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Procedia - Social and Behavioral Sciences 237 (2017) 164 – 168

7th International Conference on Intercultural Education "Education, Health and ICT for a Transcultural World", EDUHEM 2016, 15-17 June 2016, Almeria, Spain

# Knowledge of the natural and social environment in ICT consumer children

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#### **Abstract**

This study shows the influence of the current technological culture and ICT in the dynamics of socialization and the process of interaction with the reality of 2 to 4 year old children who are active or passive consumers of digital technology. Following the action-research method proposed by Kemmis (2010), the results of a previous study conducted with students of the Early Childhood Education Degree are analyzed. An alteration is observed in the children's mental representation of the natural and social reality, in their interpretation and interaction, showing the need to develop a training program for prevention and correction, together with students, teachers and parents-mothers. Pedagogical, educational, psychosocial and technical characteristics that the program should have are provided, in order to contribute to the prevention and intervention on the issue, from the attention to health and transcultural variables, such as emotional expression, self and co-regulation characteristics, the socialization patterns, the development of attention and memory, motor skills, motivation and horizontal technology transfer.

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Peer-review under responsibility of the organizing committee of EDUHEM 2016.

Keywords: Education in new technologies; Information and Communications Technology; Digital Culture; Transculturality; Horizontal transfer of technology.

#### 1. Introduction

It is perceived by society and educational institutions current technological culture and ICT, have an influence in the dynamics of socialization and the process of interaction with the reality. This effect is even more noticeable in 4-

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5 year old children who become active or passive consumers of digital technology since very little or since they were born.

#### 1.1. History of ICT use

According to Aste (1998), ICTs were born in the 60s, when resources such as television, radio and telephone were incorporated into daily routines. In the beginning of the Cold War a first version of the Network with clear military targets was created. In the 70s, some schools began using mini-computers and mini-frames for administrative tasks and Apple contributed by donating some computers. In the 80s, the computer TI99 introduced a new generation of computers for its use in schools and offices, called "Desktop Models" and software tutorials and educational games were developed (Aste, 1998). In the 90s, multimedia computers started to be sold, and complete programs were developed, such as educational databases and simulation programs, which contributed to modernizing the functionality of the software. In this decade, the Internet (World Wide Web) revolution emerged causing a boom in the educational field and allowing the development of more multimedia programs. From the Twenty first century onward, ICT allow the processing, transformation, dissemination and communication of information and Internet has become a mechanism of propagation of information and a means of collaboration and interaction between individuals and their computers, regardless of their geographic location.

#### 1.2. The Society of Information and Communication (SIC)

Today's society has become the Society of Information and Communication (Gonzalez, 2008) in which technologies facilitate the creation, distribution and manipulation of information on cultural, social, economic and political activities. It is staging a historic change of mentality in which ICT will modify human behavior worldwide (Bauman, 2007). However, in the midst of the maelstrom, it is necessary to stop and reflect on the path chosen by humanity towards an exacerbated consumerism which imbalances the planet trying to redirect to a sustainable and balanced development (Louv, 2009), in order to avoid future consequences which could be dire.

Since the emergence of ICTs, its use is not bounded to the educational field but extends to all areas of a person's life. Therefore, it is very difficult to establish a control when it has become another tip over our body and it is used at any time, and any moment in any context. Overexposure to the use of digital technology and its lack of limitation has caused a cultural change in society in which new generations of children will be full-time consumers of ICT and it is not known the impact this can have on their overall development as individuals.

Authors such as Aroldi (2007) and Silverstone (1999) illustrate in a very effective way this concern:

"Indeed consumption and mediation in numerous respects are fundamentally interdependent. We consume media. We consume through the media. We learn how and what to consume through the media. We are persuaded to consume through the media. The media, it is not too far fetched to suggest, consume us. [...] Consumption is itself a form of mediation".

In this sense, digital culture can be considered as a global phenomenom that transcends cultural boundaries, therefore encourages transculturality and fulfills a horizontal transfer of technology. This dizzying trend must be regulated to complete the natural ecological cycles described in the architectures of educational practices (Bronfrenbrenner, 1979) and in the ecologies of practices (Kemmis et al., (2009); Capra (1995) and Schatzky (2002)) and to persist in the sustainability of progress in the field of education. Nevertheless, Prensky (2010) states: "We are not going through a transition to another faze of stability, and that is the key point. People will always be behind now and that will be a stress they have to cope with".

In early childhood education, and with an incipient development of consciousness and autonomy, students face a double influence of new technologies. On the one hand the relationship with adults and children within their families, is associated with the consumption of digital technology: video games, cyber, mobile games, laptops, video games, digital cameras, etc. Parents increasingly downloading stress of caring for children or having to care for them in a few hours of their busy lives, providing electronics for domestic consumption at the same time provide them with entertainment and pleasure, while they work, study or face the housework. On the other hand, the relationship with peers and teachers at school is also mediated increasingly by the computer world.

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