

Using a Managerial Analogy for Making Mathematics More Attractive

(Keynote's abstract)

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Mathematics does not belong among the most popular subjects. At the same time, its importance for knowledge society is undisputable. For that reason it is rather critical to invite the entire community to participate in the process of its improvement. There are two principal ways to changing the *status quo*:

- The first („internal“) one is based on improving the quality of its teaching. This approach is a frequent subject of mathematical research.
- The second („external“) one exploits an analogy with business. As business persistency strongly depends on the ability of its management to promote accountability and responsiveness to the community, opening channels for information exchange with their environment is highly valued. Research targeting this approach is much less frequent. In our paper, we propose intensifying „marketing of mathematics“ i.e. inviting people to share their vision and to create their personal ties to mathematics.

We will commence our presentation by showing that not all elements of Zimmerman's octagon [1] are covered equally by current mathematics courses. Some of them (e.g. *Calculate* and *Construct*) are dominating; others (namely *Play* and *Argue*) appear in the curriculum exceptionally. As all eight elements represent basic mathematical skills, they

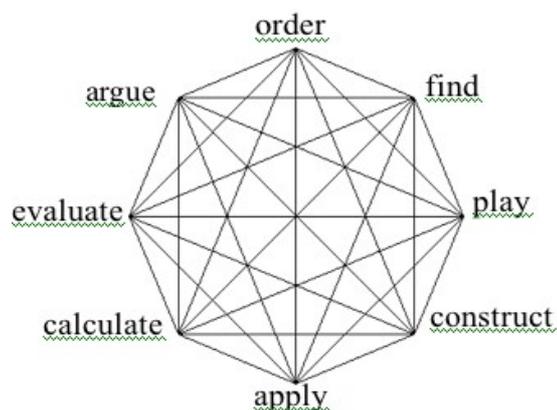


Figure 1. Zimmerman's octagon

should be present in a more balanced manner. *Play* and *Argue* can be characterized as “soft skills” which may demonstrate the usefulness of Mathematics to much wider audience than the “hard ones” – *Calculate* and *Construct*. In our presentation, we will demonstrate potential benefits of the “soft skills” and concentrate on the issues as: *Why should we make Mathematics Education more attractive? How to do it without weakening its quality? How to explain its strengths and weaknesses in a popular language and why? Can information technology help us and, if so, how?*

Reference:

1. Zimmermann, B. 2003. **On the Genesis of Mathematics and Mathematical Thinking - a Network of Motives and Activities Drawn from the History of Mathematics.** In L. Haapasalo and K. Sormunen (Eds.) *Towards Meaningful Mathematics and Science Education*. University of Joensuu. *Bulletins of the Faculty of Education* 86, 29-47.