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Only spend what you can afford. An optimization experience with high school students. (Gasta sólo lo que puedes pagar. Una experiencia de optimización con alumnos de secundaria.)

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Summary: This experience was intended to attempt to evaluate the optimizing intuition in secondary school students. The problem posed consists in selecting objects from a previously given set whose total value should be equal to an exact number, or as close to this exact number as possible. As a result of the classroom experience in a specific context, we observe the poor preparation of students for this type of tasks. The main conclusion is that students are prepared to add quantities; however they find it difficult to choose quantities which add an exact number. They do not possess adequate strategies, and are incapable of inventing heuristics to achieve their goal. The reflection, which results from the experience, is that in spite of their usefulness in daily life, little attention is paid to optimization problems in compulsory education.

Classification: F93 N63

Keywords: knapsack problems; optimization; secondary education; task; instruction

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