Infantile Multimedia Environment - An Early Digital Inclusion

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HAL Id: hal-00257158
https://telearn.hal.science/hal-00257158

Submitted on 18 Feb 2008

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Key words: *Infantile Education, Human Dimensions*

Abstract:

Children are recognized as individuals with rights, constituted by multiple human dimensions that can be excited by several activities and several Medias (books, videos, computers, etc.). And the Medias are understood as the tools to qualitatively contribute to the children's development, giving them opportunity to improve their creativity and imagination, enriching their cultural repertoire. This paper aims to describe the results of a special project implemented in a public day-care centre in the city of Florianópolis, SC, Brazil, in order to apply those concepts.

1   Introduction

According to many actual references, children are defined as social individuals with right, who have their own characteristics, that is, they learn about the world by interactive games, imitation, imagination, fantasy, and significant experiences. This way, they can develop their multiple dimensions and their different languages, in their cultural insertion (BUJES, 2001). Infancy is understood in this society as the "time of rights" (ARROYO, 1994), when they can constitute themselves as new individuals by established human interactions.

Today, children are born and live at the information and communication epoch, that is, at the digital era. Therefore, children have interests about the Medias because they contact them almost everyday. Since early ages they watch television, listen music, use computers and cameras; they write, draw, read books, so they use cultural artefacts as a part of their infantile world, real or fictitious one.

Children between 0 to 6 years old (Infantile Education or Childhood Education) have natural interest and learn with the technology when it is possible for them to have such contact. Specifically, the use of computers and books stimulates the interest of the children for the written language, because the letters and icons represent symbols that they need to resolve and to assume, in order to get a better use of these Medias (GASPARETTI, 2001). However, they need the interference and mediation of others (professors or other advanced children; considering a day-care centre environment) to assume those tools with more competence, with all cultural charge that is imposed to the children.

The "media-education", a widely discussed concept, is understood as "necessity to integrate the use of new (and old) information and communication technologies to the educative processes" (BELLONI, 2001).

The use of new technologies in infantile education is a relatively new process, with few researches; therefore there are no procedures, prescriptions, methodologies, neither defined

boundaries nor limits. It is a task to be built; a way to go through, to be discovered, experimented, analyzed and documented.

From these presupposes and from the real necessity to create a field of study concerned to the incorporation of those Medias into Infantile Education, the Education Secretariat from the city of Florianópolis (Capital of the State of Santa Catarina – Brazil), attending its policy of the use of information and communication technology has implemented the project "Infantile Multimedia Environment – IME", initially in one of its public day-care centres.

2   Implementation

It is important to contextualize some of the history of this project. In 2000, the discussions have been started inside the Secretariat, aiming to establish a policy of utilization of Medias in infantile education. In 2001, the project was built as a document and a day-care centre was selected to host the IME.

In 2002, in order to attend the requirements of the project, IME was equipped with several Medias, like: 8 computers, educative and interactive software, printer, television, DVD/VHS player, dozens of infantile DVD´s and VHS´s, stereo, film recorder, digital camera, 450 infantile literature books, toys, games, dolls, puppets, marionettes, theatre costumes, etc.

Also in 2002, the professionals of this public unit were trained *in-service* to promote theoretical-methodological reflections about the pedagogical work. At this time, on of the professionals was selected to be a full-time coordinator. According to the new necessities, three topics were offered to the trainees: "The art of telling histories", which gives preference to imaginary dimensions; "Educative Informatics", which privileges the pedagogical use of computers; and "Medias into the imaginary infantile world", which analyzes the use of the Medias and observes the interaction of the children inside the IME.

So, in 2003 IME officially started its activities and all 130 children between 0 to 6 years old and all 30 professionals have used this special and inedited resource.

During the pedagogical work in IME, it was detected the necessity to know the social context or the different cultures which the children are submitted, directing the activities, respecting the manifestation of their diversity.

From that point, ideas were confronted, different cultures and habits were identified, and the diversities were considered and respected, not with the purpose to dominate a kind of culture by other, but to magnify the visions of the world, the conceptual repertoires. This process allowed to signify and to re-signify the understanding about the social reality in a rich environment, contributing with cultural enrichment.

The research that was made inside IME during 4 years is concerned to the observation of the established interactions between the children from 0 to 6 years old, when they freely experiment the use of these technologies. During data collection, many special activities and projects were proposed, resulting on the directions of a pedagogical practice inside IME.

3   Methodology of use

The use of IME have been made by adhesion, i.e., each teacher can freely use or not, depending on his/her desire and on the availability of the agenda. The coordinator manages the reservation of IME and the duration of each session depends on the objectives of the teachers. This way, the manner of the use of IME has been constructed everyday, because innovative projects like that, have to be developed with the experience. In this sense, PÉREZ, SAMPAIO & TAVARES (2001) say that "The ´how to do´ is not given *a priori*. The way is not traced; it needs to be built during the walking process".

Giving the children the access to the Medias, their behaviour was observed, focusing on their manifestations, learning, feelings, experiences, fantasies, and enchantments. Also it was studied the interactions between the children, between the children and the teachers, and between the children and the equipments. The main question was to "read" the infantile needs, and from that point, involve the children in activities which they showed preoccupation, curiosity, unfamiliarity, and lack of knowledge. The fundamental point was to be attentive to the infantile manifestations related to the Medias and what the children wanted to know and construct.

The activities were selected and mediated by the teachers according to the children's ages and it was possible to observe the creativity, the critics, the diversity of experiences, and the variety of proposed activities (KENSKI, 2002). However, the indirect participation of the children was incorporated on the planning.

The professional of the day-care centre realized that IME is a place with no limits between play and learn, where they actuate in groups, interacting, living together, and experimenting. Sometimes were booked sessions with children with different ages at the same time. It was understood as a place where children can individually live their learning, respecting the rhythms and interests; or in groups, favouring the educative interactions, in opposition to the "collective and compulsory rhythm imposed by outside world", as say FOUCALT (1987). The children's learning occurs at the most spontaneous and playful moments, when there is no preoccupation about the specific knowledge construction. So, the teachers should mediate the children's actions in order to use the artefacts with pleasure and significance. The mediation should be based on the desire, curiosity, significance, daring, emotion, wonder, and on the necessity to discover this mysterious world. The established relation with the technological artefacts was based on specific needs of each group.

4   The results of the research

The research was developed in an interpretative and qualitative approach (CORSARO, 2002), considering that the registries of the points of view, the manifestations, the children's voices and images, only can be done according to SARMENTO (2003), "[…] by means of a interaction between the investigator and the social actors."

It was observed and registered 25 work sessions with the aim to analyze all group's behaviour. In order to partially cover the focused ages (0 to 6 years old), three children were selected to have a closer observation. Each children were observed during three sessions with their group (same age) and one multi-age integration session. The profiles of these three children were: one 2 years old boy, one 4 years old boy and one 6 years old girl.

The field research was directed to observation and analysis inside IME, considering the educative interactions in three aspects: with their **colleagues**, with the **technologies** and with the **action of the teachers** (organization and mediation). The objective was to interpret those interactions, understanding how the development of multiple languages happened and how the multiple human dimensions could be excited (EDWARDS, 1999).

Interactions between the children: the children could exchange knowledge, experiences, and learning when they work alone on the computers or in groups, or just watching what the other children were producing. We also recognized interactive exchanges in children's plays with toys, books, magazines, and negotiation about the choice of movies, music, control of the computer, and others. The social interaction generated by technological devices allowed the communication between children and from this communication, we detected frequent exchange of affectivity, cooperation, ideas, knowledge, and respect; however, it is also observed some kind of impatience, irritability, excitation, and frustration.

Interactions between children and teachers: at this point we verified that each teacher produces their actions according to their own conceptions of education and these conceptions are much diversified inside the day-care centre even considering that they all were trained with the same instructors and the same materials. Hence, this situation provokes different interactions for each attended group. Some teachers understand that the children can increase their knowledge about the world enriching their languages and exciting their human dimensions. Other teachers controlled the children's actions, their movements and speeches limiting their development. On the other hand, the children tranquilly interacted with the teachers, asking, investigating, breaking rules, having affective exchanges, demanding support, etc. Children like the presence of the coordinator and they trust her, preferring her interference and mediation instead of their own teacher, because she presents more confident, and knowledge with Medias.

Interactions between children and Medias / Technology: from this point of view, we verified that the children did not show any special behavior about regular Medias, like books, toys, TV, video and others. However, when in contact with new technologies like computers and digital cameras, the interest and creativity were higher. The children younger than 3 years old only watch videos, or observe their own pictures when caught with digital camera and imported to the computer. These children could not use computers due to the lack of motor coordination with the mouse. However, with the mediation of the teachers they had the opportunity to use software like Micromundos®, MicrosoftPaint®, and others. Concerning to the computers, the 4 years old children presented a small difficulty in the beginning, but after few days training with the mouse; they could produce by themselves a lot of different activities, like: use of MicrosoftPaint® and MicrosoftWord® or Microsoft PowerPoint® to produce their own badges, listening of music, choreographies, and work projects using Micromundos® for the vegetable garden, for instance. They really liked to watch videos and they always were very focused up to the end of the long movies. The groups of 6 years old children worked in small groups to facilitate the mediation of the teachers in their work projects, which was called "Reproducing and building fairy tales", using Micromundos®. They had a big interest in videos, digital cameras, educative software, toys and books.

5   Conclusions

Obtained results revealed that IME allows the children to appropriate technological/digital world. This educative process is accomplished by mediated access to the Medias and this mediation could be done by persons (teachers or colleagues) (VYGOTSKY, 1991) or by self–explained software (interactive). Collected data also showed that IME contributed to the development of multiple human dimensions of the children. IME became a place where they could express their creativity, their emotions, interests, plays, individualities, learning, imaginations, ideas, having the technology as the support for the infantile experiences.
The development of the children could be observed in their different languages, like oral or gesture actions (corporal posture), production of draws, or in negative manifestations like crying, screaming, aggression, transgression, idleness situations, etc., as well as in positive manifestations, like vibration, discovery sharing, imagination, euphoria, concentration, etc. From all these observations, we can conclude that for correct the use of "old" and new technologies in order to develop multiple children's languages and to excite their human dimensions; it is necessary to have trained and competent teachers, adapted to the technologies. They should be professionally updated to direct their focus, reflection, planning and mediation for the utilization of technological artifacts understanding the children as individuals of rights, promoting the early digital inclusion (FERREIRA,2004).

6   Perspectives

After 4 years, the results of this project were evaluated and presently the expansion of this project has been considered to other unities of the public network of Infantile Education in Florianópolis. This action aims to qualify the educative work for much more children, giving opportunity for them to develop the multiple human dimensions and infantile languages, provided by the digital inclusion.

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