

RESEARCH FINDINGS AMONG SCHOOLS THROUGHOUT THE COUNTRY



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REPORT ON THE RESEARCH FINDINGS

AMONG SCHOOLS



*Prepared for the Greek Information society
Observatory*

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1. Identity of the research

The present research was carried out among schools of all levels in the country as part of a study for determining and monitoring the indicators of the eEurope plan. The project is co-funded by the European Union and forms part of Action Line 5 “Technical Assistance”, Measure 5.2 of the Operational Programme “Information Society” of the 3rd Community Support Framework; it was designed and supervised by the Information Society Observatory and implemented by MRB Hellas.

1.1 Research objectives

The present research aims to record the number of students per computer with Internet connection (broadband/ non-broadband).

1.2 Methodology of the research

The data were collected through telephone interviews with the CATI system among a randomly selected sample of schools of all levels throughout the country; the interviews lasted on average 11 minutes, and a fully structured questionnaire was used.

- ***Population:*** All schools of all levels in the country, public and private (9642 school units).
- ***Sampling:*** The sample was formed from the register of schools using a random choice method based on specific, electronically set guidelines for both the random choice and the replacements. The process comprised two stages:

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- **1st stage:** Distributing schools (public and private) of all three levels per regions of the country and determining the required sample per region.
- **2nd stage:** Selection of a sample of schools within each region

The selection of the school units per region was based on a full and inventory list that was delivered from the Ministry of Education.

The final sample numbered **800 Schools**. In total 53% of schools fell into in the originally selected school units. An originally selected school was replaced in case of refusal to participate or when no contact with the appropriate respondent (the teacher in charge of the school's computers) was achieved after 5 attempts on different days and at various times.

- **Weightings:** No weighting of the data was used.
- **Interviewing Period:** 31/10 – 28/11/2006
- **Statistical errors:**

	<u>Δείγμα</u>	<u>Στατιστικό Σφάλμα</u>
Total Sample:	800 schools	+/- 3,47
Schools with PC:	789 schools	+/- 3,49
Schools with internet access:	766 schools	+/- 3,55

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2. Main conclusions of the research

The penetration of computers in the schools is, like in 2005, very high (99%), and these are predominantly desktop computers. The mean score of PC's in schools is 12,2 and lies in the same level of 2005.

- Student use computers mainly for educational purposes (80%), for administrative work (53%), but also for use of teachers / professors (47%), significantly less for common use of students and teachers / professors.
- Networking infrastructure is quite high (76%), but in the same levels as in 2005, while the penetration of internet is almost universal (97%), also in the same levels as in 2005. The most widespread Internet connection type is also this year ISDN, but in light decrease compared to 2005, while there is an increase in broadband connection, mainly in high schools.
- Students use the Internet in 7 out of 10 schools with the relevant infrastructure, that is significantly lower than in 2005 (81% vs 73%). The usage of Internet among students is mainly related to the learn about computers and less in the preparation of assignments, games etc.
15% of students are estimated to have visit web pages with improper content.
- The ability of the students to be connected to EDUNET from their home is also this year registered very low, significantly less than the measurement of 2005 (11% vs 6%).
- The provision of personal e-mail accounts to teachers / professors, through the Pan-Hellenic school network is significantly higher in 2006.
Almost all schools have central e-mail page, but only one out of three have a web page. Both results are on the same level as in 2005.
- Professors use internet for research / material seeking, sending and receiving e-mail, administrative work, document handling and preparing lessons.
- According to the experience of teachers and professors only a very low percentage (7%) expresses worries about the use of computer by their children.

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3. 1. Summary of the research findings

- Virtually all schools in the country have computer facilities (99%), in the same levels as in 2005.
- The degree of penetration of computers is a function of the level of the school, its size (in terms of number of students) and the degree of urbanization. Therefore the highest number of computers is found in Lyceums, in larger schools (200 students and above) and in the schools of Attiki.
Compared to 2005, the mean score of computers in the schools of the country remains in the same level.
- Schools have mostly desktop computers (91%). Laptop computers are very few (only 1%) of schools, while servers are to be found in 8% of schools. No differences were found in the types of computers compared to the 2005 measurement.
- Computers are mainly used for educational purposes (80%), for administrative staff use (53%), but also for use among teachers / professors (47%), but less for common use between students and teachers / professors, all uses with significantly less mentions compared to 2005.
The use for educational purposes – teaching is significantly lower in lower education schools and in rural areas.
- The majority of schools have a network infrastructure (76%) either for all or for some of the computers, and that is in the same level as in 2005. It is indeed important to mention the increase in the percentage of schools that report the connection of all available computers in a local network (39% vs 57%), with respectively decrease the schools that report connection of some of the available computers to the local network (38% vs 19%).
- The penetration of Internet in the schools with computers is almost universal (97%), something that was also to be found in the 2005 measurement.
Regarding the type of connection with the Internet, ISDN remains the most widespread this year. There is also an increase in the broadband connection type especially in the Lyceums, where there is a parallel decrease of ISDN type.

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- The students use Internet in 7 out of 10 schools with the relative infrastructure, which is significantly lower compared to 2005 measurement (81% vs 73%). Internet use is mainly associated with the familiarization with computers (extremely important in elementary schools) and less with the preparation of homework (significantly higher for Gymnasiums and Lyceums compared to elementary schools), games, etc. It is estimated that 15% of the students have visited websites with improper content. Incidents of trying to visit a website with improper content are significantly more in Lyceums (31%), significantly less in Gymnasiums (20%) and few in elementary schools (3%).
- Few schools (only 6%), significantly less from the 2005 measurement (11%), provide to their pupils the ability to connect to the internet through the Pan-Hellenic School Network (EDUNET) and just 2% provide e-mail accounts to the pupils either personal or common. On the other hand, more than the half of the schools (58%) provides email accounts to educators through the Pan-Hellenic School Network (EDUNET).
- Most schools have a central e-mail address, but so far only 1 out of 3 have a website on the Internet, and that is in the same levels as the 2005 measurement.
- The professors use internet for research / material finding, sending and receiving e-mail, administrative work, document handling and lesson preparation. In rural areas internet is used significantly more for administrative work / document handling, and also for sending and receiving e-mail.
- According to the experience of teachers / professors, only a small percentage (7%) of the parents, express worries about the use of computers from their children.

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3.2. e-Europe Indicators

The specific data are estimates by the educator in charge of computers, not an accurate measurement

The specific values are estimates by the teacher in charge of computer, not accurate measurements.

INDICATOR : E1 Number of students per computer with Internet connection (broadband/ non-broadband)

	ALL SCHOOLS					
	Total* 2005	Total* 2006	Non- broadband 2005	Non- broadband 2006	Broadband 2005	Broadband 2006
No. of students per computer with Internet connection	17,37	15,44	17,25	15,89	17,40	
	Indicator range (17,09-17,65)(14,52-16,01)(16,97-17,54)(14,83-16,53)(16,68-18,18)					
No. of students per computer with Internet connection in schools with Internet – connected PCs	15,06	13,68	14,91	13,84	14,77	12,01
	Indicator range (14,84-15,29)(12,78-14,23)(14,67-15,17)(12,86-14,45)(14,15-15,44)(10,70-12,82)					
No. of students / users per computer in schools with Internet – connected PCs	9,41	9,39	9,40	9,13	9,73	9,18
	Indicator range (9,26-9,56)(8,64-9,85)(9,24-9,57)(8,20-9,70)(9,30-10,19)(7,72-10,07)					
Overall no. of students per computer, in schools with or without PCs	12,63	11,48				
	Indicator range (12,47-12,80)(10,63-12,00)					

* Total sample includes schools with broad or non-broad band connection. Schools not stating the type of connection are not included)

The specific values are estimates by the teacher in charge of computer, not accurate measurements.

INDICATOR : E1 Number of students per computer with Internet connection (broadband/ non-broadband)

	ELEMENTARY SCHOOL					
	Total 2005	Total 2006	Non- broadband 2005	Non- broadband 2006	Broadband 2005	Broadband 2006
No. of students per computer with Internet connection	29,54	27,03	29,17	27,04	34,01	
	Indicator range (28,74-30,37)(25,00-28,26)(28,35-30,04)(24,88-28,35)(31,21-37,26)					
No. of students per computer with Internet connection in schools with Internet – connected PCs	23,40	21,10	23,32	21,30	25,52	22,81
	Indicator range (22,79-24,04)(19,09-22,33)(22,65-24,03)(19,40-22,45)(23,37-28,01)(19,26-24,98)					
No. of students / users per computer in schools with Internet – connected PCs	9,11	7,52	9,18	7,65	12,48	9,77
	Indicator range (8,85-9,38)(6,53-8,13)(8,89-9,49)(6,52-8,34)(11,36-13,79)(6,34-11,87)					
Overall no. of students per computer, in schools with or without PCs	19,12	17,76				
	Indicator range (18,72-19,54)(16,47-18,55)					

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The specific values are estimates by the teacher in charge of computer, not accurate measurements.

INDICATOR : E1
Number of students per computer with Internet connection
(broadband/ non-broadband)

GYMNASIUM

	Total 2005	Total 2006	Non- broadband 2005	Non- broadband 2006	Broadband 2005	Broadband 2006
No. of students per computer with Internet connection Indicator range	13,63 (13,22-14,07)	13,30 (11,83-14,19)	13,54 (13,13-13,99)	12,66 (11,10-13,60)	14,00 (12,64-15,61)	
No. of students per computer with Internet connection in schools with Internet – connected PCs Indicator range	12,90 (12,53-13,29)	13,55 (12,16-14,39)	12,94 (12,53-13,36)	12,25 (10,72-13,19)	14,00 (12,64-15,61)	16,93 (14,08-18,67)
No. of students / users per computer in schools with Internet – connected PCs Indicator range	12,09 (11,74-12,46)	13,12 (11,84-13,89)	12,18 (11,80-12,58)	11,81 (10,34-12,70)	13,17 (11,88-14,69)	16,01 (13,17-17,75)
Overall no. of students per computer, in schools with or without PCs Indicator range	10,53 (10,25-10,81)	10,83 (9,80-11,46)				

The specific values are estimates by the teacher in charge of computer, not accurate measurements.

INDICATOR : E1
Number of students per computer with Internet connection
(broadband/ non-broadband)

LYCEUM

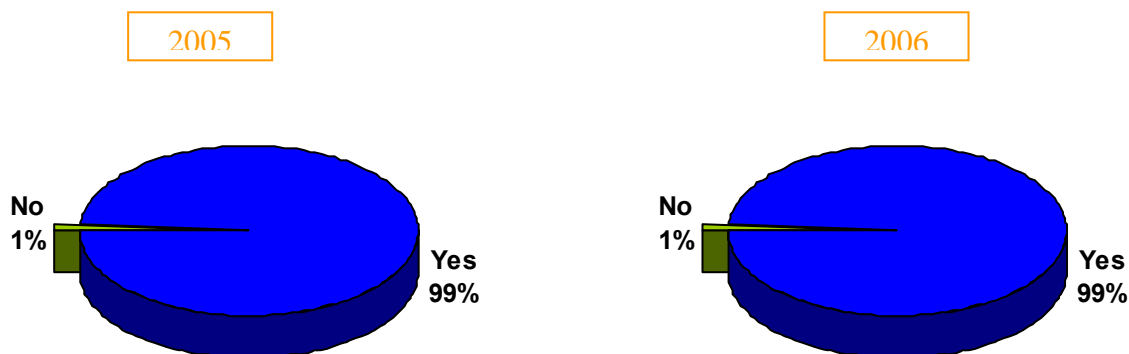
	Total 2005	Total 2006	Non- broadband 2005	Non- broadband 2006	Broadband 2005	Broadband 2006
No. of students per computer with Internet connection Indicator range	11,15 (10,87-11,45)	8,88 (7,64-9,64)	11,09 (10,79-11,40)	9,09 (7,52-10,04)	12,58 (11,89-13,34)	
No. of students per computer with Internet connection in schools with Internet – connected PCs Indicator range	10,70 (10,45-10,96)	8,75 (7,62-9,44)	10,11 (9,84-10,40)	8,87 (7,32-9,82)	11,23 (10,61-11,91)	7,35 (5,77-8,32)
No. of students / users per computer in schools with Internet – connected PCs Indicator range	7,92 (7,72-8,12)	8,31 (7,22-8,97)	7,60 (7,39-7,83)	8,35 (6,80-9,29)	7,76 (7,31-8,25)	7,20 (5,57-8,19)
Overall no. of students per computer, in schools with or without PCs Indicator range	8,59 (8,41-8,78)	6,92 (6,07-7,44)				

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Main Conclusions of the research

The research among schools of all levels demonstrated that today almost all schools in the country have at least one computer (99%), something that was found already in the previous measurement as shown in the following charts:

EXISTENCE OF COMPUTERS IN SCHOOLS



However, the number of computers in each school differs widely, being a function of the educational level, the size of the school in terms of the number of students and the degree of urbanization.

It is clear that the greater numbers of PCs today are found in the schools of Attiki and particularly Athens (statistically much higher compared to schools in semi-urban and rural areas), in Lyceums rather than Gymnasiums and Elementary schools, and in large schools, i.e. with more than 200 students, in relation to medium and small schools.

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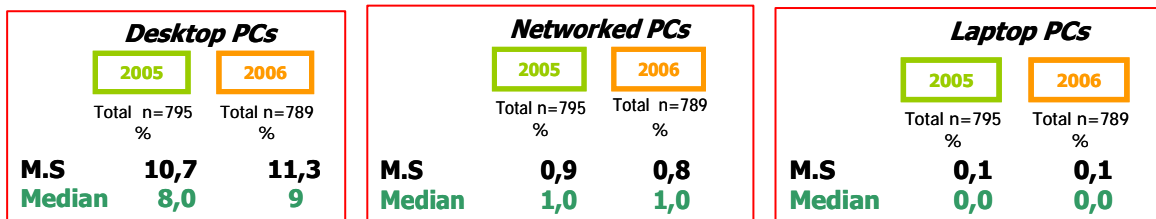
NUMBER OF COMPUTERS IN THE SCHOOL

	Total n=789 %	Public n=763 %	Private n=26 %	Elementary n=480 %	Gymnasium n=161 %	Lyceum n=148 %	Athens n=146 %	Salonica n=32 %	Urban n=465 %	Rural n=152 %	Attica n=185 %	North n=210 %	Central n=208 %	South n=186 %	Small (1-99) n=315 %	Medium (100-199) n=253 %	Large (200+) n=221 %
1-2 PCs	16	17	3	26*	1	1	10	3	13	33*	11	8	23*	23*	31*	8	4
3-5 PCs	13	13	9	20*	2	3	8	6	11	24*	9	13	14	14	22*	9	5
6-9 PCs	20	20	4	29*	9	-	12	9	24	16	14	21	25	16	20	25	13
10-19 PCs	37	37	14	22	69*	48	51	59	34	23	45	42	27	31	22	42	53*
20+ PCs	14	12	62*	2	18	48*	16	22	16	5	17	16	10	13	5	16	24*
M.S	12,2	11,6	32*	6,6*	15,6*	27*	15,7*	18	12,5	7*	14,7*	13,8	10*	10,4	7,1*	13,8	17,9*
Median	10	10	25	6	15	18	12	14	10	4	12	10	8	8	5	11	15

The most popular type of PC to be found in all schools is desktop computer, and very few laptops were found in just 1% of schools.

Servers were found in just 8% of the schools.

Regarding the type and the number of computers, no differences were found compared to 2005 measurement.

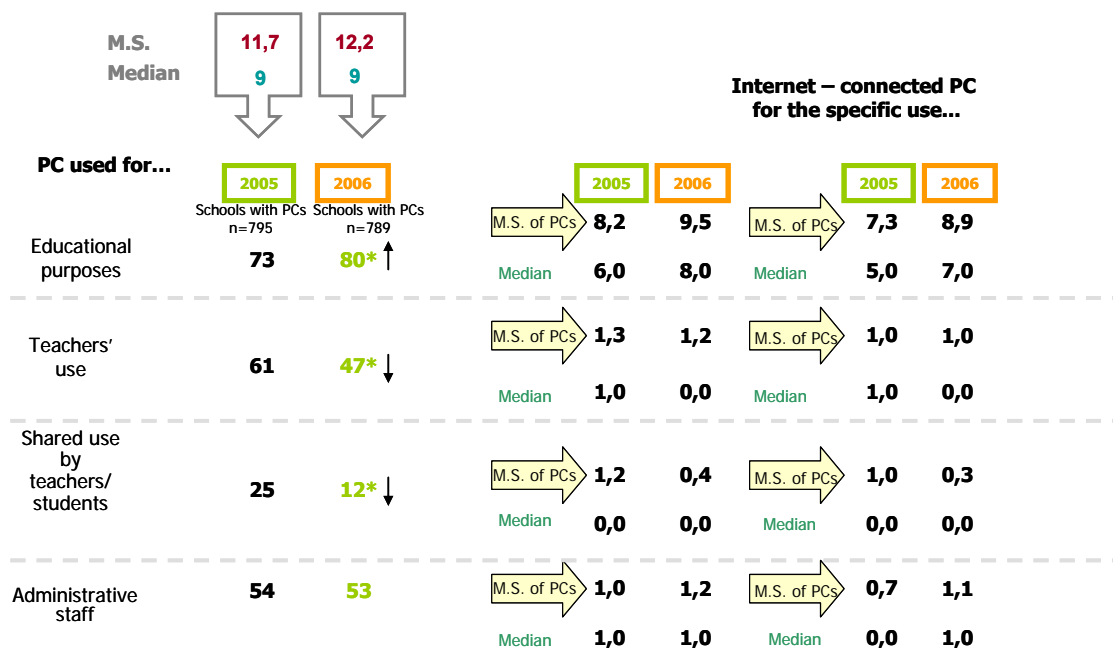


Computers of schools are mainly used for educational purposes (80%). In approximately half of the schools (53%) administrative staff uses the computers, and in 47% of schools computers are used by teachers / professors. Significantly less are the schools were shared use by students and teachers / professors is reported (12%), and these are significantly more in rural areas.

The use for educational reasons-teaching is significantly lower in elementary schools and rural areas.

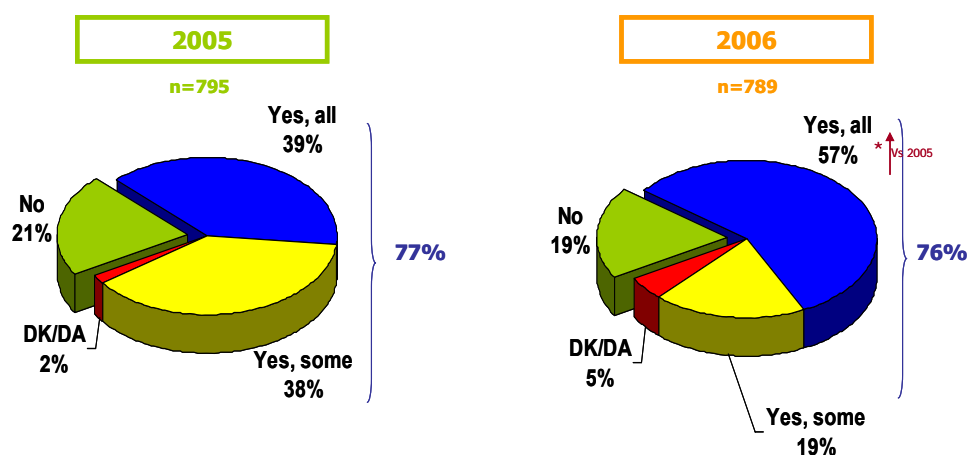
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USES OF COMPUTERS



The majority of schools with computers have all or some of these connected to a network (76%). That is in the same level as in 2005, as shown in the following diagram:

NETWORKED COMPUTERS



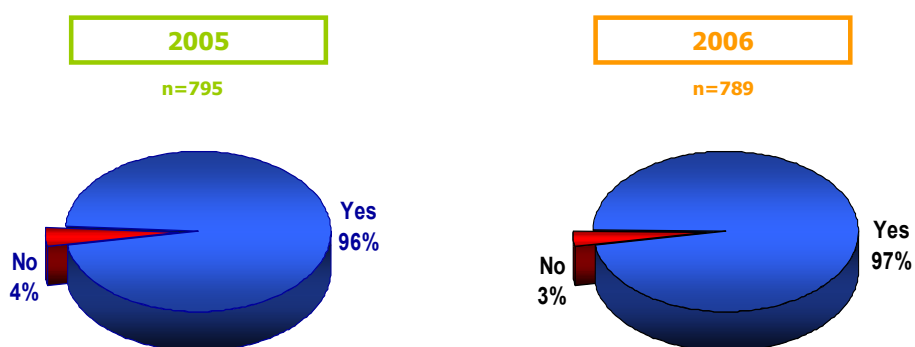
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It is important to mention, that even though the connection to a network didn't increase, there is a significant increase in the percentage of schools that report connection of all available computers to local network (39% vs 57%), with respectively decrease of the schools that report connection of some computers to a local network (38% vs 19%).

Almost all schools which possess computers (97%) have Internet connections, which mean the vast majority of schools; given that virtually all schools have computers.

No differentiation was found compared to 2005, because the percentage of school connected to the internet was very high (96%).

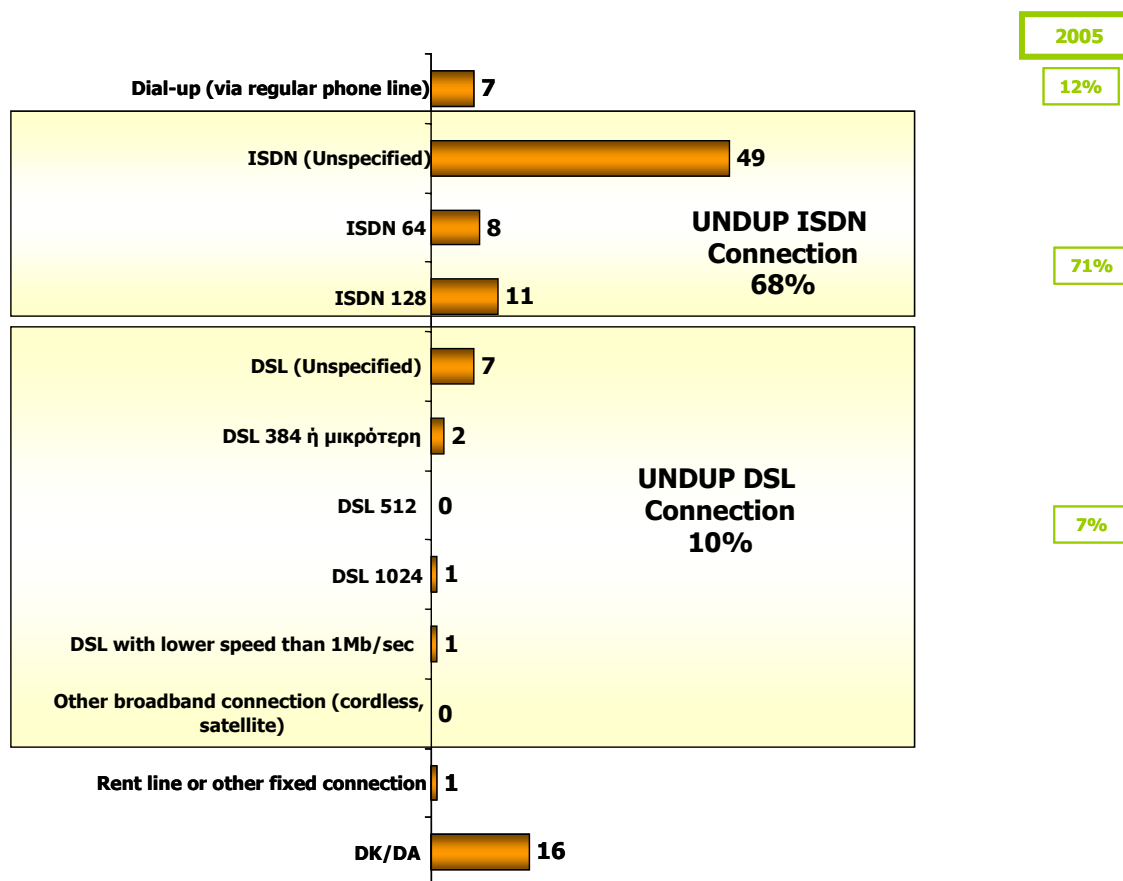
CONNECTION TO INTERNET



The majority of schools continues to use some type of ISDN connection to the Internet (68% almost in the same level as last year), while broadband connections are found to be increased in 10% of schools. Regular PSTN dial-up connections were reported this year only in 7% of schools.

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TYPE OF INTERNET CONNECTIONS

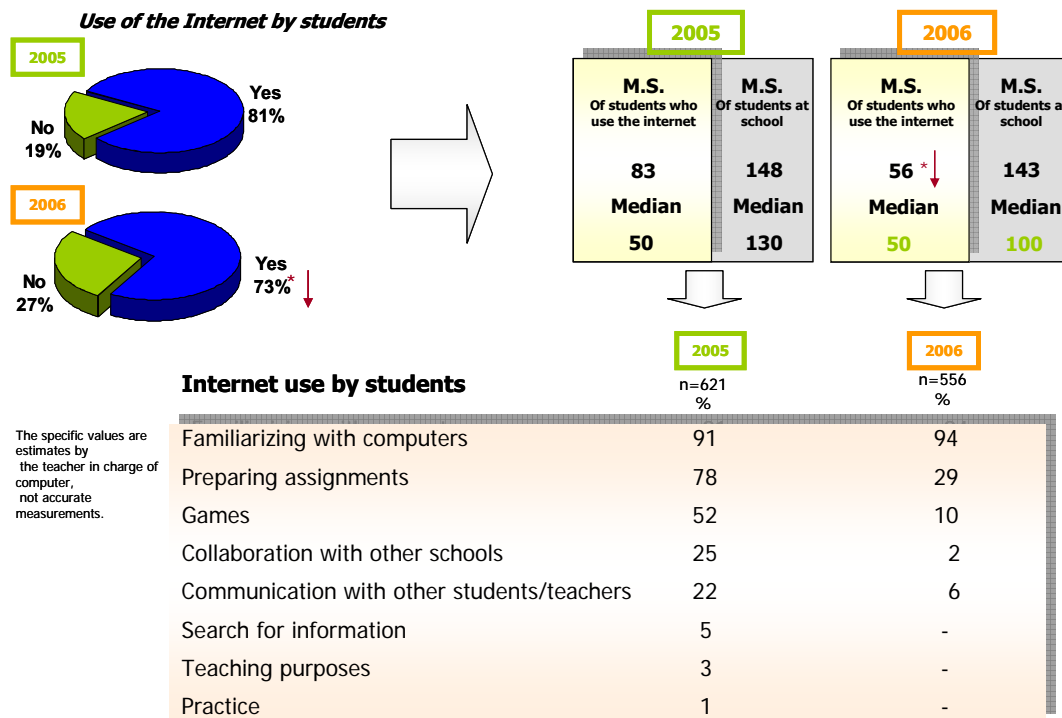


In 7 out of 10 schools with internet connections, students are able to use it, that is significantly lower compared to 2005 measurement where the relation was 8 out of 10 (81%).

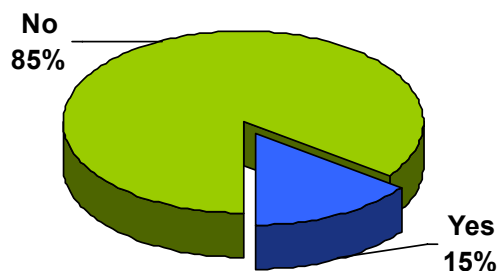
The use of internet by the students concerns mainly the familiarization with computers, that is very important in elementary schools and less the preparation of assignments, reported significantly more in Lyceums (31%), significantly lower in gymnasiums (20%) and very low in elementary schools (3%). The use for other purposes (cooperation with other schools, communication with other students / teachers, information, finding information, teaching purposes, practical exercise) was practically not reported in the 2006 measurement.

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USE OF INTERNET BY STUDENTS



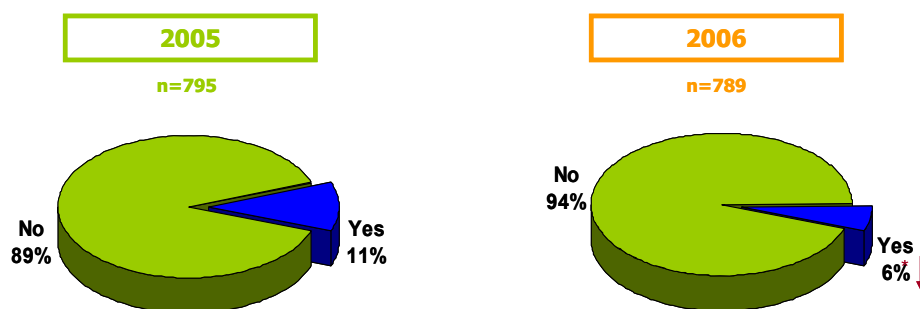
It is estimated that 15% of the students have visited websites with improper content. Incidents of trying to visit a website with improper content are significantly more in Lyceums (31%), significantly less in Gymnasiums (20%) and few in elementary schools (3%).



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Few schools (only 6%), significantly less from the 2005 measurement (11%), provide to their pupils the ability to connect to the internet through the Pan-Hellenic School Network (EDUNET) and just 2% provide e-mail accounts to the pupils either personal or common.

OPPORTUNITY OF STUDENTS TO CONNECT VIA THE PAN-HELLENIC SCHOOL NETWORK (EDUNET) FROM THEIR HOMES



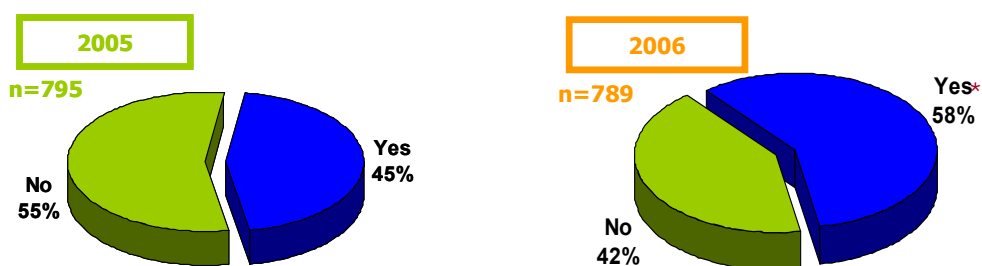
E-MAIL ACCOUNTS FOR STUDENTS THROUGH THE PANHELLENIC SCHOOL NETWORK, PERSONAL OR SHARED



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On the other hand more than the half of the schools (58%) provides personal e-mail accounts to teachers / professors via the Pan-Hellenic School Network.

PERSONAL E-MAIL ACCOUNTS TO TEACHERS / PROFESSORS THROUGH THE PAN-HELLENIC SCHOOL NETWORK



The vast majority of schools have a central e-mail address (94%), while 1 out of three schools have a website, approximately in the same level as in 2005.

Schools that have not a central e-mail address yet, are mainly small and situated in rural areas. Respectively, schools without a website are significantly more elementary schools and those situated in rural areas.



	Total n=789	Public n=763	Private n=26	Elementary n=480	Gymnasium n=161	Lyceum n=148	Athens n=146	Salonica n=32	Urban n=465	Rural n=152	Attica n=185	North n=210	Central n=208	South n=186
NOT HAVING E-MAIL	6%	6%	4%	8%	1%	3%	5%	3%	4%	12%	4%	2%	7%	10%

Has your school a website on the Internet?

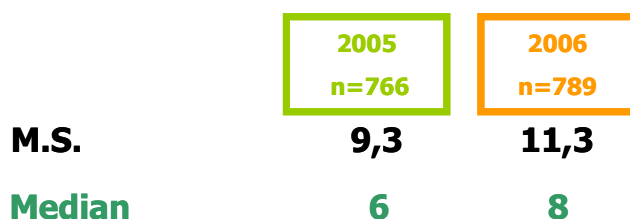


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The Internet is used on average by 11 teachers per school, since in 60% of the schools the teachers / professors that use internet are no more than 10.

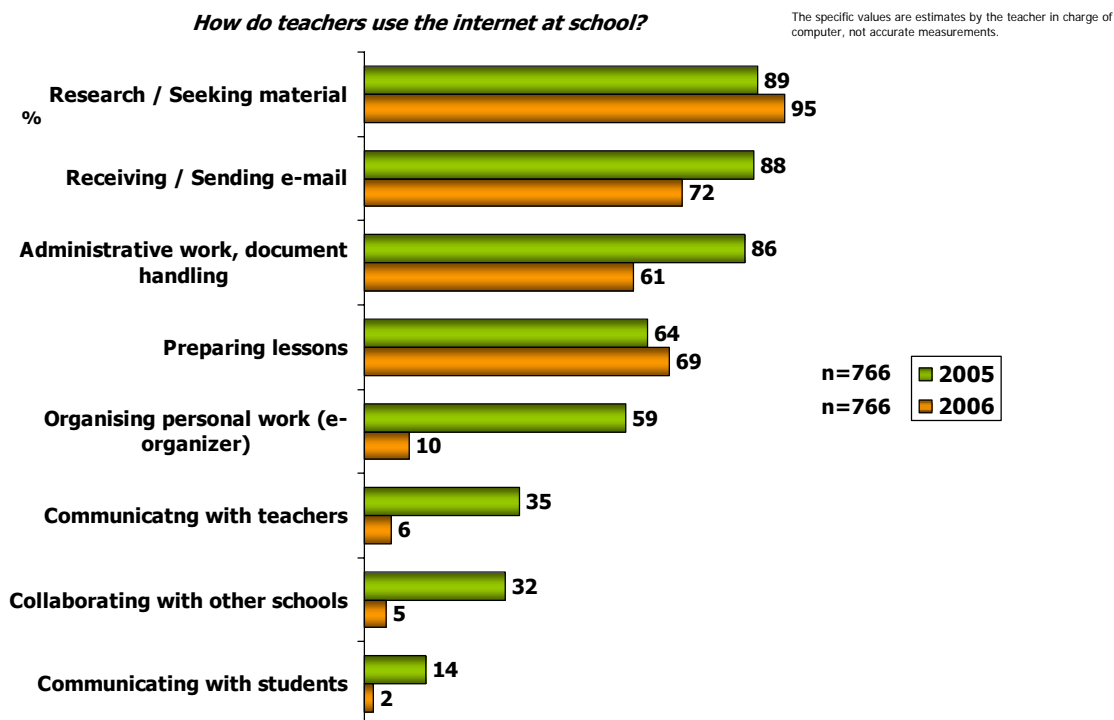
Like in the 2005 measurement, in lyceums, in private schools, in schools of urban areas and in those with the bigger number of students (200+) the number of professors / users is significantly higher.

TEACHERS & THE INTERNET



The use of the Internet by teachers is mainly about research and seeking material, sending and receiving e-mail, administrative tasks, document handling and lesson preparation. In rural areas Internet is significantly more used for administrative work / document handling, as well as for sending and receiving e-mail.

USE OF INTERNET BY TEACHERS – USERS

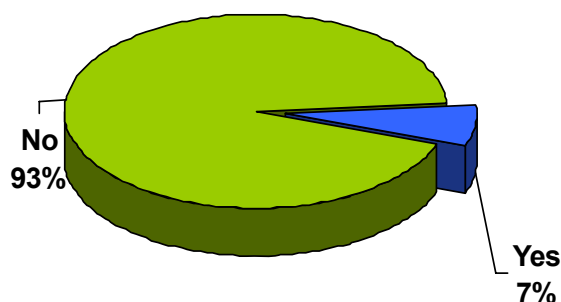


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According to the experience of teachers / professors, a very small percentage of parents express worries about the use of computers by their children, just 7%.

Even though this percentage is low, these worries are frequently expressed and mainly concern is the improper content and the incapability of monitoring the use of computers by the parents. Moreover, the specific activity is concerned as waste of time and cause of neglecting the study.

**DO THE PARENTS EXPRESS WORRIES
ABOUT THE USE OF COMPUTERS BY THEIR CHILDREN**



**FREQUENCY OF EXPRESING WORRIES
ABOUT THE USE OF COMPUTERS BY THEIR CHILDREN**

