .It offers a communication, collaboration, and coaching platform to K-12 schools and teachers. The Edmodo network enables teachers to share content, distribute quizzes, assignments, and manage communication with students, colleagues, and parents. Edmodo is very teacher-centric in their design and philosophy: students and parents can only join Edmodo if invited to do so by a teacher. Teachers and students spend large amounts of time on the platform, both in and out of the classroom.This system was founded in 2008 and itis a great example of how to IoT in schools can work.On April 8, 2018, Edmodo announced that it was being acquired by NetDragon for $137.5M in cash and stock and user 87.4 million, available language are English, Croatian, Spanish, Portuguese, German, Greek, French, Italian, Turkish, Dutch, Chinese, Swedish.

**C-Pen:**C-Pen brand represents portable scanners that are aimed at students and instructors.Using C-Pen scanner,you can scan text with a button click and then send this text to your smartphone or teacher's/student's device. It uses optical character recognition and also C-Pen devices can be enhanced with an appropriate software from manufacturer.C-Pen is a digital pen that connects to your mobile devices. The C-Pen Reader pen scanner is major technological breakthrough for anyone learning English and is a life-saver for those who suffer from reading difficulties such as dyslexia. The C-Pen Reader is a totally portable, pocket-sized device that reads text out aloud with an English human-like digital voice.pen features:

- hear words and lines of text read aloud.
- a Collins 10th Edition Dictionary.
- scan, store and transfer to a PC or Mac (1GB of storage and downloads to a computer like using a USB key – no software required).
- scan direct to the cursor on a computer.
- a voice recorder.

### Nymi:

One of the most advanced and successful IoT projects for today-Nymi wristbands.Some US-based schools already started integrating Nymi wristbands into their practice. Nymi wristband for tracking students authentication.This project was developed by Bionym company.Such wristband can recognize unique heart beating model of each user.The device helps simplify roll call since teachers can see information about all students in their tablet. A signal from wristband goes to a tablet when a student enters school or class. Wristband detects an identify of the user,one students won't be able substitute other students when writing test.

Nymi wristband is one of the most successful IoT implementation examples in the education field.

## Chellences:

Considering all strong sides of IoT in education sector,about imperfections and difficulties in IoT and why it cannot be integrated

Low financing: A government cannot invest a lot of money in IoT projects in education since IoT requires a special hardware in addition to hardware.

Integration:This is a common problem for IoT entirely.There is a problem of compatibility of one device with other.

Security Issue:As the is a lock of security standards as well,you should know that IoT network is huge and it consists of many gadgets and devices that connect to each other.

## Conclusions:

Today technologies effect education system not only world scenario but effect Indian education system, using IoT we can reduce human power uses and using technologies we provide quality education for students and Improved employability and good skills .

References:

1.Ashton ,K.(2009) That 'Internet of Things' Things .RFID Journal.22(1):97-114.

2.https://www.tutorialspoint.com/internet_of_things/internet_of_things_education_applications.htm

3.https://www.iotevolutionworld.com/iot/articles/438283-how-internet-things-could-change-education.htm

4.https://www.cleveroad.com/blog/iot-in-education-main-solutions-iot-brings-to-educational-sector

5.https://aldridge.com/future-iot-in-the-classroom-education/

6.https://dzone.com/articles/how-iot-is-changing-education-and-learning-positiv

7.https://blog.bosch-si.com/iot-career/how-to-engage-students-iot-education/

8.https://www.link-labs.com/iot-goes-to-school-m2m-applications-in-education-institutions

9.https://towardsdatascience.com/how-iot-is-going-to-revolutionize-education-industry-f6ea952e9669

10.https://www.edmodo.com/

11.https://en.wikipedia.org/wiki/Edmodo

12. "NetDragon Signs Agreement to Acquire Edmodo to Create the Largest Global Learning Community". PR Newswire. 2018-04-08. Retrieved 2018-04-08.

13.http://www.spectronics.com.au/product/c-pen-reader