European Schoolnet

University of Liege
Psychology and
Education

SURVEY OF SCHOOLS: ICT IN EDUCATION

COUNTRY PROFILE: ITALY

November 2012

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1. INTRODUCTION

ICT IN THE SCHOOL EDUCATION SYSTEM OF ITALY

In Italy[1] the ministry of Education, University and Research is responsible for the general administration of education at national level and for the general organisation of the school system. The ministry of Education establishes the general objectives of the educational process, the 'specific learning objectives' related to pupils' skills, the subjects of the minimum national curriculum and their annual teaching hours, the total annual compulsory timetable of curricula, standards related to the quality of education services, general criteria for pupil assessment. The Regions work in collaboration with the ministry and have specific planning and administrative responsibilities as have Provinces and Communes at local level. Schools have didactic, organisational and research autonomy within the national framework and school managers, have autonomy and legal status and are civil servants. The school manager is responsible for the overall management of the institution, of which he is the legal representative, for the management of financial and material resources and for the quality of the service provided.

According to Eurydice's **Key Data on Learning and Innovation through ICT at school in Europe**[2], in Italy there are national strategies covering training and research measures for ICT in schools, e-learning, e-inclusion, digital/media literacy and e-skills development. There are central steering documents for ICT learning objectives[3] covering knowledge of computer hardware and electronics, using a computer, using office applications and searching for information at primary and secondary level, and using multimedia and developing programming skills at secondary level. In both primary and secondary schools ICT is taught within technology as a subject, and as a general tool for other subjects/or as a tool for specific tasks in other subjects, while in secondary schools it is also taught as a separate subject. There are central recommendations or suggestions for all areas of ICT hardware and software[4]. According to official steering documents, students and teachers at all levels are expected to use ICT in all subjects for complementary activities and also in class at secondary education level. There are no central recommendations on the use of ICT in student assessment. Public-private partnerships for promoting the use of ICT in primary and secondary schools are encouraged in private funding for hardware and software in schools, ICT training for teachers, ICT training for pupils/ students, in providing extra-curricular activities, and curriculum development.

THE SURVEY OF SCHOOLS: ICT IN EDUCATION

In 2011, the European Commission Directorate General Communications Networks, Content and Technology[5] launched the Survey of Schools: ICT in Education, the primary goal of which is to benchmark countries' performance in terms of access, use and attitudes to ICT at grades 4, 8 and 11.

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[1] https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php?title=Home

[2] [ii] http://eacea.ec.europa.eu/education/eurydice/documents/key data series/129EN.pdf, published in 2011, specifically the following tables and associated commentaries: A6, B6, B7, C2, C3, C4, C12 and E10

[3] i.e. knowledge of computer hardware and electronics, using a computer, using mobile devices, using office applications, searching for information, using multimedia, developing programming skills, and using social media

[4] from a range of hardware and software, i.e. computers, projectors or beamers, DVDs, videos, TV, cameras, mobile devices, e-book readers, smartboards, virtual learning environments; tutorial software, office applications, multimedia applications, digital learning games, communication software, digital resources

[5] www.ec.europa.eu/dgs/connect/

The Survey of Schools is one of a series within the European Union's cross-sector benchmarking activities comparing national progress to Digital Agenda for Europe (DAE) and EU2020 goals. The Survey is funded by the European Commission Communications Networks, Content and Technology Directorate General and is a partnership between European Schoolnet and the Service d'Approches Quantitatives des faits éducatifs in the Department of Education of the University of Liège. The survey took place between January 2011 and May 2012, with data collection in autumn 2011, and covered 31 countries (the EU27, Croatia, Iceland, Norway and Turkey). In four countries (Germany, Iceland, Netherlands and the United Kingdom) the response rate was insufficient, making reliable analysis of the data impossible; therefore the findings in this report are based on data from 27 countries.

This country profile should be read in conjunction with the Report of the Survey of Schools: ICT in Education (the 'main report'). The profile presents key indicators concerning access, use and attitudes to Information and Communication Technology in primary and secondary schools derived from responses to surveys completed by head teachers, teachers and students, showing national results against the EU average and, where possible, for grade 8 only. Charts for this grade are shown but not for other grades for reasons of brevity and clarity and because results at this grade tend to be indicative of all grades (i.e. having the characteristics and revealing issues found both at grade 4 and at grade 11). The text provides information about the results and rankings at other grades and a reference to the particular chart in the main report.

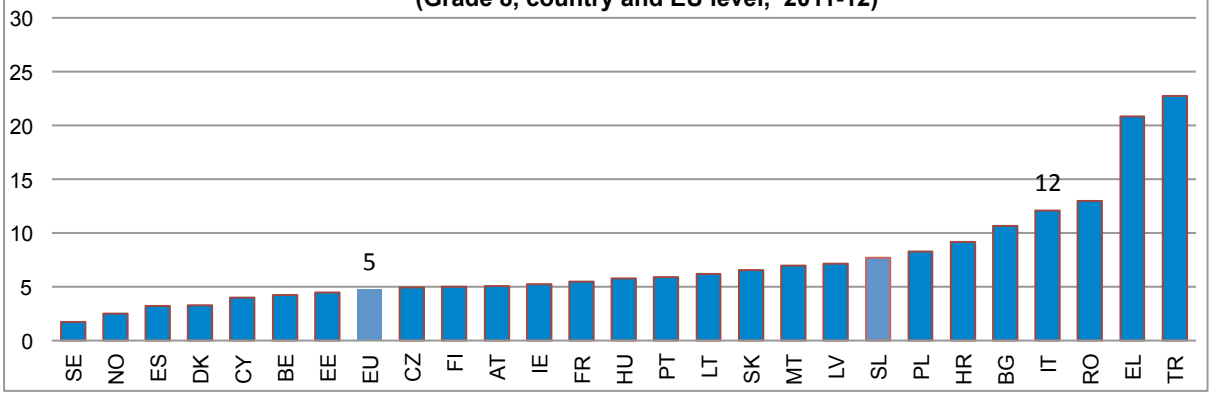
The full report, country profiles, background information, questionnaires, tables, details of the methodology and the raw data are freely available at https://ec.europa.eu/digital-agenda/en/pillar-6-enhancing-digital-literacy-skills-and-inclusion. The authors may be contacted at essie-eu@eun.org and information about the survey is at http://essie.eun.org.

2. ICT INFRASTRUCTURE

AVAILABILITY OF COMPUTERS FOR EDUCATIONAL PURPOSES

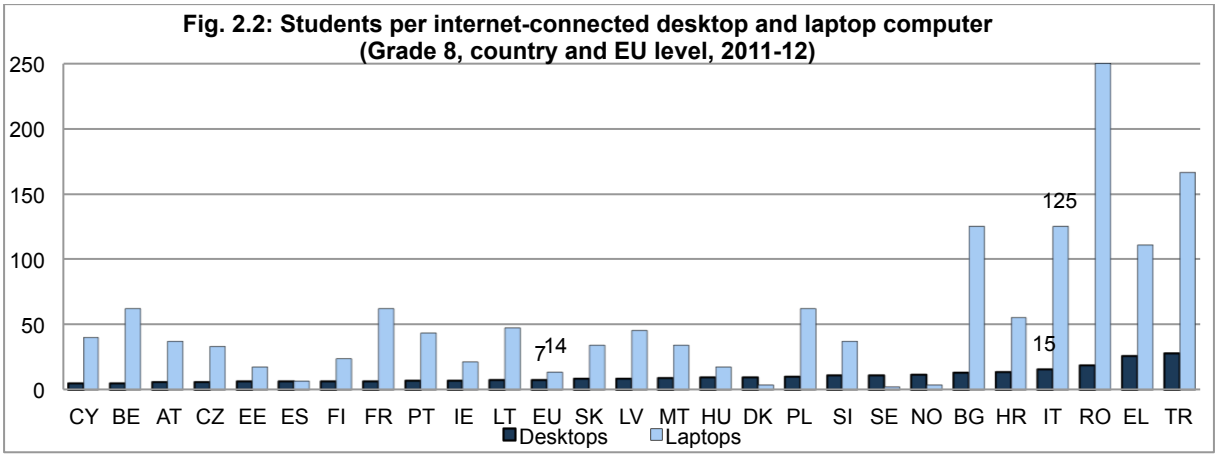
A computer is defined as a desktop or laptop, netbook or tablet computer, whether or not connected to the internet, available for educational purposes in school. In Italy there are fewer computers for all grade students than the EU average, and provision is consistent all levels. In most countries the older the student the more the computers, (as can be seen from the EU means, main report, fig. 1.1), and this trend is also reflected in Italy at grade 11 vocational. Fig. 2.1 shows that at grade 8 Italy is ranked among the bottom group of countries with 12 students per computer. Italy is also in the bottom group of countries at all other grades (see main report fig. 1.1).

Fig. 2.1: Students per computer
(Grade 8, country and EU level, 2011-12)



In Italy most computers are desktops rather than laptops, but it ranks among countries with the lowest percentages of students having access to internet-connected desktop computers in Europe at grade 8 (fig. 2.2). In terms of internet-connected laptop compters at grade 8 Italy is among the bottom group of countries, and the situation is the same at all other grades.

Fig. 2.2: Students per internet-connected desktop and laptop computer
(Grade 8, country and EU level, 2011-12)



The higher the percentage of students from low-income families in a school, the less online laptop computers tend to be available in vocational schools in Italy (main report, section 1). Computers are mainly located in dedicated labs at all grades, significant higher than most countries at grade 4 around 80% at all other grades (main report, fig. 1.3). Italy has significantly below the EU average of 75 % of students in schools where over 90% of computers are operational (main report, fig. 1.4), ranked third from the bottom compared with other countries. With on average 77 students per interactive

whiteboard at grade 8, Italy ranks tenth, but ranks lower at other grades (main report, fig. 1.5) among the bottom group of countries.

In Italy more than one in two students in grade 11 general schools benefit from commercially-provided maintenance (main report, section 1)

BROADBAND

In Italy the percentage of students in schools without broadband is higher than the EU average at grades particularly at grade 4 where more than one in three students are in a school with no broadband. At all grades the percentages of students in schools with broadband speeds faster than 10mbps, is much lower than the EU mean.

Fig. 2.3: Broadband speed
(% students excluding 'don't know', Italy and EU, 2011-12)

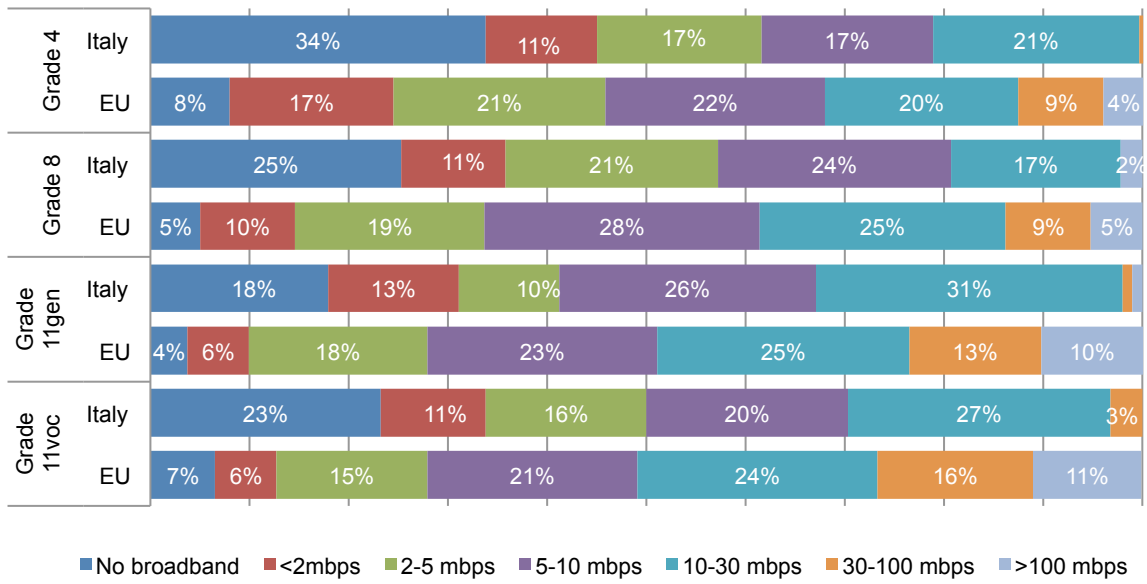
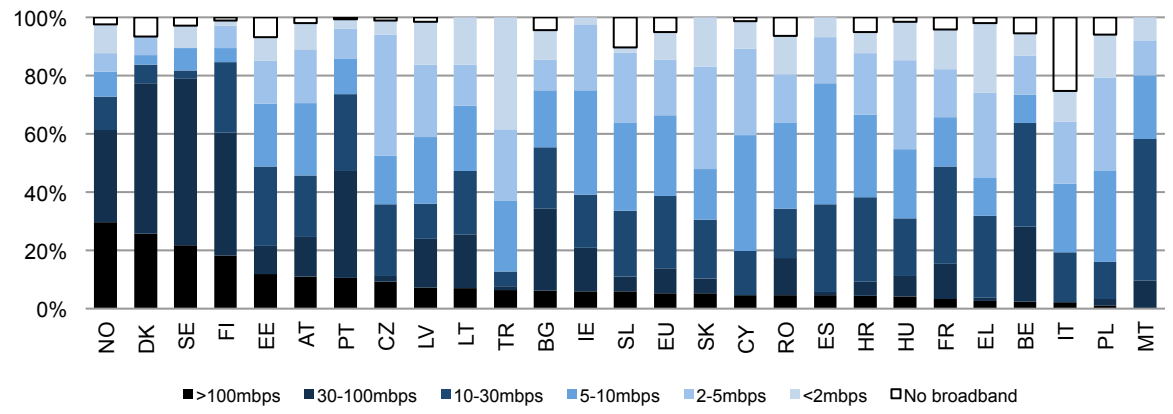


Figure 2.4 shows how Italy compares with other countries at grade 8: ranked among the bottom group of countries for the percentage of students in schools with more than 100 mbps, with the highest percentage of pupils in schools with no broadband and the majority of students being in schools with broadband speeds under 10mbps. The situation is similar at other grades, and with the highest levels of schools without broadband at all grades (around 33% at grade 4), Italy ranks among the bottom group of countries on this measure (main report, fig. 1.8).

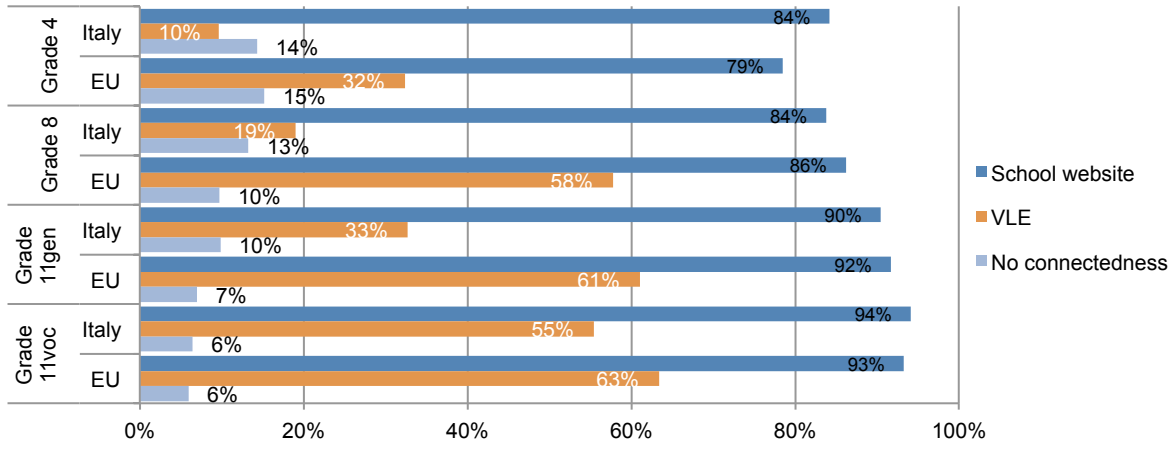
Fig. 2.4: Broadband speed
(Grade 8, country and EU level, 2011-12, ranked by >100mbps, 2011-12)



'CONNECTEDNESS'

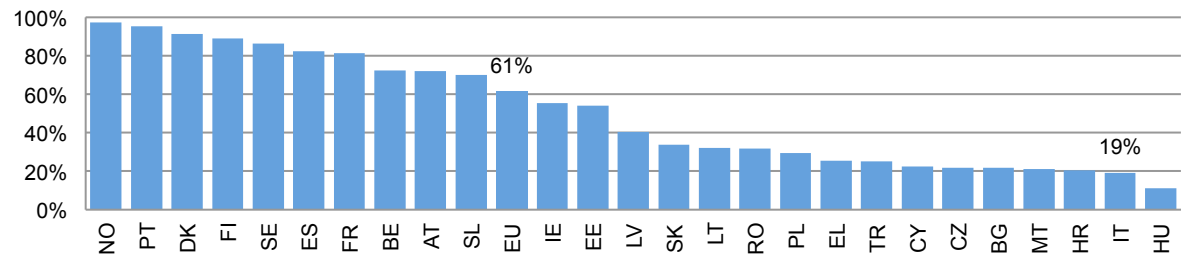
Percentages of students in schools that have 'connected' characteristics, e.g. having a website or a virtual learning environment (VLE) are shown below, as well as those with none of these items. In Italy, generally the percentage of students in schools with a website is close to the EU mean. There is a lower percentage of students in schools with a virtual learning environment than the EU mean at all grades, although this is close the EU average at grade 11 vocational. 'Unconnected' schools are close to the EU average at all grades.

Fig. 2.5: Percentage of students in connected schools - website, virtual learning environment, no connectedness
(Italy and EU, 2011-12)



Italy ranks well below other countries as regards virtual learning environments at grade 8 (fig. 2.6), and at other grades ranks among the bottom group of countries (main report, fig. 1.10), except at grade 11 vocational where it is among the middle group of countries.

Fig. 2.6: % of students in schools with a virtual learning environment (Grade 8; country and EU level, 2011-12)



In Italy of schools with VLEs, the majority offer external access, ranking in the leading group of countries at grade 8, with roughly equal levels of access to teachers and parents at all grades, except at grade 4 where almost double the number of teachers than students have access (main report, fig. 1.11).

3. FREQUENCY OF ICT USE IN CLASS

FREQUENCY OF ICT USE BY TEACHERS IN CLASS

Teachers' frequency of use of ICT in lessons is shown in the charts below. In Italy use of ICT by teachers is generally close to the EU average. There are slightly more teachers using ICT in more than 25% of lessons, above the EU average, at grade 8 and less at other grades.

Fig. 3.1: Frequency of use of ICTequipment by teachers in lessons
(in % students, Italy and EU, 2011-12)

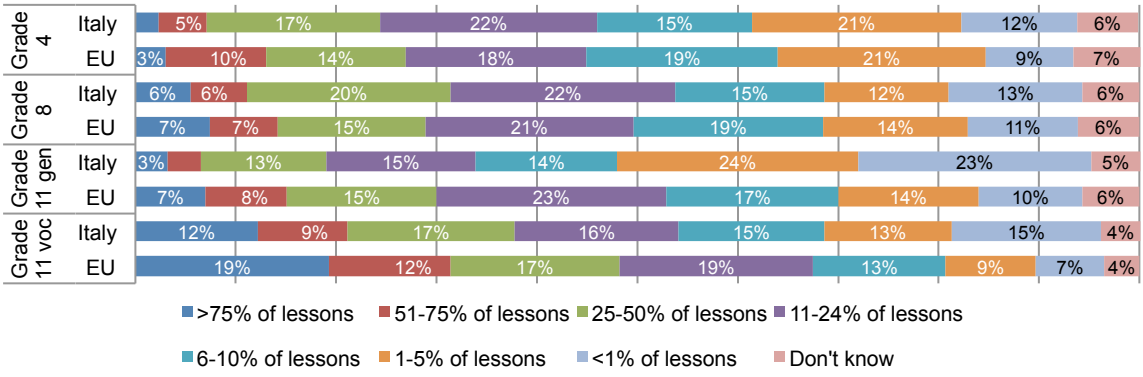
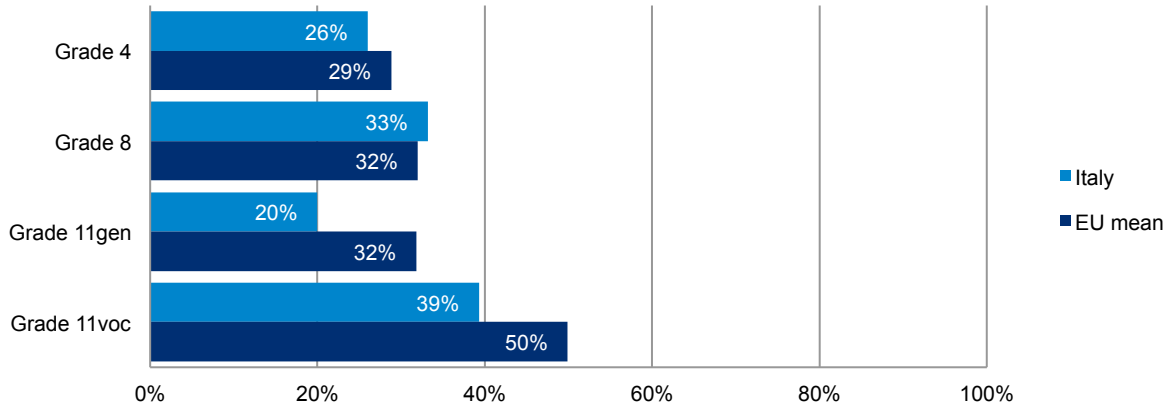
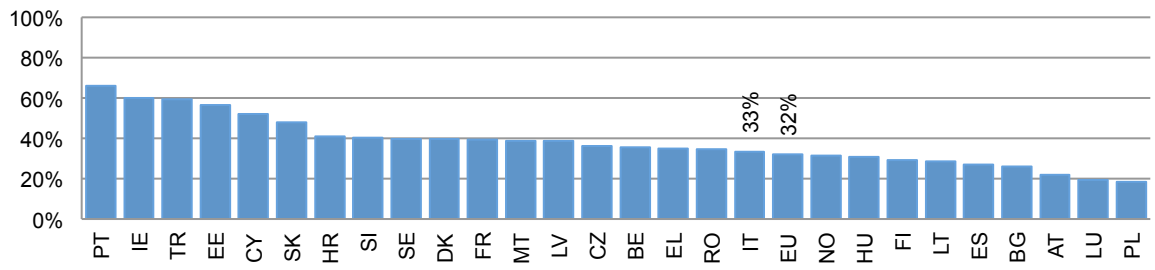


Fig. 3.2: Teachers' use of ICT in at least 25% of lessons
(% students, Italy and EU, 2011-12)



Teachers in Italy are average users of ICT in lessons: when considering percentages using ICT in more than one in four lessons. Fig 3.3 shows Italy ranks in the middle group of countries at grade 8, and this is also the situation at grade 4, but at grade 11 Italy is among the bottom group of countries, ranked in the last two countries on this measure.

Fig. 3.3: Teachers' use of ICT in more than 25% of lessons (Grade 8, EU and country level, 2011-12)

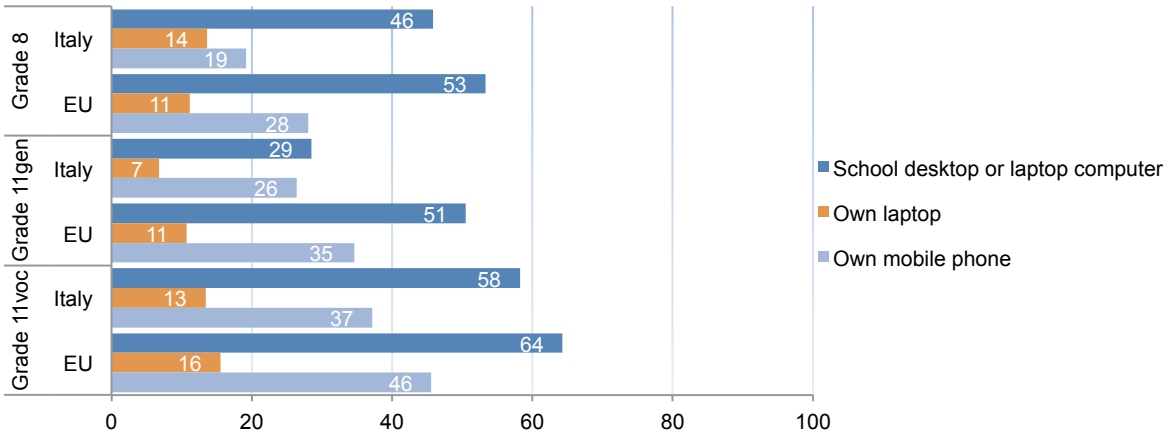


As regards teachers' use of ICT (Section 3 of the main report), the majority of teachers in Italy have been using ICT in lessons for more than six years, notably at grade 11 vocational where it ranks among the leading group of countries (main report, fig 3.2). Italy is among the leading group of countries in terms of student-centred learning at grade 4 and at grade 8, ranked third highest (main report, fig. 3.5), but in the middle group at grade 11 and the lower group of countries at grade 11 vocational.

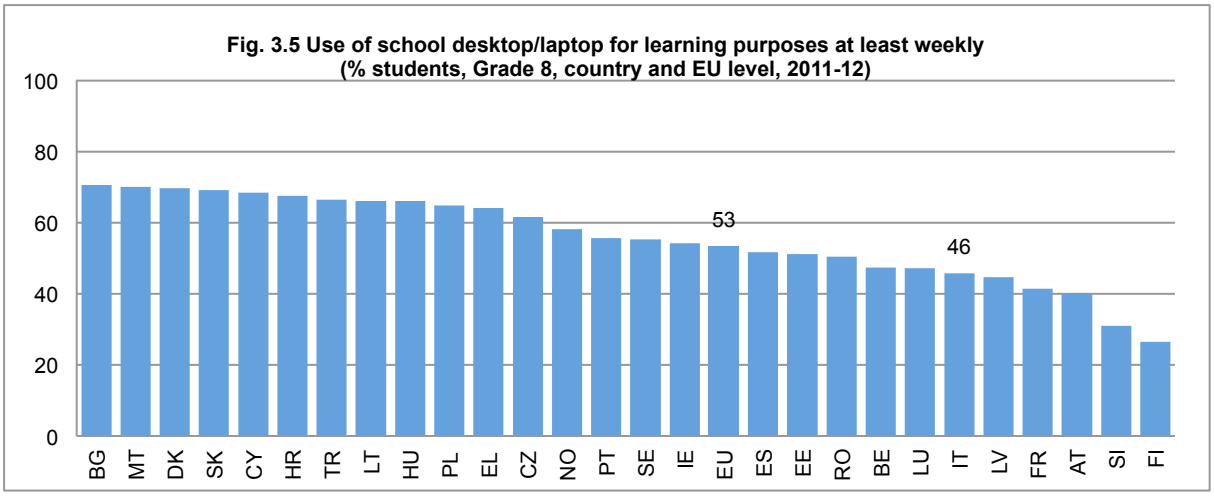
STUDENTS' ICT USE

Students at grade 8 and 11 were also asked how frequently they used various items of ICT equipment in their lessons for learning purposes. The chart below shows their reported intensity of use of a school computer, and their own laptop or mobile phone. In Italy student use of computers in class is close to the EU mean except at grade 11 general where is it is notably lower. Use of their own laptop is close at all grades to the EU mean and slightly higher at grade 4. Mobile phone usage is lower than the EU mean at all grades.

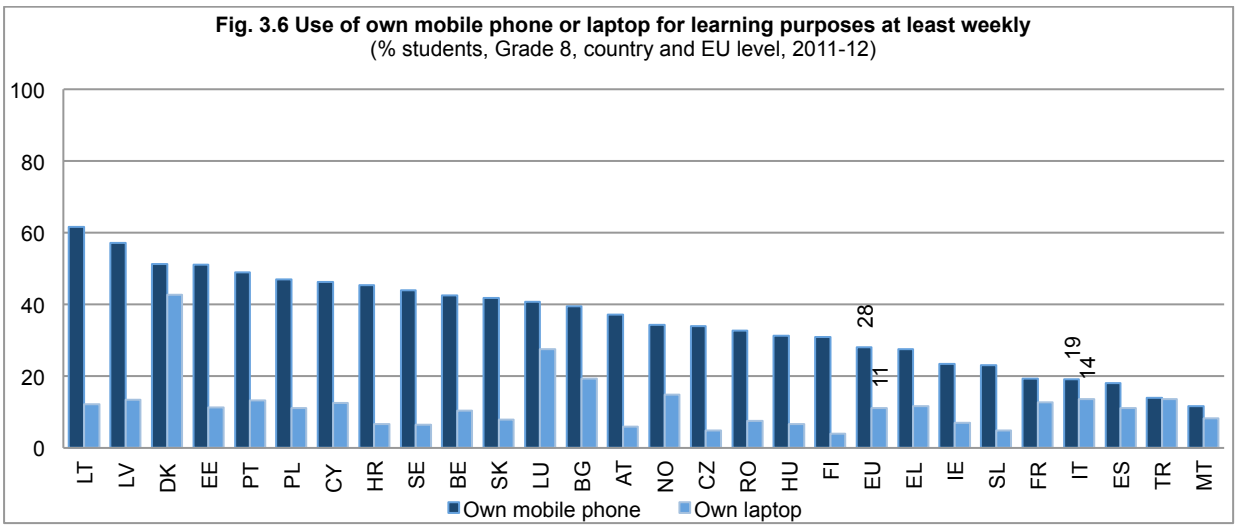
Fig. 3.4: Percentages of students using ICT equipment in class for learning, at least once a week
(Italy and EU, 2011-12)



At grade 8 students' reported use of school computers is among the bottom group of countries, ranked sixth from last, with 46% saying they use them at least once a week (fig. 3.5), and is also among the lower group of countries at grade 11 (main report, fig. 2.5).



Compared to other countries at grade 8 (fig.3.6), students in Italy are relatively light users of their own mobile phone but heavier users of their laptop in school, and a similar level of use at grade 11 (main report, fig. 2.5) although heavier use of students' own laptop at grade 11 vocational.



Students report using interactive whiteboards more frequently than the EU average, with Italy ranked among the leading countries at grade 8, but less frequently at grade 11 general and grade 11 vocational where Italy is ranked among the bottom and middle group of countries respectively (main report, fig. 2.6).

Concerning students' ICT-based activities during lessons, Greece is among the bottom countries as measured by frequency of use (main report, fig. 3.8), and at grade 11 general has the highest percentage (42%) of students reporting never or almost never using a computer in class in the last year .

4. DIGITAL CONFIDENCE

TEACHERS

In Italy teachers' confidence in their operational skills with ICT is near to the EU mean at all grades (close to 'somewhat'). Their confidence in social media skills is slightly lower than the EU mean (between 'a little' and 'somewhat'), except for grade 4 where it is slightly higher. The mean score of students in Italy being taught by teachers declaring confidence in their operational skills is close to 3 in all grades, and close to 2.4, above at grade 4, in social media, much in line with the EU mean.

Fig. 4.1: Teachers' self-confidence in their ICT skills

(by grade; mean score of students with 1 being 'none' and 4 being 'a lot'; Italy and EU; 2011-12)

Fig. 4.1a: grade 4

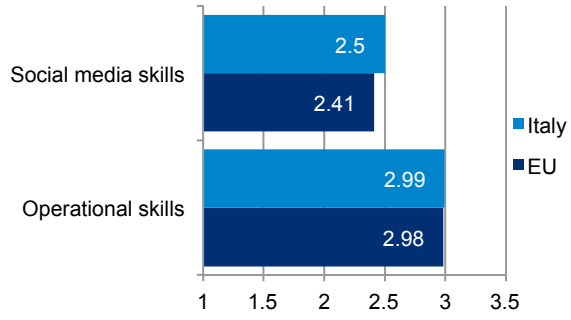


Fig. 4.1b: grade 8

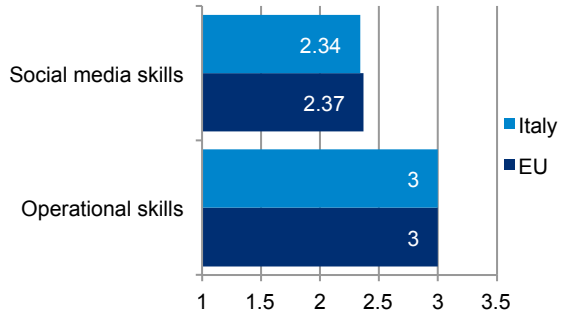


Fig. 4.1c: grade 11 gen.

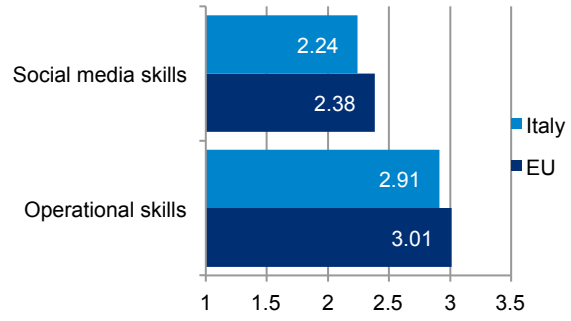
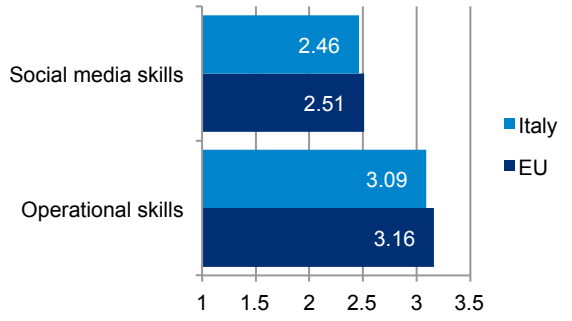
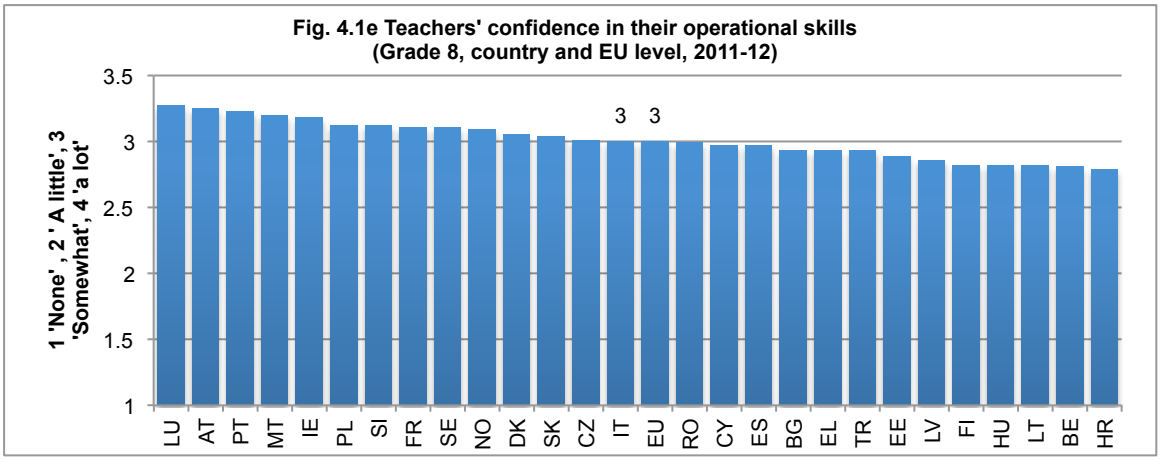


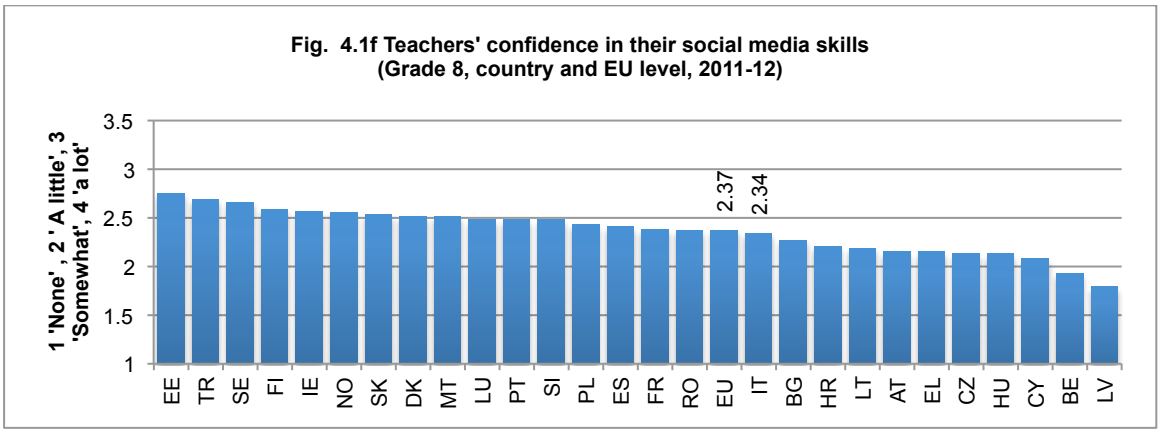
Fig. 4.1d: grade 11 voc.



Comparing confidence levels at grade 8, teachers' confidence in their operational skills places Italy among the middle group of countries (fig. 4.1e), as this is also the case at grade 4, but at grade 11 Italy ranks among the bottom group of countries (main report, fig. 4.13).



At grade 8 Italian teachers are among the middle group of countries as regards social media confidence (fig. 4.1f) and among the leading group at grade 4, but at grade 11 they rank among the bottom group of countries (main report, fig. 4.14).



STUDENTS

In Italy students' confidence in their social media and operational ICT skills is generally close to the EU mean (close to 'somewhat') in all grades, although lower in social media skills at grade 4. The mean score of students in Italy is around 2.6, and at all grades is below the EU mean, and lower at Grade 11 general.

Fig. 4.2: Students' self-confidence in their ICT skills

(by grade; mean score of students with 1 being 'none' and 4 being 'a lot'; Italy and EU; 2011-12)

Fig. 4.2a: grade 8

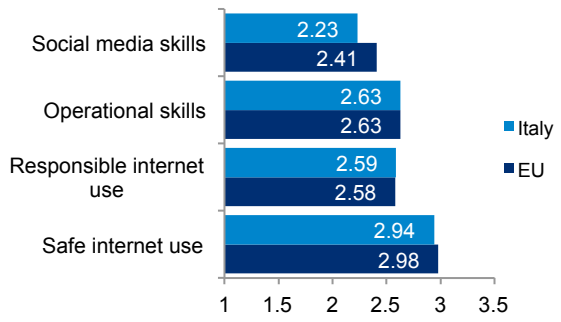


Fig. 4.2b: grade 11 gen.

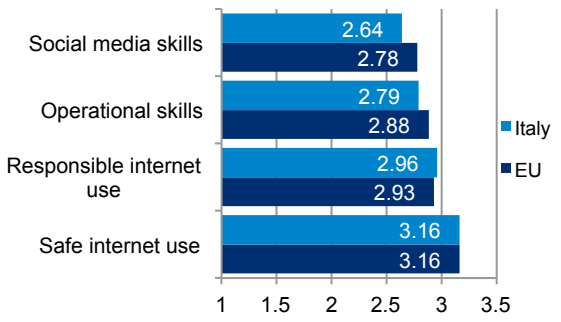
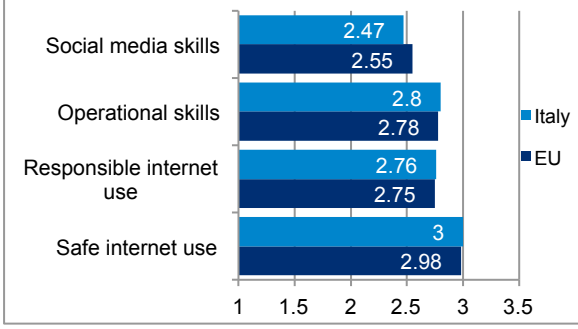
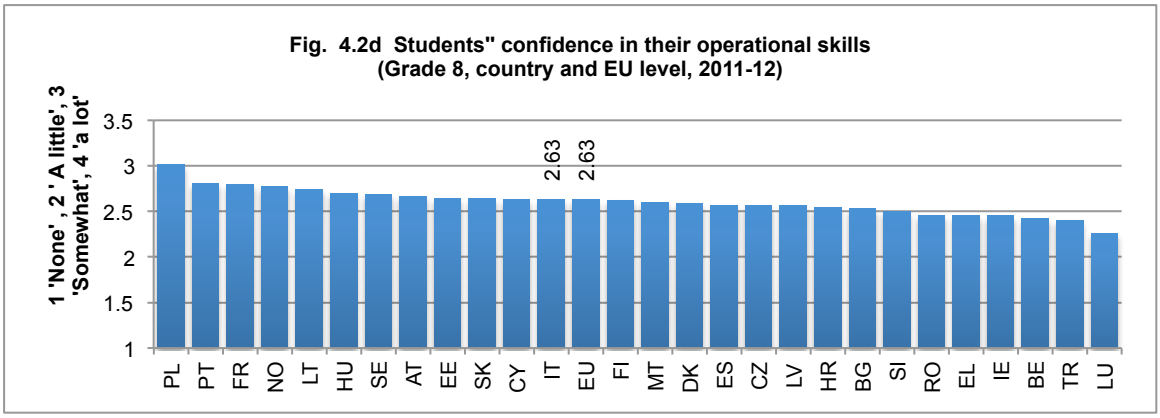


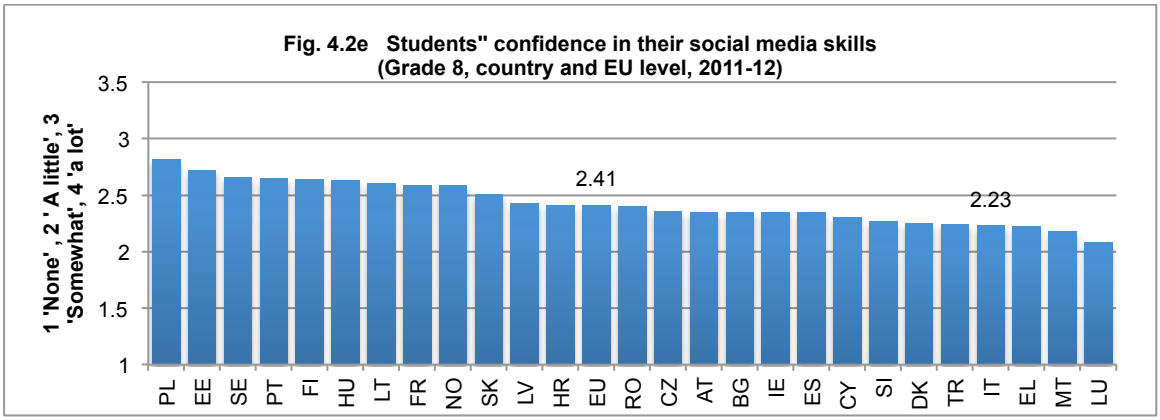
Fig. 4.2c: grade 11 voc.



Confidence in operational skills is at the EU mean amongst grade 8 students (fig. 4.2d), at grade 11 general Italy ranks among the lowest group of countries and at grade 11 vocational is sixth highest, among the leading group of countries (main report fig. 4.18).



Italy is among the bottom group countries for confidence in social media competence at grade 8 (fig. 4.2e) as is the case at grade 11 general, and at grade 11 vocational Italy ranks among the middle group of countries on this measure (main report, fig. 4.19).



At grade 8 and grade 11 students in Italy rank among the middle group of countries in terms of confidence to use the internet safely and to use it responsibly (main report, fig. 4.16, 4.17).

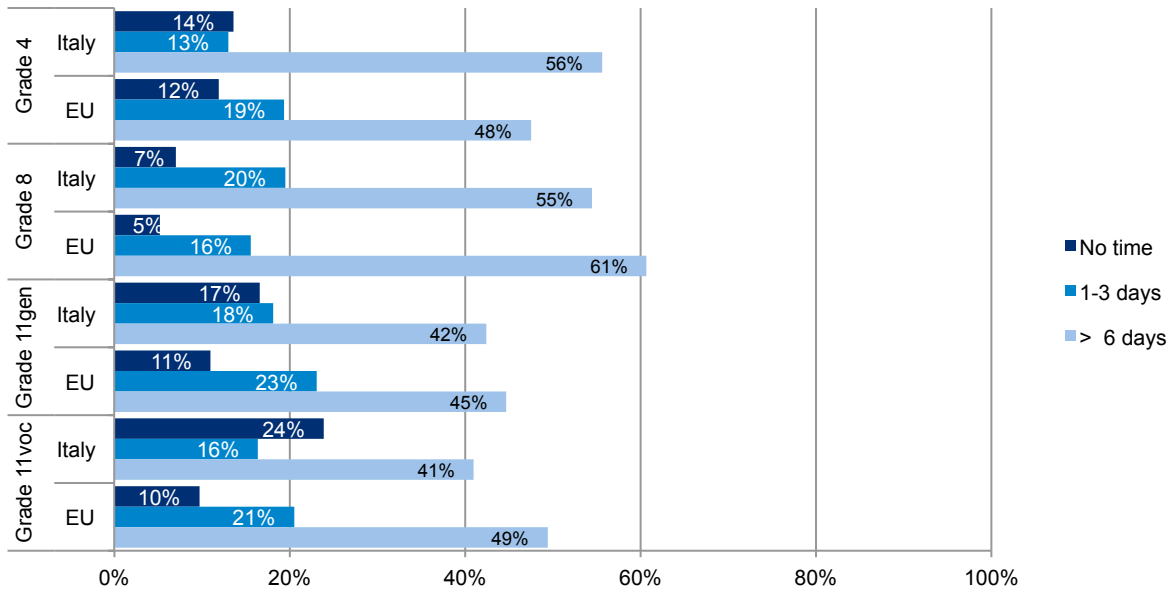
5. PROFESSIONAL DEVELOPMENT

TIME SPENT ON TRAINING

In Italy more students at grades 4 are taught by teachers who have invested more than 6 days in professional development activities during the past two years, compared to the EU average. For students at all other grades the situation in Italy is close to, although slightly lower than, the EU average.

When it comes to students being taught by teachers who have alternatively spent between 1 and 3 days on professional development during the last two years, Italy is generally below the EU level at all grades, except at grade 8 where it is slightly higher. Those who have spent no time are above the EU mean at all grades, notably at grade 11 vocational.

Fig. 5.1: Time invested by teachers in professional development activities during the past two years (in % of students; excluding '4-6 days' and '< 1 day'; Italy and EU; 2011-12)



ENGAGEMENT IN TRAINING

As Fig. 5.2 below shows, Italy has less than the EU average of students in schools where teachers have recently undergone ICT training provided by school staff at all grades, most notably at grade 11. Generally more are in schools where teachers take part in training through online communities above the EU average. Generally close to the EU average of students are in schools where teachers have recently undergone personal learning.

Fig. 5.2: Means through which teachers have engaged in ICT related professional development during the past two years

(by grade; in % of students; Italy and EU; 2011-12)

Fig. 5.2a: grade 4

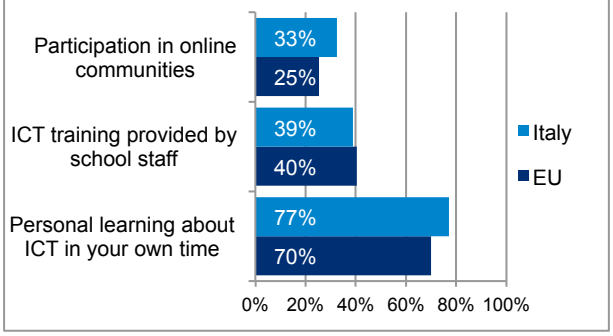


Fig. 5.2b: grade 8

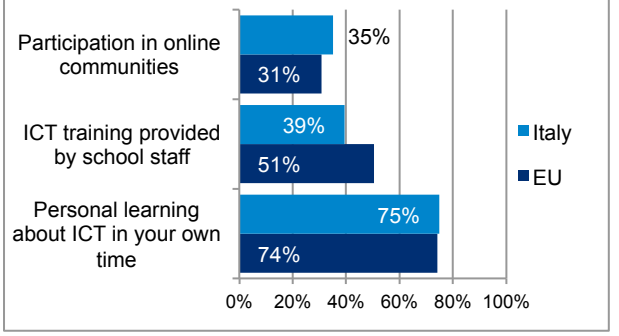


Fig. 5.2c: grade 11 gen.

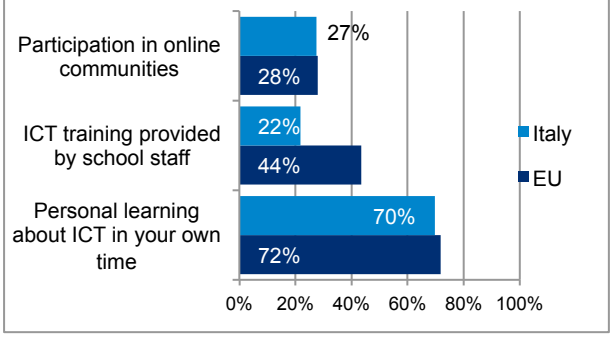


Fig. 5.2d: grade 11 voc.

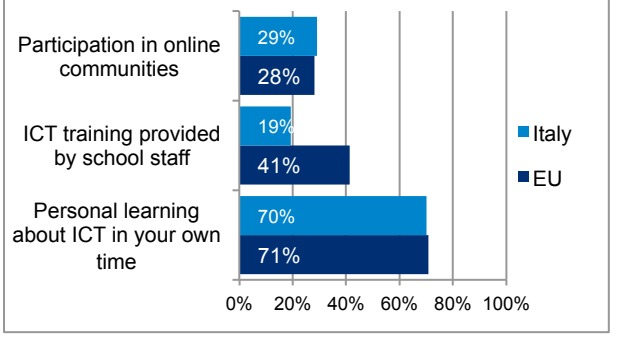
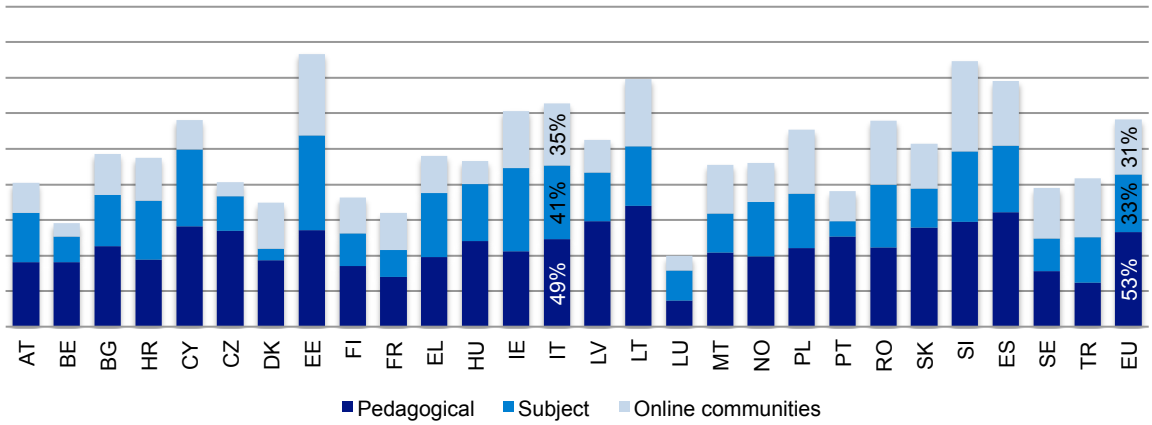


Fig. 5.2e shows that grade 8 teachers in Italy have taken part extensively in professional development in the preceding two years, notably in subject-specific ICT training, although a lower percentage takes part in pedagogical training. Italy ranks among the leading group of countries at grades 4 and at grade 8 for participation in online communities, and in the middle group at grade 11, and this is also the situation regarding subject-specific ICT training, where Italy ranks in the top five countries at grade 4 and grade 8. However Italy ranks among the bottom group of countries regarding pedagogical training, and in the middle group of countries at other grades (main report fig 4.6, 4.7, 4.8).

Fig. 5.2e: Participation in professional development (Grade 8, by type, country and EU, 2011-12)



In Italy at all grades percentages of students taught by teachers for whom ICT training is compulsory are among the lowest in the EU (main report, fig. 4.2). As regards involvement in personal learning about ICT in their own time (main report, fig. 4.4), percentages (in the range 70% to 78%) are close to the EU mean at all grades, but higher at grade 4. The percentage of students taught by teachers participating in training provided by school staff is the second lowest (19%) at grade 11 vocational, and among the bottom of group of countries at other grades, and at grade 4 it is close the EU mean (main report, fig.4.5). Between 7 and 24 per cent of students are taught by teachers who have not spent any time on ICT-related professional development activities during the preceding two years (main report, fig. 4.11) among the highest percentages at grade 11.

6. SCHOOL SUPPORT MEASURES

In general students in Italy are in schools where significantly below EU averages of ICT strategies are implemented, ranked in the last three among the bottom group of countries at all grades (main report, fig. 5.3). On the other hand at all grades, particularly grade 8 (54%, ranked second), there are high percentages of students in schools with strategies to support teacher collaboration (main report, fig. 5.7), with Italy among the leading group of countries at all grades. Italy is ranked among the top group of countries at all grades, except at grade 11 vocational where it ranks among the middle group, as regards strategies about responsible internet and social media use (main report, fig. 5.10). Average percentages of students in Italy are in schools with change management programmes at all grades (main report, fig. 5.14).

ICT COORDINATOR

In Italy, compared to the situation at EU level (see Fig. 6.1), more students are in schools where ICT coordinators are provided at grades 4 and 11 general. Students are in schools that employ full time ICT coordinators at less than the EU mean at all grades. The ICT coordinators provide pedagogical and well as ICT support close to the EU level at all grades but below at grade 11 vocational.

Fig. 6.1: Percentages of students in a school with ICT coordinator (all grades, Italy and EU, 2011-12)

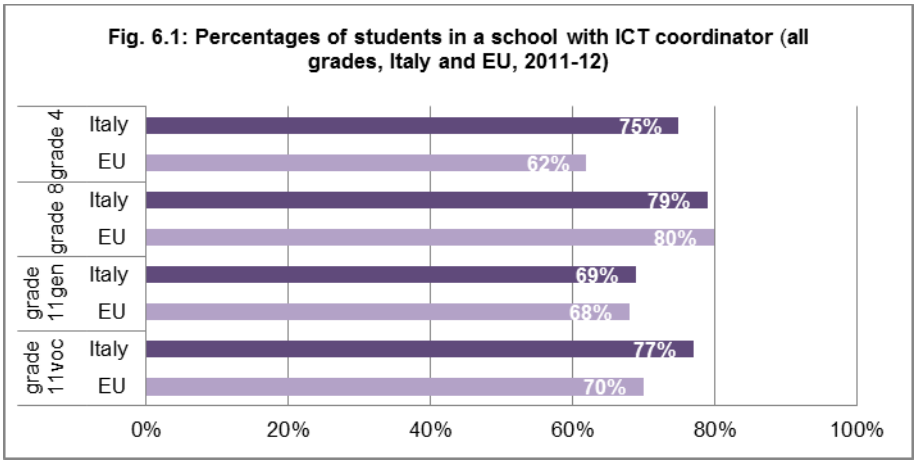
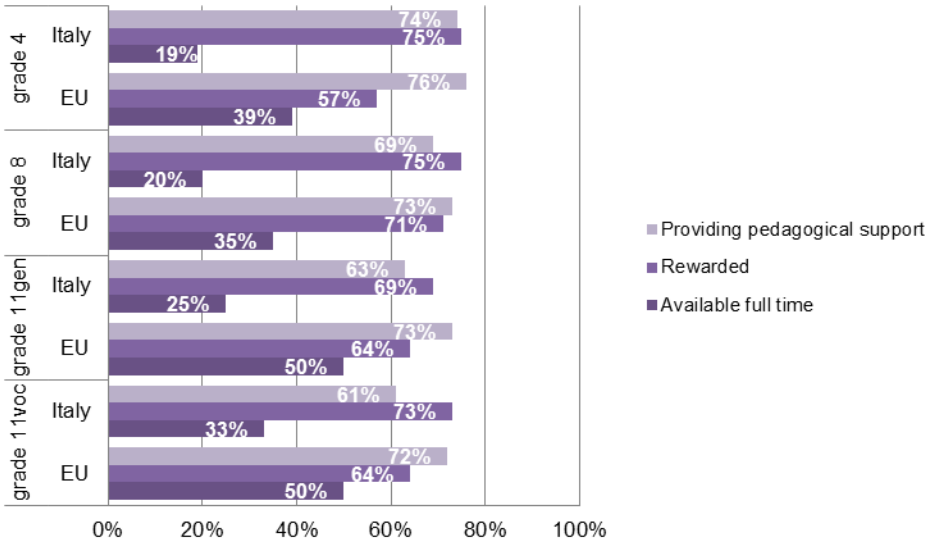


Fig. 6.2: Percentages of students in a school with ICT coordinator available full time, and/or rewarded and/or providing pedagogical support (all grades, Italy and EU, 2011-12)



INCENTIVES

In Italy most students are in schools where there are forms of incentive or reward for using ICT, generally much higher the EU average at all grades, for training hours and equipment, and slightly above for financial incentives.

Fig. 6.3a: Percentages of students in schools with incentives to reward teachers using ICT in T&L (grade 4; in % of students; Italy and EU; 2011-12)

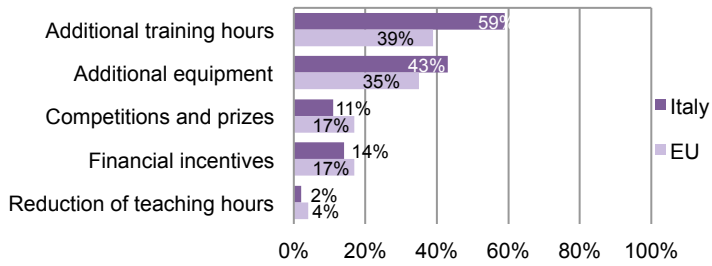


Fig. 6.3b: grade 8

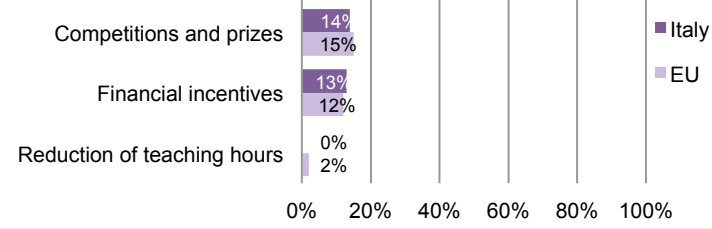


Fig. 6.3c: grade 11 gen.

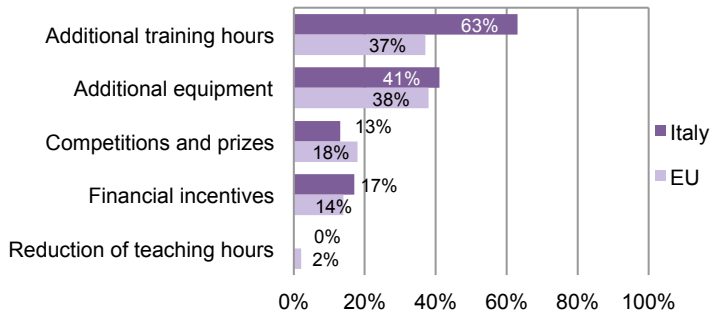
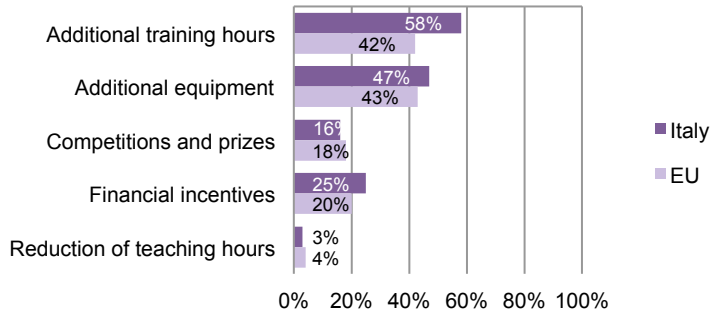


Fig. 6.3d: grade 11 voc.



For further details please refer to Section 5 of the survey report.

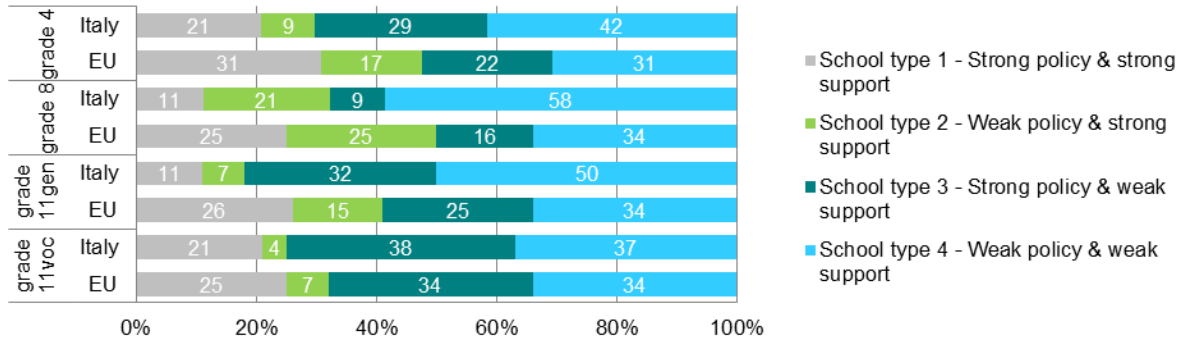
7: CLUSTERS

THE DIGITALLY SUPPORTIVE SCHOOL

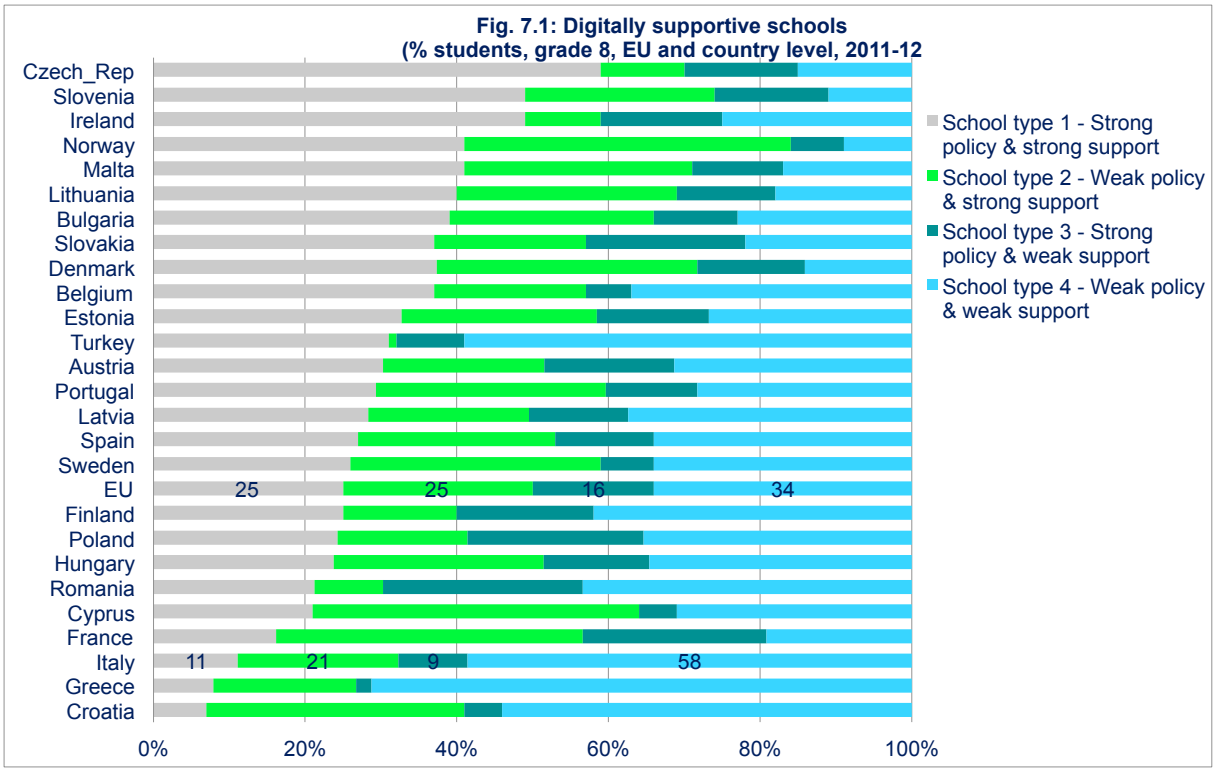
Results from the Survey of Schools: ICT and Education suggest that a 'digitally supportive school' develops strong concrete support measures for teachers to use ICT in teaching and learning (ICT coordinator, teacher training, etc.), whether or not associated with strong policies (written statement about introducing ICT in teaching and learning and/or in subject, etc.).

In Italy, lower percentages of students than the EU mean are in schools with strong support at all grades, particularly grade 11 general.

Fig. A: Percentages of students by school type in terms of policy and support (all grades, Italy and EU, 2011-12)



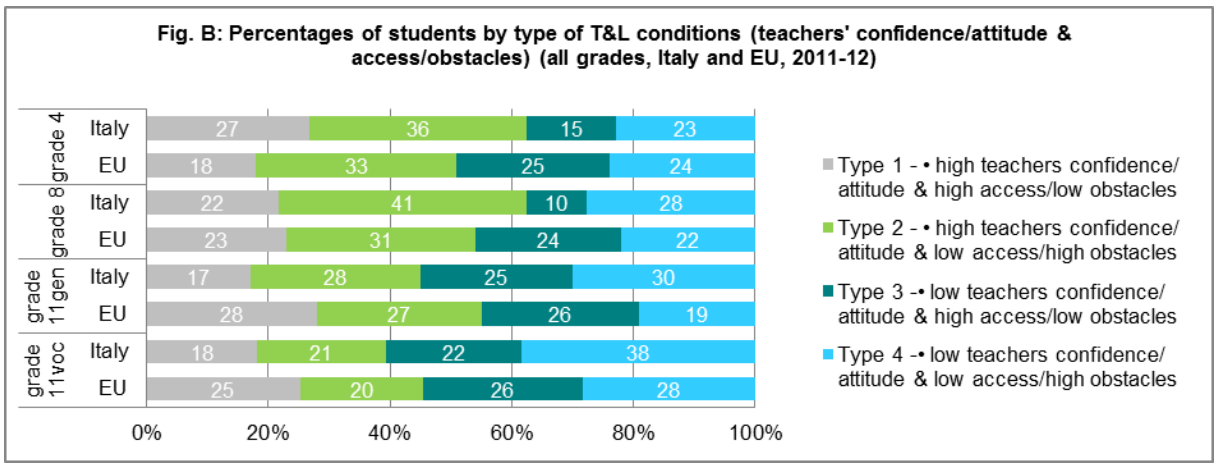
At grade 8 Italy ranks among the bottom group of countries (fig 7.1) considering schools with strong policy and strong support (type 1), and this is the position at grades (main report, fig. 8.1), with around 70% to 80% of students in schools with weak support (type 3 and type 4).



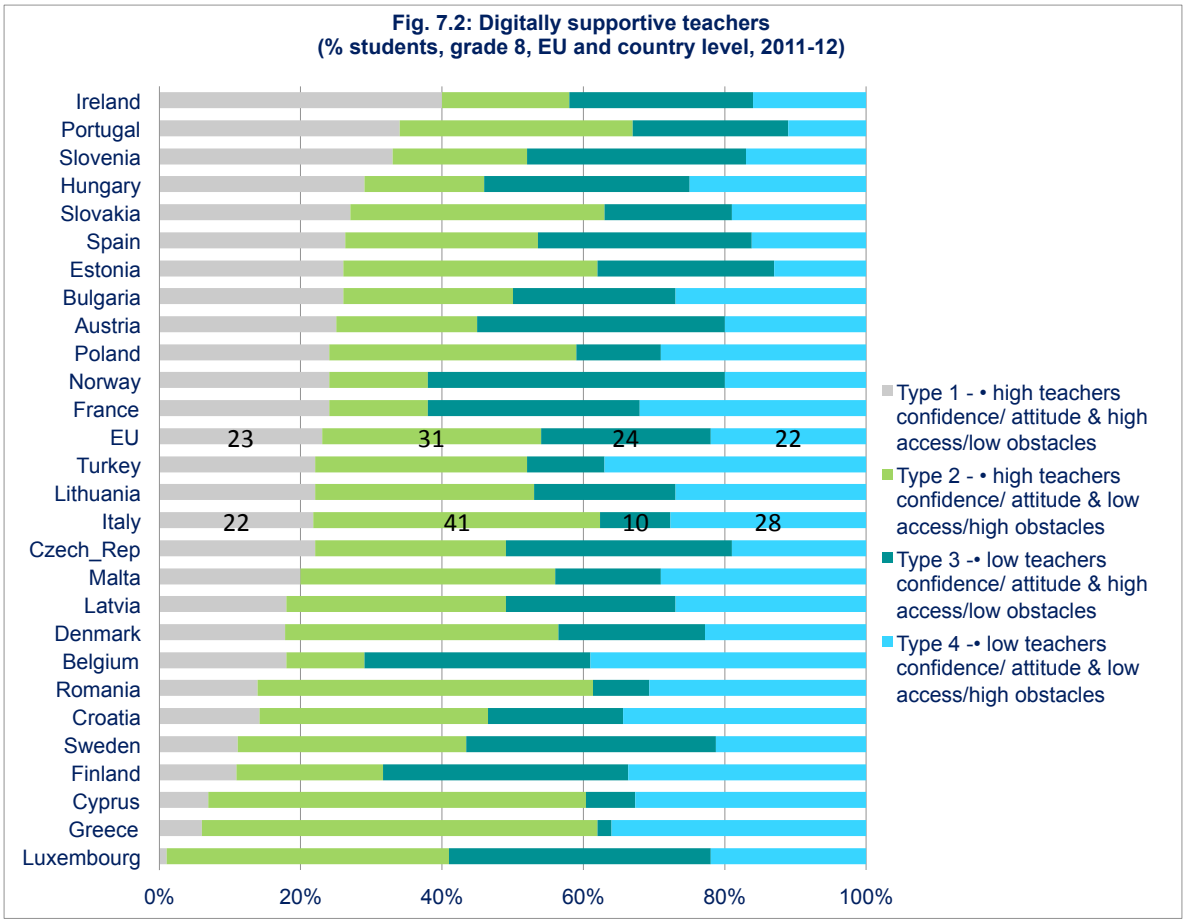
DIGITALLY CONFIDENT AND SUPPORTIVE TEACHERS

The concept of the 'digitally supportive teacher' also emerged from a close analysis of the data. Such teachers have high confidence in and a positive attitude towards ICT and high access to ICT and low obstacles to using it. Teachers having high confidence in and a positive attitude towards ICT even seem to be able to overcome low access to ICT and high obstacles.

Percentages of students taught by *digitally supportive teachers* in Italy are at or above the EU mean at grade 4 and 8 but below at grade 11.

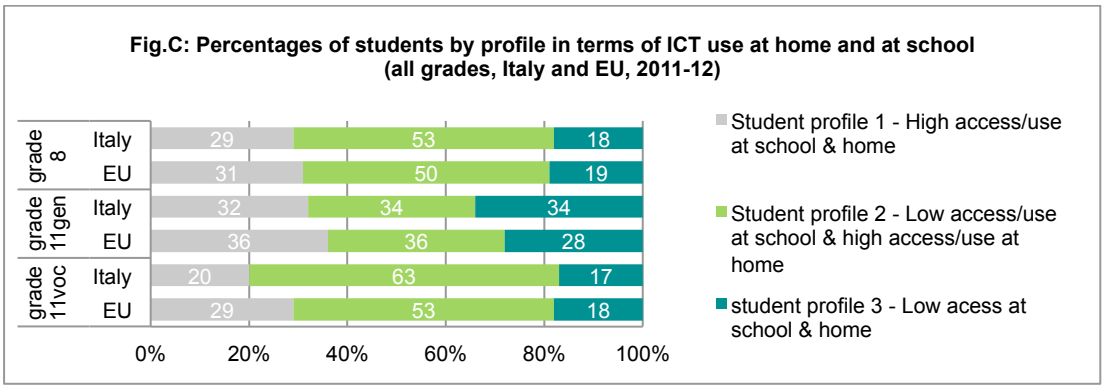


An average percentage of students at grade 8 compared to other countries is in schools with type 1 teachers (fig. 7.2), ranking Italy in the middle group of countries in this respect, as is the case at grade 4. At grade 11 Italy ranks among the lower group of countries in terms of digitally supportive teachers, (main report, fig. 8.3).



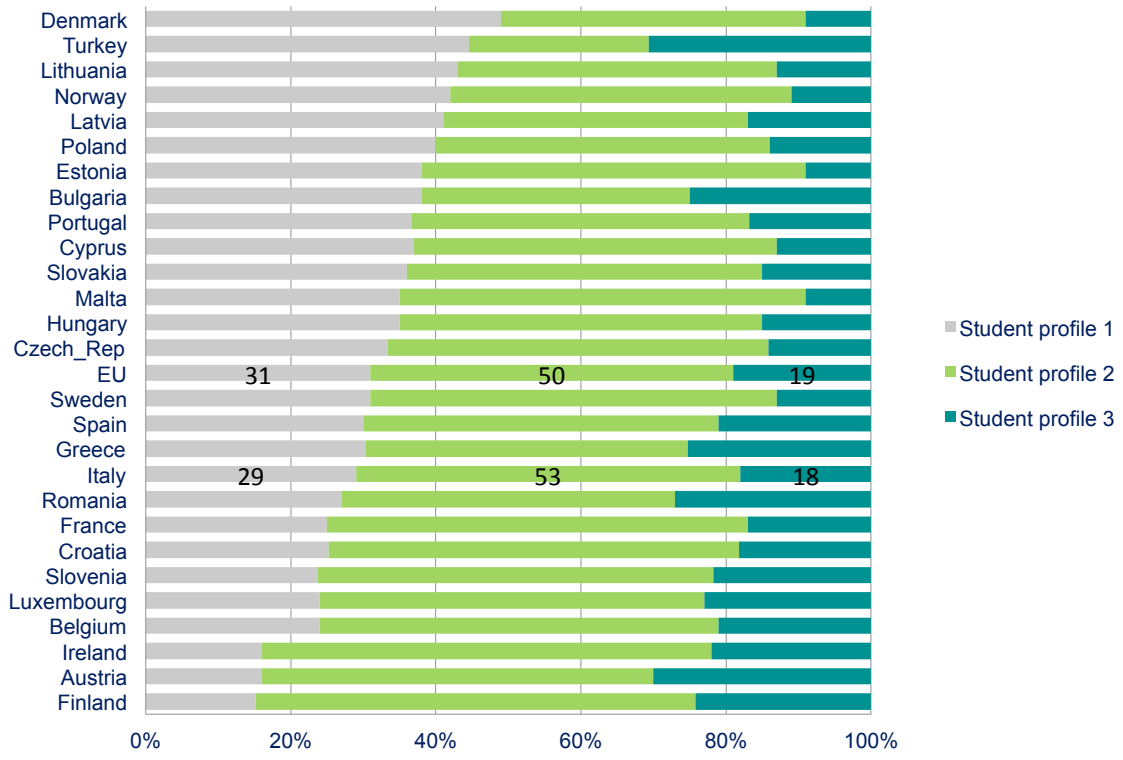
THE DIGITALLY SUPPORTIVE STUDENT

A *digitally supportive student* being defined as having high ICT access and use at school and at home, the percentages of such students in Italy are slightly below EU averages.



On this measure, percentages of type 1 grade 8 students are slightly below the average in Europe (fig. 7.3), and also at grade 11 general where Italy ranks among the middle group of countries, but at grade 11 vocational it is placed fourth last among the bottom group of countries of type 1 students (main report, fig. 8.5).

Fig.7.3: Digitally supportive students
(% students, grade 8, EU and country level, 2011-12)



THE DIGITALLY EQUIPPED SCHOOL

A *digitally equipped school* is well equipped, has fast broadband (above 10mbps) and is 'connected' (i.e. has at least one of these: a website, email for teachers and students, a local area network, a virtual learning environment). Analysis of the data revealed three clusters of schools according to these measures:

- Type 1: Highly digitally equipped schools, characterised by relatively high equipment levels, fast broadband and relatively high connectedness
- Type 2: Partially digitally equipped schools, with lower than type 1 equipment levels, slow (less than 10mbps) or no broadband, and some connectedness
- Type 3: As type 2 but with no connectedness

In Italy, the percentage of students in either type 1 or type 2 schools is around the EU mean but few students are in type 1 schools at grades 4 and 8.

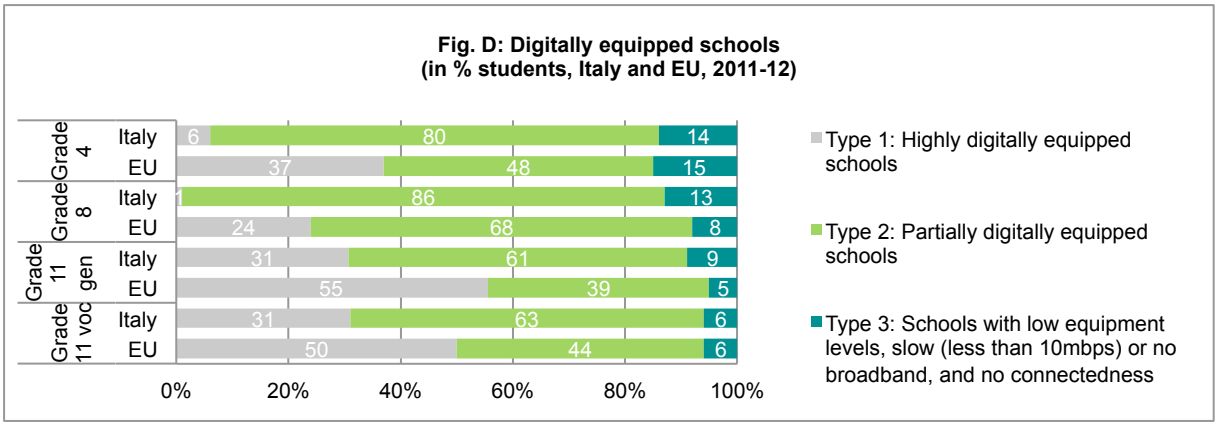
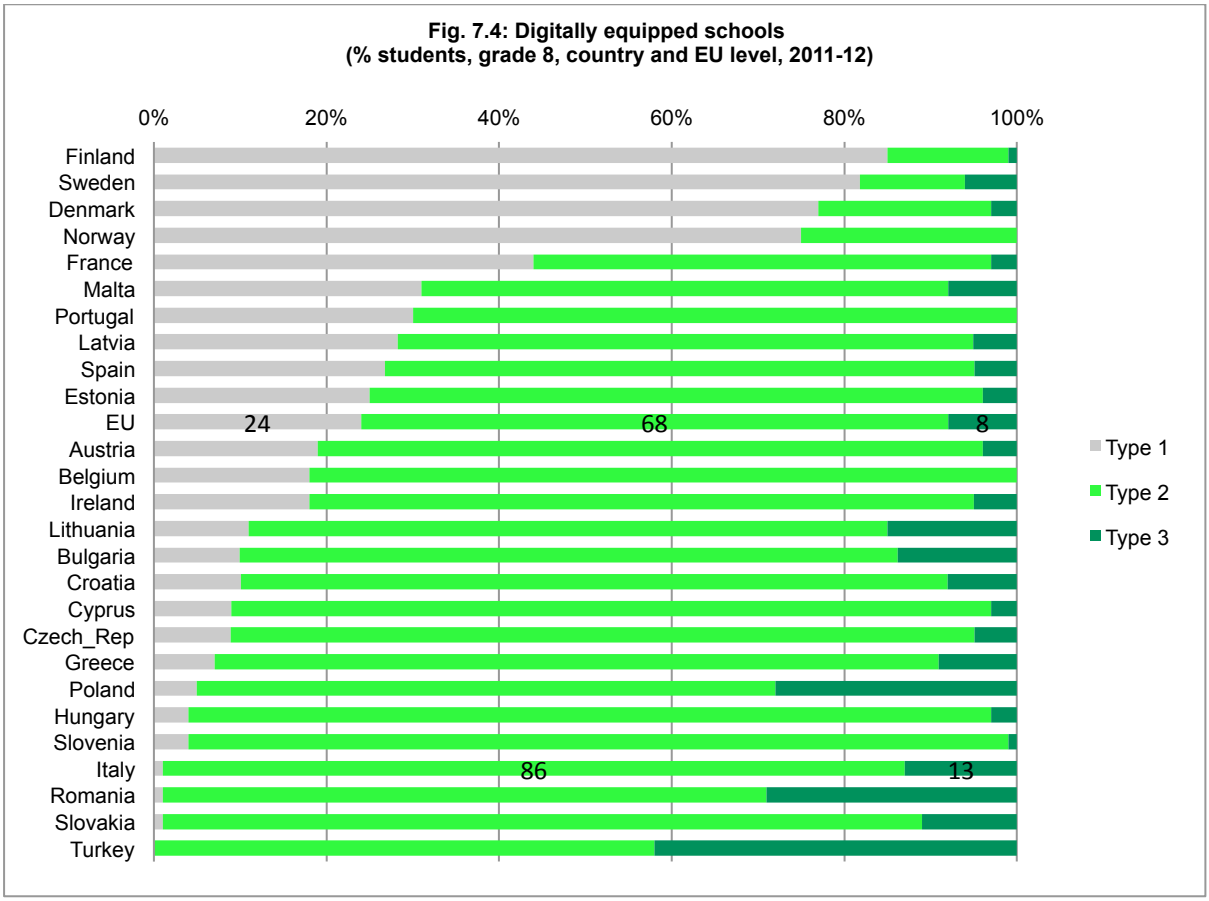


Fig. 7.4 shows how Italy compares against other countries at grade 8 on this measure, ranking fourth from last in the lower group of countries. At other grades (main report, fig. 1.13) Italy ranks in the bottom four countries, having some of the highest percentages of students in Europe in any other type of school.



CONCLUSION

In Italy the infrastructure to some extent, infrastructure conditions needed to underpin teaching and learning with ICT are not in place in all schools, with relatively high ratios of students to computers and over three times the EU percentage of students in schools without broadband. Nevertheless almost all students are in schools with a website and teacher use of ICT at grades 4 and 8 is close to the EU average, although student use is consistently lower than the EU mean. Both teachers and students rate their confidence in using ICT close to the EU mean, and most students are taught by teachers who have undertaken both formal and informal ICT training.

Analysis of the data in the *Survey of Schools: ICT and education* suggests a '*5C approach*' to addressing issues identified in the survey:

- **Capacity building**, through sustained investment in teachers' professional development
- **Concrete support measures**, accompanying specific policies at school level
- **Combined policies and actions**, in different policy areas within a systemic approach
- **Country-specific support**, addressing large differences and degrees of ICT provision and implementation
- **Competence development**: these four actions directed at increasing effectively and dramatically young people's digital competence and the key competences described in the European framework.

ANNEX

TABLES

Note: For reasons of space, only selected country-EU data tables are shown here; those for all-country charts (e.g. fig. 2.2) are available online. SE = Standard Error.

Fig. 2.1
Computers per 100 students

COUNTRY	Grade4	SE1	Grade8	SE2	Grade11gen	SE3	Grade11voc	SE4
Italy	6.1	(0.2)	8.3	(0.3)	8.2	(0.4)	17.6	(0.8)
EU	14.5	(0.7)	21.1	(1.2)	23.2	(7.7)	33.6	(10.6)

Fig. 2.3
Broadband speed

Level	COUNTRY	NoBroadband	SE1	LessThan2	SE2	From2to5	SE3	From5to10	SE4	From10to30	SE5
1. Grade4	Italy	33.8%	(4.0)	11.2%	(2.4)	16.6%	(3.0)	17.3%	(3.0)	20.8%	(3.2)
	EU	8.0%	(1.3)	16.5%	(2.3)	21.4%	(2.4)	22.1%	(2.2)	19.5%	(2.2)
2. Grade8	Italy	25.3%	(3.5)	10.5%	(2.4)	21.4%	(3.4)	23.5%	(3.4)	17.1%	(3.1)
	EU	5.0%	(0.8)	9.6%	(1.3)	19.1%	(2.3)	27.7%	(2.4)	24.8%	(2.3)
3. Grade11gen	Italy	17.9%	(3.2)	13.2%	(2.8)	10.1%	(2.5)	25.9%	(3.7)	30.9%	(3.9)
	EU	3.7%	(1.3)	6.2%	(0.8)	18.0%	(2.8)	23.2%	(3.0)	25.4%	(3.9)
4. Grade11voc	Italy	23.2%	(3.6)	10.6%	(2.8)	16.2%	(3.1)	20.3%	(3.3)	26.5%	(3.7)
	EU	6.5%	(1.8)	6.2%	(1.3)	15.2%	(3.0)	21.2%	(2.6)	24.2%	(4.6)

From30to100	SE6	MoreThan100	SE7
0.4%	(0.0)	0.0%	(0.0)
8.6%	(1.4)	4.0%	(1.3)
0.0%	(0.0)	2.2%	(1.3)
8.6%	(1.6)	5.2%	(1.2)
1.0%	(0.7)	1.0%	(0.7)
13.3%	(2.6)	10.3%	(8.0)
3.2%	(1.4)	0.0%	(0.0)
15.7%	(7.1)	10.9%	(5.3)

Fig2.5
Connectedness

Level	COUNTRY	SchWebsite	SE1	VLE	SE2	NoConnect	SE3
1. Grade4	Italy	84.2%	(2.6)	9.6%	(2.2)	14.3%	(2.6)
	EU	69.7%	(3.6)	26.8%	(2.0)	15.9%	(2.2)
2. Grade8	Italy	83.8%	(2.8)	19.0%	(3.3)	13.3%	(2.7)
	EU	86.0%	(1.6)	61.4%	(3.0)	8.4%	(1.2)

Level	COUNTRY	SchWebsite	SE1	VLE	SE2	NoConnect	SE3
3. Grade11gen	Italy	90.4%	(2.4)	32.7%	(3.8)	9.9%	(2.6)
	EU	91.7%	(3.1)	61.0%	(7.9)	7.0%	(2.9)
4. Grade11voc	Italy	94.1%	(1.8)	55.4%	(4.2)	6.5%	(2.0)
	EU	93.1%	(1.8)	63.5%	(4.7)	5.8%	(1.6)

Fig. 3.1

ICT equip use by teachers

Level	COUNTRY	MoreThan75	SE1	From51to75	SE2	From25to50	SE3	From11to24	SE4	From6to10	SE5
1. Grade4	Italy	2.3%	(1.1)	4.8%	(1.6)	17.3%	(2.7)	21.6%	(3.0)	15.4%	(2.6)
	EU	3.0%	(0.4)	10.0%	(2.4)	13.9%	(1.4)	18.0%	(1.8)	19.1%	(2.1)
2. Grade8	Italy	5.5%	(1.4)	5.6%	(1.3)	20.3%	(2.2)	22.4%	(2.6)	14.8%	(1.9)
	EU	7.4%	(1.0)	6.8%	(0.8)	14.7%	(0.9)	20.7%	(1.2)	18.9%	(1.4)
3. Grade11gen	Italy	3.2%	(0.9)	3.3%	(0.9)	12.5%	(1.8)	14.9%	(1.9)	14.1%	(1.8)
	EU	7.0%	(1.0)	8.1%	(1.4)	14.9%	(1.4)	22.9%	(3.8)	17.1%	(1.8)
4. Grade11voc	Italy	12.2%	(1.9)	8.9%	(1.3)	16.7%	(1.9)	16.3%	(1.8)	14.5%	(1.7)
	EU	19.3%	(1.4)	12.1%	(1.2)	16.8%	(1.0)	19.3%	(2.8)	13.2%	(1.3)

From1to5	SE6	LessThan1	SE7	DontKnow	SE8
20.9%	(3.0)	11.5%	(2.3)	6.1%	(1.8)
20.7%	(2.7)	8.7%	(1.4)	6.7%	(1.4)
12.4%	(1.9)	13.3%	(2.1)	5.7%	(1.5)
14.4%	(1.0)	11.0%	(1.0)	6.1%	(0.8)
24.0%	(2.2)	23.2%	(2.2)	4.9%	(1.2)
14.0%	(1.5)	10.3%	(1.4)	5.7%	(0.9)
12.7%	(1.7)	14.9%	(2.2)	3.9%	(1.0)
9.0%	(1.5)	6.8%	(1.1)	3.5%	(0.5)

Fig. 3.2

Frequency of ICT use by teachers

COUNTRY	Grade4	SE1	Grade8	SE2	Grade11gen	SE3	Grade11voc	SE4
Italy	26.0%	(3.3)	33.2%	(3.0)	20.0%	(2.3)	39.3%	(2.6)
EU	28.8%	(2.6)	32.0%	(1.6)	31.8%	(1.8)	49.9%	(2.1)

Fig. 3.3

Using ICT equipment

Level	Country	OwnMobPhone	SE1	OwnLaptop	SE2	SchoolComputer	SE3
1. Grade8	Italy	19.2	(1.2)	13.6	(1.2)	45.8	(2.1)
	EU	28.0	(0.8)	11.2	(0.7)	53.3	(1.1)
2. Grade11gen	Italy	26.4	(1.2)	6.8	(0.9)	28.5	(2.0)
	EU	34.6	(1.3)	10.7	(1.1)	50.5	(1.5)
3. Grade11voc	Italy	37.2	(1.3)	13.4	(1.0)	58.2	(2.2)
	EU	45.6	(1.3)	15.5	(0.7)	64.3	(1.5)

Fig. 3.4
Scale Use of ICT activities

Country	Grade8	SE1	Grade11gen	SE2	Grade11voc	SE3
Italy	1.50	(0.02)	1.34	(0.02)	1.38	(0.02)
EU	1.63	(0.01)	1.65	(0.03)	1.62	(0.04)

Fig. 4.1
Scales Teachers ICT skills

Level	COUNTRY	SocialMediaSkills	SE1	OperatSkills	SE2
1. Grade4	Italy	2.50	(0.07)	2.99	(0.05)
	EU	2.41	(0.03)	2.98	(0.02)
2. Grade8	Italy	2.34	(0.06)	3.00	(0.04)
	EU	2.37	(0.04)	3.00	(0.03)
3. Grade11gen	Italy	2.24	(0.05)	2.91	(0.04)
	EU	2.38	(0.07)	3.01	(0.03)
4. Grade11voc	Italy	2.46	(0.05)	3.09	(0.04)
	EU	2.51	(0.03)	3.16	(0.02)

Fig. 4.2
Scales Students ICT skills

Level	country	SocialMediaSkills	SE1	OperatSkills	SE2	RespInternUse	SE3	SafeInternUse	SE4
1. Grade8	Italy	2.23	(0.03)	2.63	(0.02)	2.59	(0.02)	2.94	(0.03)
	EU	2.41	(0.02)	2.63	(0.02)	2.58	(0.02)	2.98	(0.02)
2. Grade11gen	Italy	2.64	(0.02)	2.79	(0.02)	2.96	(0.02)	3.16	(0.02)
	EU	2.78	(0.02)	2.88	(0.01)	2.93	(0.03)	3.16	(0.02)
3. Grade11voc	Italy	2.47	(0.03)	2.80	(0.02)	2.76	(0.03)	3.00	(0.03)
	EU	2.55	(0.02)	2.78	(0.02)	2.75	(0.02)	2.98	(0.02)

Fig. 5.1
Time in professional development

Level	COUNTRY	MoreThan6	SE1	From1to3	SE2	NoTime	SE3
1. Grade4	Italy	55.6%	(3.6)	13.0%	(2.4)	13.6%	(2.5)
	EU	47.5%	(4.2)	19.4%	(3.0)	11.9%	(2.4)
2. Grade8	Italy	54.5%	(2.9)	19.5%	(2.3)	7.0%	(1.4)
	EU	60.7%	(1.6)	15.6%	(1.0)	5.2%	(0.5)
3. Grade11gen	Italy	42.4%	(2.6)	18.1%	(2.1)	16.6%	(1.8)
	EU	44.7%	(5.2)	23.1%	(3.4)	11.0%	(1.6)
4. Grade11voc	Italy	41.0%	(2.5)	16.4%	(1.8)	23.9%	(2.2)
	EU	49.4%	(3.2)	20.5%	(3.0)	9.7%	(1.6)

Fig. 5.2

Type of training

Level	COUNTRY	OnlineComm	SE1	ICTtraining	SE2	PersonalLearning	SE3
1. Grade4	Italy	32.5%	(3.5)	38.9%	(3.7)	77.0%	(3.1)
	EU	25.4%	(2.5)	40.3%	(3.2)	70.0%	(2.8)
2. Grade8	Italy	35.0%	(2.8)	39.3%	(3.0)	74.8%	(2.4)
	EU	30.8%	(1.6)	50.5%	(1.7)	74.2%	(1.3)
3. Grade11gen	Italy	27.4%	(2.6)	21.7%	(2.4)	69.7%	(2.4)
	EU	28.0%	(2.4)	43.5%	(2.2)	71.7%	(2.2)
4. Grade11voc	Italy	29.0%	(2.3)	19.2%	(2.2)	70.0%	(2.7)
	EU	28.2%	(1.5)	41.4%	(3.6)	70.8%	(1.5)

Fig. 6.1
ICT Coordinator

COUNTRY	Grade4	SE1	Grade8	SE2	Grade11gen	SE3	Grade11voc	SE4
Italy	75.3%	(3.2)	78.8%	(3.2)	69.1%	(3.7)	77.0%	(3.5)
EU	62.0%	(3.6)	79.6%	(1.9)	67.7%	(4.8)	69.7%	(3.5)

Fig. 6.2
Type of ICT coordinator

Level	COUNTRY	AvailFullTime	SE1	Rewarded	SE2	ProvPedSupport	SE3
1. Grade4	Italy	18.9%	(3.4)	74.5%	(3.8)	73.9%	(3.9)
	EU	39.3%	(3.0)	56.5%	(3.0)	75.9%	(2.3)
2. Grade8	Italy	20.1%	(3.7)	75.4%	(3.8)	68.7%	(4.3)
	EU	34.8%	(2.9)	70.6%	(2.4)	72.5%	(2.5)
3. Grade11gen	Italy	24.9%	(4.4)	69.3%	(4.6)	63.4%	(4.8)
	EU	49.6%	(6.9)	63.6%	(7.7)	73.4%	(4.2)
4. Grade11voc	Italy	32.7%	(4.5)	72.5%	(4.2)	60.8%	(4.8)
	EU	49.7%	(3.3)	63.6%	(4.6)	71.5%	(3.9)

Fig. 6.3
Incentives

Level	COUNTRY	TrainingHours	SE1	Equipment	SE2	Competitions	SE3	FinancialInc	SE4	ReductionHours	SE5	Other	SE6
1. Grade4	Italy	59.2%	(3.8)	42.8%	(3.9)	10.5%	(2.3)	14.4%	(3.0)	2.2%	(1.1)	18.8%	(3.4)
	EU	30.1%	(4.5)	26.6%	(3.8)	12.9%	(2.4)	13.0%	(2.1)	2.9%	(0.6)	12.8%	(2.3)
2. Grade8	Italy	69.7%	(3.7)	49.8%	(4.0)	14.2%	(2.9)	13.4%	(2.8)	0.0%	(0.0)	20.8%	(3.5)
	EU	34.1%	(2.6)	33.6%	(1.9)	13.3%	(1.6)	10.0%	(1.0)	1.5%	(0.4)	14.8%	(1.8)
3. Grade11gen	Italy	62.6%	(4.0)	40.6%	(4.0)	12.6%	(2.8)	17.2%	(3.2)	0.0%	(0.0)	20.5%	(3.6)
	EU	36.9%	(9.1)	37.7%	(3.5)	17.6%	(4.4)	14.3%	(2.8)	1.7%	(0.7)	15.3%	(5.0)
4. Grade11voc	Italy	57.8%	(4.2)	46.7%	(4.2)	16.3%	(3.3)	24.5%	(3.5)	2.6%	(1.3)	25.7%	(4.4)
	EU	41.6%	(8.1)	43.4%	(7.7)	17.8%	(4.2)	19.4%	(4.9)	4.3%	(1.3)	18.7%	(4.5)

Fig. A
Digitally supportive schools

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3	Type4	SE4

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3	Type4	SE4
1. Grade4	Italy	21	(3.05)	9	(2.20)	29	(3.55)	42	(3.78)
	EU	31	(2.70)	17	(3.17)	22	(2.53)	31	(2.98)
2. Grade8	Italy	11	(2.49)	21	(3.31)	9	(2.33)	58	(3.94)
	EU	25	(1.91)	25	(2.20)	16	(1.83)	34	(2.15)
3. Grade11gen	Italy	11	(2.55)	7	(2.05)	32	(3.80)	50	(4.07)
	EU	26	(2.28)	15	(8.69)	25	(3.74)	34	(5.30)
4. Grade11voc	Italy	21	(3.64)	4	(1.44)	38	(4.07)	37	(4.02)
	EU	25	(3.12)	7	(2.21)	34	(7.50)	34	(8.58)

Fig. B
Digitally supportive teachers

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3	Type4	SE4
1. Grade4	Italy	27	(3.22)	36	(3.45)	15	(2.57)	23	(3.00)
	EU	18	(2.02)	33	(2.95)	25	(2.33)	24	(2.64)
2. Grade8	Italy	22	(2.55)	41	(2.92)	10	(1.70)	28	(2.64)
	EU	23	(1.43)	31	(1.27)	24	(1.52)	22	(1.17)
3. Grade11gen	Italy	17	(2.10)	28	(2.34)	25	(2.31)	30	(2.38)
	EU	28	(2.41)	27	(2.68)	26	(1.65)	19	(1.67)
4. Grade11voc	Italy	18	(1.97)	21	(2.05)	22	(2.25)	38	(2.69)
	EU	25	(1.49)	20	(2.69)	26	(2.83)	28	(1.67)

Fig. C
Digitally supportive students

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3
1. Grade8	Italy	29	(1.64)	53	(1.43)	18	(1.11)
	EU	31	(1.00)	50	(0.85)	19	(0.67)
2. Grade11gen	Italy	32	(1.36)	34	(1.14)	34	(1.11)
	EU	36	(1.18)	36	(1.00)	28	(1.47)
3. Grade11voc	Italy	20	(1.37)	63	(1.47)	17	(1.05)
	EU	29	(1.60)	53	(1.03)	18	(1.37)

Fig. D
Digitally equipped Schools

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3
1. Grade4	Italy	6	(1.85)	80	(2.96)	14	(2.50)
	EU	37	(4.43)	48	(4.15)	15	(2.12)
2. Grade8	Italy	86	(2.62)	1	(0.74)	13	(2.54)
	EU	68	(2.87)	24	(3.31)	8	(1.16)
3. Grade11gen	Italy	31	(3.72)	61	(3.96)	9	(2.32)
	EU	55	(12.27)	39	(10.34)	5	(2.06)
4. Grade11voc	Italy	6	(1.84)	31	(3.80)	63	(3.96)

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3
	EU	6	(1.88)	50	(13.83)	44	(12.07)

NOTES

EU mean. In this report, 'EU mean' refers to the weighted average for the 27 countries in the survey (EU27 without Germany, Netherlands and the United Kingdom, Croatia, Norway and Turkey).

Confidence. Teachers and students were asked to rate their level of confidence in their ability to perform ICT related tasks according to a scale ranging from 'not at all' to 'a lot'. By subjecting the data to factorial analysis four scales emerged from the list of items. These included operational skills and social media skills and two additional scales related to students' ability to use the internet safely and responsibly. For a detailed definition of these skills, please refer to section 4 of the survey report.

Participation. For the Survey of Schools: ICT and Education, 300 schools in Italy were selected at random at each of four levels (grade 4, 8, 11 general and 11 vocational) and invited to participate in the survey. Fig. 8.1 shows the percentage of those schools in which at least one survey questionnaire was submitted, the EU average ranging from 35 to 40 percent depending on the grade. In Italy participation levels were high at all grades, an average of 71% (847 schools), the highest in the survey.

Fig. 8.1: Participation rates
(% of sampled schools with at least one questionnaire completed, all grades, Italy and EU, 2011-12)