Assistive Technologies, Digital Literacy and Didactic for Inclusion

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ABSTRACT

This article aims to investigate the relationship between technologies and disabilities in the field of special education. In particular, this article discusses the role of aiding technologies, such as augmentative and alternative communication (AAC), in the learning and integration processes of people with disabilities, with a focus on autistic spectrum disorders. To facilitate the accessibility of tools and IT products, various types of aiding technologies are now available, namely a set of hardware and software technical solutions that provide working configurations suitable for the special needs of users, allowing them to overcome the disadvantage gap resulting from a specific disability. The AAC, as an aiding technology, in addition to fostering communication processes, allows the user with autism spectrum disorders to interface in a more functional way with the computer tool, and thus to implement its digital literacy and consequent learning possibilities.

KEYWORDS

Aiding Technologies, Augmentative and Alternative Communication, Autism, Digital Literacy, Disability

1. INTRODUCTION

In today’s society it is now evident that in order to study, work and communicate, it is necessary to develop and possess a good competence in the use of technologies. Students are increasingly required to develop skills, and be able to use them appropriately (Prensky, 2012), to succeed in an increasingly complex society with a strong influx of information and stimuli. There is much debate in the school system today about the introduction of information and communication technologies in teaching. One wonders what impact their use can have and what skills and abilities the teachers should develop to use the available IT tools in a functional way as a valid support for achieving specific learning objectives (Calvani, 2007; Lévy,1999). The reflection becomes even more complex if we consider the use of technologies in teaching pupils with disabilities or special learning needs. In this case, the question would be how technology can help to achieve teaching and learning objectives, facilitating the acquisition of knowledge, and when it can help to overcome specific difficulties and problems, in order to ensure a real inclusion in the class.

DOI: 10.4018/IJDLDC.2019070101
The purpose of this article is to investigate the relationship between information technologies, digital skills and disabilities in the field of special education, with a perspective aimed at integrating students with disabilities within an educational institution. In particular, the role of aiding technologies, such as augmentative and alternative communication, will be discussed in the learning of digital skills and integration processes of people with disabilities, with a focus on the autistic spectrum disorders. It is important to point out that in the last forty years in Italy, the educational approach towards people with disabilities has radically changed: in the school system there has been an evolution from the old exclusive system of separate education and special schools to stages of integration (Gelati, 2004; D’Alonzo, 2008), to the current inclusive school (Pavone, 2010; Medeghini & Fornasa, 2011), which aims to guarantee the subjective right of all to education, as stipulated by the Constitution and clarified by the ruling of the Constitutional Court n. 215 (June 3rd, 1987). An evolution which has also changed the way in which disability is conceptualised and the terminology adopted to define it. A radical change in this direction is the definition of disability, developed in the document ICF - International Classification of Operation, Disability and Health (New York, 2001). This document is part of WHO’s Family of International Classifications along with the International Statistical Classification of Diseases and Related Health Problems 10th revision (ICD-10), the International Classification of Health Interventions (IHI), and Derived Classifications. The ICF, through a bio-medical social apocytyum, provides both a unified and standardised language, and a conceptual reference model to describe health and related states (ICF, WHO 2001).

Disability becomes a particular condition, in which personal and contextual factors interact, with participation and precise functioning. It becomes, therefore, a construct that represents the result of the functioning of the subject in relation to a context, which can be facilitated through the reduction and/or elimination of disadvantages. Along these lines, disability is not a characteristic of the individual, but a particular condition, in which everyone, during the course of their life can find themselves. The UN Convention on the Rights of Persons with Disabilities (2006) clarifies this social-environmental interaction, suggesting in Article 24 (Education, paragraph a) the need for people with disabilities not to be excluded from the general educational system, and that children with disabilities are not excluded from free and compulsory primary education or secondary education (p.16). The convention recognises in instruction and education one of the key actions to build a meaningful existential project for all.

The two documents cited are extremely interesting, from an educational point of view, because through the concepts of Barriers and Facilitators, they force the teacher to rethink the educational action in a facilitating and inclusive sense by creating all those preconditions of accessibility to knowledge, which become indispensable in a school for all.

In Italian schools, the percentage of pupils with disabilities is around 2.9%; the group of pupils with difficulties is rather heterogeneous within it, including children with sensory or motor disabilities, those with intellectual, and learning disabilities, emotional and behavioural disorders and serious socio-cultural disadvantages (see DL. 62/2017).

Although all of these pupils have very different personal situations, they share special needs that require targeted interventions to overcome their specific difficulties. In the pedagogical sphere, it reflects on the need for an approach that leads to reconsidering the need, overcoming the passive and rigid dimension in favor of the active and flexible desire Sandrone, 2012). In other words, there is a need for inclusive teaching based no longer on a special school idea, separate and segregating, nor on an idea of a normal school in which the disabled student is inserted but not actually integrated. The reference for a new type of special teaching capable of real school integration can be found in the notion of Special Normality developed by Ianes (2001). A special normal education addresses the educational needs of students within a framework that on one hand assumes as a reference the normality of the need for training and, on the other hand, considers the speciality of the person, in his health, in his functions and in his personal abilities (Ianes, 2001).
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