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RESEARCH ARTICLE

ROLE OF ICT IN INCLUSIVE EDUCATION

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Abstract

Inclusive education refers inclusion of all the students irrespective of their sex, race, colour, poverty, disability and they have given equal opportunity in education and to be considered as being an integral part of the learning community. Education is the fundamental right of a child and it is very important for the individual development as well as the national development. We are the generation of 21st century which is known as the era of technology. Now a day's education is linked with the information and communication technology (ICT). But India is still a developing country and the computer literacy rate of India is 6.5%. Therefore, it is very useful to provide education through ICT in an inclusive set up. In this context, this paper will try to focus the ICT in an inclusive education classroom. For this study, the researcher has used to collect information secondary data as like library, news, journal and articles. ICT, Inclusive Education, Classroom Etc.

Keywords: ICT, Inclusive Education, Classroom Etc.

Introduction

In recent years, the concept and practice of inclusive education have gained importance. Internationally, the term is increasingly understood more broadly as a reform that supports and welcomes diversity amongst all learners. Inclusive education can be seen as a process of strengthening the capacity of an education system to reach out to all learners. It is, therefore, an overall principle that should guide all educational policies and practices, starting from the belief that education is a fundamental human right and the foundation for a more just society. Education takes place in many contexts, both formal and non-formal, and within families and the wider community. Consequently, inclusive education is not a marginal issue but is central to the achievement of high quality education for all learners and the development of more inclusive societies. Inclusive education is essential to achieve social equity and is a constituent element of lifelong learning. In short, inclusive education is a process that involves the transformation of schools and

other centres of learning to cater for all children – including boys and girls, students from ethnic and linguistic minorities, rural populations, those with disabilities and difficulties in learning and to provide learning opportunities for all youth and adults as well. Its aim is to eliminate exclusion that is a consequence of negative attitudes and a lack of response to diversity in race, economic status, social class, ethnicity, language, religion, gender, sexual orientation and ability.

Information and Communication Technology (ICT) can be utilized for the education sector. Education includes online, distance and part time education. There are unlimited applications of ICT in the real world. In his paper emphasis is on the education field. ICT can be used for providing education to the people who are not able to come to school due to various constraints. ICT can play great role in formal and non-formal forms of education. Inclusive Education proposes all students are provided with equitable access to education within the context of a mainstream educational system and not in a segregated setting. There is now significant international and national legislation and policy in support of this model but for many countries achieving this ideal is proving to be a difficult reality. Accessible ICTs have a major role to play in enabling educational authorities, educators, students and parents to move towards a more inclusive educational system.

Review of Literaure

(Michela Ott 2009) tittle "*Inclusive Education and ICT: Reflecting on Tools and Methods* "he told this statement Inclusive education is an on-going, long-lasting process that needs to be pursued with determination, despite the significant challenges it poses; in this direction, all the available/ suitable means should be employed, including technological tools that are widely recognized as having high potential at these ends. E-accessibility is the main, necessary prerequisite for a widespread "inclusive" use of e-tools and its costs (mainly in terms of human effort) can be greatly reduced through the "design for all" approach and by pursuing a better interoperability between services and devices7.Thus, school e-inclusion requires time, efforts, competence and strong conviction by all the main actors involved in students' education: policy makers, researchers and teachers. Policy makers have an important role in taking key decisions about the strategic development of this sector, and, in particular, as to hardware provision, teacher training and general public awareness raising actions. The role of researchers is fundamental both to develop appropriate and innovative ICT solutions (technology needs to be robust and sufficiently powerful to do the job), and in the field of inclusive pedagogy. Finally, teachers must work actively and deliberately to reach this goal and the whole educational system should go through significant changes, involving the educational contents, the approaches, the structures and strategies.

(Singh 2015) conducted a study on Problems and prospects of inclusive education in India. In this paper tries to focus into the issues of exploring possibilities and challenges ahead in realizing 100% inclusive education in India. The result of the study shows that though many initiative has been introduced at all levels to implement inclusive education in India but the road ahead is still quite long

(Kaushik and Sankar 2017) conducted a study titled as The Challenges and Opportunities to Implement Inclusive Education in West Bengal. The present paper try to focus the present paper for individual initiative on part of schools to implement programmes of inclusive education for children with mild to moderate disabilities in their elementary school classrooms. The paper provides guidelines in a generalized mode that schools can follow to initiate such programmes. The guidelines were derived from an empirical study which entailed examining prevalent practices and introducing inclusion in a regular school setting. It is suggested that schools can implement inclusive education programmes if they are adequately prepared, are able to garner support of all stakeholders involved in the process and have basic resources to run the programmes. The guidelines also suggest ways in which curriculum adaptations, teaching methodology and evaluation procedures can be adapted to suit needs of children with special needs.

Role of ICT in inclusive education

The use of ICT This part includes research found concerning the use of ICT for students with special educational needs. Firstly research about benefits and effectiveness will be presented, then the perceived importance of adapting the assistive technology to the students' individual needs and teachers' knowledge of how to use ICT for SEN students. Finally there will be research on the various uses of ICT in school.

ICT for students with special educational needs

ICT could be beneficial for students with special educational needs, especially students with reading- and/or writing disabilities through assistive technology such as word processors, word prediction programs, spell and grammar checks, voice recognition, text-to-speech programs, planning and organizing tools etc (Maor *et al.*, 2011; Peterson-Karlan, 2011; Williams *et al.*, 2006).

Adapting technology for each student

ICT could be an effective tool for students with special educational needs, but it is important to discern students' individual needs and adapt technology for each student according to a research review over the effectiveness of ICT for students with special educational needs have been made by Australian researchers (Maor *et al.*, 2011).

Teachers' knowledge of ICT for SEN students

Teachers should be familiar with how to use ICT for students with special educational needs according to an American review of research about technical support in the classroom for students with mild disabilities (Anderson and Cherup, 2009). Studies included in the review focus on special education technology for reading and written language, such as textto-speech synthesis, word processor, word prediction and spelling and grammar checkers and their impact on inclusive classrooms. Students with mild disabilities may be found in every classroom and therefore every teacher should be aware that the integration of technology for these students can facilitate their learning.

Various uses of ICT in school (Lidström *et al.*, 2012) compare the ICT use between students with physical disabilities with students who do not in a Swedish study. A conclusion that can be drawn is that students with physical disabilities have restricted participation compared to students from the general population in activities where the computer is used as an educational tool. The study is part of a larger project that aims at researching ICT use and participation in computer based activities in and outside school. A questionnaire about computers as assistive technology devices has been made with students 10-18 years old with and without physical disabilities.

Separation and segregation of students

ICT could contribute to inclusion, yet, it is common for students to be separated from classroom teaching to use their compensatory tools. Results from a doctor's thesis about individual education plans (Isaksson, 2009) point to that the most common special support measure in Swedish schools is special training individually or in small groups outside the ordinary classroom. This work was mainly executed by special education teachers, but can also be done by teachers or parents instructed by special education teachers. The students' experience from being excluded from their classes was that although such support offered a peaceful and quiet learning environment, it also gave rise to feelings of non-participation in relation to their classmates and them being portrayed as deviant. Furthermore, there seemed to be a lack of coordination between the special support measures and the regular teaching. Pedagogical levels that are inadequate and ill-adjusted to students' needs were also problematic aspects. (Isaksson 2009).

Possibilities with ICT for inclusion

The computer could be a versatile tool in school but is often used as a typewriter and all possibilities are not fully utilized, according to parents to students with physical disabilities in a Swedish study (Brodin, 2010). The aim of the study was to see whether ICT is used to support inclusion and equal rights for students with physical disabilities and the result indicates that the need of both technical and social support is immense for ICT to bridge inclusion of all students. The method

of the study was a parental questionnaire and the results show that parents are disappointed at the lack of programs and teachers' lack of knowledge. According to parents in the study, teachers do not have enough time to update their ICT competence and they call for improvement considering access in school environment.

ICTs in Inclusive Classroom

When we consider using ICTs for students with special needs, then it is very important to ensure that the technology can be used by them. That means- it has to be accessible. Accessible ICTs are the wide range of assistive and mainstream technologies and formats that can enable students with a disability to enjoy an inclusive education. Accessible ICTs also include assistive technology (AT) which can be defined as a "piece of equipment, product system, hardware, software or any service that is used to increase, maintain or improve functional capabilities of individuals with disabilities." A person's ability to use technology may be impaired due to various physical, sensory, emotional or cognitive disabilities. One common feature of accessibility is the small tactile node, or 'dot', found on the '5' key on most keypads for computers and telephones. By finding the '5' key by touch, anyone can locate the other numeric keys without looking at it. Accessible ICTs hold the potential to enable students with disabilities to receive education and become independent in social and economic life of their communities. Moreover, they provide equitable learning opportunities through enabling communication with teachers and fellow students. They also provide access to learning materials, so that students are able to do the course work, assignments and appear for examinations. In general, accessible ICTs

The wide variety of accessible ICTs are currently available and can help to overcome reduced functional capacity. Accessible ICTs, therefore, include:

- Mainstream technologies - such as computers that contain in-built accessibility features;
- Accessible formats- also known as alternate formats - such as accessible HTML (HyperText Markup Language), DAISY (Digital Accessible Information System) books but also include 'low-tech' formats such as Braille.
- Assistive technologies (AT) - such as hearing aids, screen readers, adaptive keyboards etc. AT is a "piece of equipment, product, system, hardware, software or a service that is used to increase, maintain or improve functional capabilities of individuals with disabilities.

Specific benefits for students

- Computers can improve students' independent access to education
- Students with special educational needs are able to accomplish tasks working at their own pace.
- Visually impaired students, using the Internet, can access information alongside their sighted peers.
- Students with profound and multiple learning difficulties can communicate more easily.
- Students using voice communication aids gain confidence and social credibility at school and in their communities.
- Increased ICT confidence amongst students motivates them to use the Internet at home for schoolwork and leisure interests.

Benefits for teachers and non-teaching staff

- Reduces isolation of teachers working for children with special educational needs by enabling them to communicate electronically with colleagues.
- Supports reflection on professional practice via online communication.
- Improves skills for staff and a greater understanding of assistive technology used by students • Enhances professional development and effectiveness of the use of ICT with students through collaboration with peers
- Materials already in electronic form (for example, from the Internet) are more easily

- Adapted into accessible resources such as large print or Braille.

Benefits for parents

- Use of voice communication aids encourages parents to have higher expectations of children's sociability and potential level of participation.

Inclusion

Only educating special education teachers in ICT for SEN is not enough, and will accentuate the SEN teacher's role as giving individual special support. Instead it is important for all teachers to focus on ICT in teaching while it is the SEN teacher's role to identify the needs of the students and the help teachers adapt teaching for student's individual needs. Regular teacher education should educate teachers on not only how to use ICT for all students but also how to use ICT for SEN students. In conclusion, ICT could have many benefits for students with special needs but ICT cannot replace the teacher.

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