European Schoolnet

University of Liege
Psychology and
Education

SURVEY OF SCHOOLS: ICT IN EDUCATION

COUNTRY PROFILE: SPAIN

November 2012

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1. INTRODUCTION

ICT IN THE SCHOOL EDUCATION SYSTEM OF SPAIN

In Spain the State Education Authority provides the general guidelines on education policy and regulates the basic elements or aspects of the system. The ministry of Education is responsible for setting the Core Curricula, establishing the common objectives, contents and evaluation criteria and the education authorities complete these requirements for their respective regions. The Autonomous Education Authorities develop the regulations and have executive and administrative responsibility for managing the education system in their own territory. In addition, schools have pedagogical, organisational and managerial autonomy for their resources which is accompanied by the participation of the education community in the schools organisation, government, running and evaluation.[1]

According to Eurydice's **Key Data on Learning and Innovation through ICT at school in Europe**[2], in Spain there are national strategies covering training measures in all areas[3], and research in the areas of ICT in schools, digital media literacy and e-skills development. There are central steering documents for all ICT learning objectives[4] at both primary and secondary education, except for developing programming skills which is only at secondary level. The societal impact of ICT is an additional ICT learning objective in their curricula. In primary and secondary schools ICT is a general tool for other subjects/or as a tool for specific tasks in other subjects, but at secondary level it is also taught as a separate subject and also included within technology as a subject. At primary and secondary education level support is provided in all hardware areas[5], except e-book readers, and all software categories. According to official steering documents both students and teachers at primary and secondary level are expected to use ICT in class, and for complementary activities in all subjects. There are central recommendations on the use of ICT in student assessment for on-screen testing. Public-private partnerships for promoting the use of ICT are encouraged in private funding for hardware and software in schools.

THE SURVEY OF SCHOOLS: ICT IN EDUCATION

In 2011, the European Commission Directorate General Communications Networks, Content and Technology[6] 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. 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

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

[2] 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] from the following areas: ICT in schools, e-learning, e-inclusion, digital/media literacy, e-skills development

[4] 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

[5] 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

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

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.

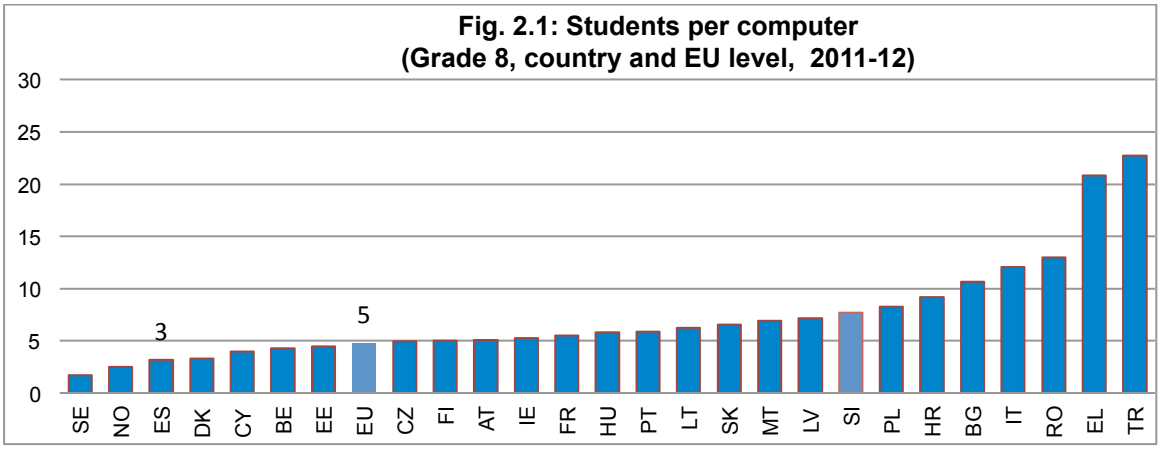
The full report, country profiles, background information, questionnaires, tables, details of the methodology and the raw data are freely available at https://ec.europa.eu/digital-agenda/en/pillar-6-enhancing-digital-literacy-skills-and-inclusion. The authors may be contacted at essie-eu@eun.org and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

2. ICT INFRASTRUCTURE

AVAILABILITY OF COMPUTERS FOR EDUCATIONAL PURPOSES

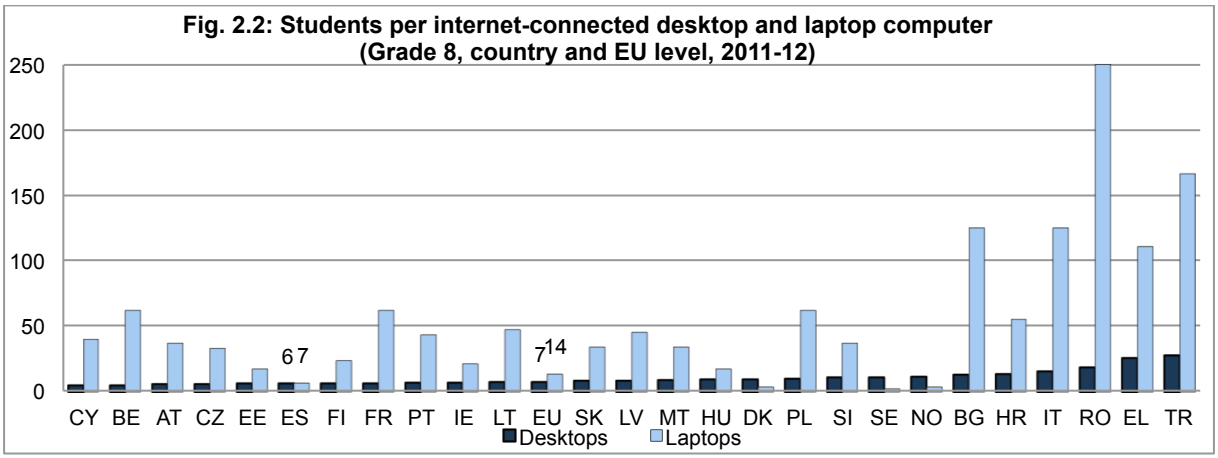
A computer is defined as a desktop or laptop, netbook or tablet computer, whether or not connected to the internet, available for educational purposes in school. In Spain there are considerably more computers available for Grade 4 students than the EU average (main report, fig. 1.1) and provision is fairly consistent at all grades. Fig. 2.1 shows that at grade 8 Spain ranks third on this key indicator with 3 students per computer. At other grades Spain ranks between third (grade 4) and seventh (grade 11 vocational), with a consistent 3-4 students per computer at all grades.

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



As for computers connected to the internet in schools, in Spain there is a high provision of laptop computers compared to the EU average at grade 4 (main report fig. 1.2), ranking second to Denmark. At grade 8 (fig. 2.1) Spain ranks sixth in terms of student per desktop ratios and fourth for laptops (main report, fig. 1.2), while at grade 11 Spain has the fifth lowest student to laptop ratio.

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

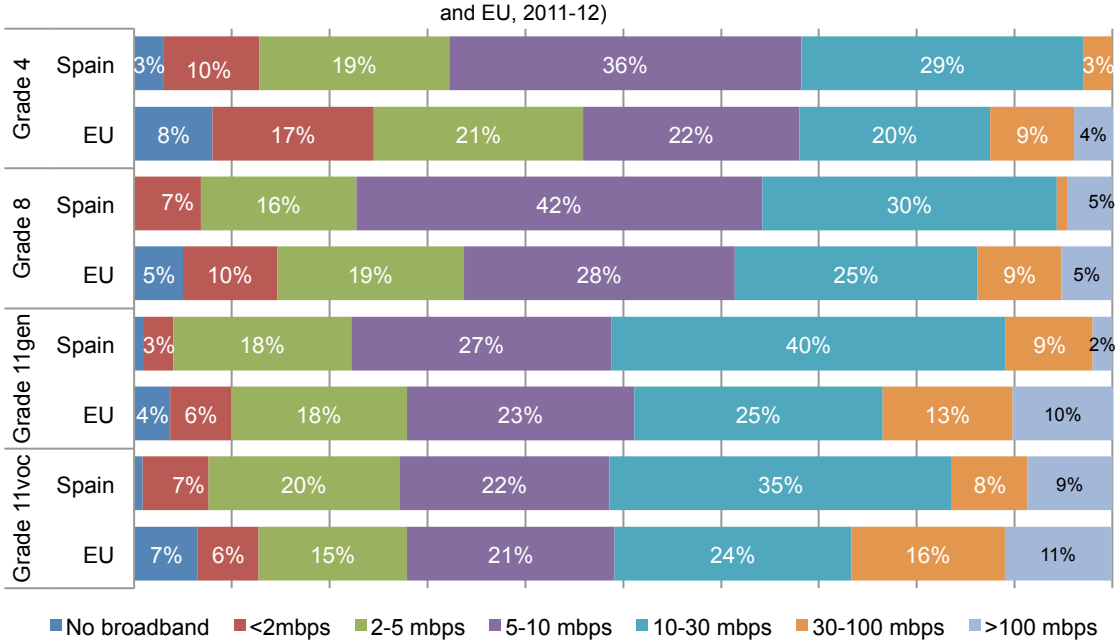


Computers are divided almost equally between dedicated labs and classroom at all grades (main report, fig. 1.3). Spain is close to the EU average of 76 % of students in schools where over 90% of computers are operational (main report, fig. 1.4). At all grades Spain is in the top ten countries ranked by numbers of students to interactive whiteboards (main report, fig. 1.5). Spain ranks sixth for students per data projector at grade 4, but is among the middle group of countries in this respect at other grades (main report, fig. 1.6).

BROADBAND

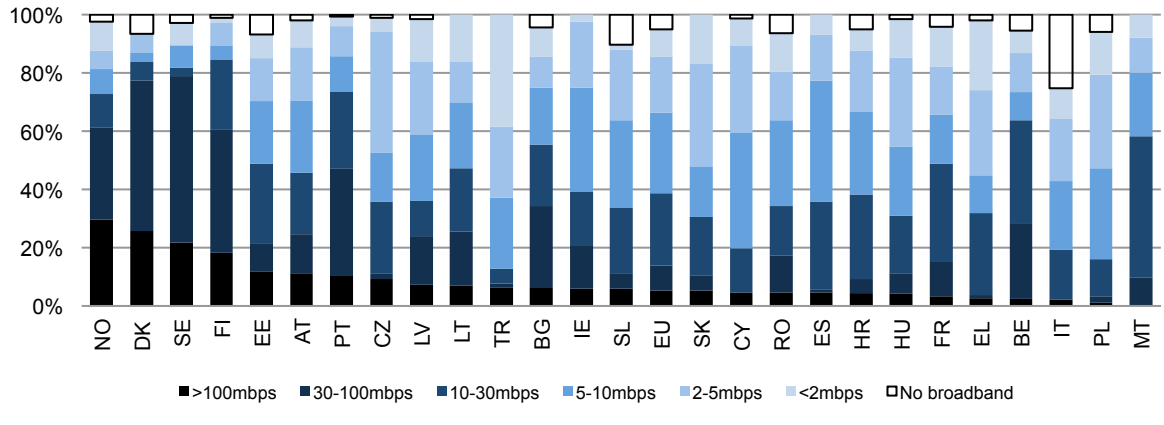
In Spain only a tiny minority of students is in schools *without* broadband, none at grade 8. At all grades percentages of students in school with broadband faster than 10mbps is close to the EU mean.

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



Broadband speed in Spain in most schools is relatively fast compared to other countries (main report, fig. 1.8). Fig. 2.4 shows how Spain compares to other countries at grade 8: virtually no students in schools without broadband, and most with fairly fast broadband. The situation is similar at other grades. Spain is noteworthy for having almost all schools online via broadband.

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

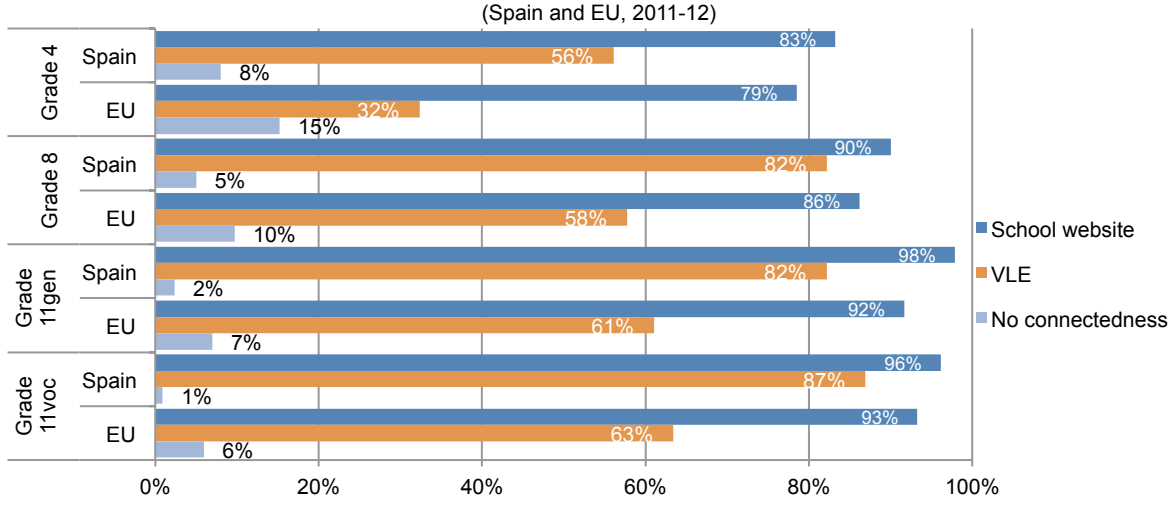


There are significant positive correlations between the population size of the school's locality and broadband speed in Spain at grade 8 and 11 vocational (main report, section 1), in other words the larger the population density, the faster the broadband in school, generally speaking.

‘CONNECTEDNESS’

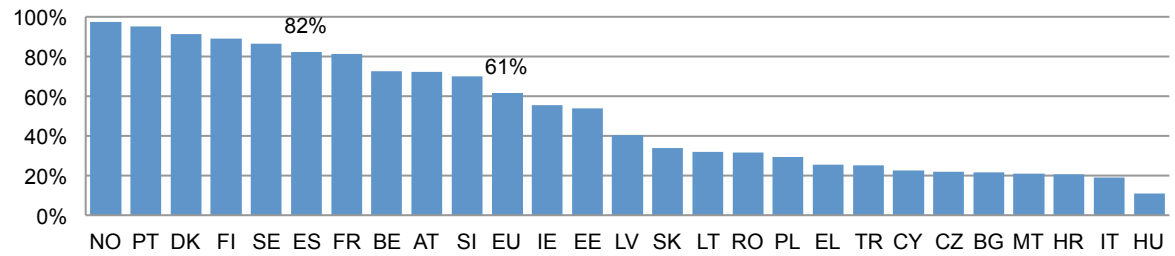
Percentages of students in schools that have ‘connected’ characteristics, e.g. having a website or a virtual learning environment (VLE) are shown below, as well as those with none of these items. In Spain, a higher percentage of students than the EU mean are in schools with a website, and considerably more in schools with a virtual learning environment. ‘Unconnected’ schools are a rarity, even at grade 4, and well below the EU average.

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



Spain ranks well above most other countries as regards virtual learning environments at grade 8, as seen in fig. 2.6, and ranks between fourth and seventh at other grades (main report, fig. 1.10).

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



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 Spain, despite the high provision of equipment and connectivity, use of ICT by teachers is close to the EU average, slightly above at grade 11 vocational. At this grade there are very few teachers using ICT rarely and 59% use ICT in at least 25% of lessons.

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

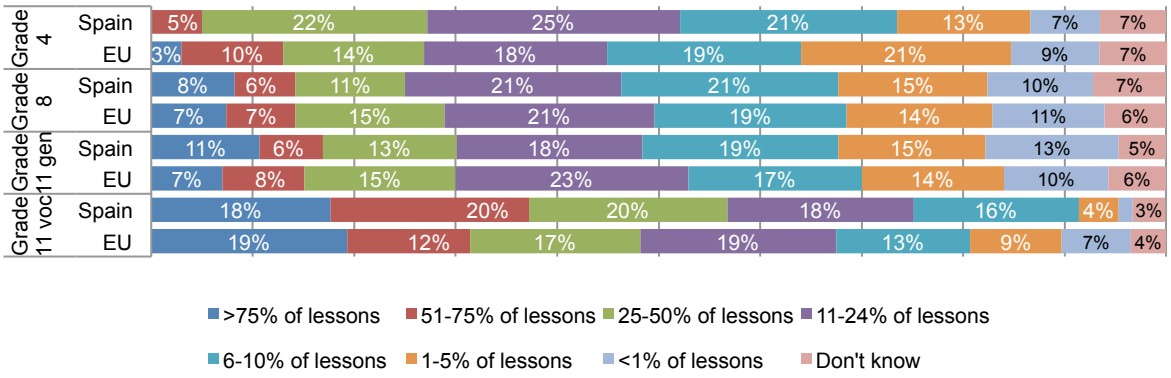
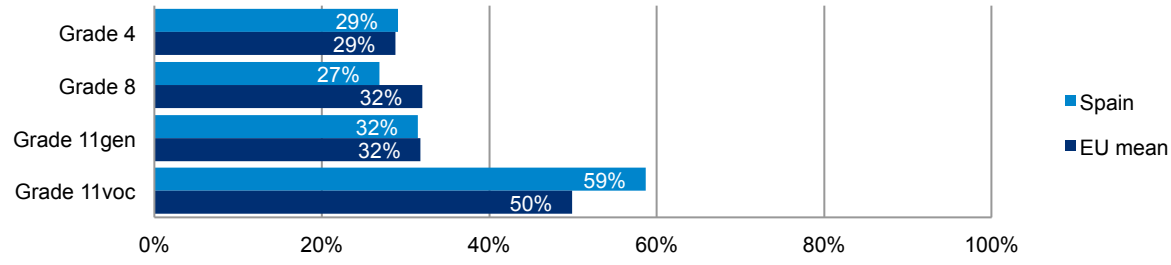
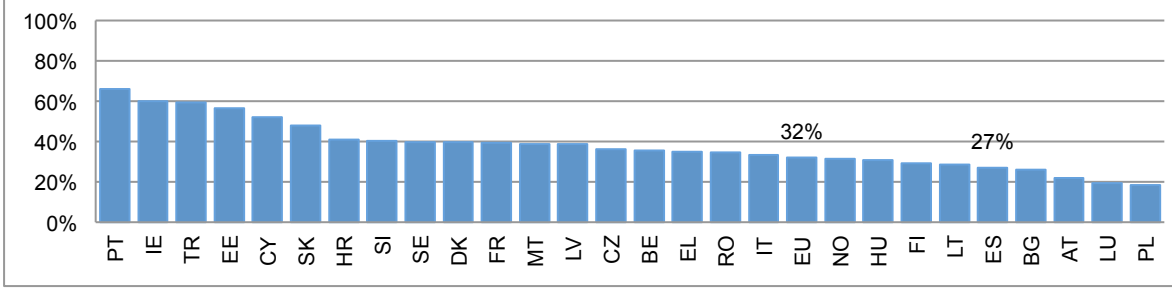


Fig. 3.2: Teachers' use of ICT in at least 25% of lessons
(% students, Spain and EU, 2011-12)



Despite high levels of equipment provision and broadband access, teachers in Spain (at grade 8) are in the bottom five countries when considering percentages using ICT in more than one in four lessons (fig. 3.3) and middle ranking at other grades (main report, fig. 2.2).

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

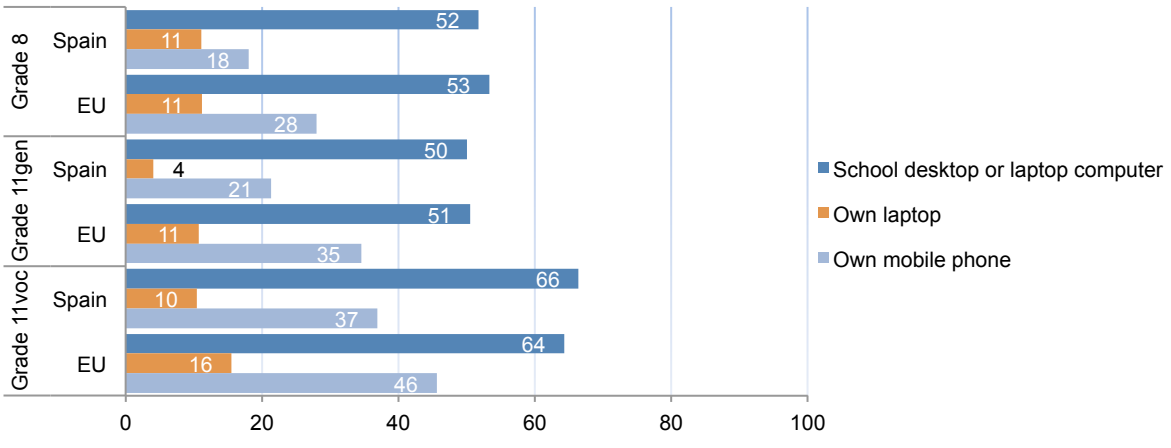


As regards teachers' use of ICT (Section 3 of the main report), teachers in Spain are in the middle group of countries where teachers have been using ICT in lessons for more than six years (main report, fig 3.2). Spain is among the leading countries in terms of student-centred learning at grade 11 but middle-ranking at grades 4 and 8 (main report fig. 3.5).

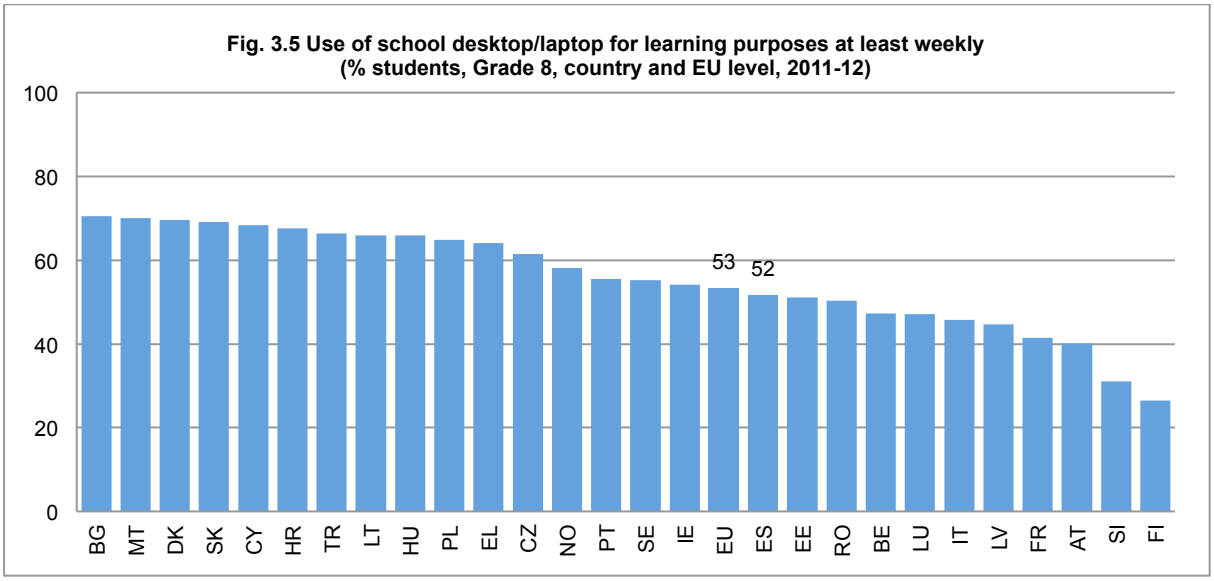
STUDENTS' ICT USE

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 Spain student use of computers in class is, as for teachers, close to the EU mean. Use of their own laptop is below EU means, probably because of the relatively high levels of provision by the school. Mobile phone usage is below the EU mean at all levels.

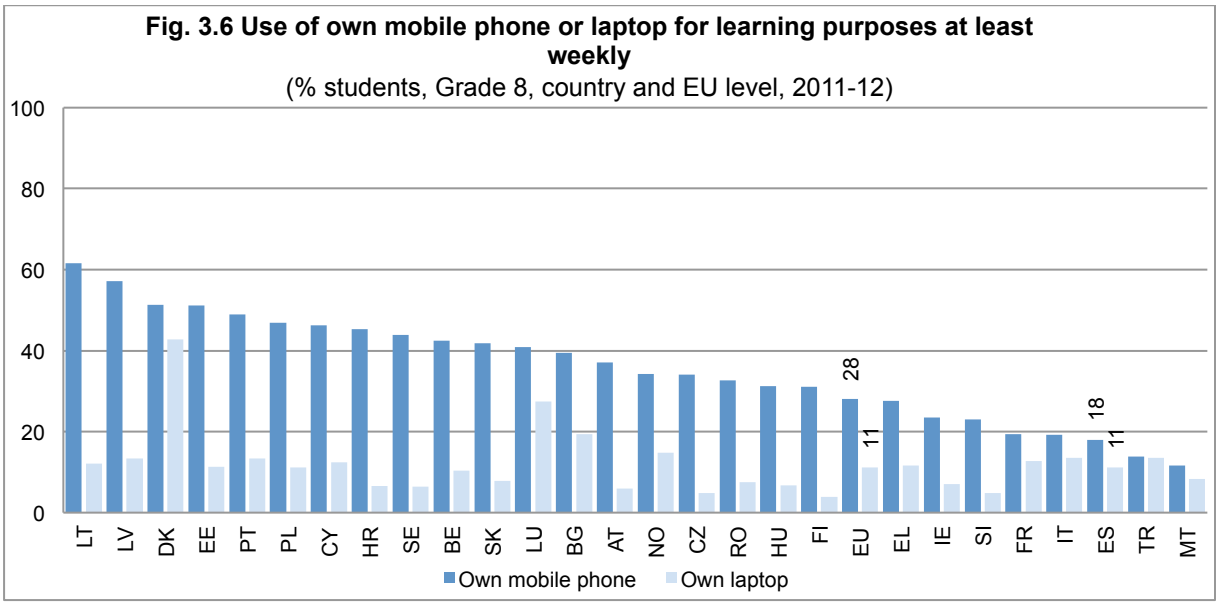
Fig. 3.3: Percentages of students using ICT equipment in class for learning, at least once a week
(Spain and EU, 2011-12)



At grade 8 students' reported use of computers is amongst the middle group of countries 52% saying they use them at least once a week (fig. 3.5); the picture is similar at other grades (main report, fig. 2.5).



Compared to other countries at grade 8 (fig.3.6), students in Spain are relatively light users of their own mobile phone but there is average use of their own laptop in school. At other grades these figures are similar.



Despite high numbers of interactive whiteboards in Spain, students' reported use of IWBs ranks that country in the middle group (main report, fig. 2.6). Concerning students' ICT-based activities during lessons, Spain is also middle-ranking as measured by their frequency (main report, fig. 3.8) at all grades.

4. DIGITAL CONFIDENCE

TEACHERS

In Spain teachers' confidence in their operational skills with ICT are above the EU mean at grade 11 but slightly below at other grades. Their confidence in social media skills is above 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'; Spain and EU; 2011-12)

Fig. 4.1a: grade 4

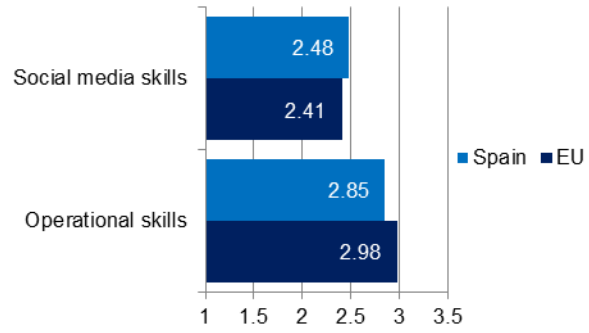


Fig. 4.1b: grade 8

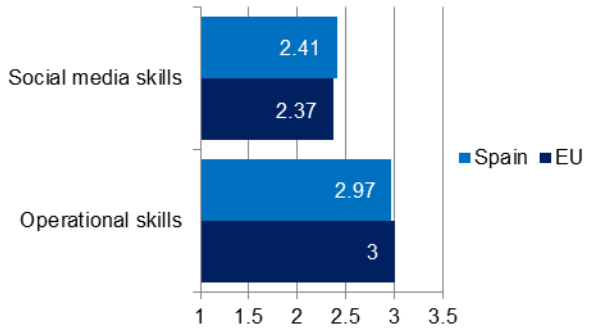


Fig. 4.1c: grade 11 gen.

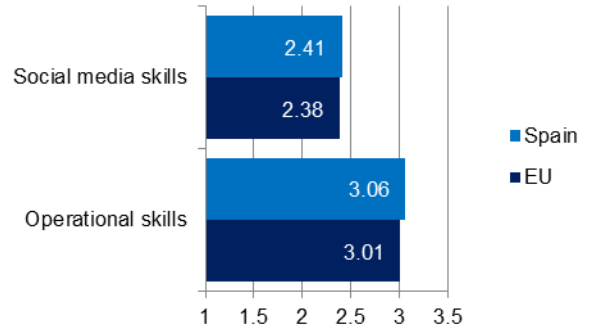
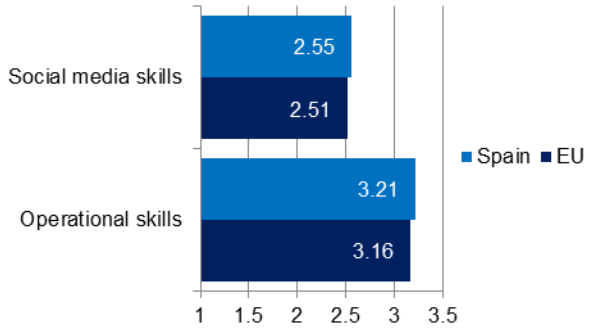
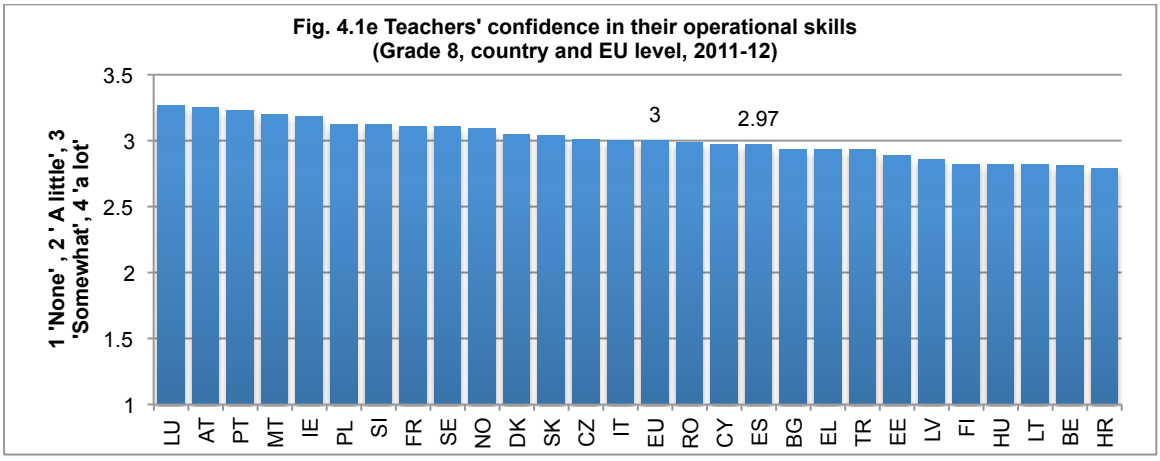


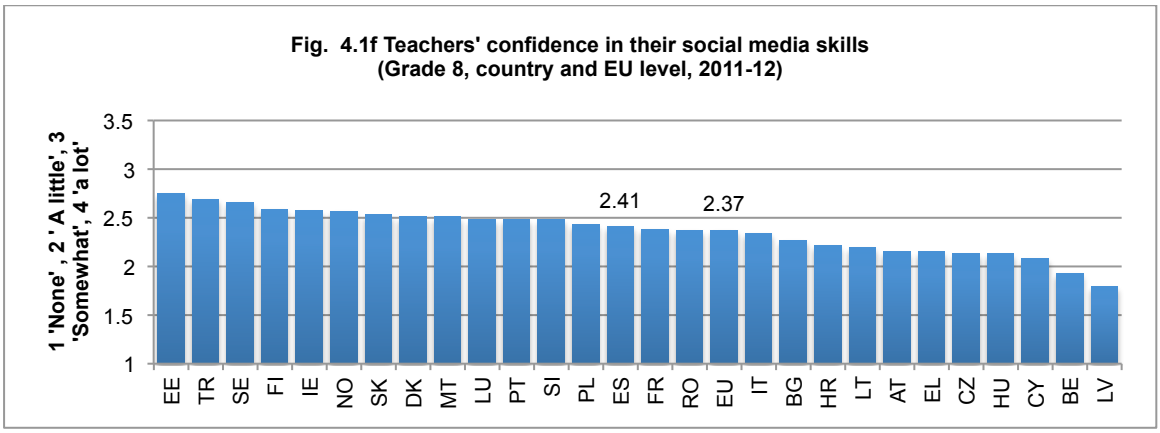
Fig. 4.1d: grade 11 voc.



Comparing confidence levels at grade 8, teachers' confidence in their operational skills places Spain in the lowest third of countries (fig. 4.1e), and at grade 4, but in the top third at grade 11 (main report fig. 4.13).



As regards social media confidence the ranking for grade 8 (fig. 4.1f) is close to that at other grades (main report, fig. 4.14).



STUDENTS

In Spain students' confidence in their social media and operational ICT skills is slightly below the EU mean.

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'; Spain and EU; 2011-12)

Fig. 4.2a: grade 8

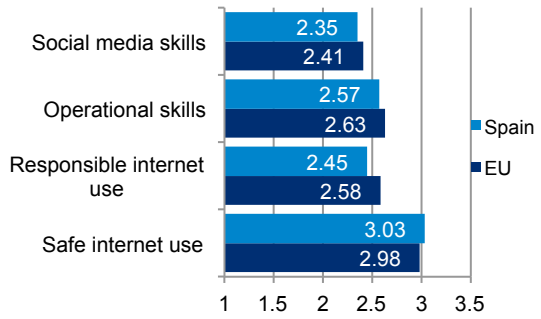


Fig. 4.2b: grade 11 gen.

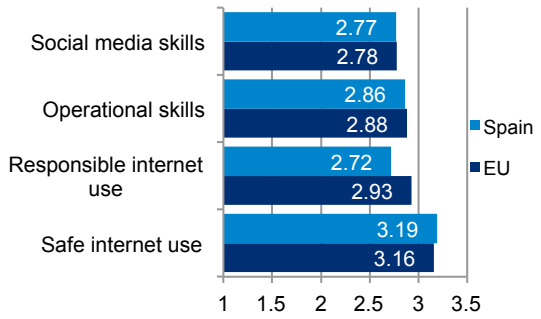
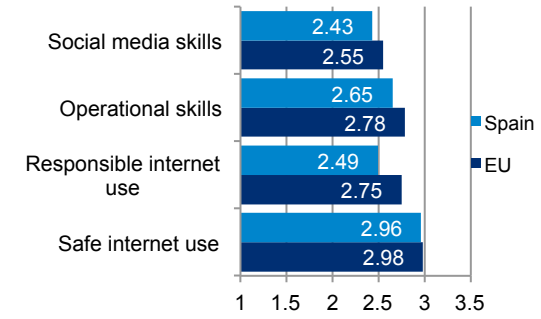
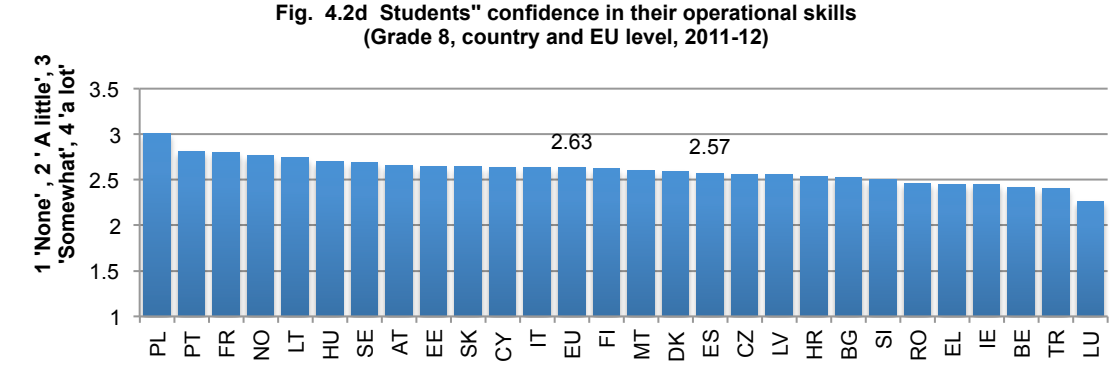


Fig. 4.2c: grade 11 voc.



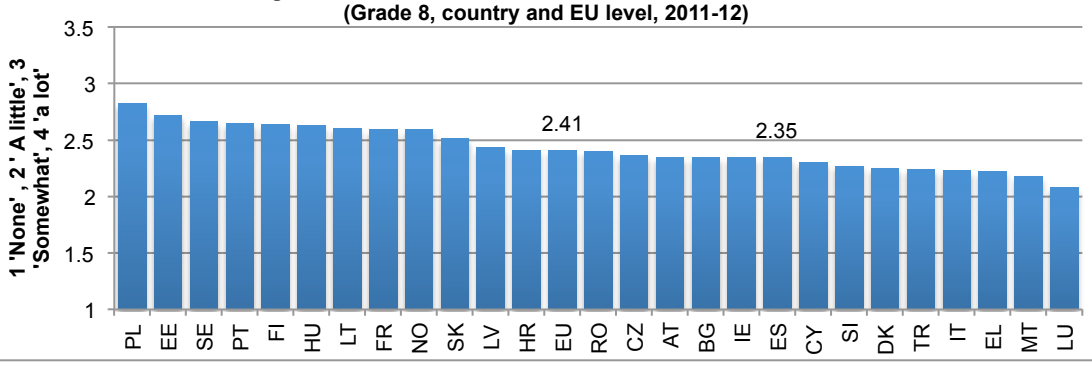
Confidence in operational skills is below the EU mean amongst grade 8 students (fig. 4.2d) and at other grades (main report fig. 4.18).

Fig. 4.2d Students" confidence in their operational skills (Grade 8, country and EU level, 2011-12)



Spain's grade 8 students' confidence in their social media competences is also below that of their peers in other countries (fig. 4.2e), as it is at grade 11 (main report, fig. 4.19).

Fig. 4.2e Students' confidence in their social media skills (Grade 8, country and EU level, 2011-12)



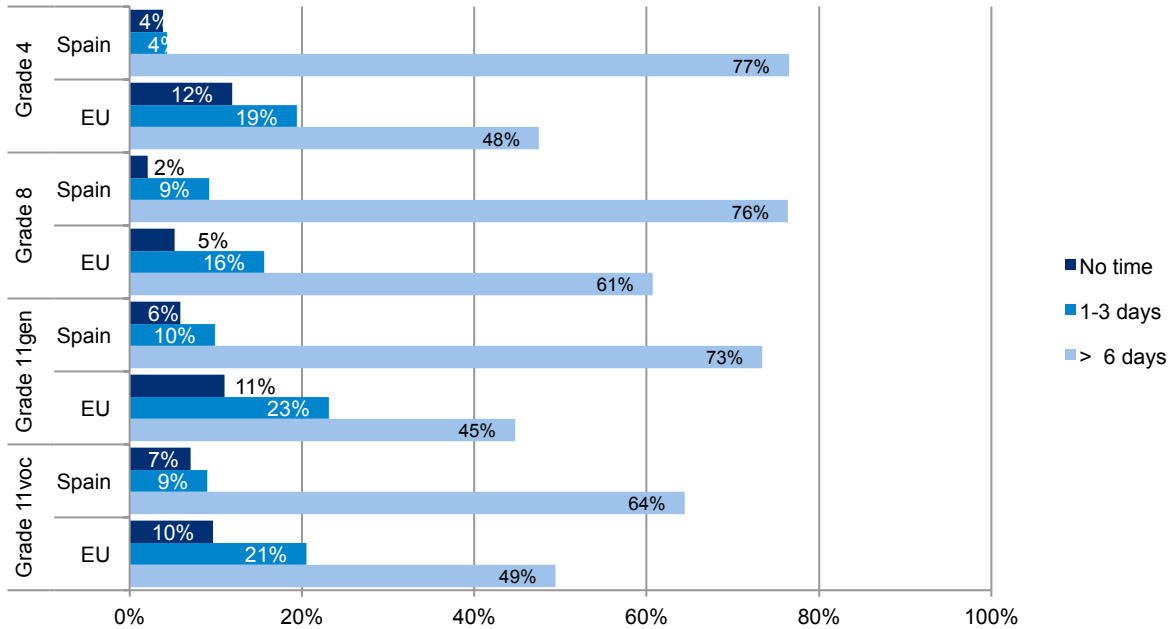
At all grades students in Spain are in the middle group of countries at all grades in terms of confidence to use the internet safely, but firmly in the bottom four countries to use it responsibly (main report, fig. 4.16, 4.17).

5. PROFESSIONAL DEVELOPMENT

TIME SPENT ON TRAINING

Strikingly fewer students at grade 4 and grade 8 in Spain 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. The same is the case for grade 11 students both in general and vocational education, albeit to a much lesser extent, especially at vocational level where the situation in Spain is very close to the EU average. In Spain the percentage of students in schools where teachers have spent no time on ICT professional development activities is well below the EU mean, but is highest in vocational schools. Conversely it is clear that large numbers have undertaken more than six days' ICT training in the past two years, with around 75% of students in schools where teachers have had more than 6 days' training, slightly fewer 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'; Spain and EU; 2011-12)



ENGAGEMENT IN TRAINING

As Fig. 5.2 below shows, in Spain more than the EU average of students – approximately one in three – are in schools where teachers take part in online communities for professional development. High percentages are reported ICT training at grade 4 but all grades are above the EU mean.

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

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

Fig. 5.2a: grade 4

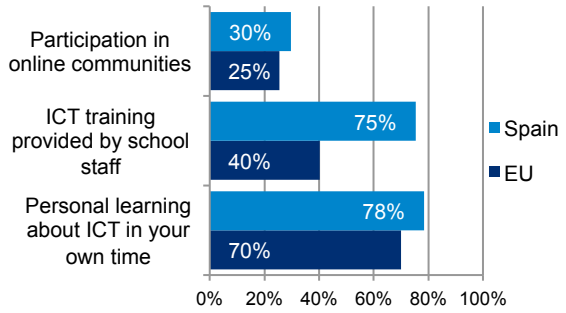


Fig. 5.2b: grade 8

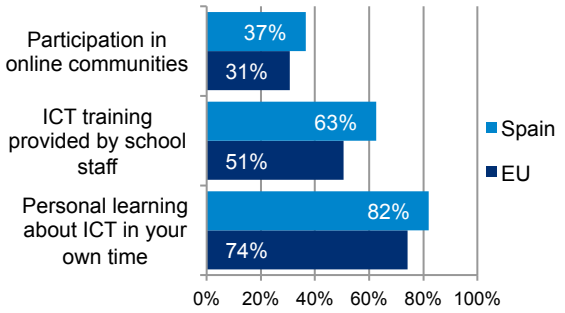


Fig. 5.2c: grade 11 gen.

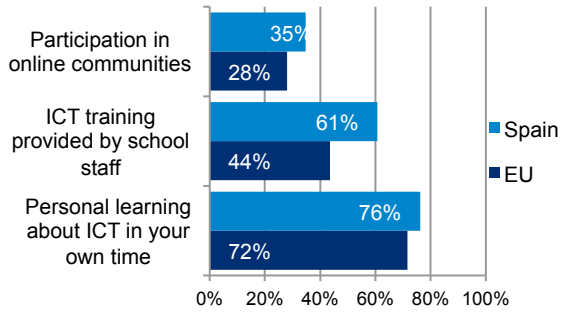


Fig. 5.2d: grade 11 voc.

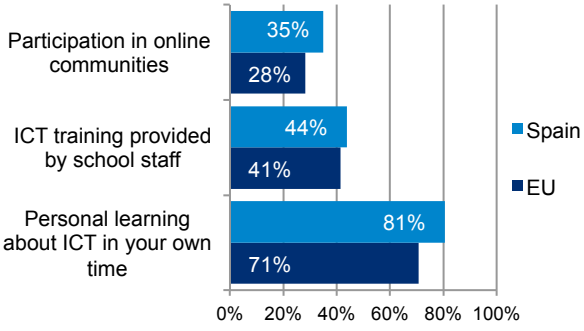
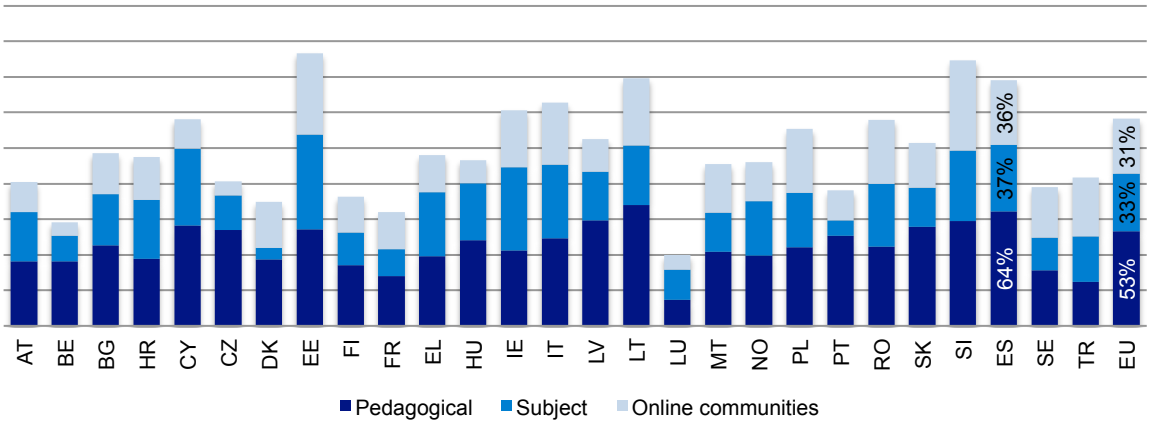


Fig. 5.2e shows that grade 8 teachers in Spain have taken part extensively in professional development in the preceding two years, well ahead of most other countries.

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



In Spain at most 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). Encouragingly, as regards involvement in personal learning about ICT in their own time (main report, fig. 4.4), Spain is in the top ten at all grades. Apart from grade 11 vocational (middle ranking) , Spain is amongst the top third of countries for high percentages students taught by teachers participating in training provided by school staff (main report, fig.4.5). At all grades except grade 11 vocational Spain is among the lowest ranking countries where 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).

6. SCHOOL SUPPORT MEASURES

In general students in Spain are in schools where EU averages of ICT strategies are implemented (main report, fig. 5.3), around 20% being in such schools, placing Spain in the mid-range of countries, except at grade 4 where Spain is fifth. Spain is also in the middle group of countries in terms of percentages of students in schools with strategies to support teacher collaboration (main report, fig. 5.7). A similar pattern emerges as regards strategies about responsible internet and social media use (main report, fig. 5.10). On the other hand Spain is in between sixth and tenth for percentages of students in schools with change management programmes at all grades (main report, fig. 5.14).

ICT COORDINATOR

In Spain almost all students are in schools with an ICT coordinator. At most grades the ICT coordinator provides pedagogical as well as ICT support. Above EU average percentages of students are in schools at grade 4 and 8 where the ICT coordinator is available full-time.

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

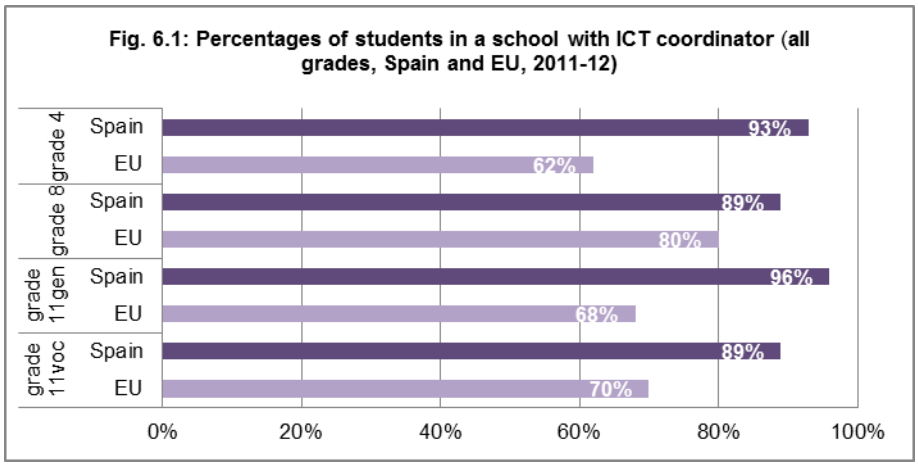
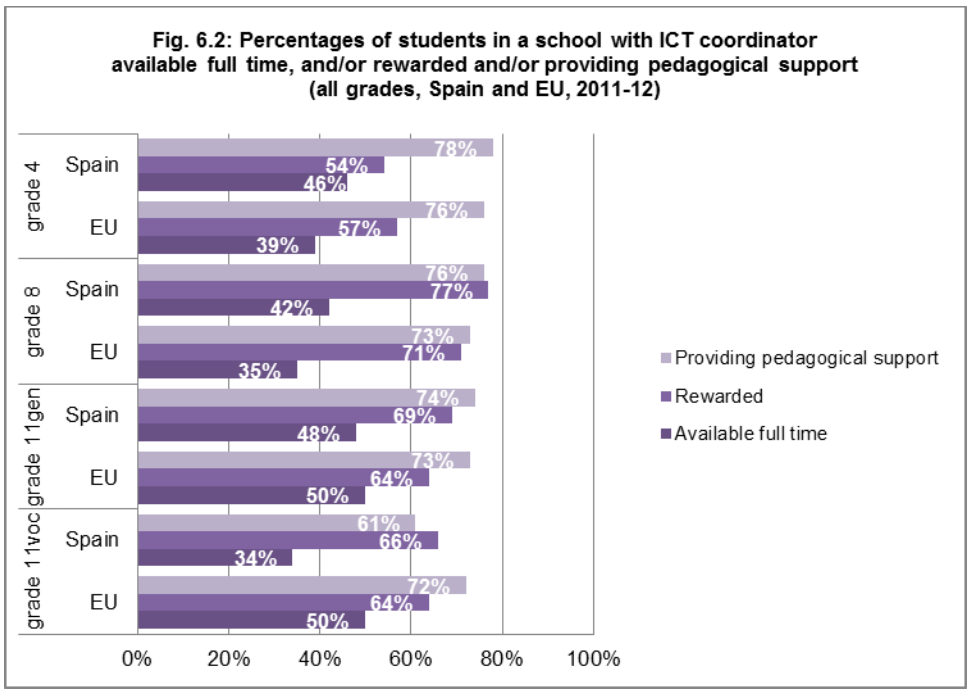


Fig. 6.2: Percentages of students in a school with ICT coordinator available full time, and/or rewarded and/or providing pedagogical support (all grades, Spain and EU, 2011-12)



INCENTIVES

In Spain relatively few students are in schools where there is any form of incentive or reward for using ICT, least of all financial.

Percentages of students in schools with incentives to reward teachers using ICT in T&L

(in % of students; Spain and EU; 2011-12)

Fig. 6.3a: grade 4

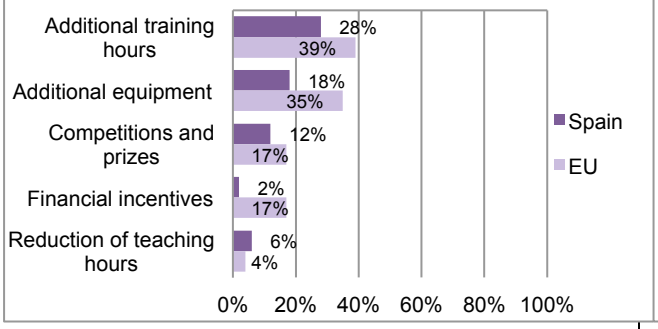


Fig. 6.3b: grade 8

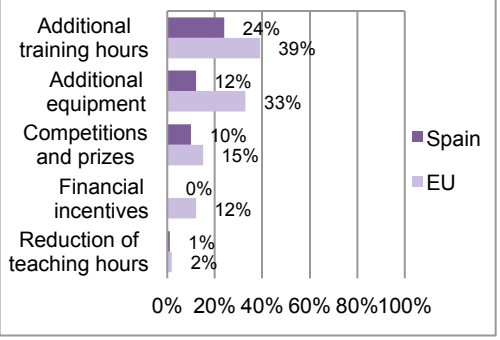


Fig. 6.3c: grade 11 gen.

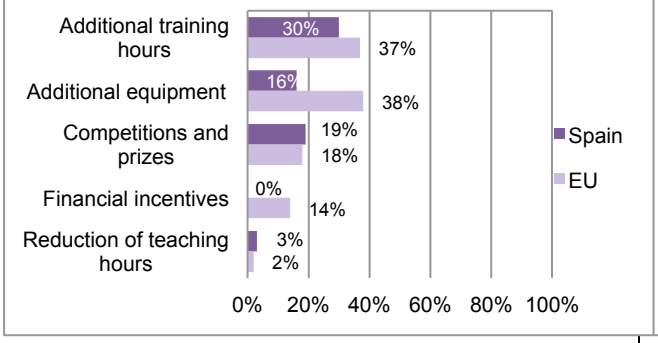
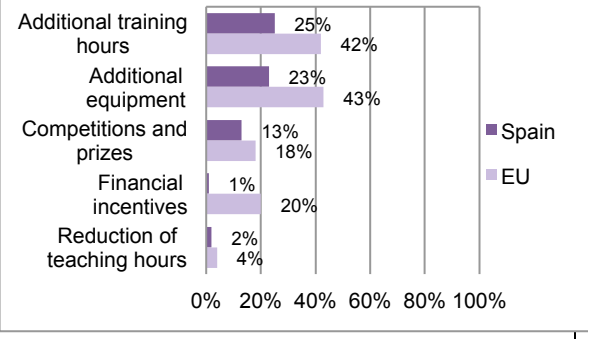


Fig. 6.3d: grade 11 voc.



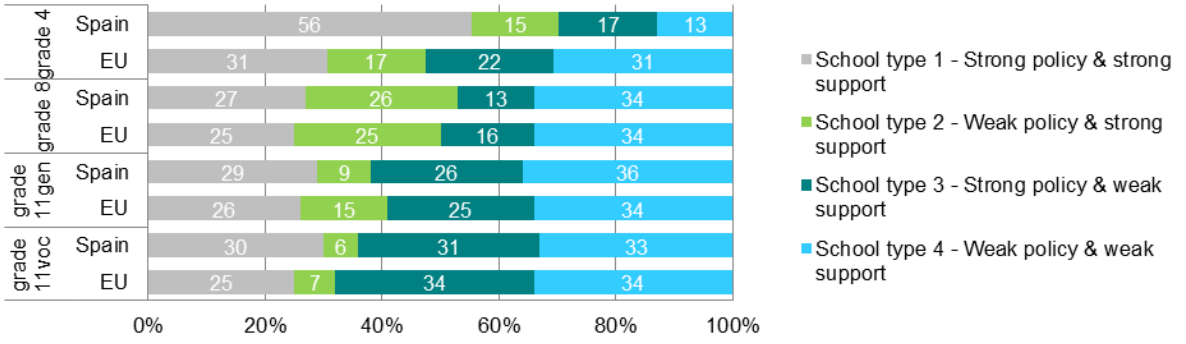
For further details please refer to Section 5 of the survey report.

7: CLUSTERS

THE DIGITALLY SUPPORTIVE SCHOOL

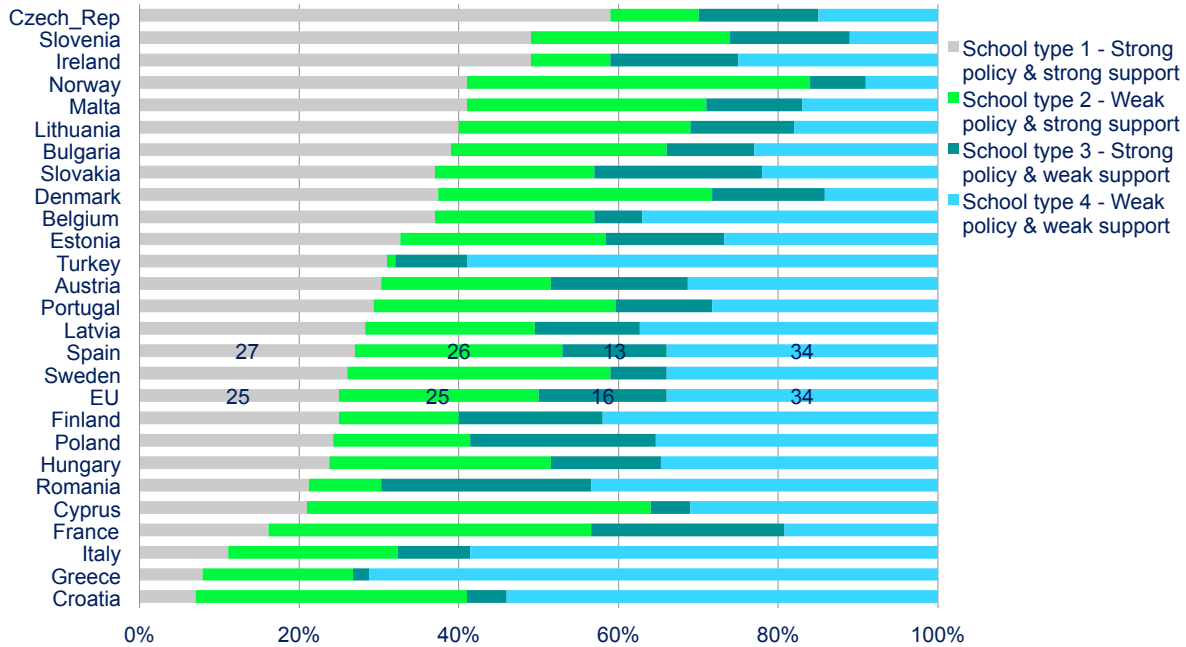
Results from the Survey of Schools: ICT and Education suggest that a 'digitally supportive school' develops strong concrete support measures for teachers to use ICT in teaching and learning (ICT coordinator, teacher training, etc.), whether or not associated with strong policies (written statement about introducing ICT in teaching and learning and/or in subject, etc.). In Spain, there are above the EU mean percentages of students at grade 8 in digitally supportive schools, and at grade 4 the fourth highest percentage of grade 4 students in such schools, taking type 1 and type 2 together. At grade 11 percentages are closer to the EU mean.

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



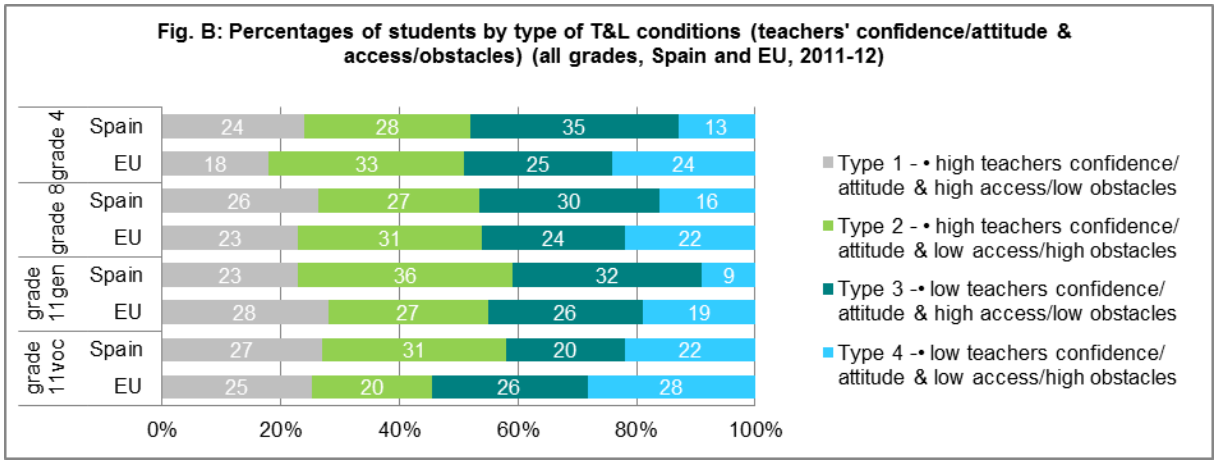
At grade 8 Spain ranks in the middle range of countries considering schools with strong policy and strong support (type 1) but at grade 4 (main report, fig. 8.1) Spain is fourth on this indicator and in the middle at grade 11. There are also relatively few grade 4 students in Spanish schools with weak support.

Fig. 7.1: Digitally supportive schools (% students, grade 8, EU and country level, 2011-12

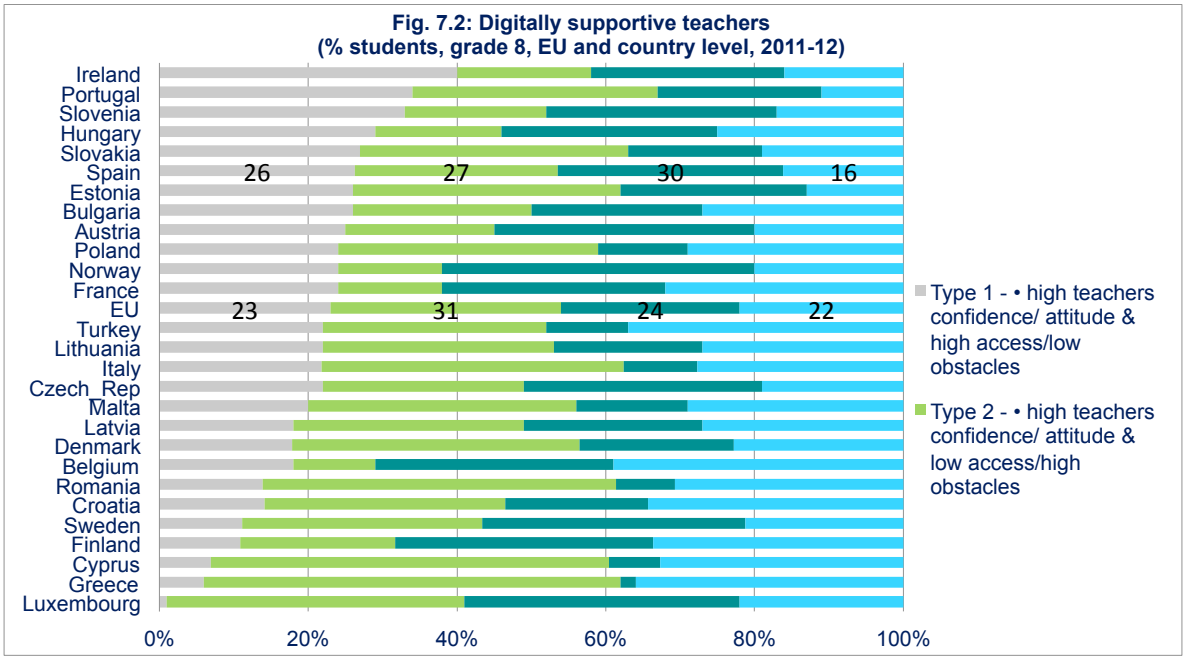


DIGITALLY CONFIDENT AND SUPPORTIVE TEACHERS

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 grade 8 students taught by *digitally supportive teachers* in Spain are sixth highest in Europe according to this survey, and above the EU mean at grade 4 and grade 11 vocational. At all grades there are relatively percentages of students in schools with type 4 teachers (low teachers confidence/ attitude & low access/high obstacles).



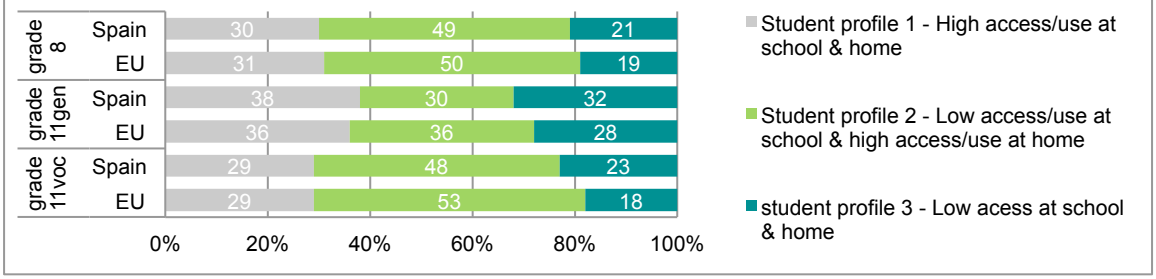
A relatively percentage of students at grade 8 compared to other countries is in schools with type 1 teachers (fig. 7.2), ranking Spain sixth in this respect, and third in terms of lowest percentages of type 2 teachers. At other grades Spain is in the top half of countries for type 1 teachers except at grade 11 general (fig. 8.3, main report).



THE DIGITALLY SUPPORTIVE STUDENT

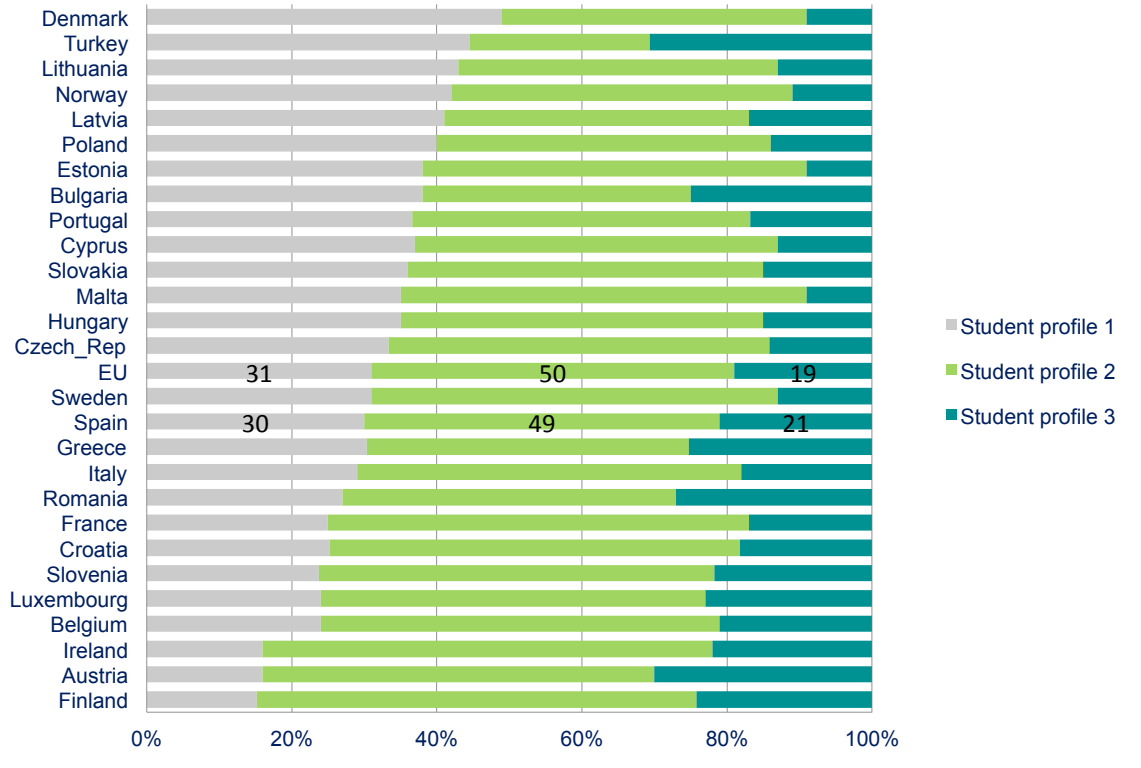
The 'digitally supportive student' emerges from analysis of survey responses as one with high levels of access to and use of ICT at school and at home. The percentages of such students in Spain are close to or above the EU mean at grades 8 and 11.

Fig.C: Percentages of students by profile in terms of ICT use at home and at school (all grades, Spain and EU, 2011-12)



On this measure, percentages of type 1 grade 8 students place Spain in the bottom half of countries (fig. 7.3); the same is true at grade 11 vocational, and at grade 11 general Spain is in the middle group of countries (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 Spain percentages of students in type 1 schools are close to or above the EU mean and at all levels the percentage of students in type 3 schools is low.

Fig. D: Digitally equipped schools
(in % students, Spain and EU, 2011-12)

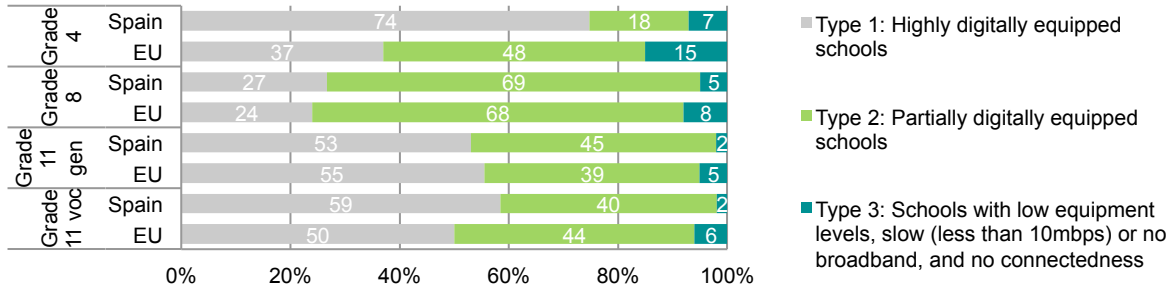
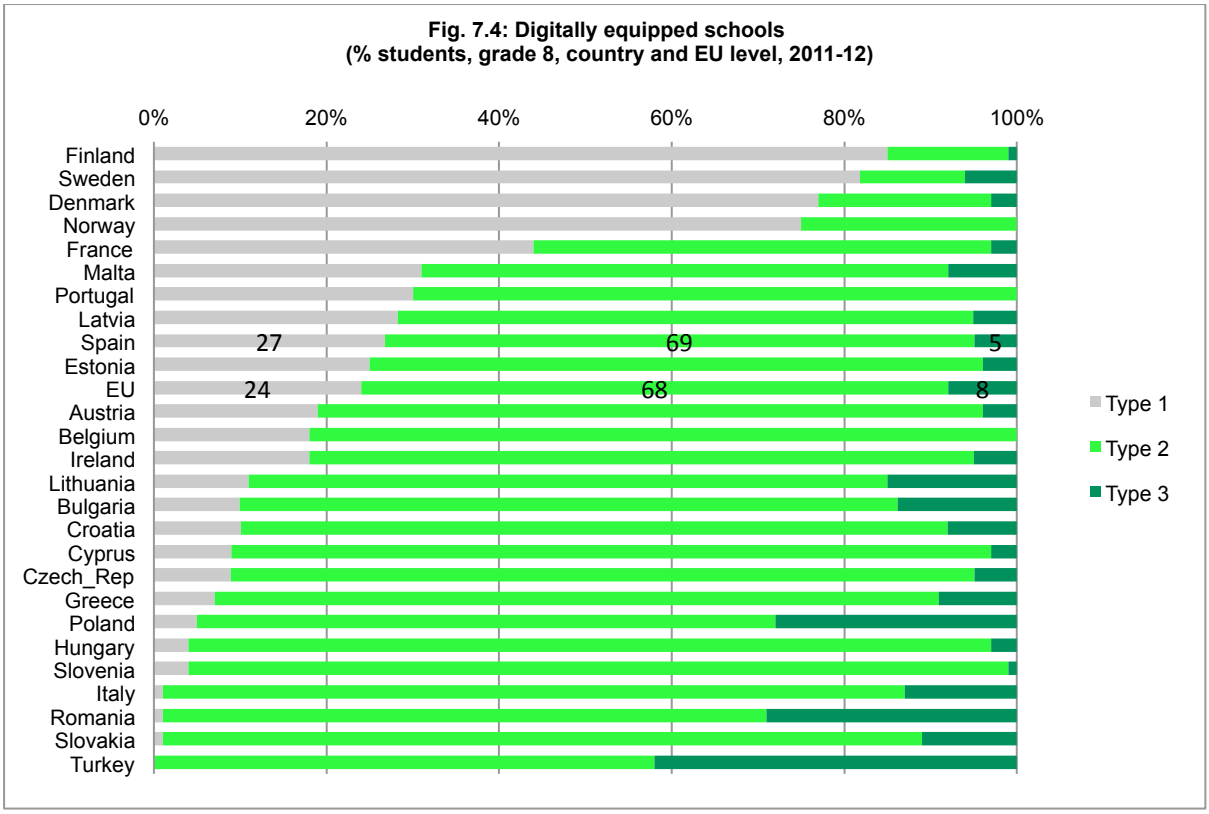


Fig. 7.4 shows how Spain compares to other countries at grade 8 on this measure: in the top ten. Very few students are in type 3 schools compared to other countries and large numbers are in type 2 relative to other countries. At grade 4 Spain ranks fifth in terms of type 1 schools (main report fig. 1.13) and around the middle at grade 11.



CONCLUSION

In terms of **equipment,** students in Spain are well endowed compared to the EU mean, especially regarding laptop provision. High-speed broadband provision too is at above EU mean levels throughout the system. Levels of connectedness (e.g. having a website or a virtual learning environment) are higher than the EU mean. Grade 4 students are relatively well equipped compared to EU averages. It is noteworthy that there are few students in poorly equipped schools.

As for **frequency of use of technology,** although low use seems to be exceptional, intensity of use is around the EU mean.

Both teachers' and students' **confidence in their ICT** skills is below the EU mean at most grades.

Professional development in ICT seems to have been extensive throughout the system, as well as use of online communities, and few students are in schools where teachers have had little training at all.

As for **support measures for using ICT in teaching and learning**, a higher percentage of students than the EU mean at all grades are in schools with ICT coordinators.

Overall, Spanish students enjoy relatively high levels of equipment and connectivity and tend to be in digitally supportive schools, with ICT trained teachers, this does not seem to translate into the levels of ICT confidence or of use in lessons that might be expected.

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; w = insufficient data.

Fig. 2.1
Computers per 100 students

COUNTRY	Grade4	SE1	Grade8	SE2	Grade11gen	SE3	Grade11voc	SE4
Spain	31.8	(2.4)	31.3	(2.9)	24.8	(2.2)	39.3	(3.3)
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	Spain	3.0%	(2.1)	9.8%	(3.7)	19.4%	(5.0)	36.0%	(6.2)	28.9%	(5.8)
	EU	8.0%	(1.3)	16.5%	(2.3)	21.4%	(2.4)	22.1%	(2.2)	19.5%	(2.2)
2. Grade8	Spain	0.0%	(0.0)	6.8%	(2.7)	15.9%	(3.9)	41.5%	(5.3)	30.1%	(4.9)
	EU	5.0%	(0.8)	9.6%	(1.3)	19.1%	(2.3)	27.7%	(2.4)	24.8%	(2.3)
3. Grade11gen	Spain	1.0%	(0.1)	3.0%	(1.7)	18.2%	(3.9)	26.6%	(4.6)	40.3%	(5.2)
	EU	3.7%	(1.3)	6.2%	(0.8)	18.0%	(2.8)	23.2%	(3.0)	25.4%	(3.9)
4. Grade11voc	Spain	0.9%	(0.1)	6.7%	(3.1)	19.5%	(4.5)	21.5%	(4.4)	35.0%	(5.2)
	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
2.9%	(2.1)	0.0%	(0.0)
8.6%	(1.4)	4.0%	(1.3)
1.1%	(0.1)	4.6%	(2.3)
8.6%	(1.6)	5.2%	(1.2)
8.9%	(3.1)	2.0%	(1.4)
13.3%	(2.6)	10.3%	(8.0)
7.7%	(2.8)	8.7%	(4.7)
15.7%	(7.1)	10.9%	(5.3)

Fig. 2.5
Connectedness

Level	COUNTRY	SchWebsite	SE1	VLE	SE2	NoConnect	SE3
1. Grade4	Spain	83.2%	(4.5)	56.1%	(6.5)	8.0%	(3.5)
	EU	69.7%	(3.6)	26.8%	(2.0)	15.9%	(2.2)
2. Grade8	Spain	90.0%	(3.1)	82.2%	(4.0)	5.0%	(2.3)
	EU	86.0%	(1.6)	61.4%	(3.0)	8.4%	(1.2)
3. Grade11gen	Spain	97.8%	(1.6)	82.2%	(4.0)	2.3%	(1.7)

Level	COUNTRY	SchWebsite	SE1	VLE	SE2	NoConnect	SE3
	EU	91.7%	(3.1)	61.0%	(7.9)	7.0%	(2.9)
4. Grade11voc	Spain	96.1%	(2.0)	86.9%	(3.5)	0.9%	(0.1)
	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	Spain	0.0%	(0.0)	5.0%	(2.6)	22.2%	(5.1)	24.9%	(5.2)	21.4%	(4.9)
	EU	3.0%	(0.4)	10.0%	(2.4)	13.9%	(1.4)	18.0%	(1.8)	19.1%	(2.1)
2. Grade8	Spain	8.2%	(2.0)	6.0%	(1.7)	10.8%	(2.0)	21.3%	(2.6)	21.4%	(3.1)
	EU	7.4%	(1.0)	6.8%	(0.8)	14.7%	(0.9)	20.7%	(1.2)	18.9%	(1.4)
3. Grade11gen	Spain	10.7%	(2.0)	6.2%	(1.8)	13.2%	(2.1)	18.3%	(2.5)	19.3%	(2.5)
	EU	7.0%	(1.0)	8.1%	(1.4)	14.9%	(1.4)	22.9%	(3.8)	17.1%	(1.8)
4. Grade11voc	Spain	17.7%	(2.7)	19.5%	(2.7)	19.6%	(2.5)	18.3%	(2.6)	16.3%	(2.4)
	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
13.1%	(4.0)	6.9%	(3.0)	6.5%	(2.9)
20.7%	(2.7)	8.7%	(1.4)	6.7%	(1.4)
14.7%	(2.3)	10.4%	(2.1)	7.2%	(1.9)
14.4%	(1.0)	11.0%	(1.0)	6.1%	(0.8)
14.5%	(2.3)	13.1%	(2.3)	4.7%	(1.3)
14.0%	(1.5)	10.3%	(1.4)	5.7%	(0.9)
3.9%	(1.2)	1.4%	(0.7)	3.2%	(1.3)
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
Spain	29.1%	(5.7)	26.9%	(3.7)	31.5%	(3.0)	58.7%	(3.5)
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	Spain	18.0	(1.6)	11.1	(1.5)	51.7	(2.5)
	EU	28.0	(0.8)	11.2	(0.7)	53.3	(1.1)
2. Grade11gen	Spain	21.3	(1.3)	4.1	(1.0)	50.0	(2.4)
	EU	34.6	(1.3)	10.7	(1.1)	50.5	(1.5)
3. Grade11voc	Spain	36.9	(1.7)	10.4	(1.4)	66.4	(3.0)
	EU	45.6	(1.3)	15.5	(0.7)	64.3	(1.5)

Fig. 4.1

Scales Teachers ICT skills

Level	COUNTRY	SocialMediaSkills	SE1	OperatSkills	SE2
1. Grade4	Spain	2.48	(0.10)	2.85	(0.09)
	EU	2.41	(0.03)	2.98	(0.02)
2. Grade8	Spain	2.41	(0.09)	2.97	(0.06)
	EU	2.37	(0.04)	3.00	(0.03)
3. Grade11gen	Spain	2.41	(0.07)	3.06	(0.05)
	EU	2.38	(0.07)	3.01	(0.03)
4. Grade11voc	Spain	2.55	(0.07)	3.21	(0.05)
	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	Spain	2.34	(0.03)	2.57	(0.04)	2.45	(0.04)	3.03	(0.04)
	EU	2.41	(0.02)	2.63	(0.02)	2.58	(0.02)	2.98	(0.02)
2. Grade11gen	Spain	2.77	(0.03)	2.86	(0.02)	2.72	(0.02)	3.19	(0.02)
	EU	2.78	(0.02)	2.88	(0.01)	2.93	(0.03)	3.16	(0.02)
3. Grade11voc	Spain	2.43	(0.03)	2.65	(0.03)	2.49	(0.03)	2.96	(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	Spain	76.5%	(5.0)	4.3%	(2.5)	3.9%	(2.3)
	EU	47.5%	(4.2)	19.4%	(3.0)	11.9%	(2.4)
2. Grade8	Spain	76.4%	(2.6)	9.2%	(1.9)	2.1%	(0.8)
	EU	60.7%	(1.6)	15.6%	(1.0)	5.2%	(0.5)
3. Grade11gen	Spain	73.4%	(2.7)	9.9%	(1.8)	5.9%	(1.4)
	EU	44.7%	(5.2)	23.1%	(3.4)	11.0%	(1.6)
4. Grade11voc	Spain	64.4%	(3.4)	9.0%	(2.0)	7.1%	(1.7)
	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	Spain	29.6%	(5.7)	75.3%	(5.2)	78.4%	(4.9)
	EU	25.4%	(2.5)	40.3%	(3.2)	70.0%	(2.8)
2. Grade8	Spain	36.5%	(3.6)	62.6%	(3.8)	82.1%	(2.5)
	EU	30.8%	(1.6)	50.5%	(1.7)	74.2%	(1.3)
3. Grade11gen	Spain	34.8%	(3.5)	60.8%	(3.5)	76.3%	(2.8)
	EU	28.0%	(2.4)	43.5%	(2.2)	71.7%	(2.2)
4. Grade11voc	Spain	34.9%	(3.5)	43.8%	(3.5)	80.5%	(2.9)
	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
Spain	92.8%	(3.2)	88.5%	(3.3)	95.5%	(2.3)	89.3%	(3.2)
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	Spain	45.9%	(6.4)	53.5%	(6.4)	77.9%	(5.4)
	EU	39.3%	(3.0)	56.5%	(3.0)	75.9%	(2.3)
2. Grade8	Spain	42.3%	(5.6)	77.2%	(4.7)	76.4%	(4.7)
	EU	34.8%	(2.9)	70.6%	(2.4)	72.5%	(2.5)
3. Grade11gen	Spain	48.0%	(5.3)	68.8%	(4.9)	73.5%	(4.6)
	EU	49.6%	(6.9)	63.6%	(7.7)	73.4%	(4.2)
4. Grade11voc	Spain	34.4%	(5.9)	66.1%	(5.5)	61.4%	(5.7)
	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	Spain	27.8%	(5.7)	17.6%	(4.8)	11.8%	(4.0)	1.8%	(0.2)	6.4%	(3.2)	9.3%	(4.6)
	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	Spain	23.8%	(4.5)	12.1%	(3.5)	9.9%	(3.2)	0.0%	(0.0)	1.1%	(0.1)	10.3%	(3.7)
	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	Spain	29.8%	(4.8)	15.9%	(3.8)	18.6%	(4.2)	0.0%	(0.0)	3.3%	(1.9)	8.7%	(3.5)
	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	Spain	24.5%	(4.7)	23.4%	(5.2)	12.9%	(3.6)	1.1%	(0.1)	2.0%	(1.4)	15.9%	(6.0)
	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
1. Grade4	Spain	56	(6.17)	15	(4.52)	17	(4.55)	13	(4.07)
	EU	31	(2.70)	17	(3.17)	22	(2.53)	31	(2.98)
2. Grade8	Spain	27	(4.63)	26	(4.56)	13	(3.56)	34	(4.94)
	EU	25	(1.91)	25	(2.20)	16	(1.83)	34	(2.15)
3. Grade11gen	Spain	29	(4.77)	9	(3.00)	26	(4.45)	36	(4.96)
	EU	26	(2.28)	15	(8.69)	25	(3.74)	34	(5.30)
4. Grade11voc	Spain	30	(5.48)	6	(2.52)	31	(4.97)	33	(5.09)
	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

Level	COUNTRY	Type1	SE1	Type2	SE2	Type3	SE3	Type4	SE4
1. Grade4	Spain	24	(5.21)	28	(5.34)	35	(5.64)	13	(3.97)
	EU	18	(2.02)	33	(2.95)	25	(2.33)	24	(2.64)
2. Grade8	Spain	26	(3.14)	27	(2.58)	30	(3.32)	16	(2.29)
	EU	23	(1.43)	31	(1.27)	24	(1.52)	22	(1.17)
3. Grade11gen	Spain	23	(2.90)	36	(3.23)	32	(3.16)	9	(2.14)
	EU	28	(2.41)	27	(2.68)	26	(1.65)	19	(1.67)
4. Grade11voc	Spain	27	(3.55)	31	(3.35)	20	(2.94)	22	(2.92)
	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	Spain	30	(2.28)	49	(2.05)	21	(1.61)
	EU	31	(1.00)	50	(0.85)	19	(0.67)
2. Grade11gen	Spain	38	(1.97)	30	(1.58)	32	(1.48)
	EU	36	(1.18)	36	(1.00)	28	(1.47)
3. Grade11voc	Spain	29	(1.93)	48	(1.89)	23	(1.51)
	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	Spain	74	(5.43)	18	(4.80)	7	(3.29)
	EU	37	(4.43)	48	(4.15)	15	(2.12)
2. Grade8	Spain	69	(4.83)	27	(4.60)	5	(2.16)
	EU	68	(2.87)	24	(3.31)	8	(1.16)
3. Grade11gen	Spain	53	(5.11)	45	(5.09)	2	(1.54)
	EU	55	(12.27)	39	(10.34)	5	(2.06)
4. Grade11voc	Spain	2	(1.21)	59	(5.37)	40	(5.32)
	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 Spain 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 Spain participation levels are close to the EU mean; a total of 426 schools in Spain took part in the survey.

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