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Analysis of Computer Literacy Education in Terms of Self-Directed Learning and Cultural Features

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Conference:ECER 2016, Leading Education: The Distinct Contributions of Educational Research and Researchers

Network:Emerging Researchers' Group (for presentation at Emerging Researchers' Conference)

Format:Paper

Session Information

ERG SES C 09, Learning in Education

Paper Session

Time:2016-08-22
11:00-12:30

Room:OB-H1.12

Chair:Javier Diez-Palomar

Contribution

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Changing of learning habits every passing day with developing technology requires the differentiation of the teaching-learning process. Individuals, who cannot learn how to learn and who are not able to organize their own learning process, stay behind in many areas in globalizing world where the technology has been developing rapidly.

Prensky draws attention to the changing learning habits stemming from the use of Internet and web technology, which describes people born after 1980 as "digital natives" while those born before are defined as "digital immigrants" (Prensky, 2001b). The learning styles of today's students have radically changed and the teachers who teach students in the category of digital natives have remained as digital immigrants (Prensky, 2001a).

In computer training, instructors are generally incapable of catching up with student's learning speed and they are insufficient in the process of guiding students. It is thought that if the process of children in which they discover and learn themselves is integrated into the educational process by observing in detail and directed correctly, the efficiency of the training will increase. This is particularly of greater importance for the rural areas where the number of teachers is inadequate and delivery of educational opportunities is not enough. In the 21st century, in which the main role of the teacher is to arouse curiosity, we need to draw a path which aims to arouse awareness (Mitra, 2010) and by which mainly children organize their self-directed learning.

Self-directed learning is discussed as a process, as a learning approach by which individuals determine their own priorities and choose them from accessible various sources (Pilling-Cormich, 1996), or as an individual property (Svedberg, 2010). In self-directed learning, students access to information based on their needs and interests, rapidly and independently from time and place. Technological tools that facilitate access to information resources and online educator are extremely important in terms of self-directed learning (Teo, Tan, Lee, Chai & Koh, 2010). Thanks to provided technological opportunities; information finding, transmission and storage tasks have been as close as a click for each learner, without the need for government agencies and without barriers (Candy, 2004).

Since Ministry of National Education in Turkey has adopted a constructivist educational approach by which individuals construct knowledge by themselves and teacher is regarded as a guide, self-directed learning has a support base. But when national literature is investigated, it has been found out that self-directed learning hasn't been combined with technology and children's point of view was not considered. It is emphasized that there is a need of studying technology education, especially in rural areas and countryside (Mitra & Rana, 2001; Gyabak & Godina, 2011). From this point South Eastern region of Turkey is worthful to research.

In similar studies like "Hole in the Wall" and "One Laptop per Child" projects, which aimed to distribute a computer for each child, computer usage emerges as evidence of self-directed learning, increasing children's success. But the system, which suggests that children should be left completely alone, faced many criticisms as it had many disadvantages (Arora, 2010). Within the scope of this research, taking lessons from deficiencies of similar studies, children's educational experience has been observed and pure data about their learning process which excludes prior learning have been reached.

Method

In scope of the study, a qualitative ethnographic research was conducted, examining the use of computers in the context of a culture (Barab, Thomas, Dodge, Squire & Newell, 2004). An analysis was conducted to examine mainly educational habits of individuals and the level of self-directed learning in technological area.
During the study children who have not used or seen any computers before, were left alone with the computer initially as an individual and then in small groups. They have been told that they could touch the keyboard and mouse; the computer was turned on for them, but no explanation was made about usage. In addition, they have also been informed that it was not a compulsory activity and they could go whenever they wanted. After the first 3 days, brief information was given to arouse curiosity and they were allowed to work in groups. Computers were left for children's use for about 10 hours each day.
During the procedure, data source triangulation was followed to ensure the integrity, usefulness, and credibility criteria of the research. In addition, audio and video were recorded; observations and interviews were made, and thinking aloud protocol was followed. Language support was sought as people living in the research region generally speak Kurdish. A village in Diyarbakır, which has one of the most heterogeneous natures in terms of social, economic and educational level in Turkey, was selected as the research region.
The participants were selected from children in the 5-13 age range considering similar studies (Mitra & Rana, 2001). For this research, diversity of the participants in the selected region has not constituted an obstacle, and furthermore it provided a mixed natural laboratory environment.
Work group consists of 16 children, including 13 girls and 3 boys, whose ages ranged from 6 to 10. All students' mother tongue is Kurdish and they learn Turkish at school. Participants' self-reported data about demographic characteristics such as age, prior computer usage, and literacy level were not found reliable. Therefore, accuracy of the demographic characteristics of children was triangulated through interviews made with school administrators, parents, and students.

Expected Outcomes

At the end of the process, initial findings show that children were observed to generally have difficulty in expressing what they do on the computer and what they have learned. Children gave different names to the procedures and computer parts among themselves. At the end of the time they spent on computer, almost all of them improved themselves in using mouse and keyboard, learned the distinction between click and double clicks and closed the window they wanted. Within a few days on their own they learned tasks such as starting a game and playing, browsing the internet, opening and closing MS Office documents, writing via MS Word, and drawing through Paint. During the research it has been observed that boys were more willing to play games and make drawings using the Paint program while girls were more eager to search on the Internet and write texts using MS Word. Starting education process with young age groups in such a way is so crucial in that students will be able to internalize the value of the education provided by the teachers at the beginning stages of learning process. It has been thought that leaving students alone with educational materials or assignments at the beginning is not only effective in technology education but also in all educational processes and this fact needs further research to yield more results. As sourced from region's cultural features, most of children can't continue school regularly. They have to take responsibility for their younger siblings, work in the field and ranch.

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This proposal is part of a master or doctoral thesis.

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