

Chapter 14

Digital Communication in the Inclusive Classroom

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ABSTRACT

Digital communication is being extensively used, and during COVID-19 pandemic, it has transformed the way teaching is delivered and how learning happens which became even more problematic for children with learning difficulties. The digitalization of education during the lockdown period has forced teachers, children, and parents to develop and enhance their digital skills to maintain and keep ensuring efficient learning. Digital communication can be provided in the educational system by the simple use of email or WhatsApp groups up to the integration of complex digitalized learning programs and software adapted to the specific educational needs of each student. Being digital natives, students nowadays seem more engaged if learning is mediated by the use of digital communication tools. They are opened and interested in participating in educational activities that are technology-based.

INTRODUCTION

The 21st century is a digital age and this increasingly digital environment affects the way students learn and interact with the information, affects the way the learning is delivered and it changes the future market requirement toward competences needed for future citizens. Even before going mainly online due to COVID-19 pandemic, reports (OECD, 2015) raise the concern for student's welfare and their academic achievement due to excessive use of digital technologies for study or other leisure activities. Studies (Buzzai et.al., 2021) show a decrease in interest in studies and an increasingly reduced assumption of responsibilities caused by long hours spent on electronic devices. Moreover, inappropriate design of online learning delivery was pinpointed as an important factor for the cognitive burden (Chu, 2014). In

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this fast-changing environment and shifting to hybrid and online environment, experts (Gruber, 2001; Breckwoldt, et.al., 2014) urge the need to develop new procedures, new routine and recommend to implement different approaches to knowledge organization and teaching. The disadvantages of the online environment are well known and confirmed by an increasing number of studies. The need to accept and use digital tools is unanimous. ICT has the power to connect teachers and learners from different cultures and backgrounds (Blomgren, 2021). Learning connects learners through communication and interaction and by diversity provided by online tools and digital communication, by connecting professionals and learners at global level enrich the learning process (Hattie, 2009; Kereluik et al. 2013), by engaging learners from different cultures and geographical locations in interaction and collaboration activities (O'Dowd, 2018). Another positive impact of digital tools is that they have played a great role in providing access to knowledge and competence building for students with different impairments by developing different digital tools and new high-tech devices (Blomgren, 2021). Nowadays, a huge number of countries have a positive experience of using these technologies in special and inclusive education.

One priority in inclusive education is creating a barrier-free environment (Persson et al., 2015) that would make possible to ensure the full "inclusion" of people with disabilities in educational settings. To obtain a full-fledged education for people with disabilities, assistive technologies are now being created and used to ensure comfortable conditions in learning in everyday life settings. Studies (Healy, Jahn & Frant, 2010) recommend the urge to rethink the existing curriculum and students' engagement assessment with the online environment (Adam & Tatnall, 2017).

Digital technologies make a huge contribution to overcoming educational and social barriers; they have already become familiar daily tools for solving the simplest tasks in a situation of inclusive education. For example, keeping a class blog takes on additional meaning, because in this way a platform is created for equal communication between the entire class as a whole, and children who find it physically difficult to communicate at school. The use of different learning platforms (Bjekić, et. al., 2014) helps track the progress of each student. It becomes especially important when children with different educational needs are involved in the class. Today, it is unthinkable to talk about the quality of life of people with disabilities (visually impaired, with neurological disorders, with speech and language disorders, physically impaired etc.) without the use of special technical means depending on the type and degree of functioning restrictions (Sarraipa et.al., 2012). Some examples of digital devices are programs that can convert text to speech, or text-speech connectors, speech synthesizers that can change the life of children with specific educational needs and provide independency in learning (Shahid et.al., 2021). Such technologies are actively used to transfer information and ensure the interaction of the teacher and it applies to all learners, including students with specific educational needs by providing many positive social and behavioral opportunities (Tu et.al., 2021).

A modern understanding of technology includes the use of scientific and engineering knowledge to solve practical tasks. Here, information and telecommunications technologies can be considered such technologies that aim at processing and converting information (Nisiforou & Zaphiris, 2020). The technological industry offers various modifications of keyboards and manipulators for people with impaired functions (of the musculoskeletal system, tactile and audio), uniforms for visually impaired users, braille monitors, specialized mice for people with hearing impairment and speech (Mirenda, 2002; Beukelman & Mirenda, 2005; Mirenda, 2009; Mueller, 2013). For example, the Google Gesture application translates the language of deaf-and-non-verbal children to oral forms in real time. When fixing on the hands of special devices in the form of small straps, the analysis of the muscles involved in the gesture, the information obtained is transmitted to the subscriber's smartphone. The 3D printing industry is actively

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