Evaluation of the Use of Augmented Reality Tools in the Education Field

Manoela M. O. da Silva[1], **Veronica Teichrieb**[1], **Patrícia Smith Cavalcante**[2]

[1]Voxar Labs – Centro de Informática – Universidade Federal de Pernambuco (UFPE)
Recife – PE – Brazil

[2]Edumatec – Centro de Educação – Universidade Federal de Pernambuco (UFPE)
Recife – PE – Brazil

{mmos,vt}@cin.ufpe.br, patricia3smith@gmail.com.br

Abstract

Augmented Reality technology (AR) has a huge potential to be applied in the education field. The coexistence of real and virtual environments enables experiences that would not be possible without this technology. Some of the reasons why AR learning experiences differ from other technology are: (i) it enables contextualized interaction between real and virtual worlds, (ii) it enables tangible interaction metaphors for object manipulation, and (iii) it enables smooth transition between the real and virtual contents. While AR offers new learning opportunities, it also creates new challenges for education in different domains, such as technological, learning and pedagogical issues. This work provides reflections about the challenges involved in the process of evaluating AR educational technologies. To better understand those issues, a systematic review was conducted aiming to identify how AR technology has been evaluated. Taking into account lessons learned from the review, a projective educational AR tool, especially designed to young children, the ARBlocks, was evaluated. This tool was evaluated in the field of language learning with three different groups. The study involved the teacher as an instructional designer and the use of multiple metrics. Results have shown that this tool offered different possibilities for language teaching to young children. The ARblocks contributed to student's learning and the practice and reinforcement of language abilities. From the reflections presented, some guidelines were proposed to assist the evaluation of AR educational tools. The use of multiple metrics as well as the active involvement of teachers in the elaboration of contents are encouraged as way to better understand the impact of technology in the teaching and learning process.

References

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