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INTRODUCING DYNAMIC MATHEMATICS SOFTWARE TO TEACHERS

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The process of integrating technology into teaching and learning mathematics proved to be rather slow. Although many teachers are willing to try out new technology they often are hindered by initial difficulties and impediments related to their basic use, the technology's availability, or lack of knowledge about an effective integration of the new tools into their everyday teaching. Professional development plays an important role to overcome these burdens for teachers who want to enhance their student's learning of mathematics by using technology.

In this paper we describe a study aiming to identify most common impediments related to the introduction process of the educational software system GeoGebra. By identifying more effective approaches for introducing GeoGebra to secondary school mathematics teachers the first hurdle of getting teachers started with using the software could be tackled. Based on an analysis of introductory GeoGebra workshops for middle school teachers in Florida, frequently occurring difficulties that arise during the introduction process as well as challenging tools and features of GeoGebra were identified.

These outcomes now serve as a basis for the development of new and potentially more effective instructional materials for professional development of mathematics teachers. On the one hand, these materials are designed to introduce the basic tools and features of GeoGebra to novices enabling them to operate the software and use it for the creation of own instructional materials. On the other hand, different methods of integrating GeoGebra into everyday

teaching are presented and the software's potential for mathematical experiments, active, and discovery learning can be experienced by the participating teachers.

The instructional materials derived from the analysis of identified impediments are going to be introduced in this presentation. They will provide a basis for future professional development with GeoGebra offered by the International GeoGebra Institute with the goal of supporting mathematics teachers who would like to effectively integrate dynamic mathematics software into their teaching practices.