Preparation of a proposal for a Oral Communication (OC) or a Poster Presentation (PP) proposal

The preparation of a proposal for an OC or a PP is a challenging enterprise since the space is limited to one page only. In the following we will present some helpful information which aspects should or must be included in such a proposal. Both OC and PP will be reviewed by the IPC (International Program Committee) during the second IPC meeting which always take place at the end of March). This review process is guided by certain criteria.

1. The proposal must satisfy the formatting guidelines given in the first announcement. If possible, use the template the conference organizers provide on the conference website. Proposals which do not satisfy the formatting rules will be rejected, since the conference organizers have no time at all to change the format of proposals.
2. The proposal for an OC or a PP has a quite different character than an abstract of a talk or an article. For example, for OC/PP proposals it is not enough only to announce results which will be presented at the conference. Instead the proposal should give a description of the research that has been conducted or that is being conducted and this includes aspects of theoretical background, research goals, concrete results or concrete expected results. It is the basis for the review process which decides whether the OC or PP can be presented at the conference.
3. The proposal should consist of a text part describing the research to be presented and a reference section providing the references cited in the text part. Due to space limitation it is not necessary to give a lot of references. To cite one or two papers would be preferable so that people get an idea in which paradigm or perspective the study is located. Since the review is blind, it does not make really sense to refer to own papers because the reviewers cannot notice these. Please beware: each paper that is cited in the text part must have an entry in the reference section (in the prescribed formatting style).
4. The text part should contain the following essential aspects (in an order that makes sense):
   - a short description of the theoretical background or framework
   - research goals, questions or hypotheses
   - the methods used for the study (in the case of empirical studies this includes information about the sample, the design, the instruments, the method of data analysis)
   - the (most important) results obtained by the study (due to space limitation better presented as text and not as table or figures); if the proposal presents a planned study, then expected results must be described (with reasons why these results are expected)
   - finally, a short discussion or conclusions should be mentioned, giving an idea how the research question or goals are satisfied; if possible the new knowledge provided by this proposal should be stressed. It is obvious that for each of these aspects only a small number of sentences can be used, since the space is limited to one page. To prepare the proposal in such a compact way is challenging but every year many PME members are successful. Please be aware that proposals with more than one page will be rejected without further consideration. In the following, you will find four successful proposals. We put some comments into the file to explain how these proposals satisfied the previously mentioned guidelines.

Example of an acceptable proposal for an Oral Communication (OC)

FOSTERING THE ADAPTIVE STRATEGY USE OF GERMAN 3RD-GRADERS: THE CASE OF INDIRECT ADDITION

Indirect addition is an efficient strategy for solving subtraction tasks with a small difference between minuend and subtrahend, e. g. 304-297. However, only a minority of primary school students uses indirect addition for these specific subtraction problems (e.g., Torbeyns et al., 2009). We assume that recognizing task characteristics supports the interpretation of subtraction in these specific problems by a difference model instead of a take away model and, therefore, promotes the consideration of the indirect addition strategy instead of the straightforward application of a direct subtraction strategy. Accordingly, the question arises whether students' adaptive use of the indirect addition strategy can be fostered by an intervention study teaching the analysis of task characteristics as a criterion for strategy choice. The research questions are:

- Is there a change in students' criteria for strategy choice towards a stronger emphasis of tasks characteristics after the intervention?
- Is there a rise in students' adaptive use of the indirect addition strategy?

The sample comprises 54 third graders with good mathematics achievement and taught a variety of strategies. The intervention took place once a week in groups of 7-10 students. In five sessions, different strategies (including indirect addition) and the analysis of task characteristics were addressed. Data for the pre-post-test comparison was collected by identical tests with 10 items on adaptive strategy use and short interviews asking for the criteria of strategy choice for specific subtraction items.

From pre- to post-test there was a substantial increase in the reference to task specific criteria for strategy choice (from 11.0% of the solutions to 35.0%). This indicates that the students more frequently took into account task characteristics when solving subtraction items. As expected, in the pre-test, students showed a low adaptivity in their strategy choice for test items suggesting indirect addition as efficient strategy (overall, only 1.8% of the solutions were efficient). In the post-test, adaptive strategy use for indirect addition items increased (17.4% of the items). Additional, in the post-test data a significant correlation could be observed between the frequency of reference to task specific criteria and adaptive strategy choice ($r = .51$, $p < .001$).

Based on these results, we hypothesize that the analysis of task characteristics is an important element in teaching students an adaptive use of the indirect addition strategy. However, the post-test results for adaptivity are still on a moderate level.

References

Torbeyns, J., De Smedt, B., Ghesquiere, P., & Verschaffel, L. (2009) Acquisition and use of shortcut strategies in traditionally-schooled children. *Educational Studies in Mathematics*, *71*, 1-17.

Kommentar [A1]: Short introduction into the topic. The literature reference gives an idea which kind of research perspective or paradigm the authors follow.

Kommentar [A2]: Short explanation of the underlying assumption of the following research study. This explanation is important to understand the intervention study. Here more references would be nice. Perhaps the authors did not give more references due to space limitations.

Kommentar [A3]: Precise research questions, an essential part of each proposal (alternatively, research goals or hypotheses).

Kommentar [A4]: Short description of the sample.

Kommentar [A5]: Short information about the intervention.

Kommentar [A6]: Short information about the design, data collection and instruments. This is also an essential part of the proposal.
The way of analysing the data (statistical analysis) becomes obvious in the results section.

Kommentar [A7]: Summary of most important results.

Kommentar [A8]: Short conclusion and interpretation.

Kommentar [A9]: References are a necessary part of the proposal!

Example of an acceptable proposal for an Oral Communication (OC)

SPATIAL ABILITIES AND MATHEMATICS ACHIEVEMENT AMONG ELEMENTARY SCHOOL CHILDREN

Spatial abilities are regarded as important prerequisites for learning mathematics. In particular, empirical findings show that spatial abilities are related positively to mathematics achievement (e.g. Fennema & Sherman, 1977). However, since most studies were conducted either with secondary school students or with adults, there is hardly any research evidence on the relationship between elementary school mathematics achievement and spatial abilities.

This research project aims to examine the relationships between mathematical achievement and spatial abilities among elementary school children. Spatial abilities are assessed by a paper-and-pencil test. Although factor analytic models of spatial abilities are often criticized, it makes sense to use the resulting dimensions as a foundation for constructing test items. The following dimensions are distinguished: Visualization, Mental Rotation and Spatial Orientation (Lohman, 1988). In order to assess mathematical abilities among elementary school children, we developed a framework for constructing test items. Basis for this framework are international studies such as TIMSS and PISA and the national educational standards.

The sample comprises 448 students of grade 4 (22 classes). The findings indicate that students with high spatial abilities have greater mathematical abilities than students with low spatial abilities ($r = .54$, $p < .001$). Furthermore, multilevel analyses suggest that a significant amount of variance of mathematical achievement as well as of spatial abilities can be explained at the class level. Accordingly, it seems that mathematics instruction has a significant impact especially on the development of spatial abilities. In summary, it can be concluded that a positive relationship between mathematical and spatial abilities can be confirmed already among elementary school children. Moreover, the role of mathematics instruction for the development of spatial abilities needs further research, since spatial abilities are an important factor for mathematics learning. In the presentation, further results will be discussed in detail.

References

Fennema, E., & Sherman, J. (1977). Sex-Related Differences in Mathematics Achievement, Spatial Visualization and Affective Factors. *American Educational Research Journal*, 14(1), 51-71.

Lohman, D. F. (1988). Spatial Abilities as Traits, Processes, and Knowledge. In R. J. Sternberg (Ed.), *Advances in the Psychology of Human Intelligence* (Vol. 4, pp. 181-248). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Kommentar [Reviewer1]: Be aware that a proposal for a SO is more than only an abstract! You must present information on the theoretical background, the research goals, the methodology and the results!

Kommentar [Reviewer2]: Short introductory comment on research topic with an important literature reference. The reference may also give information on the research perspective or paradigm the authors work is based on.

Kommentar [Reviewer3]: Stressing research desiderata explicitly.

Kommentar [Reviewer4]: Short description of the research goal. This is important! Alternatively, research questions or hypotheses can be reported.

Kommentar [Reviewer5]: Here we find information about the methodological approach and the framework for the instruments.

Kommentar [Reviewer6]: Short information about the sample. Here it is enough to give this short information. In other studies more information about the sample selection might be necessary.

Kommentar [Reviewer7]: Outline of the most important results. Please be aware that results must be part of the proposal. If there are no results then at least expected results (with reasons why they are expected) should be given.

Kommentar [Reviewer8]: Short idea on the interpretation of the results (implicitly linked to the research goal).

Kommentar [Reviewer9]: Finally, an announcement that there are further results (if there are any).

Kommentar [Reviewer10]: Do not forget to give the references at the end of the proposal.