LEARNING TRANSVERSAL KNOWLEDGE THROUGH RESEARCH SITUATIONS: EXAMPLE OF DISCRÈTE MATHÉMATICS EXPÉRIMENTATION ON THE PROBLÈM OF PACKING EQUAL CIRCLES

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It is clear today that math courses have been a real drain in terms of student enrollment, a trend that happens to be international. The causes of this decline are several kinds (educational, cultural ...) and extension may be a way that can make mathematics more attractive and accessible to a wider community. After a brief description of discrete mathematics as a scholar knowledge, we provide some elements of their ecology in the secondary educative organization in Algeria whish are almost quasi non-existent. We hypothesize that this field of mathematics would provide an alternative approach to some transversal concepts, such as proof, modelization and optimization. The study which has been achieved here only involves an " a priori " analysis, prior to any attempt of elaboration of didactical engineering. We develop our thesis on possibilities offered by discrete mathematics as a tool for learning techniques of proof and modelization and we illustrate this by a mathematical and didactic analysis of an experimentation carried out in Algeria on a problem of packing equal circles in simple domains.

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