‘Specialization in ICTs and Special Education: Psychopedagogy of Integration’
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DEMOCRITUS UNIVERSITY OF THRACE Department of Greek Philology
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GIFTEDNESS IN MATHEMATICS: RECENT RESEARCH AND ITS UTILITY IN MATHEMATICS TEACHING

BEBENI MARIA

POSTGRADUATE
THESIS

SUPERVISORY COMMITTEE

1. ΑΘΑΝΑΣΙΟΣ ΔΡΙΓΚΑΣ
ΔΙΕΥΘΥΝΤΗΣ ΕΡΕΥΝΩΝ ΚΑΙ ΕΡΕΥΝΗΤΗΣ Α΄ ΒΑΘΜΙΔΑΣ Ι.Π.Τ. Ε.Κ.Ε.Φ.Ε. «ΔΗΜΟΚΡΙΤΟΣ»
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Abstract

In the present review, we attempted to approach the concept of giftness in the field of mathematics education. The basic domain-general and domain-specific theories targeting identification of mathematics giftness are elaborated. The construction of instruments assessing mathematics gifteness is proved to be a difficult process and it is limited to measures of intelligence or/and mathematical ability which can be quantified but, in this way, important aspects of giftness such as creativity are neglected. Moreover, academic performance in mathematics does not necessarily related to mathematics giftness. A possible explanation is that, traditionally, instruction emphasizes and assesses procedural knowledge, namely the knowledge of algorithms and procedures against conceptual knowledge referring to the knowledge of the concepts and principles that govern a domain. Finally, we discuss the need of providing support to mathematics gifted students and redefining the aims of mathematics instruction to encourage creativity in mathematics and facilitate the identification of the gifted in mathematics.

Keywords: Giftness, Mathematics Education, Mathematical ability, Creativity, Conceptual knowledge

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