EVALUATION OF SPATIAL ABILITY AND ITS CONSEQUENCES

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Abstract

Spatial visualization of engineering students is of greatest importance in terms of their professional achievement, thus evaluation of this skill is essential. Spatial ability is defined by McGee as "the ability to mentally manipulate, rotate, twist or invert pictorally presented stimuli". Mental Cutting Test (MCT) is one of the most widely used evaluation method for spatial abilities (Fig.1).

In this study we present an analysis of MCT results of first-year engineering students, with special emphasis on gender differences. As it is already stated in [1], females "are much less likely to get high scores in the standard MCT". Similar results have been observed in several countries from Japan through Germany to Poland in an international project by Gorska et al. ([2], [3]) and even in a recent longitudinal research in Cracow University of Technology [4].

Similarly to these international projects, significant difference is observed between Hungarian male and female students (Fig.2), which is statistically analyzed in this talk. Based on our earlier research [5], typical faults as well as possible reasons of this difference are also discussed in the presentation.

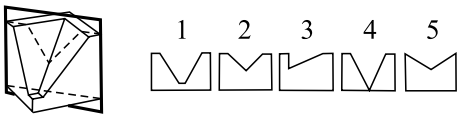

Figure 1. An example of MCT problems (the correct answer is 2).

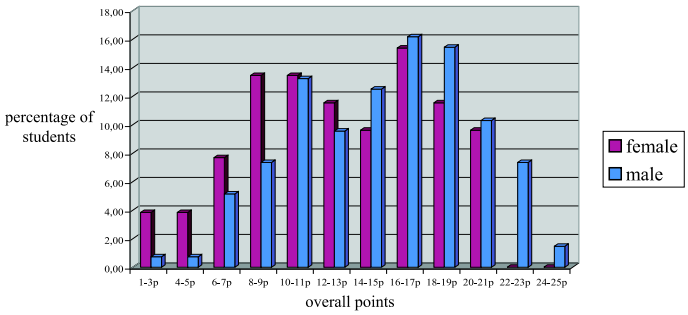

Figure 2. Detailed results of male and female students.

References

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