Chapter XVIII

Digital Games-Based Learning for Students with Intellectual Disability

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ABSTRACT

Students with Intellectual Disability (ID) are often described as “slow learners” and cannot easily integrate to the normal curriculum. Still, the needs of a person with ID for accomplishment, enjoyment and perception of high quality multimedia content are augmented. In general education settings digital games for learning seem to work successfully with students, regardless of their developmental state or academic achievements. However, can such an approach work in a suitable and effective way for students with ID? If the answer to this question is positive, under which conditions and limitations can digital games be integrated into the ID instructional process? The purpose of this chapter is to investigate the common grounds between methodologies for Special Education Needs/Intellectual Disability (SEN/ID) pedagogy on the one hand and Digital Games-Based Learning (DGBL) on the other, as well as to explore the potential of using digital games for SEN/ID students. To this end, the usage of digital games in the learning experience of students with Intellectual Disability is discussed, the ways in which commercial and educational games support various SEN methodologies and theories regarding Intellectual Disability pedagogy are examined and findings from the education literature as well as experimental observations and case studies are presented in order to investigate how and to what extent learning-purposed as well as entertainment-purposed games are able to constitute a powerful educational medium for SEN education and its inclusive objectives.
OBJECTIVES OF THIS CHAPTER AND QUESTIONS ADDRESSED

Intellectual Disability (ID) is a term employed to refer to certain limitations of children and adults in mental development, communication and social skills. These limitations will cause a child to learn and develop more slowly than typical. In addition children with intellectual disability may take longer to learn to speak, walk and take care of their personal needs such as dressing or eating.

It should be noted that a number of wordings and definitions has been employed for the limitations and difficulties that Intellectual Disability refers to. Terms such as “Developmental Delay(s)”, “Mental Retardation”, “Learning Disability” and “Special Learning Difficulties” have been used over the past years. The term “Mental Retardation” has prevailed for some time but has received a number of criticisms lately. Following a 2002 survey by the American Association on Intellectual and Developmental Disabilities (AAIDD, formerly the AAMR) which has shown the general consensus among parents, educators and other professionals to be that this term has a negative connotation, the term “Intellectual Disability” is currently used in British Commonwealth countries and by the International Association for the Scientific Study of Intellectual Disabilities (IASSID).

Intellectual Disability represents a widespread and heterogeneous condition, characterized principally by cognitive deficits in relation to the normal population (Zeaman & House, 1963; Ellis, 1963). According to the authoritative definition of the AAIDD which undertakes a functional perspective, as well as the statements of researchers such as (Schalock et al, 2007) who states that “Intellectual Disability is characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills”, one of the basic characteristics of ID is the lack of adaptivity in everyday situations. Persons with Intellectual Disability might be delayed or lacking some of the so called Adaptive Behavior Skills such as reading, writing, expressive and receptive language, money concepts, self directions, responsibility, self-esteem, gullibility, understanding and following rules, daily living activities and occupational skills (AAIDD, 2008).

Within a formal educational context students with Intellectual Disability are often described as “slow learners” and cannot easily integrate to the normal curriculum, as a result of the aforementioned lack of adaptive skills and other low IQ-related difficulties, often coupled with additional handicaps and special needs. It is exactly these conditions, however, that result in an augmented need for persons with ID to draw a sense of enjoyment and personal accomplishment from the educational process. The aim of this chapter is to investigate to what extent pre-adult learners (children and adolescents) with Intellectual Disability are able to use digital games in order to test their abilities in a trial-and-error fashion within a formal – but nonetheless friendlier – learning process while at the same time having fun.

This objective calls for highlighting the common grounds between Intellectual Disability pedagogy on the one hand and Digital Games-Based Learning (DGBL) on the other, with a view to shedding light on the capabilities and limitations of applying digital games as instructional tools in the ID classroom. To this end a review of the relevant literature is provided, coupled with observations from a number of case studies using digital games as an instructional tool for students with ID. It must be noted that the term “digital games” is used in this chapter to refer to a broad spectrum of games running on stand-alone computers or on-line and implemented at various degrees of sophistication, ranging from browser-based applications to fully developed commercial-off-the-shelf (COTS) products, and also including a number of edutainment software applications.

The following questions are addressed in this chapter: