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Research Paper Education

ICT In The Inclusion Of The Deaf Children

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ABSTRACT

The use of technology in schools is increasing worldwide and one of the areas where Information and Communication Technologies (ICT) can bring the most benefits is in deaf education. ICT is a powerful tool for children with deafness because ICT can help deaf students achieve their potential along with other students and allowing them the educational possibilities they are entitled to. ICT can improve the wage earning potential of deaf children, by increasing the number of children with deafness attending school, and improve the education they are receiving, which in turn can result in greater inclusion. Inclusion refers to "the right to belong to the mainstream"; leaving behind the idea that only a few learners have "special needs". The basic idea is in fact, that the process of inclusion can be fostered by means of new technological tools but in turn it requires changes and modifications in educational content, approaches, structures and strategies. ICT is opening up new avenues of communication for many deaf children. Deaf children can learn skills as quickly as hearing children but their capabilities are measured against understanding the written word.ICT resources are promising; there are grounds for maintaining that they help most students overcome barriers in learning, thus increasing their school achievement, together with their autonomy, willingness and self esteem.

Keywords : Information and Communication Technologies (ICT), Inclusive education and Deaf Children

Introduction

Inclusive education - according to UNESCO means that the school can provide good education to all pupils irrespective of their varying abilities. All children will be treated with respect and ensured equal opportunities to learn together. Inclusive education is an on-going process. Teachers must work actively and deliberately to reach this goal. All students, irrespective of their sex, race, color, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability have the right to have equal opportunity in education (Klironomos et al., 2006), and be considered as being an integral part of the learning community. Recognition of this right has recently given rise to the concept of "inclusion", which has gradually substituted "integration". Throughout the 1980s, the concept of integration was based on the distinction between "normal" students and those with 'special needs' requiring specific educational interventions; the idea of integration suggests that the school stays the same but also takes steps to accept those students who present a variety of problems or difficulties (Northway, 1997). Inclusion refers to "the right to belong to the mainstream" (3); leaving behind the idea that only few learners have "special needs", the social model of inclusion rather suggests that all students as individual learners, present their own peculiar characteristics and have their own specific educational needs. It is extremely important to stress role and limitless opportunities of ICT in deaf education.ICT stands for Information and Communication Technology. Wikipedia defines it as 'a broad subject concerned with technology and other aspects of managing and processing information through computers'. In simple words, it means technology used to get the information needed. ICT is of a particular value in developing the language experiences of learners with deafness. ICT can be a very visual medium, with pictures, signs or texts on screen allowing pupils to extend both their general knowledge and use of language without being dependent on the spoken word. Learners who have deafness often need opportunities to extend their use of descriptive language in order to describe, compare and contrast objects: all skills that underlie effective information handling. Collaborating on an ICT activity can encourage a group of students to extend their use of language and their understanding of concepts as they plan and carry out their work. The key role of teachers in giving birth to and maintaining a truly inclusive classroom is unquestionable (Anderson et al, 2007), but such an important mission also requires that a suitable, effective and barrier-free educational means should be employed. Indeed, educational research provides strong evidence that "ICT is both a medium and a powerful tool in supporting inclusive practice. It provides wide-ranging support for communication, assisting many learners to engage with learning, including those who are hard to reach, and helps to break down some of the barriers that lead to under-achievement and educational exclusion" (Becta, 2007).

Opportunities through ICT

ICT has opened up many opportunities for the deaf. The reasons are:

- ICT improves productivity: It increases activity for the deaf.
- ICT is an industry: Many jobs are opened through ICT.
- ICT empowers the deaf: Just like cell phone texting, it gives the deaf a chance to express themselves.

Computers are very much adaptable to the deaf because of the following advantages:

Minimum Supervision: Most of the time, the interaction is between the computer and the deaf person. Occasional instructions coming from the immediate supervisor and managers are given but not too often. Some communication barriers are removed.

Enhances Deaf Creativity: Due to their visual concentration, a vast majority of deaf pupils are highly skilled in drawing and designing. Given the opportunity, they can excel in fields like Web Page Design, Visual Arts and Graphics Animation.

Computers Are Deaf Friendly: There is no need to make additional adjustments on computer units and peripherals; no special software's to install. Computers are visually enhanced equipment and they do not rely on sounds and sonic effects. A keyboard, a mouse and a well-lighted place are all it needs for the deaf students to work.

Different forms of ICT

It is widely agreed that the most effective forms of ICT to use with deaf children must be highly visual rather than the written word or sound. The PowerPoint, and digital cameras and video cameras are also invaluable visual tools. The children use them to capture work for self-assessment and as subjects for discussion as well as to learn ICT skills. Teachers of the deaf have got plenty to do without taking on extra workload. The CD-Rom is designed to be a source of inspiration, offering practical suggestions of how software can support the development of language and communication skills. It will also demonstrate how electronic communication such as faxing, texting and email can be used in the classroom.ICT gives the deaf independence, self-esteem and increases their motivation to read, write and initiate communication. But there is still a long way to go. Have a look at the European model. There are several reasons on the European level why the consortium of 27 experts from Slovenia, Greece, Italy and Austria with excellent knowledge and experience in education and training of the Deaf and Hard of Hearing, Blind and Partially Sighted (4 target groups) have decided to propose a project named ICT rain, Information and Communication Training: the target groups did not have an equal access to (ICT-based) education and training, applications in ICT were not user-friendly; the existing teaching methods, teaching materials, and approaches did not keep pace with the technological changes sweeping through the society and the ICT were not sufficiently present in Europe's education and training systems that have to be adapted to these changes (progress report adopted by the European Commission in 2008); ICT-based education and training are not accessible for every European citizen depending on their socio-economic background. In order to provide innovation in learning through ICT on the European level the consortium developed an innovative ICT-based training in design ceramics for at least 70 Deaf and Hard of Hearing, Blind and Partially Sighted learners. Experts are exploiting the Innovation in 6 pilot trainings and initiate a Project Promotion Campaign including dissemination of the results on local, regional, national and European level through a network to the European Platform for Rehabilitation, to all relevant European institutions concerning education and training of people with special needs, policy makers and other stakeholders with the purpose of transferring the results into mainstream practice and promoting anti discrimination and awareness-raising activities, social inclusion, ICT-based learning for all. The long-term objective is setting the foundation for formal status of the innovative ICT as one of the key ICT tools for education and training of people with special needs. New ICTs offer a flexible medium for deaf to communicate. The CD comprised of easy-to-understand lesson plans and assessment tests, graphically illustrated using PSL. Selected data sets from the exercises were also made available online through the Internet as a freeware for download by the deaf community. The product can be adapted across the country to increase the integration of the deaf in the society (4). There are many ways to make, maths and numeracy visual using the range of ICT programs currently available. Most schools have access to Microsoft PowerPoint, Word, Excel and many schools have access to Kids inspiration. There are a range of innovative and visually engaging ways to use all of these tools to explore numeracy and mathematical concepts (Evans J, 2010).

Interactive Whiteboards

Interactive whiteboards, work in conjunction with a computer and projector, students can get a sense of the content and context of a lesson without having to listen to and interpret instructions.

Digital cameras

The use of digital cameras with PowerPoint is revolutionizing classroom practice. Pictures are vital for deaf learners. Low-resolution digital cameras are ideal for student use. The cameras can be used to capture events such as sports day or school outings, as well as for recording work in progress. Pictorial instruction sheets to explain processes should be prepared. The use of digital cameras with presentation software has revolutionized classroom practice.

CD-ROMs

CD-ROMs provide huge information with volumes of the text pictures or spoken commentary on stories, which come from a tradition of video than print. A CD-ROM is an encyclopedia provided at just right interest level for pupils. Pupil just needs to plan their searches for specific information. A successful learning experience using CD-ROM is that students could represent the information in different ways of learning.

Benefits of using CD-ROMs in the classroom

Independence

Once pupils have been supported in developing their enquiry and are familiar with the ways in which information is stored on and retrieved from a CD-ROM, many will be able to work in quite an independent way to access and retrieve the information they are seeking.

Motivation

Good feedback and extra reinforcement from sound, pictures and video, as well as being in control of a valued piece of equipment, are strong motivators to pupils. CD-ROMs in a lesson can keep reluctant and disaffected learners more focused for longer periods of time.

Learning

The multi-sensory nature of the CD-ROM can give pupils more conceptual pegs to hang information on. This leads to increased learning and more effective modes of remembering information.

Incidental discoveries

When good readers scan pages and books, they often find things that catch their eye, leading them off into other areas of enquiry. This rarely happens if the reader is struggling to interpret each word. When using CD-ROMs, pupils may discover many interesting routes through new information, with further links to other unexplored topics.

ICT for Reading and Writing

A wide range of products are available to help deaf pupils with reading and writing, in terms of inclusion, many of the specific products seek to help reading and writing skills that are available both electronically and in print.

Reading

An Eye for Spelling, THRASS (Teaching Handwriting Reading and Spelling Skills), which focus on working with individual words and looks at the 44 sounds of the English language. Pupils learn how to break down words and see how they are made up of combinations of sounds, but they are working on a visual not an auditory pattern. As they begin to enjoy reading in their first language, they gain confidence and become more independent learners.

Originally designed to teach foreign languages, including English as a second language, it is a framework program which allows learners to interact with the text. At one level, it can be used to teach specific vocabulary and spellings as words appear and vanish on screen after which the pupil has to type them in from memory. This is the basis of many spelling programs and is particularly good for checking and reinforcing half-remembered patterns.

Writing

To assist with writing there are a number of useful facilities available, TAG Software has produced HomeMapper, BodyMapper and WeatherMapper for Apple, Acorn and PC, which allow pupils to engage with the content and collect ideas or evidence to write in a structured way. There are many options. In the HomeMapper program pupils can go inside and outside the house, where all the parts are labeled to improve vocabulary. Pupils can write their own notes and add to the database alongside other pupils. Inspiration, from 'Inspiration Software', has proved a useful tool for dyslexic learners and now that it is becoming a commonplace for deaf learners to take written examinations, they too have to plan and carry through larger-scale projects. Inspirations is a different approach to thinking and planning techniques, with learners using visual organizers, webs and mind maps to help them to keep track of what they are doing.

The early learning goal for ICT, states that teachers need to ensure that children find out and identify the uses of everyday technology so that children can use ICT to support their learning. ICT should be regarded as a tool that can help develop a child's learning potential within the foundation stage.

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