

## **OECD/CERI ICT PROGRAMME**

A Case Study of ICT and School Improvement at  
Secondary School, Vienna Kinkplatz, Austria



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### **Overview of the present**

Vienna, the capital city of Austria, is situated in the eastern part of the country. It has about 1.6 million inhabitants and is divided into 23 districts. The secondary school of Kinkplatz is located in the 14<sup>th</sup> district. The social stratification of the 14<sup>th</sup> district cannot be characterized precisely: its inhabitants range from shift-workers to bank employees. The secondary school for information technologies Kinkplatz has approximately 230 students aged 10 - 14 who are taught by 26 teachers in 12 classes. One class will be conducted as an integrated class, meaning that handicapped and normal students learn together. At present, 229 students with ten different mother tongues attend this school, and 55 % of the students do not speak German as their mother tongue. The school has a sports hall, a library, a photography darkroom, a chemical laboratory, workshops and three computer labs.

In 1992/93, the staff of this secondary school set up a special pedagogical model, called Kleinklassenmodel or small class model. The lessons are held in small groups. The results of this pedagogical model are self-explanatory (the number of students per class was decreased, and students are monitored by a small teacher team) and the advantages include better social contact and more effective learning. This pedagogical approach would not be such a success without the extraordinary engagement of a small team of teachers.

The second pedagogical concept at this school is based on ICT. There are three computer-labs with eight desktop computers per lab. The PC s are connected to the Web, and all PC s are integrated into an ISDN-LAN-network. In Vienna, several secondary schools worked together to create an extraordinary curriculum for ICT with a special schedule for each of the four years. They also defined the basic conditions which every ICT-school has to pay fulfill. The local school board approved this self-initiated school program and provided the additional funding needed for the staff. This school approach pursues specific goals. Teachers should deepen students understanding of ICT within a specific ICT subject. Typing on the PC is taught in addition real EDP-subjects in the first class, making working with the keyboard easier for the students. The Internet should open up the possibility to intensify communication with other schools. Computers and the Internet are also integrated into many subjects, creating one problem: The labs are bursting at the seams.

## Overview of the past

In general, the main problems of the secondary schools in Vienna were the numbers of students who left the high school and the decreasing level of student performance. A further point was the competition between the secondary schools themselves. Kinkplatz s teachers share two common approaches to solve these problems. Small classes and ICT are the buzzwords, and the reasons are the same for both school approaches. On the one hand, the two factors should produce higher academic results; and on the other hand, the school should establish a new academic profile which should help guarantee its future (as it has in other ICT schools). Creating a new academic profile is a noticeable trend in Austria in several types of schools.

Both school approaches, small classes and the use of ICT, were installed step by step. We give priority in this report to the pedagogical concept based on ICT. One teacher took the part of a forerunner, dealing early on computers (hardware and software). Little by little, he tried to fill more and more teachers with enthusiasm for the new technologies. Every teacher was expected to attend either in-house or outside courses in ICT to gain the knowledge necessary to use and teach ICT. Many teachers were interested in ICT, so they attended courses and passed the examination for ICT. One great problem occurred during this stage. There was an obvious willingness to pursue further education, but despite the yearly increase in the number of special ICT trainings, the demand could not be satisfied.

Vienna has one specialty program called IHS , a concept for ICT schools worked out by teachers and policy makers together. At present, approximately 14 secondary schools are participating in this ICT school concept. IHS should facilitate the efforts of a normal secondary school to establish a new main emphasis in ICT. This concept has a lot of advantages but also disadvantages which will be explained in the following chapters.

## Projections for the future

What remains to be done to complete the whole process? The principal noted, First of all, every class should be equipped at least with one PC which is multi media ready and connected to the Web. Every teacher should have the possibility to use the PC and the Internet directly in the classroom during his/her teaching. These additional investments will help alleviate lack of capacity in the labs.

A further goal is to hire and keep IT specialists and ICT-trained teachers in order to maintain and improve the present situation. It is difficult to reach this goal because the level of ICT training in general teacher training is very low. At present, there are not enough high-level IT courses for IT administrators. The present situation calls for a radical change in general teacher training in Austria. A further characteristic of the Austrian education system is that the school administration of each federal province allocates the teachers to the schools. The principal has no chance to select the teachers his/her school needs.

An ambitious goal is to establish a network which will connect all the ICT secondary schools in Austria. The aim of this network is to ensure that all ICT schools achieve the same status, as is the case with music or sport secondary schools. At present, ICT-based schools in Austria are at a disadvantage compared to schools based on another main emphasis.

The main indicators of success in such an ICT school approach are the same as in other IT schools.

- Readiness of the proper authorities to change legal conditions to allow the implementation of a self-initiated academic program with an intensive focus on ICT
- Provision of financial support for ICT (hardware and software) and human resources for the whole process
- Self-initiative and engagement of a competent teacher team
- A school program containing goals, instructions, extraordinary curricula and schedules
- Funding for additional rooms (labs, classroom, ...)
- Openness to change among the whole staff

## Conclusion about key hypotheses

The following hypotheses draw significant parallels between the secondary school of Kinkplatz and other IT schools.

# Hypothesis 1

*Technology is a strong catalyst for educational reform, especially when the World Wide Web is involved. The rival hypothesis is that where true reform is found, technology serves only as an additional resource and not as a catalyst, and that the forces that drove the reform also drove the application of technology to specific educational problems.*

The analysis of the data collected indicates that hypothesis 1 can be verified with some restrictions. That means, in the case of Kinkplatz, that the implementation of ICT was not a planned social change but the start of a social change, as it was in other IT schools. If the teachers decided to create another main emphasis like sports or music, this would probably be the catalyst for the reform. Therefore in our case ICT is one catalyst for school reform in the secondary school of Kinkplatz, and small classes are another.

One condition is, as the majority of teachers interviewed put it, that a competent and engaged team of teachers lead the whole process. Without their engagement, an organizational change would not have been possible. Working hardware and software is a further condition for school improvement. In the case of Kinkplatz, technical problems, especially with the Internet and hardware, occur frequently. The Internet connection often doesn't work and nobody knows why. The technicians say that the matter could be a combination of the lines and the school's location on a hill, but they don't know the exact reasons for the malfunction. As most of the teachers put it, It is very difficult to prepare special Internet lessons because the chances that the Internet will work are slim. This important point will be dealt with in detail in the following chapters.

The use of ICT was identified as one solution for the specific need for change in Kinkplatz (just the same as in other IT schools). As the solution for educational reform, ICT was the catalyst that allowed the plan to be put into action immediately.

# Hypothesis 2

*The diffusion of the reform (and therefore of ICT) followed the traditional diffusion pattern for reforms and innovation, as outlined by Rogers (1995). The rival hypothesis is that technology functions differently from traditional innovations and reforms and that different diffusion patterns therefore occur.*

The diffusion of the organizational change followed the traditional diffusion pattern. ICT was the content of the changing process, but at the start it was not the driving force behind the change (the same as in other IT schools). In the first step, some people from several Vienna secondary schools who were interested in ICT and the responsible policy-makers discussed the present situation. Together, the two groups reached an agreement. The focus for the next years is to create a concept (called IHS) concerning the implementation of ICT in secondary schools in Vienna. A project group was established. This project group worked out an extraordinary curriculum for ICT-schools, organized the purchase of hardware and software, provides

support, and functions as an information office.

Once the ICT concept was developed, the next task was to motivate other teachers and arouse their interest. Some teachers were interested and attended several ICT trainings. With the knowledge they gained, the teachers are now able to teach ICT subjects and integrate ICT into several subjects.

A special diffusion pattern could be the so-called education highway in eastern Austria (just like Grein). The education highway is a Web-based education network where schools and other educational institutions can post their own web sites and search for information about schooling and education.

## Hypothesis 3

*Successful implementation of ICT depends mostly upon the technological infrastructure and student ICT competence rather than upon staff competence in the integration of ICT into instruction. The rival hypothesis is that teachers mediate such applications when they are successful, and that their academic value relates positively to teacher competence.*

In fact, the rival hypothesis shows this situation regarding the use of ICT. The more familiar and comfortable teachers are with using ICT, the more they will use it for their teaching preparation and for their actual teaching. If the teaching staff lacks the necessary technical knowledge, the mediation of applications cannot be successful (just the same as in other IT schools). Professional development plays a very important role. Several teachers said they were willing to take part in ICT professional development and applied at the PI and other ICT trainings, but they were repeatedly turned away because the courses were full.

The greatest fear of many teachers was that the students' technical expertise might exceed their own. A further change must take place – a change in their own views. In this case, teamwork is the magic word. Students and teachers have to constitute a team; then the process of learning can take place based on partnership.

## Hypothesis 4

*Gaps in performance between high and low income students will be enlarged rather than diminished where all students have equal access to ICT. The rival hypothesis is that equal access to ICT will lead to high poverty students closing the gap with low poverty students.*

In the case of equal access to ICT, students' performance depends on their personal interest and engagement (just the same as in other IT schools). The condition of equal access to ICT is satisfied during the lessons, but equal access is not guaranteed at home, where homework or exercises have to be done. Engaged and interested students find ways to use computers outside

the school, e.g. meeting classmates who have a computer at home, but the competition conditions are not the same.

Several studies in Austria show that low income families are far less likely to have a PC at home than more affluent families. Having or not having a PC is a question of social stratification and the profession of the parents. Parents who use a PC at work have better ICT skills and promote meaningful PC use at home. Pupils of parents who have no knowledge of ICT often only use the PC to play computer games.

## Hypothesis 5

*Successful implementation of ICT will lead to the same or higher academic standards in spite of the low quality of many ICT materials. Academic standards are a function of teacher and school expectations and not of the standards of textbooks, ICT materials, and the like. The alternative hypothesis is that ICT use will lead to a lowering of academic standards as students spend more time on marginally beneficial searches and in browsing poor quality Web and courseware content.*

In fact, academic standards are a combination of teacher and school expectations. The teacher decides which teaching material will be used during the lesson, and his/her task is to choose the material that will be beneficial. If the teacher selects good ICT teaching materials, then ICT will not lead to a lowering of academic standards. On the other hand, if he or she does not pre-select special Web sites and allows the students to browse the Web without any restrictions, many students will be overtaxed, because they will not be able to understand all the information they find. A German language teacher mentioned another point: I think it is positive that wrong words will be underlined because the students have to think about their spelling mistakes. Another teacher said, The appearance and layout of students papers are now better than in the past, but the content has not improved.

## Characteristics of the school

Name of school site	Informatikhauptschule Kinkplatz
Address	A-1140 Wien, Kinkplatz 21
Phone / Fax	+43-1/911 63 43, +43-1/911 63 43 37
Web site	<a href="http://www.schulen.wien.at/schulen/914042/index.html">http://www.schulen.wien.at/schulen/914042/index.html</a>
E-mail address	hs14kink021k2@m56ssr.wien.at
Administration	Principal: Mr. Wilhelm Scheiber
Number of classes	8 normal classes, which will be conducted as 12 stabile small classes.

Number of students	229
Number of teachers	26 (17 male, 9 female)
Kind of school	Secondary school for students between the ages of 10 and 14
<b>Characteristics of school autonomy:</b>	
School experiment	<u>IHS</u> : Secondary school for information technology (offers to pass some modules of the examination in ECDL = European Computer Driving License) <u>Small class model</u> : 8 normal classes are divided into 12 stable small classes. A small team of teachers leads a small class.
Unusual features	IT in the 1 <sup>st</sup> and 2 <sup>nd</sup> year (1 lesson a week)
	Typing in the 1 <sup>st</sup> and 2 <sup>nd</sup> year (1 lesson a week)
	IT in the 3 <sup>rd</sup> and 4 <sup>th</sup> year (2 lessons a week)
Social-integrative classes	One class will be conducted as an integrated class (co-teaching of normal and handicapped students).
<b>Special features of the school:</b>	
Special rooms	Library, chemistry laboratory, darkroom, 3 sports hall
3 computer labs	8 PC s per lab, 3 Server, WINNT + WIN95 3 network-printer, 1 digital camera, 2 scanner
Internet connection	ISDN-LAN network
Architecture	Impressive glass building
Neighboring school	In the same building, there is another secondary school which provides lunch and full time support for their students.

## Evaluation of change

## Diffusion patterns

One specialty in Vienna is the concept of IHS . The idea of this project is on the one hand to facilitate the access to ICT for the students and on the other hand to train the pupils to become experienced and competent users of the new technologies. All learning technologies should be available during the lesson. Therefore the curriculum and the technical development have to be adapted to the new requirements. The concept IHS plays a major role for diffusing ICT in schools of Vienna. With the exception of the Vienna IHS concept, the diffusion patterns are the same as in other IT schools. A small team of teachers initiated, organized and oversee the introduction of ICT. The authorities support and finance the whole concept, including the provision and support of the technical infrastructure, funding to maintain and replace the technical infrastructure, and last but not least the professional development.

# Staff development and involvement

At present, the main problem in Vienna is that there are not enough ICT trainings to meet the demand (just the same as in other federal provinces). The teachers are willing to sign up for ICT development, but most of the courses are full, so the waiting lists are long and teachers are frustrated. This unsatisfactory situation has resulted in school-internal ICT development. One IT specialist pointed out another fact: The PI offers more elementary than advanced trainings. I urgently need some advanced trainings in several kinds of software, but these trainings will not be offered. Where am I supposed to get advanced IT skills to support our network? In Kinkplatz, the situation is unique. One of the three PC-labs is owned by the PI, so many IT trainings are held in the school and computer experts are often present. The IT specialists of Kinkplatz have the opportunity to consult the experts when they need help. On the down side, the labs are often reserved for external teachers.

## Role of leadership

One engaged and ICT interested teacher took preliminary steps. The principal and his team were responsible for implementing this school experiment and oversaw the entire ICT installation and staff development. These key persons also determined the next steps for the future.

## ICT reform connections

The majority of teachers see the ICT main emphasis as current, trend-setting and necessary because it gives students the opportunity to acquire the basic ICT skills and they will need in the business world and advanced schools. But one teacher expressed his concern: Public discussions of modern schooling, then education and instruction focus solely on the new technologies.

## Outcomes

## ICT Infrastructure

The secondary school of Kinkplatz has the following ICT infrastructure:

1. Hardware

Three computer labs with 8 PC s per lab. One lab is owned by the PI but the school has permission to use it. All PC s are multimedia ready and connected to the Internet. One computer is situated in the main office. Three network-printers, two scanners and one digital camera are also available.

## 2. Internet and Provider

Internet access is managed by an ISDN-LAN network. The education highway powered by the authorities is the main provider for schools in eastern Austria. Wienstrom is the special provider for the Vienna schools.

## 1. Support

In Kinkplatz, two teachers called Kustoden (custodians), the IT specialists of the school, provide support for the staff but are not authorized to change or repair any hardware by themselves. They don t have the password from the server that would allow them to change anything. The hardware support of this school is managed by the Call Center , which functions like a helpdesk with several contact persons: on the one hand, the so-called Regionalbetreuer , and on the other hand, several technicians from external companies. A Regionalbetreuer is a teacher who is specially trained in ICT, and every Regionalbetreuer supports four to five school networks in Vienna. If hardware or line problems occurs, the IT specialists of the school will inform the Call Center. The Call Center then sends a Regionalbetreuer to solve the problems. If the Regionalbetreuer is not able to repair the hardware or to solve the network problems, the Call Center will engage an external technician. The fact is that it takes both of the custodians a lot of time to keep the system running, and they are completely overtaxed.

## 2. E-mail

One official school e-mail account was set up for the main office. At the moment, students do not have school e-mail accounts. Some teachers and students have private e-mail accounts.

## 3. System backup

The backup of the system and the configuration is made by a streamer tape, but this is only done occasionally, but not regularly. Data created by teachers and students is not automatically saved. It is the responsibility of teachers and students to save the data they produce themselves.

## 4. Use of ICT

Teachers and students use ICT for typing; in projects, spreadsheet analysis and word processing; to prepare and make presentations; for programming (logo); to create and maintain Web pages; to draw pictures or diagrams; and to search for information.

Learning software is used in special subjects, e.g. English or history.

# Effectiveness

# The results of Kinkplatz show the same indicators of success as in the other IT schools.

- Well-educated, engaged and interested staff members are absolutely necessary to integrate ICT successfully into the school.
- Teachers' attitude and their conviction that they are on the right path is essential.
- Setting goals is important.
- Providing the necessary hardware and software for using ICT: Many teachers in Kinkplatz mentioned that they had prepared special Internet lessons, but the network did not work. They said that they would not integrate ICT into their teaching unless the hardware and software equipment is supported and user-friendly.

The last indicator, also a barrier to fuller staff involvement in Kinkplatz, is the many hardware and line problems which still exist. The Vienna support-concept Call Center has its advantages, but a lot of disadvantages as well. This centralized system is slow and cumbersome, the waiting periods are long. Both IT specialists had two specific demands: Firstly, we would appreciate it if the Call Center could react quickly because, that is not the case at the moment. Waiting periods of up to two weeks are the consequences. Secondly, it would be easier for us to support the network if we were authorized to make simple hardware repairs and changes by ourselves. The whole system lacks flexibility.

Further factors impede effectiveness:

- The current situation of further ICT education (waiting periods of six months to one year). A lack of ICT knowledge is the negative result.
- The changing role of a teacher - from an instructor to a coach and the new way to work with knowledge. The teacher knows everything and the students know nothing, is an old adage that is losing its validity.
- Lack of capacity in the labs.

What are the most positive and the most negative aspects and impacts of using ICT?

## *Positive aspects*

- ICT opens up new opportunities to develop valuable skills (team work, self-organization, being and working independently).
- ICT is a strong catalyst for the students' motivation; therefore it is also easier for teachers to teach their students.
- Start-up grant for entrance into a high school or a profession.
- The working atmosphere in Kinkplatz is very good. The IT specialists and the principal are competent and friendly when they answer ICT-related questions from their colleagues, so the teachers dare to ask.

- About 60-70 % of all students in Kinkplatz use a computer at home.

### ***Negative aspects***

- The social stratification divides the students into two groups: those who have and those who do not have a PC at home. One teacher said: It is not possible for every student to use a PC at home because they often do not have one. Those students who have a PC at home have more ICT knowledge than the others. The school should eliminate this social stratification but is presently not in a position to do so because there are too few ICT courses.
- Reduction of the whole education process to one item - ICT. The public equates modern education with ICT, and other pedagogical concepts are irrelevant.

## **Academic rigor**

The prerequisite for teachers to use ICT in their teaching is that they feel comfortable with using a computer. Continuing further education and a PC at home are necessary. 80-90 % of the teachers have a computer and Internet access at home. All of them use PC and Internet in their teaching preparation and some use them for their teaching. Most of the teachers said that they get their ICT knowledge through private studies because the situation of professional development in Austria is unsatisfactory. That could be one reason why many teachers don't integrate ICT into their teaching.

Students have access to computers at school during the lessons but not without monitoring. Two students must always work together on one PC because of the situation in the labs (8 PCs per lab for 16 students). The average student spends 3-4 hours per week working with ICT during school hours. Some IT teachers provide a special educational ICT class once a week. Students can attend this lesson on a voluntary basis; there they can ask the teacher if they have questions. They often do their homework, write papers, surf the Internet and search for information. Foreign students often take advantages of these special classes. Motivation to learn with the new technologies is high as long as the content is not too difficult to understand and the student does not have too much to read. The amount of the information on the web pages often overtaxes students.

## **Equity**

On the one hand, there are no differences between high and low income students in the school. Every student has the same access to ICT during the lesson. On the other hand, the situation at home is not the same. High income students are more likely to have a PC and the Internet at

home than the others. Low income students are therefore at a disadvantage in school because they lack ICT knowledge. Differences occur also between high and low ability students. As one teacher expressed it, Students whose behavior makes a bad impression are often very interested in ICT. Language competence is a prerequisite meaningful ICT work. Students with language problems are at a disadvantage when using ICT. Some teachers mentioned that low ability students often work more slowly than high ability students. There are also gender differences when it comes to using ICT. Boys use PC s and the Internet more hours per week than girls. Girls often use the communication part of the Internet (chatting and sending e-mails) and create nice pages. Boys browse different Web pages than girls. Programming is typically a male domain.

## Projections

# Sustainability

What has to be done in Kinkplatz to maintain or improve the results of using ICT? The recommendations are the same as in other IT schools and can be divided into five categories.

### 1. *Technical equipment*

- Augmenting the existing equipment: each classroom should have at least two computers which are multimedia ready and connected to the Web and three laser printers.
- Regular replacement of the old technical equipment.
- Operating hardware and Internet access (that is not the case at the moment)

### 2. *Organization*

- Having one half-time IT specialist who manages the whole ICT system would be very helpful.
- Organizing access to the computer labs better would give every teacher the opportunity to use ICT. This is only possible if there are two PC s per class.

### 3. *Staff*

- Well-educated staff members are essential. Further education has to be guaranteed for everyone.
- It is absolutely necessary to hire new, well-educated ICT teachers. The integration of the new staff members should be systematic, organized and geared to establishing a strong teaching team.
- The IT specialists who manage the support for staff and students should be better paid because they invest so much time in keeping the system working and are completely

overworked.

#### 4. *Environment*

- Growing number of homes with computer equipment.
- An ambitious goal is to introduce a network which will connect all the ICT secondary schools in Austria. The aim of this network should be for all ICT schools to achieve the same status as the music or sport secondary schools.
- More parental interest in ICT to support the students at home. Collaborative learning between students and parents can occur.

#### 5. *Education*

- Constant evaluation of the current needs in ICT skills for high schools in order to ensure that graduates of a secondary school have the skills they need.
- Teachers should encourage their students to practice responsible computing, thus avoiding abuse. One ICT course should be *The Social Dimension of the Web* .

## Scalability

What efforts and resources are required for full implementation and what benefits can result from it? This question must be answered indirectly, because the interviews didn't contain the necessary data. The main points are the same as in other IT schools and are described below.

- The principal and the staff members must define a common goal which they will directly pursue. The whole staff should be firmly convinced that the school is on the right path.
- The authorities and the communities of the school have to support the efforts of the staff members not only by providing financial resources but also by creating the basic conditions necessary to act.
- Further trainings for staff members must be organized and supported in order to give teachers input on innovations and the opportunity to discuss pedagogical topics.
- All subject teachers should use ICT to the same degree their lessons; otherwise the students of teachers who don't use ICT in the lessons will be at a disadvantage compared to the students of teachers who use ICT. The individual philosophy of a teacher determines whether he/she is suited to implementing ICT into his/her teaching.
- In the words of the principal, One benefit is that our children get basic training in a forward-looking medium.

## Appendix A

### Methodology

Description of the volume and type of data collected

Activity	Annotation	Amount
<b>Verbal Interviews (approximately 45-60 minutes each)</b>		
Nomination Form for a School Site	Principal	1
Administrator Interview	Principal	1
Parent/Guardian Interview	2 mothers, 2 fathers conducted as a group interview	1
Technology Specialist Interview		1
Student Interview	1 group of 5 students (fourth year) 1 group of 4 students (fourth year)	2
Teacher Interview	4 teachers who were actively involved in and strongly identified with the reform. 3 teachers who were opposed to the reform.	7
<b>Questionnaire</b>		
ICT Use Survey of Teachers	Teacher	15
<b>Observing in Classrooms</b>		
Computer science	Fourth year	
English	Second year	
Gymnastics	First year	
<b>Collecting additional materials</b>		
Web-site presentation	<a href="http://www.schulen.wien.at/schulen/914042/index.html">http://www.schulen.wien.at/schulen/914042/index.html</a>	

Lesson plan from all classes	
Reports on the experimental school form	Small class model
School profile	
Number of students	From a fourth year
Visions	School concept IHS
New visions and projects	Chat-room and Web-cam

## Appendix B

### ICT Use Survey for Teachers

15 teachers filled out this questionnaire (n = 15).  
The results are represented in percentage (100 %).

- How comfortable are you with using a computer to do each of the following? (Choices are: very comfortable, comfortable, somewhat comfortable, not at all comfortable)

		very com-fortable	com-fortable	somewhat com-fortable	not at all com-fortable
1.	write a paper	66.7	26.7	6.7	-
2.	search for information on the World Wide Web	26.7	40.0	6.7	26.7
3.	create and maintain web pages	-	14.3	14.3	71.4
4.	use a data base	26.7	20.0	40.0	13.3
5.	send or receive e-mail	60.0	13.3	-	26.7
6.	programming (e.g. writing a program in Visual BASIC or Java)	6.67	-	20.0	73.3
7.	draw a picture or diagram	26.7	33.3	20.0	20.0
8.	present information (e.g. use PowerPoint or equivalent)	13.3	20.0	26.7	40.0

" During the past school year, how often did your students on average do the following for the work you assigned? (Choices are: several times each week, several times each month, a few times, never)

		several times each week	several times each month	a few times	never
9.		7.1	21.4	42.9	28.6
10.	create web pages	-	7.1	-	92.9
11.	send or receive e-mail	-	-	14.3	85.7
12.	use a word processing program	16.7	16.7	41.7	25.0
13.	use a computer to play games	-	-	64.3	35.7
14.	use a spreadsheet	-	14.3	28.6	57.1
15.	use a graphics program	-	14.3	50.0	35.7
16.	join in an on-line forum or chat room	-	-	28.6	71.4
17.	use a presentation program (e.g., PowerPoint)	7.1	7.1	21.4	64.3
18.	use an instructional program (including simulations)	7.1	21.4	42.9	28.6
19.	other computer uses (specify)	-	21.4	14.3	64.3

20. How would you rate your ability to use a computer? (Choices are: good, fair, poor)

21.4	good
42.9	fair
35.7	poor

21. Was student computer use ever evaluated for grading? (yes-no)

6.7	yes
93.3	no

22. If you assigned World Wide Web searching, how much freedom did you allow students in locating sites to visit? (no restrictions, some restrictions, designated sites only)

18.2	no restrictions
63.6	some restrictions
18.2	designated sites only

23. Did you create or modify a Web site with any of the classes that you taught? (yes-no)

7.1	yes
92.9	no

24. What portion of the computer use in your classes was directly related to the course content (as opposed to rewards or incentives, for example)? (all, most, some, very little)

-	all
38.5	most
30.8	some
30.8	very little

25. What portion of the computer use that you assigned is done by students individually? (all, most, some, very little)

	all
25.0	most
50.0	some
25.0	very little

26. How often did you use a computer at home for preparing for teaching? (several times a week, several times a month, a few times, never)

46.7	several times a week
40.0	several times a month
13.3	a few times
-	never

27. Did you participate as a student or instructor in a virtual course through the Internet/World Wide Web? (yes-no)

-	yes
100.0	no

28. Did you involve your students in collaborative learning over the Internet/World Wide Web with students from other classes? (yes-no)

-	yes
100.0	no

29. Are you currently using technology to collaborate with other teachers (professional chat rooms, forums, or the like)? (yes-no)

21.4	yes
78.6	no

30. How many e-mail messages total do you send and receive each day on average? (more than 12, 6-11, 1-5, none).

14.3	more than 12
28.6	6-11
35.7	1-5
21.4	none

31. Have you ever done any of the following? (Choices are: yes, no)

		yes	no
a.	made changes to a computer s hardware	57.1	42.9
b.	updated an application program (word processor, graphics program, etc.)	42.9	57.1
c.	recovered a damaged file	28.6	71.4
d.	created a Web site	21.4	78.6
e.	developed a data base	38.5	61.5

## Abstract

At the Kinkplatz secondary school, ICT is more than a main emphasis. Those responsible try to use ICT as an integral part of all subjects. The education goal is to facilitate the students use of the new media: They should learn and be able to use the basic functions of the PC and the Internet. The secondary school of Kinkplatz has had ICT as its main emphasis for more than 10 years. Nevertheless the school administration and the teachers are still struggling with all kind of problems. Technical malfunctions are frequent, there is an urgent and ongoing search for qualified IT teachers, and structural conditions handicap quick and efficient action.