

A Study on the Conservation of Weight Involving Children from Ages of 8 to 10

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The purpose of the present study was to investigate knowledge regarding the conservation of weight in children from ages 8 to 10. To examine this purpose, four investigations were conducted. First, this study attempted to clarify the process of the acquisition of understanding regarding the conservation of weight through six experiments. Second, the author assessed the reasons of judgment for obtaining conservation of weight. Third, the present study aimed at analyzing the reasoning that the participants employed in explaining their own judgment to their peers in a virtual scene. Fourth, the author conducted the task of arranging blocks on a weight seriation so as to clarify whether this is less complex than the conservation of weight. Correlation coefficients among these two tasks were not found.

The participants consisted of 100 elementary school children from grades 2 to 4. According to the results of the experiments regarding the conservation of weight, the rate of correct judgment went up according to age, except in one experiment involving floating a piece of wood. The 2nd and 3rd graders mainly employed subjective reasoning. However, the 4th graders gradually came to employ paradoxical reasoning for making judgments. The 3rd graders tended to give assertive explanations, while the 4th graders employed more positive explanations. (190)