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Estimation of the level of cognitive development of a preschool child using the system of situations with mathematical contents

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Abstract

© 2016 by author/s. Cognitive development of personality can be considered as one of the key directions of preschool education presented in the world practice, where preschool programs are educational ones, and preschool education is the first level of the general education. Thereby the purpose of the research is to create a model of reliable estimation of cognitive development of a preschool child by means of the system of situations, including identification of the average level for chronological age. Thus the leading technology is modeling the systems of open-type tasks of mathematical contents and the system analysis of big selections of experimental data based on the two-point scale of four parameters: optimality of the ideas offered by children; efficiency of the reasoning given by them; originality of their answer and level of decision development. As a result of the pilot study conducted in 2015 on selection of 3,800 preschool children, it was succeeded to approve the offered technology of estimation and to generalize results in the form of the integrated assessment of relative character – coefficient of cognitive development level. Mathematical-statistical processing of the results of the research allows to prove uniformity of experimental selection and to specify the level of cognitive development with a reliable accuracy of normal distribution for each age group of the preschool child basing on calculation of samples quartiles that in turn can define the further program of individual development of a child providing his transition to higher level of the general education and consequently, higher quality of education.

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Keywords

Assessment of quality of education, Cognitive development, Open-type tasks, Preschool child, Preschool education