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## **ANALYSIS AND COMPARISON OF SOME SPATIAL ABILITY TESTS**

**Keywords:** *teaching geometry, MCT, MRT, visual test, engineering education.*

Visual-spatial skills are present in the everyday activities of engineers and architects. Therefore, during their studies in the tertiary education, it is extremely important to develop visual literacy and the ability to interpret three-dimensional objects and their connections.

In the talk we give an overview on geometrical knowledge of today first year civil engineer and architect students, measured by different standard tests. First we summarize the results of three consecutive tests, all of them was recorded at the Szent István University, Ybl Miklós Faculty of Architecture and Civil Engineering. Spatial ability components were measured first with the world-wide Mental Cutting Test then with Mental Rotation Test. For the third survey we used the visual test created by Séra and his colleagues [4] which measures complex spatial abilities. In the analysis statistical methods were used; the conclusions extracted from data evaluation were submitted to hypothesis testing and the results were interpreted.

All the surveys proved development in spatial skills during the first year studies, which we discuss from different aspects (e.g. gender). After [1] we introduce the concept of saturation index, as a refinement of measuring development.

Beside the analysis and comparison of results, the presentation also deals with the critics of the test.

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