

## **Mind tools in p.o.**

Nowadays technology-based societies ask for participants that have knowledge and skills for the future. Therefore, it is necessary that also primary education vigorously supports the development of pupils' (problem based) thinking skills and habits of mind with respect to technological domains. Modern technology and ICT based tools, like Techno-Logica and Lego Mindstorms, seem both promising instruments for creating learning environments which support this development and effective means for realising the educational objectives in the domain of technology. However, up to now empirical support is scarce. The main objective in this study is a better understanding of Direct Manipulation Environments (DME's) for technology teaching in primary school education. Especially, the study addresses the question whether DME's, like Lego Mindstorms and Techno-Logica, can effectively support the development of pupil's learning in terms of an increasing technological literacy (knowledge, concepts, skills and strategies) and in terms of an improved domain specific and general higher order thinking.