

Kids in Control as creative designers

the follow-up at Roermond



For a long time improving learning and thinking has been an aim of the educational community. Therefore, the VTB project of Midden-Limburg intensively studies the benefits of technological computer applications. The research concerns computer applications which are specified as mindtools. A mindtool is software that delivers knowledge representations of its users mind. The educational value of a



mindtool is the possibility to stimulate learners' generic critical thinking skills while developing content based knowledge and skills. In our opinion, ED7 is such a mindtool.

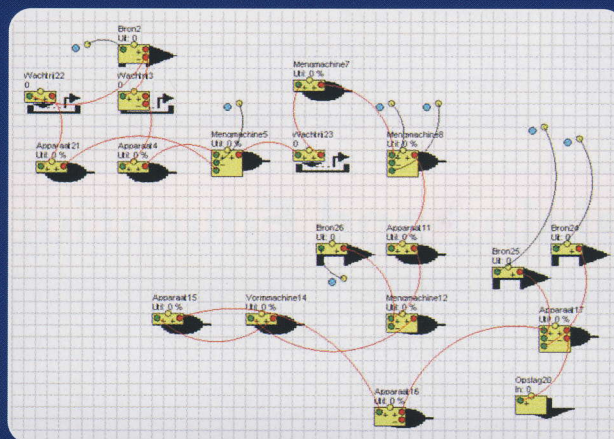
Our pilot study points at two research questions. Firstly, is ED7 appropriate to use in education for 11 and 12 year old children and what are possibilities and difficulties? Secondly what do children learn of software such as ED7. At the moment of writing this news our study is halfway and so we can mention some provisional conclusions.

Until now we organized ten sessions with three twosomes of a primary school. In the first sessions several twosomes got a direct verbal teacher instruction while other twosomes used a written instruction. In both situations the children were able to compose a simulation of a logistic process. But in the meantime we noticed that children experienced major difficulties in systematically analyzing such processes. The group with the written instruction showed more need of teacher support. The difficulties are not caused by ED7 but are activated by using ED7. That is what we hoped ED7 would do. So we conclude ED activates thinking skills and problem solving

behavior. Some parts of ED such as the input and send to strategies are based on mathematical/statistical formulas which demand a high level of abstraction. We concluded that it would be necessary to give the children some structuring help. We did this by training the analyzing of fabrication processes. We presented some movies of the Discovery series "How it is made". Together with the teacher the children analyzed the making of products for example a golf ball. In a flow chart the processing steps and machines were written down. The interface of ED was also simplified by giving the children some translated and prefabricated library atoms and in the Dutch language translated descriptions of the formulas. Translating the explanation of these formulas has led to a better understanding. After designing a flow chart of their own factory and by using the modified interface some groups were able to compose simulation of complex fabrication processes with remarkable less teacher help.

We are optimistic about the usefulness of ED7 as educational tool and we will continue studying this environment.

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