



Exploring implementation of various ICT based teaching learning approaches in India

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Abstract

The significance of integrating ICT into the teaching learning methodologies has been acknowledged by all countries at the global level. Due to its innumerable benefits, it is imperative that India should also shift to ICT integration into teaching at the earliest. To achieve this goal, the teachers need to be aware and trained of the various teach learning approaches adopted worldwide and customize it according to Indian context. The objective of this study is to create awareness amongst teachers regarding various ICT based teaching learning approaches which can be adopted for effective teaching. It discusses step by step integration of ICT into teaching. It also looks at the most recent global ICT-based approaches and explores how well they will work in India.

Keywords: ICT based teaching learning approaches, ICT based lesson Plan, Indian context

Introduction

There has been a paradigm shift from traditional teaching approaches to ICT based teaching approaches in the 21st century technological world. This shift has been accelerated after the COVID pandemic when the education system became totally online. The significance of integrating ICT into the teaching learning methodologies has been acknowledged by all countries at the global level. India is also moving in the direction of imparting ICT based education through various policies and measures initiated by the government. ICT has a major role to play in disseminating quality education to all parts of our country especially the remote areas. ICT can provide updated information on any topic from basic to advanced levels. Also, a single expert teacher can teach thousands of students at the same time through online teaching methodologies. ICT allows use of multimedia like images, text, videos, animations and simulations which can provide conceptual clarity and long term retention. It also provides opportunities for collaborative learning and active engagement of learners. Further, in a country like India it can make education accessible to certain target groups who do not attend regular school or college. These include working adults, uneducated adults, rural women and girls (not allowed to go out for getting education). ICT based teaching learning approaches and online courses can play a vital role in educating the masses due to its flexible nature. Anytime, anywhere education can be made available through ICT. The learners have the choice and freedom to select the courses of their interest and learn from world class teachers. Due to these innumerable benefits, it is imperative that India should also shift to ICT integration into teaching at the earliest. To achieve this goal, the teachers need to be aware and trained of the various teach learning approaches adopted worldwide and customize it according to Indian context. The above points justify the need for this study. The objective of this study is to create awareness amongst teachers regarding various ICT based teaching learning approaches which can be adopted for effective teaching. It discusses step by step integration of ICT into teaching. It also looks at the most recent global ICT-based approaches and explores how well they will work in India, considering the socioeconomic, cultural, and infrastructural challenges.

Preparation of A Lesson Plan Incorporating The Various Ict Resources

The first step in integrating ICT resources into teaching-learning is preparation of a lesson plan incorporating the various ICT resources. This is illustrated through the following example of Water Cycle lesson plan for grade 6:

- 1. Introduction:** Teacher asks students to go to the following website and get some information <https://www.britannica.com/science/water-cycle>
- 2. Lesson Development**
 - Teacher shows a video from YouTube <https://youtu.be/ncORPosDrjI?si=WUml5-qNJMir5hKP>
 - She then asks questions based on the video
 - This is followed by asking the students to go to an interactive animation at <https://gpm.nasa.gov/education/videos/water-cycle-animation> by NASA that helps students investigate how water cycle process occurs.
- 3. Assessment:** Students are assessed using online assessment tools like [quizizz: https://quizizz.com/admin/quiz/5bfb7d780edf3d001af21a75/water-cycle](https://quizizz.com/admin/quiz/5bfb7d780edf3d001af21a75/water-cycle)), Kahoot, google form or Microsoft form.

Teaching Using Ict Based Approaches

After developing an ICT based Lesson plan the next step in integrating ICT resources into teaching-learning is the selection and use of appropriate ICT based teaching approach in the classroom. Any of the following approaches may be used (depending upon the level and interest of students, the content taught, the competencies of the teacher, the availability of resources and various other factors):

- 1. Teaching using ICT as a tool/teaching aid –** Smartboards, PowerPoint presentations using projectors, videos or audio recordings might be used in classroom by teachers during introduction, presentation or closure of the lesson

2. Integrating ICT with other teaching-learning approaches

- a. **Blended learning:** Students complete some of their coursework online and come to class physically for additional instruction or support from teachers. Students move back and forth between online and in-person/ physical modes. The specific details of the amount of time/ schedule varies depending on the institution implementing it.
- b. **Hybrid learning:** Some students attend classes physically while the rest participate online and all work on the same material or are taught simultaneously.
- c. **Flipped classroom:** Students watch videos/ online lectures at home, may also engage in online discussions or carry out digital research at home. This followed by in-class activities including discussion, problem solving and experimentation.

3. Using ICT for Collaborative learning

Technology tools which can be used to support collaborative learning include wikis, blogs, social networking sites, Internet. Trevathan & Myers conducted a research study using ICT for collaborative learning through

Online Process Oriented Guided Enquiry Learning (POGIL) where following method was adopted:

1. A Facebook group was formed for class discussion (online)
2. Students were given process oriented tasks and related questions, which they answered on their individual blogs and other group members commented on it.
3. A Wiki kept track of students' progress.

Conclusion

Although the above approaches have been adopted by developed countries, there are certain issues and challenges which hinder the applicability of ICT technology in India. Following are the barriers in the implementation of ICT based pedagogy in India:

1. Lack of technological infrastructure especially in rural areas
2. Slow internet and connectivity issues
3. Lack of trained teachers
4. Insufficient funds for setting up, maintenance and support of ICT infrastructure
5. Inadequate digital resources in Indian languages
6. Averse attitude towards using ICT

These challenges will have to be overcome for effectively integrating ICT in Indian schools. Various policies such as National Policy on ICT in School Education (2012) and NEP 2020 have focused on technology integration. Government is taking various initiatives for ICT integration and training of teachers. With further efforts, it is hoped that ICT based methodologies & resources will empower the teachers to enact significant changes in the education system, better aligning education with the technological demands of the 21st century and fostering a more inclusive and equitable learning environment with quality educational opportunities for all.

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