Children with Special Needs as a Virtual Community

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INTRODUCTION: CHILDREN WITH LEARNING DISABILITIES

The term learning disability (LD) refers to any retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, writing, arithmetic, or other school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or emotional or behavioural disturbances (Adam & Tatnall, 2002). It is not the result of mental retardation, sensory deprivation, or cultural and instructional factors (Kirk, 1962). Specific learning disabilities is a chronic condition of presumed neurological origin that selectively interferes with the development, integration, and/or demonstration of verbal and/or nonverbal abilities. Specific learning disability exists as a distinct handicapping condition and varies in its manifestations and degree of severity (Adam & Tatnall, 2003). Throughout life, the condition can affect self-esteem, education, vocation, socialisation, and/or daily living activities (ACLD, 1986, p. 15). Two definitions of LD are well supported: a legislative definition from the United States found in the Individuals with Disabilities Education Act (IDEA, 1997) and the one proposed by the National Joint Committee on Learning Disabilities (NJCLD, 1994), a consortium of representatives from organizations interested in LD.

In many countries there has been a dilemma concerning school membership for students with learning disabilities. Should these students be kept in mainstream schools or moved into special schools designed to cater for their needs? Numerous "integration" or "remedial" programs have proved inefficient towards the total learning of this group of students. Researchers including Agran (1977) and Bulgren (1998) support the view that students with learning disabilities require an alternative approach to their learning. Although many authors claim that it is best to integrate these students into classes within mainstream schools, there is strong evidence to support the existence of segregated schools. These schools exist on small funding support from the government and they try to cater for individual differences in a significant way. The article will refer to these students with special needs under the generic term learning disabilities (Adam, Rigoni, & Tatnall, 2006). In recent times technology has played a significant role for specific disadvantaged groups, such as the blind and those with movement disabilities, in providing a means to facilitate communication and education (Poon & Head, 1985). Other research, including our own, has shown that it can also be used to advantage for students with learning disabilities.

Literature from the Australian Bureau of Statistics (ABS, 1996, 1997) and the Ministerial Council on Education, Employment, Training and Youth Affairs (1997) indicates that the prevalence of LD is approximately 10-15% at the primary school levels, and is still significant at the secondary school level at 5-10%. Figures for Australia follow similar trends to those from the USA and other countries (NJCLD, 1994).

In this article we will begin by investigating the concept of a virtual community, and then proceed to relating this to those educational institutions concerned with the education of children with special needs. The article will then outline how the Internet can assist with the education of these students, how it can be used to set up a virtual community, and the likely future trends for this use.

VIRTUAL COMMUNITIES

A *community* can be seen as a group of people having something in common (Oxford, 1973), and this is certainly true of special schools which have in common the education of children with some form of learning

disability. A *virtual community*, on the other hand, is also a group of people who share a common interest or goal, but who do not meet physically, but communicate and relate to each other by some other means, principally the Internet (Matathia, 1998; Schneider & Perry, 2001, p. 10). Rheingold defines virtual communities as "social aggregations that emerge from the Net where enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" (Rheingold, 1993, p. 5). Here Rheingold is referring to ad hoc virtual communities, but in the case described in this article at least the initial members of the virtual community were determined in advance.

There are a number of alternative names for virtual communities, such as "communities of interest" (Hagel & Armstrong, 1997) and "Internet cultures" (Jones, 1995). Barnatt (1998) suggests that there are two categories of virtual community: off-line and online. Both categories share common interests and bonds, but online, Internet-based virtual communities today "allow a wide range of global individuals to argue, share information, make friends, and undertake economic exchanges, in a flexible and socially-compelling common on-line arena" (Barnatt 1998). In contrast, members of an off-line virtual community do not communicate directly with one another but are reliant on "broadcast" media such as newspapers, TV and radio to sustain their common interests or bonds.

The term "online community" has various interpretations and Armstrong and Hagel (2000) refer to online communities as "electronic communities," while Jones (1997) calls them "virtual settlements." Rheingold (1998), an early pioneer, states that "Virtual communities exist and play a socialisation role to the same extent as 'real' communities do." Barnatt (1998) suggests that "although a 'virtualised' community is "not there" in the same sense that a geographically based community is assumed to be, it is still guided by passions and projects, conflicts and relationships." Other authors, Henri and Pudelko (2003) note, do not support the concept of virtual communities. "… since for them the concept of community cannot be dissociated from a common physical space and from a history shared by its members, two elements on which complex social relationships are based." An online community, Preece (2000) suggests, should consist of:

1. "… *people*, who interact socially as they strive to satisfy their own needs or perform special roles, such as leading or moderating;
2. A *shared* purpose*,* such as an interest, need, information exchange, or service that provides a reason for the community;
3. *Policies,* in the form of tacit assumptions, rituals, protocols, rules and laws that guide people's interactions;
4. C*omputer systems,* to support and mediate social interaction and facilitate a sense of togetherness."

AN ONLINE VIRTUAL COMMUNITY OF SPECIAL SCHOOLS

Teaching can be thought of as an interaction between teachers, students, experience and knowledge (Schunck & Nielsson, 2001), and the way that these entities interact can be seen in different teaching/learning paradigms. Schunck and Nielsson (2001) outline three different stages in the development of current educational thinking, particularly as related to the use of technology in education: the paradigm of the verbal tradition, the paradigm of the teacher-centred classroom, and the e-learning paradigm. The educational needs of LD students were considered in Torgesen and Young (1983), who established two important principles for the design of software programs for LD students. These were referred to respectively as: the principle of uniqueness, and the principle of educational necessity.

The first step in the research project involved setting up an environment using the Internet and ICT (information and communication technologies) to provide information and to facilitate communication between students at Wallaby School, a "school for children with special needs" in the outer metropolitan area of Melbourne (for ethical reasons pseudonyms have been used in place of all actual organisation names) through videos, e-mail, and other suitable programs for students of peer group ability/function. This part of the research involved a group of students in the upper secondary (Transition) group in Wallaby School. This pilot study focused on curriculum design and the issues associated with this for a special "thinking curriculum" (Adam et al., 2006). The school population is about 250, including students from lower primary school to

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