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Smart Mice with Loudspeakers

The educational initiative "Smart Mice - Children Discover Language", which was founded in 2003, encourages the development of language skills in pre-school children. The program is in use at the day care center "INA" in Berlin.

The Initiative

The educational network "WissensWert", was started in 2003 by Microsoft Germany together with partners from the realms of politics, economics, and science. A substantial portion of this effort takes the form of the initiative "Schlaumäuse – Kinder entdecken Sprache" ("smart little mice", or simply "smart mice" and " – Children Discover Language"). This is accomplished with the use of modern media technology and with the help of the computer learning workshop at the Berlin Technical University. Coupled with that is a custom-designed learning software program developed especially for this initiative in the computer learning workshop. These resources are intended to enhance the language skills and, as a playful sideline, increase the computer skills of preschool children between the ages of four to six. Most importantly, if the young sprouts happen to come from disadvantaged socio-economic environments (for example, children with migrant backgrounds), the Smart Mice initiative can serve as a possible first formal learning experience. This can open further doors to a better and more solid overall education. Since its inception, there are more than 1,000 kindergartens equipped with the Smart Mice package, and more than 30,000 children play and learn with the software.



Hanging from long rows of coat hooks mounted along the walls in the corridor, are 139 little white gym bags. The muffled sound of children's laughter can be heard from behind the closed classroom doors. The rooms of the INA day care center located in the Wedding subdivision of Berlin stretch four stories high. On the third floor, two five year old little girls are sitting at a table next to the game corner and are poring over the screen of a tablet PC intensely. "Come on, click on the mouse theater", says Jasmin, and her friend Rabia clicks on the multi-color graphic image displayed on the screen they are watching. "Take the green paintbrush and paint the chair green", says the computer through its loudspeakers. Rabia follows the instructions given by the tinny voice, and drags the paintbrush in the direction of the chair. "Well knock, knock, knock on wood. The room looks really good", sings the computer voice approvingly. The little girls are having a great time. "It's my turn now", says Jasmin. Rabia and Jasmin are not the only children in Germany playing with the "Smart Mice" learning software. Around 30,000 children from the ages of four to six years old are

"The Smart Mice software doesn't just teach the children to speak a language, it teaches them to work together in teams, and it reduces their fear of learning"

Annette Baumann, supervisor at the INA day care center.

30 000

30,000 kindergarten children are already playing with the Smart Mice software.

Without stress or undue pressure, each pre-schooler can participate for up to 25 minutes every day in the Smart Mice games at the INA child day care center. "This will not overtax the center at all. When a child doesn't want to play the computer games any more, he or she simply quits", says the current supervisor Simone Jung. "It is our experience that children are in great part under-challenged because grownups take too much out

of their little hands". In the meantime, little Simay and Karim are playing with the Smart Mice. They have selected a brain-teaser's game: on the screen, a truck and four gray mice are displayed. "What is that?", asks the computer voice. Karin clicks on a gray mouse. "A motor scooter", says the mouse. Simay explains, "Now I need to click on another gray mouse. One of these four mice always knows the right answer". They really know their way around the learning program, and are even better than their older siblings at doing some things. "While Simay can translate a German poem into Turkish for her dad, my other (older) children would have difficulty doing so", says their mother Nurdan Yordamli. Annette Baumann, a supervisor at the INA child day care center, also notes the success of the software, in particular the child-oriented structure of the Smart Mice software. "The Smart Mice software not only helps the children to speak well, it also helps the children to work in teams while reducing their fears and reservations", she says. The other child educators notice, "No matter which native language the children may have, when they play with the Smart Mice, they talk to each other in German". improving their speaking and writing skills with the help of the software. The program was developed by the Berlin professor Barbara Kochan and Elke Schröter, the computer learning workshop supervisor of the Berlin Technical University.

Whether it's with "Robi Smarty", or the "hearing cube", or the "seesaw", or the "sandbox game", on this software virtual playground, the children learn their way around by speaking and writing in a fun-filled way, while at the same time sharpening their computer skills as well. "By making use of such tools as 'loudspeaker', or 'stethoscope', the words are spoken aloud by the computer. Each child individually can experiment with possible answers and progress at a pace specifically suited to that particular child. The program is based on the concept of learning as a process of unfolding. The software program thinks along with the child. That is unique", explains Barbara Kochan, one of the developers of Smart Mice.





Many children of migrant workers speak only their native language or a broken mix of languages at home, and they try to learn German far too late.

Another benefit of the learning program: "The software solves the 'I want to' problem. Instead of an 'I have to' situation, the children are highly motivated to 'want to' learn", explains

Kochan. The shying away from technical devices does not even surface. "It's amazing how fast the little sprouts get used to the computer. They have absolutely no qualms about simply trying things out", says child educator Bärbel Mende of the day care center in the Wedding subdivision of Berlin.

[That is very important](#), because 25 percent of the children born in Germany stem from migrant families. Many have difficulty with the German language. "At home, these children speak their own native language or a broken mix of languages. Some children come here and don't even speak a word, either in their native language or in German", explains Bärbel Mende. Not only do children from other countries battle with the language barrier, but many Germans do so as well. "In the day care centers where we have tested the Smart Mice software, there were approximately 40 percent of the non-German children and 10 percent of the German children who were at risk of falling short of the competency level for entrance to elementary schools before the introduction of the Microsoft Education Initiative", intones Barbara Kochan.

[One problem, however remains](#) at the center of a huge political debate. According to a study conducted by the European bureau of statistics, Germany is a country where performance in school is greatly dependent on family background and influence. In other countries, this imbalance is offset by an early detection of children's performance strengths and weaknesses. According to international comparison studies conducted by the Organization for Economic Cooperation and Development (OECD) few of the other 30 OECD countries contribute so little funding for pre-school educational development as Germany: only about 0.04 percent of the gross domestic product. France invests more than double that amount in support of kindergarten programs. A good reason for Microsoft to become active in this initiative: along with representatives from the model program "D and O -- Development

News from the "Smart Mice"

The newly enhanced second version of the software should ease the integration of somewhat older preschool children as they enter their first year of elementary school. Once again the two smart mice and the friendly ghouls Lolli and Pop accompany the children on their language journey. Playfully, the software strengthens the children's language skills, improves their speech and diction, and sets them well on their way towards learning to read. In the form of games, the children are challenged directly to interact with the software, which further increases their computer skills. For parents, there is the additional benefit in which the software allows the child to progress at the child's individual learning pace, and that progress can be measured. Additional learning aids are available to parents in order to assist children who may have learning difficulties.

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0.4%
of Germany's GDP is invested in education each year. France invests twice that amount.



and Opportunities for young people with social handicaps", which is a program initiated in 2003 and 2004 throughout Germany involving 200 day care centers in socially disadvantaged regions of the country. As participants in the pilot project, these centers were equipped with the Smart Mice software, and the center educators were trained in the use of the program. The patron of the project, Family Welfare Secretary Ursula von der Leyen is pleased with the success: "The Smart Mice program helps children who might not have the chance at home to learn a foreign language which can improve their overall educational opportunities. It is good that the initiative be set forth, and that the fun of speech learning is made available."

One thing is a scientifically proven fact: pre-school children learn German better and faster through the use of the Smart Mice software. Seventy-five percent of the educators contend that the children even learned to write as a result of being exposed to the software. "The program is really a good preparatory step for school", says Bärbel Mende. In fact, even parents are impressed. Little Karim's mom, Jeannine Grün-Yildirim, beams proudly, "I am really glad that my son discovered a fun way to learn a foreign language in the day care center, and is not just tinkering around building little things". An additional success story can be chalked up to the software when it was introduced at the Frankfurt book fair in 2006. The software received the Golden GIGA Mouse award as the best software of the year 2006 from a jury of experts.

Support Education

Microsoft has maintained a presence in Germany for over 20 years, and continues to grow and expand. The company is continuously involved in a multitude of initiatives and projects. The core themes: Support Education, Inspire Growth, Encourage Research, and Enhance Security. The educational network "WissensWert" from Microsoft Germany, together with its partners, serves as a means of achieving these goals. The main thrust of these efforts is the innovative and effective use of computers and software in kindergartens and schools.