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## Trial

Any developments implemented until May 2008 referred to the respective partial systems themselves. During the trials at school it became apparent that the school students were fixated on the coupling of the partial systems and, thus, on the solution of more complex tasks shortly after they had become acquainted with the Meclab system.

For testing this under realistic conditions the event "IdeenPark 2008 - A festival of technology and learning" that took place at Stuttgart New Trade Fair in May was a good opportunity. For this purpose, three workshops of three days each with 12 adolescents at the age of 11 to 18 years respectively took place.

## Selected results and experiences

The work with and on the Meclab learning media system enabled the attendants to obtain access to the automation engineering in its manifold applications and aroused their interest in continuing to address this field of engineering. Consequently, the children's and adolescents' access to engineering in general is deepened. With this in mind, the learning media system offers a supplement of any existing contents and media for general technical lessons.

Although the topic of the workshop did not arise from the direct home environment of the attendants, they developed a great interest in this subject matter. During the three-day workshop all groups developed a fully automated system according to the type of problem with the help of the Meclab system. In doing so, six groups planned, implemented and optimized six different concepts. The present experts were partly surprised at the solutions developed by the children. As a result, the Meclab learning media system proved its didactic variability.

An accurately planned didactic use of the Meclab learning media system allowed the supervisors to work in a consistent, but also differentiated manner with the school students. The following became apparent: Each medium, even a very complex one, is only as good as the overall didactic concept in which it is integrated.

In the course of the workshop, the school students were enabled to fulfill complex work tasks in an independent and self-directed manner. The findings obtained at the same time enabled them to use the planning of the work steps, their implementation as well as the control and the objective and critical evaluation of the solutions achieved in order to provide the working group with any own advanced tasks.

From the attendants' point of view as well as from the supervisors' observations, it could be stated that the children's and adolescents' capacity for teamwork was significantly growing and that, as a result, the social competence could be strengthened.

With the development of the individual systems of Meclab towards a complex automated overall system (the new product filling station) the creative possibilities of the learning media system could be detected and even enhanced. These enhancements provide the possibility of introducing any tasks or work tasks without any fixed expectations regarding the results on and with complex mechatronic systems into the technology-oriented lessons.

Extracts taken from: Hüttner, A. "Making industry-oriented technology teachable at

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