



Grouping-10: the Software and its Potential in the Construction of Mathematical Logical Knowledge

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This paper presents the development of software called "grouping-10", in the form of educational game, which intention is to assist the teacher the working in the early years of elementary school with the initial concepts in the area of mathematics using methodology based on the manipulation of significant resources for children: sticks and dice. Thus, the game aims to contribute to the appropriation of mathematical concepts, especially of the notions of unity and ten (decimal system), as well as the addition, these concepts fundamental to the development of logical reasoning of math students. For this, we search as foundations for the development of this teaching resource the studies of Jean Piaget by showing that mathematical thinking develops through processes experienced by individuals. Therefore, the mathematical concepts are easily appropriate, especially by children, when inserted into teaching methods that emphasize the use of intelligence, the establishment and coordination of relations, as well as, their prior knowledge. For this reason, these students need to be constantly challenged to solve problem situations, to interpret and understand the facts in order to meet their adaptive needs. From these presuppositions, it is understood that the numerical and mathematical knowledge cannot be learned directly, or through simple observation and memorization. The construction of number implies interaction, reflection and confrontation, given that the mental operations are constructs arising from social practices. Based on this, due to the high level of interaction with the physical, social, historical and cultural fostered by the games and their digital versions, attaches great importance to the creation of this educational resource.