Research Paper Education

Integrating Information and Communication Technology in Instructing Learners With Learning Difficulties: The Special Educator's and Librarian's Perspective

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ABSTRACT

This article examined issues of integrating information and communication technology (ICT) in instructing learners with learning difficulties. It discusses the importance of ICT to the teaching – learning process of students with learning difficulties. The roles of experts in using ICT to instruct these students in order to effect changes in behaviour were highlighted. Possible challenging issues and resistance of teachers in integrating ICT into the mainstream of the programmes and services of students with learning difficulties were exposed. The role librarians can play to enhance teaching and learning for these special students is outlined. Ways of integrating ICT in instructing learners by the teachers were recommended.

KEYWORDS ICT, Learning Difficulties, Special Education, Students with Disabilities, Librarians role

Introduction

Information and Communication Technology (ICT) have become key tools in the teaching and learning process that have had innovative impact on how we see the world and how we live. The relatively recent introduction of ICT into mainstream schooling was widely expected to infiltrate and change teaching and learning across the curriculum. Today ICT is used as a tool for improving the quality of life by improving efficiency and enhancing effectiveness. ICT assist the people with learning disabilities, by providing them to aid learning, capabilities and also increase their learning potential.

ICT makes the students with learning difficulties proficient by providing them with the ability to access knowledge with the help of suitable digital media. It also plays a very important role in helping the learning disabled communicate with peers, thereby promoting collaborative and social learning environment. ICT also helps students in reading and writing, through the hearing and seeing processes (Lasa, 2010). As Information and Communication Technology (ICT) becomes more widely used in classrooms and schools, attention should be focused on how it can make teaching and learning more effective for this group of children.

Despite these array of benefits however, it is perceived as a complex and challenging innovation procedure by classroom teachers, especially teachers of the learning disabled. Adoption of this technology into education, and more importantly into special needs education is a very complex process which includes different components and variables such as quality of teacher training in ICT quality of technology hardware and software, and student and teacher attitudes toward ICT. Even though it can be an effective tool when used properly in teaching and learning, teachers still show resistance to integrate ICT into their classrooms. This mindset is bound to change if teachers are exposed to ICT and become more experienced on educational technology competencies. They will also see the case and usefulness of the ICT integration into the classroom as this will translate to the enhancement of skills to students with learning difficulties.

This paper intends to examine the issues and challenges teachers encounter in trying to integrate information and communication technology in teaching students with learning difficulties. The importance of ICT to the education of students with learning difficulties will be discussed; the roles of the learning disabilities experts to the teaching of ICT in the classroom will be highlighted possible challenges of integrating ICT will be highlighted and the recommendation will also be made.

The Importance of ICT in the Education of Students with Learning Difficulties

Learning difficulties is a heterogeneous group of disorders that are believed to be caused by neurological differences in the way the brain assimilates and processes information. Simply put, a person has a learning difficulty when his academic output is much lower than what is expected for his level of intelligence. Persons with learning difficulties may be of average or above average in intelligence and in some cases may be gifted as well. They tend to learn differently and may need a variety of instructional practices and support to learn effectively (Logsdon, 2013). This is the reason why it is important to use ICT for the presentation of concepts in teaching and learning activities.

Blackmore, Hardcastle, Bamblett and Owens (2003) found in longitudinal studies that the full integration of ICT enrich the classroom, change the nature of teaching and learning, created more independent and self motivating learners, encouraged the use of multiple teaching methods, and encouraged team oriented inquiry. Broadly speaking, its effect on children as perceived by teachers has been largely social and psychological in terms of changes in attitude and increase commitment and study habits.

Lerner (1985) says they use of micro computer has promise of new solution to old problems and challenging the way we think about learning. It is revolutionizing many aspects of business and personal life. She went ahead to enumerate teachers' role in teaching ICT skills to the LD child.

Teachers' pedagogies have a great effect on children's achievement. They should influence the selection of the ICT resource, in charge of the preparation of the lessons, the way the resources are used, the level of guidance and intervention; they

determine the level of guidance and intervention, and the level of integration of the skills he needs to teach the children. Many studies show that insufficient understanding of the scope of an ICT resource will inadvertently lead to inappropriate handling of the curriculum (Cox & Webb, 2004). To this effect, it is the responsibility of the teacher to first get acquainted with ICT so as to be able to effectively integrate it in the teaching of this group of children. To be able to do this, teachers should do the following:

i. Know the level of the learner's knowledge of ICT. This should be done individually and carefully, considering the nature of children he/she is handling in order to promote and practice accessible teaching.
ii. Identify the ICT skills that are important to the learner or that will suit the learner's needs. Teachers' should not teach only those ICT skills that they know or the skills that they barely ever use or know by themselves.
iii. Integrate the child's previous knowledge in such a way that the concept will be presented from the known to the unknown.

Issues of Using ICT in the Classroom

A number of studies that investigated the opinions as to the reason why teachers do not use computers in their teaching, found a list of factors preventing the teaching of ICT to children with learning difficulties (Andzayi, 2008; Owobi, 2008). The major factors identified were the lack of teaching experience of teachers with ICT knowledge, inadequate ICT facilities related to children with learning disabilities, lack of clear and comprehensive capacity building policy that will translate to the use of ICT for teachers, lack of help supervising children when using computers, lack of ICT specialist teachers to teach students computer skills, lack of computer availability, lack of time required to successfully integrate technology into the curriculum, lack of financial support, and high level of illiteracy (inability to use computer and internet services).

Other factors are the inadequate resources for the induction of computers and its associated software in the classroom can seriously impede the integration of ICT and limit what teachers can do with ICT knowledge if trained. Teachers need to make the decision on which technology to use for which student, how to use it, and how to judge the efficacy of the use. Furthermore, the teachers have little time available for collaborative work or planning or even professional development in ICT. Teachers are afraid of using ICT because of its frailty, the unpredictability and insecurity arising from technical problems and ICT. It is also not part of the daily practice of most teachers.

There are four broad challenges teachers face in trying to integrating ICT in their lesson. They include:

1. **Teachers' Knowledge, Beliefs and Attitudes:** Studies have found that projects fall short of expectations because the teachers continue working within a conventional vision of traditional learning (Gersten, Chard, & Baker, 2000; Teacher Foundation, 2005). This lack of knowledge development in ICT has proven to be a challenge. Teachers need to believe that new approaches to teaching like ICT are effective and will make a difference for their students learning success especially in discovering the potentials of children with learning difficulties. Attitudes towards change must be welcomed by all teachers of special needs persons due to the inherent values.
2. **How Children are Engaged with Content:** The lack of introduction of ICT into schools and project-based approaches should be able to change how children interact with the content through new types of learning activities especially when one is dealing with students with learning problems where team teaching or collaboration with experts is required. The lack of such will make children with special needs lag behind.
3. **Relationships among Teachers, Students and Parents:** Studies suggest that specifically, a supportive and cooperative relationship with the teacher can be very important for learning when working with students with disabilities (Marzano, 2007). The introduction of ICT into learning environments changes teachers' and students' roles and relationships (Hennessy, Deancy, & Ruthven, 2003). It will also bring parents and teachers close in their relationship where this is not possible, it may hamper the development of new skills and new learning and may not allow changes in the learning and behaviour of children.
4. **The Use of ICT Tools to Promote Students' Learning:** ICT integration in many classrooms is challenging (Light & Rockman, 2008). A number of factors, such as teacher knowledge time, access to ICT tools, and the arrangement of ICT use with pedagogical goals are a big problem. The integration of ICT to support students' increase in learning are absent (Light & Manso, 2006).

The role of the librarian in the teaching and learning

Librarians play major roles in the teaching and learning of all categories of students in all institutions of lower and higher learning. Among other numerous education-based responsibilities, the librarian should particularly be prepared to:

i. Be ICT compliant and ready to apply ICT tools in attending to students with learning difficulties.
ii. Advocate for establishment of special libraries within the department or in the institutions library.
iii. Provide special books such as talking books, e-books, etc to suit the users with special needs.
iv. Ensure a noiseless reading environment and comfortable library facilities.

The potential of Information and Communications Technology in all forms of education has been well demonstrated. Learning models have evolved over recent years in response to many factors including the advent of technology in education. This is particularly important in this arena where technology can make a significant difference to educating these students, but only if it is used appropriately (Adam and Tatnall, 2008).

Recommendation

Many children with learning disabilities are able to manage well in inclusive classroom. Some children may do better in a separate setting such as resources room for all or part of the school day. The use of ICT by the teachers will assist the children in speeding up their learning success. Some students may be highly motivated by using technological based tools. Teachers could help their children through the following:

a. Computer games and tasks are often written in such a way that they are immediately rewarding and motivating and provide feedback about correct and incorrect answers.
b. Some children enjoy listening to taped stories either through ear phone or similar tool. Teachers should ensure the story is appropriate and is read in a voice which is clear and readily able to be understood by the students.
c. Some children may enjoy tasks such as writing up a class activity into a book by using a programme such as PowerPoint, Pictures can also be inserted and combined with short sentences or key words about the action.
d. Teachers should be provided with adequate facilities and training so as to be able to use effectively and efficiently ICT facilities and software in teaching children with learning disabilities.
e. Librarians should advocate for libraries with specialized features in order to make it attractive for the learners with learning difficulties.

Conclusion

There is a general consensus that the development of any country depends upon the quality of the education offered to its citizens (NPE, 2004). ICTs, despite their identified limitations, are a basic tool in the provision of quality education for one to fit into the contemporary society. Computer and internet are especially useful to enhance students' engagement in learning and positively impact their performance and achievement. Moreover, their effectiveness is more evident in the 21st century, the era of information explosion that the traditional methods of teaching and learning could barely

handle. It is strongly recommended that the inclusion of ICT utilization (particularly the computer and internet) be used for the student with learning difficulties to aid and improve their learning outcomes. Various technologies deliver different kinds of content and some different purpose in the classroom. For example, word processing and e-mail promote communication skills, database and spreadsheet programmes promote organizational skills and modeling software promotes understanding of science and maths concepts. Therefore, education policy makers, special education teachers, librarians and all concerned should appraise and recognize the roles of ICT and its integration in the education of students with learning difficulties for optimum performance and behaviour change.

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