

## **Integrating HOTS Activities with Geogebra in Pre-Service Teachers' Preparation**

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**Abstract :** High Order Thinking Skills (HOTS) are suggested today as essential for the cognitive development of students and as preparing them for real life skills. Teachers are encouraged to use HOTS activities in the classroom to help their students develop higher order skills and deep thinking. So it is essential to prepare pre-service teachers to write and use HOTS activities for their students. This paper describes a model for integrating HOTS activities with GeoGebra in pre-service teachers' preparation. This model describes four aspects of HOTS activities and working with them: Activity components, preparation procedure, strategies and processes used in writing a HOTS activity and types of the HOTS activities. In addition, the paper describes the pre-service teachers' difficulties in preparing and working with HOTS activities, as well as their perceptions regarding the use of these activities and GeoGebra in the mathematics classroom. The paper also describes the contribution of a HOTS activity to pupils' learning of mathematics, where this HOTS activity was prepared and taught by one pre-service teacher.

**Keywords :** high order thinking skills, HOTS activities, pre-service teachers, professional development

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