School Children with Learning Disabilities: An Actor-Network Analysis of the Use of ICT to Enhance Self-Esteem and Improve Learning Outcomes

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ABSTRACT

This article presents a report on an investigation into the use of Information and Communications Technologies (ICT) to aid in the education of students with Learning Disabilities. The study was framed by the use of actor-network theory. The term ‘Learning Difficulties’ (sometimes also referred to as Special Needs) is used in reference to a large heterogeneous group of students who are seen to have significant difficulties in the acquisition of literacy and numeracy skills and need extra assistance with schooling. Another more specific term is ‘Learning Disabilities’ that refers to the sub-set of students who constitute a small sub-group that exhibit severe and unexplained problems. The reported study involved case studies and participant observation of the use of ICT in two outer suburban Special Schools in Melbourne, and an investigation of the role and impact of Education Department policies on these school environments. Research at the two Special Schools revealed that use of ICT can have a very beneficial impact on these students by improving their self-esteem and facilitating their acquisition of useful life skills.

Keywords: Actor-Network Theory, Information and Communications Technologies (ICT), Learning Disabilities, School Children with Special Needs, Special Needs, Special Schools

SCHOOL CHILDREN WHO HAVE LEARNING DISABILITIES

Around the world there are a significant number of school students with Learning Disabilities (otherwise known as Special Needs) who require some assistance and support in their learning. The advent of low price, high power Information and Communications Technologies (ICT) and use of the Internet have played a major role in enhancing and shaping the knowledge, skills and self-esteem of these students. Assistive technology has introduced awareness for both educators and students and for the past decade there has been a growing effort in the design and development of ICT-based platforms to enhance the learning outcomes of these students (Adam & Tatnall, 2007, 2008b).
The study described in this article involved case studies and participant observation in two outer suburban special schools in Melbourne, Australia and also looked at the role and impact of Victorian Education Department policies on these school environments (Adam, 2010). It identified several different categories of students with Special Needs, ranging from those with severe physical disabilities to mainstream students who have a need to maintain some continuity with their studies while temporarily residing in a hospital.

The history of Learning Disabilities (LD) has been well documented with respect to the nature of particular problems such as specific language and reading disorders and the behavioural correlates of brain injury. The structure of Special Education over the years has also been well documented and a compelling case has been made for the need for a category like LD (Kavale & Forness, 1995). It should be noted that given the sensitive nature of this problem and the wide range of special needs, one must be very careful in applying the definition, as inferences could be drawn that could lead to negative results. In some publications the term ‘Learning Disabilities’ has been used by organisations such as the Australian Department of Education, Employment Training and Youth Affairs (DEETYA, 1999), and the definition below has been used to classify funding categories for Special Needs students:

“A student, who has been assessed by a person with a relevant qualification, as having intellectual, sensory, physical, social/emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services provided by the government of the state or territory in which the student is located.” (DEETYA, 1999, p. 2)

One of the problems in working in this area is the terminology, with the terms: Learning Difficulties, Children at Risk, Special Needs and Learning Disabilities all being used in different countries and different contexts to describe these children. In this article the term Learning Difficulties (LD) will be used to cover all of these other terms (Commonwealth of Australia, 1998), but most of the article refers to the more specific Learning Disabilities. The definition for the term Learning Difficulties that is used in Australia is similar to that used in the USA, and a useful definition of LD comes from the Learning Disabilities Association of Canada (LDAC) who defines LD as:

“... A number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, Learning Disabilities are distinct from global intellectual deficiency.” (Learning Disabilities Association of Canada, 2002)

Given the complexity of definitions, one way to represent these differences is with the Venn diagram seen in Figure 1, where the term Learning Difficulties is used to refer to a large group of children who need extra assistance with schooling, and Learning Disabilities to refer to students who constitute a small sub-group that exhibit severe and unexplained problems.

The terminology of Learning Difficulties and Learning Disabilities is further reflected in a survey (Rivalland, 2000, p. 69) where principals referred to these categories by the following percentages listed in Table 1.

The term “Learning Disabilities” is more likely to be used by teachers with special education training and by school psychologists. The term LD is widely accepted in the psychological field in USA, but is usually qualified in Australia to specific learning needs (Chan & Dally, 2000).

Although policies have existed for some time in many countries to integrate students with Learning Disabilities into the mainstream classroom, this has not always provided the best learning environment for these students (Shaw, Grimes, & Bulman, 2005); hence the need for some Special Schools. Bulgren (1998) and
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