

Polya and GeoGebra : A dynamic approach to problem solving.

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Abstract

Problem solving has been investigated in mathematics education for more than 60 years ago with the pioneering work of George Polya (Polya , 1965). The four steps he proposes : understand the problem , devise a plan , carry it out and look back still apply in many instances. In recent years the emergence of dynamic mathematics has enhanced the student creative and heuristics skills allowing the immediate construction of mathematical objects, their relationships and their interactive manipulation (Christou , Mousoulides , Pittalis & Pitta - Pantazi , 2005) , this has generated great interest in building dynamic learning scenarios to support the different stages of problem solving. In this paper a learning approach to problem solving activity using GeoGebra , one of the most popular tools of dynamic mathematics is presented.

Keywords: dynamic mathematics, GeoGebra, problem solving, Geometry, Polya