



Case Study

Intel® Teach Program

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Karol Lalla, Headmaster,
Handorf Primary School

German Teachers Enhance Classroom Instruction through Involvement in the Intel® Teach Program

At a primary school in Handorf, Germany, students are gaining technology literacy and developing other key 21st century skills after their teachers' involvement in the Intel® Teach Program. They are also engaging in more student-centered learning and taking part in projects with real-world relevance, including projects that help them learn about other cultures and explore common bonds.

Challenges

- Today's students need to learn technology and other 21st century skills in order to participate in the knowledge economy.
- While many teachers use technology in lesson planning, few use technology in the classroom.
- Teachers are in need of effective strategies to integrate technology into instruction and help their students acquire key 21st century skills.

Approach

- Provide professional development to teachers to enable them to integrate technology effectively in their classrooms and to help students acquire key 21st century skills, including digital literacy, problem solving, critical thinking, and collaboration.
- Employ project-based learning to help engage students in meaningful learning experiences, including projects addressing real-world issues.

Benefits

- Through the Intel Teach Program, more than 300,000 German teachers are now able to effectively integrate technology into their instruction and help their students develop key 21st century skills.
- As a result of improved instruction, hundreds of thousands of German students are now learning the skills they will need to compete and thrive in the knowledge economy.



Intel Teach Program: A Case Study

Like other educators across Germany and around the world, teachers at Handorf Primary School in Lower Saxony recognize the importance of helping youth acquire digital literacy skills. But not so long ago, though a number of teachers at the school utilized technology for lesson planning, few used technology with students in the classroom.

That was before the teachers got involved in the Intel Teach Program, a professional development program designed to help teachers effectively integrate technology into instruction and help students develop key 21st century skills. The Intel program has been a firm component of professional development offered by Germany's Federal States since 2000.

Led by the school's headmaster, Karol Lalla, the faculty at Handorf Primary signed on, taking advantage of both face-to-face and online training opportunities offered through the program. In addition to learning how to use technology as a tool for learning throughout all subject matter, the teachers also gained other research-based strategies and tools to improve their practice. This included a shift to more student-centered approaches, including more project-based learning in the classroom. By involving their students in projects with real-world relevance, they saw that students became more engaged in the learning process, utilizing technology and other important learning skills in their course of study.

Recent projects conducted at Handorf Primary School have included: "Europe, A Journey," where students collaborated with peers in other European Union countries—specifically, Poland, Northern Ireland, and Denmark—to learn about the differences and similarities in their cultures; and "Breakfast Around the World," where students embarked on a study of breakfast habits in Germany and around the world. The latter involved students learning about nutrition through various media, conducting surveys on local breakfast traditions, creating a campaign to encourage healthy breakfast choices, compiling a cookbook of recipes, studying breakfast practices around the world, presenting their findings via the Internet, and finally, planning an "international breakfast feast" where they prepared a variety of breakfast dishes to share with family and friends. "This activity was the climax of the school year," notes Handorf teacher Rosina Töpelmann.

Through projects like these, teaching and learning have become enriched, teachers report. Not only have students acquired technology skills, but they also have honed other 21st century learning skills, such as thinking critically, problem solving, and working collaboratively.



Further, the integration of technology has expanded the diversity of methods employed by teachers, reports Lalla, and that's good for students. "It has given rise to a new pedagogic concept for the school which allows for the different learning requirements of pupils," he says.

Witnessing improved student performance, as well as the students' increased enthusiasm for learning, the Handorf community quickly saw the added value of integrating technology in the classroom. As a result, interest was generated in investing in more technology for the school, including purchasing new laptops. The school now has a state-of-the-art computer room that is used by the teachers for in-school professional development, using the Intel® Teach Advanced Online Course.

Home use of technology by students has also increased, report teachers. "What should not be underestimated is the increased acceptance and appreciation expressed by parents regarding the use of PCs in class," says Lalla. "Parents now tell us that they have consciously made PCs available to their children at home."

Lalla, who has been involved with the Intel Teach Program since 2000 and works as a program mentor in Lower Saxony, says, "As a primary school, it has only been through Intel that we have actually discovered the ability to extend our repertoire of teaching and learning. As a result, Intel Teach has become a permanent part of school life."

Education and Technology in Germany

In Germany, there are approximately 750,000 teachers working in more than 40,000 schools. Cultural control, including responsibility for the school system, lies with the Federal States. Though some differences exist from state to state, the education system follows a basic structure that is applicable nationwide. Additionally, educational standards have been established for German, the first foreign language, mathematics and science to ensure a level of standardization for graduation qualifications.¹

Access to technology equipment is monitored through annual surveys conducted by the Federal Ministry of Education and Research. Recent years' data shows that technology access is continually improving, in terms of computers, software, and peripheral devices, as well as access to the Internet. The ratio of pupils to computers is roughly 12:1 in both primary and secondary schools, and 9:1 in vocational schools.

Surveys by regional institutes, such as the ISB in Bavaria, show that approximately 50 to 60 percent of teachers use digital media in the preparation of lessons. However, in the lesson itself, only 25 percent of teachers frequently use digital media as a method of teaching. Reasons given by teachers for inhibited classroom use include large class sizes and lack of access to equipment. In the "German Education Report 2006," the majority of pupils said they had not acquired their knowledge of computers in school, but in locations outside of school. Thus, in addition to improved professional development for teachers, optimization of technology access in schools will continue to play a significant role in improving technology integration in instruction.

1. For more information on the education standards in Germany, visit <http://www.kmk.org/schul/home1.htm>

Intel Teach in Program Germany

The Intel Teach Program has been a firm component of professional development offered by Germany's Federal States since 2000. Since that time, it has become a "first port of call for professional development of teachers using digital media," as reported by Matthias Holland-Letz in an article published by the teachers' union.²

German educational leaders laud the program for its role in improving German education. "The cooperation with Intel in the professional development of teachers and in the second phase of teacher training is a prime example of public-private partnership, says Karin Wolff, Minister of Education for Hessen. "The participants are guided in subject-specific advanced training and encouraged to try out and further develop teaching concepts themselves—that is to get to grips with media-assisted teaching and learning in their own lessons."

Ute Erdsiek-Rave, President of the Ministers of Education Conference, adds, "I do not know of anything comparable in Europe. This cooperation points the way forward because it satisfies the new EU Directives for professional development, e-learning, and lifelong learning."

To date, 380,000 teachers have taken part in the Intel Teach Program in Germany.

The Intel® Education Initiative

The Intel Education Initiative is Intel's sustained commitment to prepare all students, anywhere, with the skills required to thrive in the knowledge economy by improving teaching and learning through the effective use of technology, and advancing math, science and engineering education and research. Through a sustained public-private partnership with educators and governments in more than 50 countries, Intel works with international organizations and governments at an international, national, and local level and invests approximately USD 100 million per year in education programs adapted to address the needs of each country to advocate for 21st century educational excellence through policy work and awareness efforts.

For more information, visit: www.intel.com/education.

For more information on the Intel Teach Program, visit:
www.intel.com/education/teach.

2. Holland-Letz, Matthias. "Warum Konzerne den Einzug von Computern an Schulen unterstützen." *GEW-Privatisierungsreport No. 2* (2006): 39-43.

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