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Several previous works from Bassok and colleagues (e.g. Bassok, Wu & Olseth, 1995) put in evidence that, when solving a mathematical word problem, content is used to interpret structure: surface features are used as semantic cues in order to induce an interpretative structure that the participant will rely on in order to solve the problem. For instance, a problem involving doctors choosing other doctors is likely to provoke the inducement of a symetrical structure wereas a problem involving secretaries choosing computers is likely to provoke the inducement of an asymetrical structure (Bassok, Wu & Olseth, 1995). These structures interfere with the mathematical ones and influence problem difficulty, solving procedures and analogical transfer. Bassok (2001) considered this phenomenon as a special case of the cognitive mechanism of structural alignment (Markman & Gentner, 1993) and refered to it as semantic alignment. Two dimensions, namely symmetry-asymmetry and continuity-discreteness, were identified by Bassok and colleagues as influencing semantic alignment for a large range of problems and identification of other dimensions is important for a better understanding of the phenomenon and it's range of application. We conducted 2 experiments in order to show that Individualization (I)-Non Individualization (NI) is also a relevant dimension.

In the first experiment, 80 undergraduate students were equally split among I and NI conditions and solved combinatorial problems in two contexts. For instance, one NI version involved four children choosing one after the other one strawberry among twelve strawberries wheras the I version was identical except that strawberries were replaced by explicitly individualized cakes (a cheese cake, an apple pie, a chocolate cake…). We found significant effect of the condition (Table 1). In the NI condition, students proposed significantly more partitive solutions (e.g. 12/4) which did not require individualizing objects such as sharing 12 objects among 4 people, than in the I condition. The reverse was true for the multiplicative solutions (e.g. 12x4) which required individualization, such as each child having 12 choices. With the same experimental design, we conducted a second experiment including two problems, the 'car problem' and the 'grocery problem' in which, contrary to combinatorial problems, individualization was not a relevant dimension in the mathematical structure.

Table 1: Rates of procedures used by participants (exp. 1)

Procedure	Indiv	Non Indiv
Correct	8%	10%
Partitive	25%	51% *
Multiplicative	28%	4% *
Other	39%	35%

We found again significant effects: Table 2 sums up the results of the 'car problem': John buys a car 10,000 Euros and sells it 12,000 Euros. He buys it back 14,000 Euros and sells it again 16,000 Euros (NI) and John buys a red car 10,000 Euros and sells it 12,000 Euros. He buys a black car 14,000 Euros and sells it again 16,000 Euros (I). We found also significant effect of individualization for the second problem (NI condition involved two kinds of figs wheras I condition involved figs and dates).

Individual protocol analyses confirmed that participants induced different structures depending on the condition. For instance, most of the participants who found 2000 in the 'car problem' considered that there was a loss of 2000 due to the buying of the same object sold for 2000 less. Those results encourage to carry out more extensive studies concerning the influence of individualization in problem solving.

Table 2: Rates of results obtained by participants (exp. 2)

Results	Indiv	Non Indiv
4000	53%	34% *
0	29%	12% *
2000	12%	46% *
Other	6%	8%

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