

INTEGRATION AND ROLE OF TECHNOLOGY IN SCHOOLS

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Technology

- Technology is used all across the world in order to enhance the quality of education.
- Producing students who have 21st Century skills is a main goal of all schools and technology is another stepping stone that helps teachers to meet that goal.
- The amount of technology varies widely across the globe, from schools with computers only for staff to schools with a laptop for every student.



Technology

No matter what stage of technological development each country is in the fact is that our students today are constantly surrounded by media and various technologies. This is why its imperative to teach 21st Century skills.

The focus of technology in Germany.

- to classify the information from the media properly.
- to find your own way through the media and technology world
- use media and technology for organize your personal information needs
- to use technology for communication and cooperation
- to use technology for aesthetic and creative products

→ We must be inserting technologies in the classroom.

The focus of technology in the U.S.

- North Carolina Standard Course of Study

North Carolina Competency Goals	ISTE National Educational Technology Standards for Students NETS ² S
<p>COMPETENCY GOAL 1:</p> <p>The learner will understand important issues of a technology-based society and will exhibit ethical behavior in the use of computer and other technologies.</p>	<p>1. Basic operations and concepts</p> <ul style="list-style-type: none"> Students demonstrate a sound understanding of the nature and operation of technology systems. Students are proficient in the use of technology. <p>2. Social, ethical, and human issues</p> <ul style="list-style-type: none"> Students understand the ethical, cultural, and societal issues related to technology. Students practice responsible use of technology systems, information, and software. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
<p>COMPETENCY GOAL 2:</p> <p>The learner will demonstrate knowledge and skills in the use of computer and other technologies.</p>	<p>3. Technology productivity tools</p> <ul style="list-style-type: none"> Students use technology tools to enhance learning, increase productivity, and promote creativity. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works. <p>4. Technology communications tools</p> <ul style="list-style-type: none"> Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
<p>COMPETENCY GOAL 3:</p> <p>The learner will use a variety of technologies to access, analyze, interpret, synthesize, apply, and communicate information.</p>	<p>5. Technology research tools</p> <ul style="list-style-type: none"> Students use technology to locate, evaluate, and collect information from a variety of sources. Students use technology tools to process data and report results. Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks. <p>6. Technology problem-solving and decision-making tools</p> <ul style="list-style-type: none"> Students use technology resources for solving problems and making informed decisions. Students employ technology in the development of strategies for solving problems in the real world.

– <http://www.ncpublicschools.org/curriculum/computeruserskills/>

Focusing in on Technology

- Does having students interact with international students through the internet give them global perspective?
- How could we as educators take that education past the classroom?
- How is technology different in the schools between all of our countries?



How does having students interact with international students through the internet give them global perspective?

- Students learn common courtesies.
- Students learn to appreciate different cultures.
- Students being to acquire a global perspective into the learning and development of students around the world.
- Students will notice different emphases put on the importance of education.

How does having students interact with international students through the internet give them global perspective?

- Helps students practice a foreign language
- Allows students to have global colleagues
- Helps students understand different cultures and gives them the skills to communicate with different cultures

How could we as educators take students education past the classroom?

- Technology!!!!

- * Wiki's

- [PBWorks](#)

- [Weebly](#)

- * Interactive Websites

- [Discovery Education](#)

- [E-Pals](#)

- [GLOBE](#)

- * Interactive White Boards

- [SMART Boards](#)

- [MIMIO Boards](#)

How does the use of technology differ between our countries?

The United States	Germany	Spain
-Laptop Carts	---	---
-SMART Boards	- SMART Boards (only a few schools)	- Very few SMART boards, mostly blackboards
-Document Cameras	---	----
-Virtual Fieldtrips	- Virtual Fieldtrips	----
- Computer labs	- Computer labs (almost all schools)	- Computer Labs
-Internet	- Internet	-Internet in Computer Labs

Technology in the U.S.

- SMART board or Mimio Board
 - Used as an enhanced white board
 - Touch screen compatible
 - Projector

Software gives students and teachers games and other interactive animations to enhance learning
- Palm
 - Assists teachers in running records
 - Simplicity for formative data
- Document Camera
 - Enhanced overhead
 - Teacher can place items under document camera to be projected onto the board
 - Snapshot capabilities

Teacher Questionnaire

Technology in the U.S.

- 1. What technology is used in your classroom?
- 2. How often do you use it?
- 3. How does it help your students?
- 4. Do you have a computer lab in your classroom?
- 5. Do students have free choice of technology?

Results

Questionnaire	Jamie	Amy	Amanda	Brandi
What technology is in your classroom?	-SmartBoard -Document Camera -Computers -Palm	-SmartBoard -Computers -Document Camera	-Document Camera -Computers -MimioBoard	-Mimio Board -Document Camera -Palm -Computers -Overhead
How often do you use it?	Extensive (more than 5 hrs per week)	Extensive (more than 5 hrs per week)	Moderate (2-5 hrs per week)	Moderate (2-5 hrs per week)
How does it help your students?	-enhances learning -builds independence -infuse technology to daily work	-helps students understand technology better -enhances learning	-helps student understand content better -helps growth -enhances learning	-teaches responsibility -enhances academics -helps them to be more proficient with technology
Do you have a computer lab in your class?	Not in the class, but in the school. There are 3 computers in the classroom.	There is a school computer lab and 2 computers in the classroom that we use.	The school has a computer lab and we have a couple computers in the classroom that students' use.	We have a large computer lab, a mini computer lab 2 classroom computers and 1 laptop that students' use.
Do students have free choice of technology?	Yes (reading tests, math games, spelling)	Yes (reading tests, reading strategy games, math games)	Yes (math games, reading tests, spelling games)	Yes (learning games, math, reading tests- Reading Counts, Spelling City)

International Ideas

- My teacher has taught many different grade levels and took her high school students to Italy, France and England one year.
- Touring companies such as NETC and EF can help you set up trips for you and your students.
- The elementary school she is at now had “Japan Day” last year in which everyone in the school participated in by: making shirts, eating Japanese food, making Japanese art, reading about Japan and many more.

Technology at school in Germany

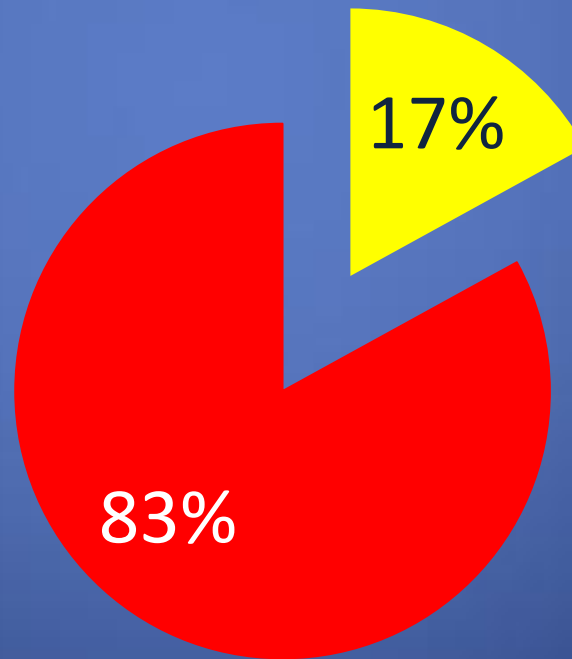
Before analysing the use of technology in German schools, you must have a look at the appointments of schools, because it has an influence in the way that technology is integrated in the class. The most interesting question therefore is where do students have access to technologies.

Updated situation in Germany

- Besides a CD player and overhead projector the classrooms in Germany have very little technology.
- Every school has a beamer with corresponding laptops, but unfortunately they are not used by all classes. This means that they can only occupy the room with the beamer for single lessons.
- During the past couple of years, schools have been trying to get SMART boards into the classroom. However, most of the time you can find them in separate classes or technical rooms.
- Nationwide the German schools, or rather the communities are responsible to raise the money for the schools to purchase technology.

Use of computer an Internet

- According to a study of the year 2006, only 17 % of Bavarian teachers use digital medias in class.

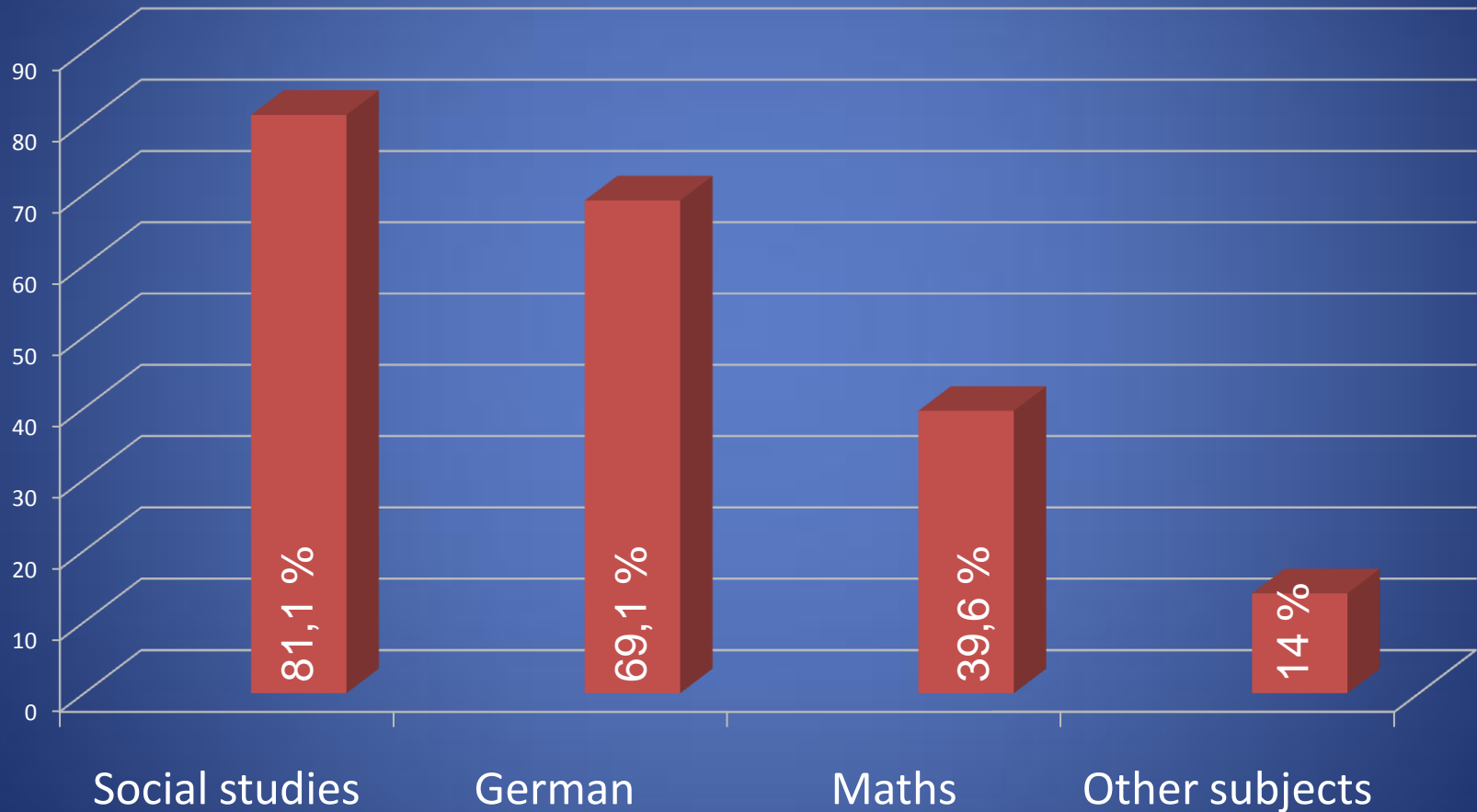


Possibilities of access to Internet are often beyond the class rooms:

- Computer lessons
- working groups
- Project education
- Station education
- learning work-shop

When do we use Internet at schools:

Use of Internet in regard to subjects:



Why students use computers in Germany.

- topical research (most time in social studies)
- to search pictures
- to gather information
- to practise reading and writing
- to work with texts
- to use a search engine
- to research for the school homepage
- Learning games or chat is used rarely, only if the students have free time and all assignments are done

Students Poll in Germany

I use the internet, because...

- ... I want to surf in websites
- ... I research something
- ... I search for pictures and memorize them
- ... I write E-mails
- ... I chat with other children

The use outside the school

- German students don't interact often with international students.
- Most German students don't learn a second language so it makes it hard for them to communicate internationally.

Technology in Spain

- In Spain a lot of schools still have blackboards but there are some classes that use whiteboards and SMART boards in the classroom.
- In every school there is a computer class where students learn to use the computer and computer programs.
- The government has had a new idea of giving 5th primary students a laptop that the students will use to work on in class.

Summary

- The use of technology in the classroom differs greatly from country to country, and even school to school mostly due to budget.
- Using technology in the classroom and having students interact with students from other countries will not only enhance their learning but prepare them to become globally competitive students.

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