11. Information and Communication Technology Supporting Children with Disabilities in Inclusive Classrooms

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Abstract:

Introduction: Since the 19th century, education has been the most essential topic, but in the modern era, the demands on education are constantly evolving. Inclusive Education is the most adopted phrase and a significant topic in school education nowadays. Inclusion initiates diversity in 21st-century classrooms and presents challenges for teachers who must adapt their teaching techniques to diverse groups of children. E-inclusion might be an appropriate phrase in the current scenario because technology is improving daily and has been helping educators in all situations.

The need for inclusion is growing daily. To ensure that education for all is a reality, conventional schools are evolving into inclusive ones. ICT is working tirelessly to make this happen.

The usage of various digital resources and cutting-edge technology is discussed in this paper as key components of how teaching and learning in education are becoming easier and more efficient. For students with specific needs, specialized apps are being developed; it's easy for learners to get used to these apps.

Objective: This study's primary goal is to investigate and evaluate the function of ICT in an inclusive classroom and how different cutting-edge technologies can be included in the process of teaching and learning.

Methodology: A qualitative methodological approach will be used for data collection and analysis. Qualitative interviews will be conducted to gain deeper insights into family dynamics and support systems. The study will include a sample of students with special needs from different educational institutions in different regions.

Keywords:

Information and Communication Technology (ICT), Inclusive classroom, Students with special needs

11.1 Introduction:

The principle of the rights of persons with disabilities strongly advocates that children with disabilities receive their education in school in an inclusive rather than segregated manner. Children with diverse needs, including disabilities, are valuable members of the school community.

Teachers can facilitate a positive school environment that respects inclusion and offers equal opportunities to children with special abilities from different social backgrounds and with different learning needs. Therefore, inclusive classrooms promote learning for all children with special abilities, different social backgrounds, and different learning needs. In the present framework, inclusive educational institutions must be used wherever possible for children with impairments.

It encourages efficiency of scale and results in a more diverse society. One of the several tools available to enhance inclusive education implementation is ICT. ICT is crucial in helping parents, students, instructors, and education authorities in India transition to a more inclusive educational system. and parents to support India's transition to a more inclusive educational system.

11.2 Inclusive Education:

Education departments discuss the concept of inclusive education. The ability for both mainstream and special needs students to study in the same space, share tables and chairs, and sit in the same class is the true justification for inclusive education.

Special pupils received less attention from schools because they were not treated fairly. Special education students were admitted to schools, but they were not permitted to sit in regular classrooms. Integration occurred in many different contexts and several institutions, but it only happened after significant effort. Teachers who formerly taught only general education now instruct both general education and special education pupils at the same speed. Students with disability can sit in the same classroom as their peers with full inclusion, regardless of their abilities or discrimination.

Teachers of inclusive education recognize that children with disabilities should be treated with the same dignity and affection as any other child. As it focuses on equity, inclusive education rejects the notion of dividing regular pupils from those with special needs. The importance of education and the right to it are emphasized. Children who are included are given the tools and support they require while still being accepted for who they are. The three key elements that researchers have examined are inclusion, integration, and segregation.

Figure 11.1: Inclusive Education *(Source:* EAHCA.jpg (556×480))

11.3 Educational Apps in the Field of Inclusive Education:

Students with disabilities can access a wide variety of apps. apps that provide these pupils with comprehensive support. Through the ease of use of apps, they are becoming more self-sufficient and intelligent. Here are a few instances of these apps:

Table 11.1: Educational Apps in the Field of Education

 mzl.eomremut.png (1024×1024) (educationalappstore.com)	AVAZ AAC is an app that provides those with speech difficulties or other conditions an opportunity to express themselves more freely. It is designed to provide children and adults with autism, cerebral palsy, Down syndrome, aphasia, apraxia, or any other condition a voice. For those who struggle to express themselves or have speech impairments, AVAZ offers support.
	SEEING AI **Seeing AI** is an artificial intelligence application developed by Microsoft for iOS. Seeing AI recognizes objects and people utilizing the camera on the device, and for those who are blind or visually impaired, the app provides an audio description of the objects. I, like many others who are blind or have low vision, can use the free program Seeing AI to have a global narrative read to them directly from their mobile device. It helps people with a wide range of everyday tasks, including hearing descriptions of images, reading mail, and identifying everyday

COVER-Seeing-AI-la-aplicación-que-describe-el-mundo-a-los-ciegos.jpg (1200×627)	products. Observing Seeing AI is now available in 18 languages, with a plan to increase it to 36 languages in 2024.
SymbolSupport (attainmentcompany.com)	Text can have symbols added to it with the help of Symbol Support. Symbols are automatically inserted as text is written. Additionally, text can be copied from already-written documents and placed into Symbol Support, where symbols will be inserted right away. Slater Literacy Support Pictures and Attainment's Image Library are the two symbol libraries that are featured. Additionally, your camera roll and integrated internet search make it simple to access photographs.

11.4 Innovative Ways of Teaching-Learning Process in Inclusive Classrooms:

Educational Technology has massively helped both students and teachers. It immerses a wide range of syllabi in a very short amount of time. Educational technology is helping students with exceptional needs by enabling them to stay up with their peers and supporting their overall development.

For instance, children with a speech impairment typically have difficulties with reading. Technology can help this child through providing audio and visual aids that make it easier for the child to pronounce challenging words and read a variety of words. A variety of technologies are available for use in inclusive education, including:

A. Digital textbooks, eBooks, and Audiobooks:

Students with disabilities can access the exact content at varying levels of difficulty in the classroom due to digital textbooks. Textbooks are now easily accessible online and can be downloaded without difficulty in the modern era where everyone is too knowledgeable about technology. Pronunciation manuals, text-to-speech transitions, and vocabulary support are just a few of the elements that audiobooks provide, enabling students to hear the material.

B. Voice Diary:

Voice diary is an electronic organizer designed especially for students with disabilities who have difficulty seeing or hearing. It allows users to utilize voice messaging to access programs like address books, calculators, and phone books.

C. Digital posters:

All of the pictures, sounds, films, and drawings with text are shown on display posters. This is mostly intended for children who possess artistic ability or a creative mind, encouraging them to be creatively free.

D. Digital Story:

Students are allowed to narrate imaginary stories based on their interests as part of a project called "digital storytelling." Every student is expected to draw from his or her experience, which serves as the story's inspiration. It can be produced as picture slideshows, voiceover-only photos, pure audio videos, or pure video slideshows.

E. Voice Thread:

Students can respond to any issue on Voice Thread by posting words, photographs, videos, or audio. Each of these choices enables the child with learning impairments to participate and retain their level of functioning. Additionally, they can record their oral comments, which facilitates the process of their organizing their ideas.

F. Support for Evaluation: Rubistar:

For any class project to be successful, all students require assistance in the form of explicit instructions. Nonetheless, extra help might be necessary for students with special needs to stay on topic and finish all project steps. For kids with varying skill sets, distinct rubrics can be made to ensure they receive the right kind of help.

A verbal presentation rubric, for instance, can have a criterion like "Share multiple drafts with teacher" to help students who are having trouble with structure or procedure remember how important it is to look at the final presentation as a collection of tasks.

11.5 Benefits of ICT for Inclusive Classrooms:

Information and Communication Technology it is extremely beneficial for all students, people with special needs can find it difficult to use technology. While there are many advantages to using technology, there are also usually some significant disadvantages. For example, students may find it difficult to use technology because they cannot afford to buy devices for their studies. Using these apps can sometimes result in numerous issues being left unsolved. It causes discrimination by limiting educational options. Since these applications will assist children with disabilities, teachers have to be experienced in how to use them.

They also must be aware of which apps are appropriate for use with different types of disabilities. If (Information and Communication Technology) ICT is for disabled students, we have to make sure that it is used by them only. There should not be any biases. Accessible ICTs unleash hidden talent for those with communication problems.

- Children with special needs can work at their own pace, and it gives impaired kids the independence to use computers for learning.
- Peers who are sighted can assist their peers who are visually impaired in using the internet.
- It is possible to facilitate communication among students who have learning impairments. Students' general development and vocal modulation can be aided by using several apps.
- ICT is used by teachers to communicate with students.

Enhances comprehension of various difficulties and appropriate coping mechanisms. Internet content is easily comprehensible; using computers can inspire pupils to study new things because they are impartial and nonjudgmental.

11.6 Conclusion:

Special pupils benefit from inclusive education, which is also responsible for altering these individuals' perspectives and lifestyles. Since integration was occurring at a rapid pace, inclusive education was perceived as the most difficult phase in our educational system. However, inclusion is crucial.

Because children learn more quickly when they are with their peers rather than by themselves, they prefer to be included in the classroom and do not want to study alone in a separate classroom.

Educational technology has worked round the clock to provide these inclusive classrooms with a better way of teaching-learning process which is both cost-effective, less time-consuming and easily accessible everywhere. It takes a lot of effort, time, persistence and skill to incorporate Students must have basic knowledge and skills about the content being taught the teacher should know how to overcome the basic barriers arising due to various disabilities, and differences of cultural, physical and economic nature. Teachers make sure that there is no bias and that everyone is included in the class. This study highlighted the benefits of inclusive education and how ICT could help improve education.

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