

IN WHICH WAY DO PRINCIPLES OF MATHEMATICS EDUCATION INFLUENCE THE APPLIED TASKS AND WHICH CONSEQUENCES OCCUR SUBSEQUENTLY FOR THE PROCESS OF PRACTICE ON THE ONE SIDE AND FOR THE PROFESSIONAL DEVELOPMENT OF TEACHERS ON THE OTHER SIDE?

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Short description of the workshop: aims and underlying ideas

National education reforms have been mainly undertaken by prototypical tasks. Hence the underlying idea of this workshop is to induce sensibility for the cognition of this important parameter. The practical debate on prototypical tasks will methodologically take center of the workshop framed by presentations about the state of knowledge concerning this influence parameter in the beginning and a summary of the essential outcomes in the end.

In detail the following aims characterise the dynamics of the proposed workshop:

Aim #1: Identifying the new importance of prototypical examples in the context of ongoing educational reforms.

Aim #2: Identifying challenges in the use of prototypical examples within the context of curricula in Mathematics at secondary level.

Aim #3: Identifying possible washback-effects of prototypical examples on teacher education curricula at universities.

Aim #4: Giving answers to the question if the strategy of providing prototypical examples may be interpreted as a Fundamental Idea in Mathematics Education in the sense of experiencing and opening the world.

Planned structure:

Planned timeline	Topic(s)	Material / Working format / presenter
15 Minutes (5 Minute each)	A general survey of experiences originated from tasks' analysis The shift of contents to the point of more comprehensive	presentations by Fuchs, Kraler & Plangg

	approaches (for instance modelling, interpreting, reasoning) The influence of prototypical examples on teacher training	
30 Minutes	Reviewing prototypical examples	Material: published prototypical tasks Working format: wading through the prototypical tasks, discussion in groups
30 Minutes	Reviewing prototypical examples	Working format: discussion in the plenum
15 Minutes	Summary / Conclusions of steps one to three	presentations by Fuchs, Kraler, Plangg

References

- Fuchs, K. (2013). Competencies - A New Keyword in Teaching Meaningful Mathematics. In: *Journal of Teaching and Education*, 2(4), ISSN: 2165-6266: UniversityPublications.net, 227-231
- Kraler, Ch. & Schratz, M. (2013). From Best Practice to Next Practice. A shift through research-based teacher education. Erscheint in: Harford, J., Sacilotto-Vasylenko, M. and Vizek Vidovic, V. (Eds.), *Research-Based Teacher Education Reform: Special Issue of Reflecting Education* (2012).
- Plangg, S. (2014). Computeralgebrasysteme und zentrale schriftliche Prüfungen - Über die Notwendigkeit von Kenntnissen aus der elementaren Algebra (engl.: Computer Algebra Systems and central written examinations – About the necessity of knowledge in elementary algebra). In: *Mathematik im Unterricht*, No. 5, 21-29 .