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Virtual manipulatives in inquiry-based approach of 3D problems by French 5th graders

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Abstract. The aim of this research is to study the appropriation of a 3D environment by learners in an a-didactical situation of problem solving. We try to evaluate the relevance of the virtual 3D environment in the development of students' cognitive and metacognitive abilities. We implanted a problem-solving activity related to a 3D cube situation with an empty part in the cube in different French primary school areas in May 2019. In the experimental group each learner works individually with a PC-computer where the virtual environment ANIPPO is implemented. In the control group the pupils work in a traditional class environment. We present the results of this pre-experimentation.

Key words and phrases: problem, 3D space, virtual, representation, primary school.

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