

Combinatorics in preschool class – systematization and representation

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We would like to present the results of 123 six-year-olds working on a -for them- challenging combinatorial task. The task made it possible to investigate the potential in teaching young children problem solving, as it was part of an educational design research study (Anderson & Shattuck, 2012). During the talk, the connections between systematization respectively representation and the way the children solved the task will be elaborated on. The various forms of representations were analysed using Hughes' (1986) notions of pictographic and iconic representation. Examples of such representations, taken from our data, will be shown and discussed during the talk. For analysis of the systematization, English's (1996) stages were used, i.e: trial and error, transition and odometer. Examples of children's documentation will be shown where connections between representations and systematization will become clear. Our results show that both systematization and representation prepossess children's solution. The reasons why will be elaborated on during the talk and will provide the audience with insights regarding these reasons.