The Importance and Preferences of GeoGebra in Math Education of Teachers in Slovakia

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1 Goal

Many Slovak teachers of mathematics have received training courses in the use of digital technologies as a part of modernization process in the teaching of mathematics. The subject of DGS (including GeoGebra) has been the important part of training courses together with options of their effective integration into the teaching of math. The data are being collected about the outcome of the training called "Dynamic Geometry Systems in Math Education", these data are the bases for study. The study aims to analyze the results of the training in terms of their reach on usability of DGS in practice during the teaching of mathematics at elementary and secondary schools. The major part of the analysis will be devoted to utilization rate and the range of applications of GeoGebra.

2 Methods

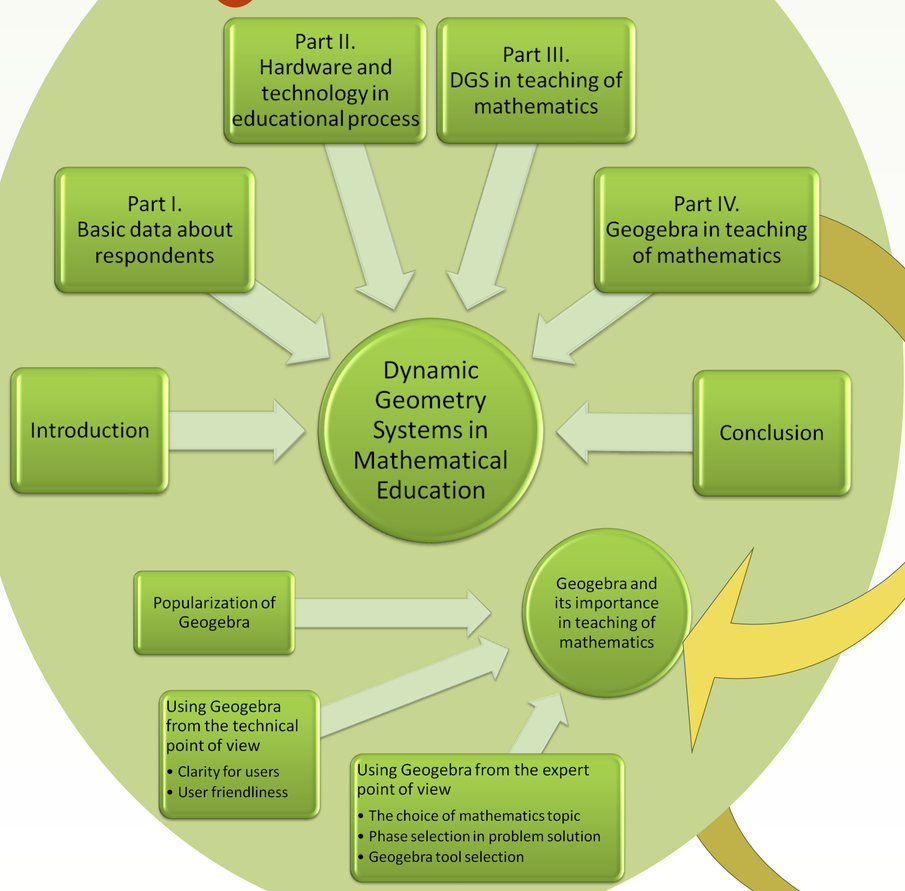
An electronic (web) questionnaire has been used to obtain relevant data. DGS GeoGebra, Cabri, Geometry, Compass and Ruler are the most commonly used programs in Slovakia. Therefore, the questions in the questionnaire are focused on the comparison of these systems from different points of views:

- from the perspective of their importance for the teachers of mathematics;
- from the perspective of usability and clarity.

The monitored factors in the use of GeoGebra are:

1. utilization rate of GeoGebra;
2. range of applications of GeoGebra;
3. preference of GeoGebra tools and more.

3 Questionary

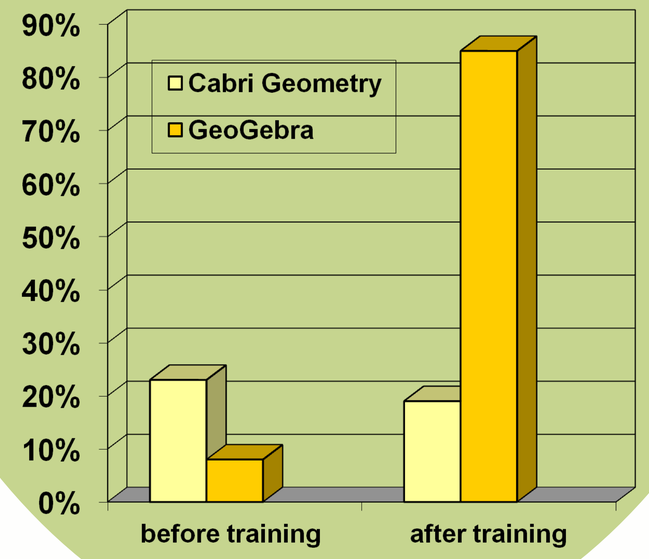


4 Data & Results

At this time we only have a small sample of respondents, because data are being collected.

Nevertheless, we can conclude that the number of users of GeoGebra has significantly increased after the training courses. It should be noted, that during the training teachers have become familiar (but not to the same extent) with these DGS: Cabri geometry, GeoGebra, Compass and Ruler, Geonext, Euclid and Cinderella.

The comparison of Cabri Geometry and GeoGebra is relevant because 92% of teachers have become familiar with working in Cabri Geometry and with GeoGebra as well.



5 Conclusion

The modernization in teaching of mathematics at elementary and secondary schools doesn't dependent solely on hardware and software education. The teacher is still the main factor.

The results of the research in Slovakia confirm that the utilization rate of dynamic geometry systems in the education of mathematics is strongly dependent on the following parameters:

- DGS awareness and availability for teachers of mathematics;
- DGS knowledge by teachers of mathematics;
- ability to effectively integrate DGS into mathematics education.

It also shows that teachers prefer to create their own individual educational materials (83%) and they use already made (downloadable) applets to a lesser extent (22%).

More detailed information about the research results will be published in the article and it will made available to conference organizers CADGME 2012.

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Contribution was supported by the grant MŠ SR KEGA 028UK-4/2011