ESTABLISHING A PROFESSIONAL DEVELOPMENT NETWORK IN ENGLAND AROUND DYNAMIC MATHEMATICS SOFTWARE

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The principal aim of this project was to conduct research on GeoGebra-related professional development materials and approaches. The study was conducted through tight collaboration of educational researchers and mathematics teachers in England utilising frameworks of communities of inquiry (Jaworski, 2006) and collaborative design (Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003). By joint collaboration and design we aimed to establish a core group of GeoGebra experts in England who can offer professional development and support for teachers. We also wanted to explore the ways in which GeoGebra can be used to enhance the teaching and learning of mathematics within the English curriculum.

In this poster, we outline some results of this NCETM (National Centre for Excellence in the Teaching of Mathematics) funded project. We highlight that during the past years a large international user and developer community has formed around various GeoGebra-related activities. Most teachers who are currently using GeoGebra have not received professional training in the implementation of the software in their teaching practices, but have begun using it due to their enthusiasm or encouragement by their colleagues.

However, research suggests that, for the majority of teachers, solely providing technology is insufficient for the successful integration of technology into their teaching (Cuban, Kilpatrick, & Peck, 2001). It has been suggested that adequate training and collegial support boost teachers' willingness to integrate technology into their teaching and to develop successful technology-assisted teaching practices (Hohenwarter & Lavicza, 2007). Thus, in our project, involving nine experienced UK teachers, we worked on some priorities for professional development and developing supporting materials for teachers in England.

In addition, we investigated ways in which GeoGebra can be integrated into the mathematics curriculum in England and began developing and collecting materials that can be used in mathematics teaching and learning. In addition, we laid down the principles for establishing a local searchable GeoGebra site and on-line support structure. Certainly, this project only offers initial steps for developing more

extensive professional development activities. We aim to extend this work and to utilize the knowledge and materials to further develop and trial professional development workshops.

Participants became interested in research and sharing their experience with other teachers in conferences and through various publications. Thus, we believe that with this project we contributed to the professional development of teachers in England and supported the aims of NCETM.

Finally, there is a broader impact of the findings from this project as it not only informs the national mathematics education community about the affordances of new mathematics learning technologies, curriculum design and teacher professional development, but also contributes to a broader international community. Through the international developer and research network of the International GeoGebra Institute (Hohenwarter & Lavicza, 2007) findings of this project assist in setting up and designing broader projects. Hence, this project contributes to developing self-sustaining support and professional development networks not only in England but also in other parts of the world.

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