

The Role of IEA Studies in the EU Policy on Education

The EC JRC's Perspective

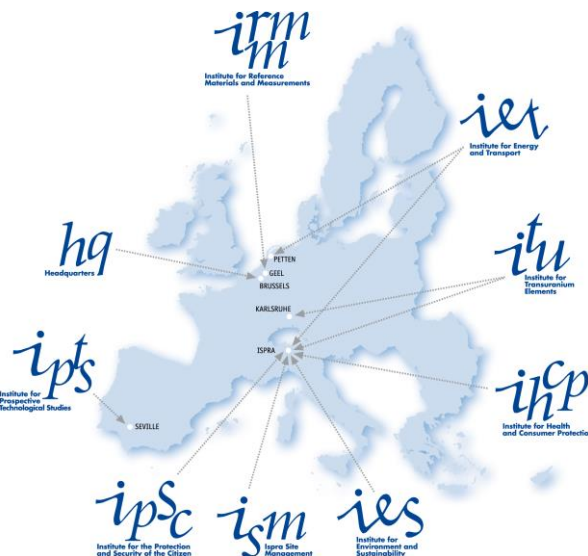
Maria Magdalena Isac, European Commission, DG JRC Unit DDG.01
Econometrics and Applied Statistics

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Serving society
Stimulating innovation
Supporting legislation

Established 1957

- 7 institutes in 5 countries: Italy, Belgium, Germany, The Netherlands, Spain
- 2,845 permanent and temporary staff in 2010
- 1,398 scientific publications in 2010
- 125 instances of support to the EU policy-maker annually
- Budget: €356 million annually, plus €62 million earned income



Where you can find us

• **Corporate Services** – *Brussels*

• **IRMM** – *Geel, Belgium*

Institute for Reference Materials and Measurements

• **ITU** – *Karlsruhe, Germany and Ispra, Italy*

Institute for Transuranium Elements

• **IE** – *Petten, The Netherlands and Ispra, Italy*

Institute for Energy

• **IPSC** – *Ispra, Italy*

Institute for the Protection and Security of the Citizen

• **IES** – *Ispra, Italy*

Institute for Environment and Sustainability

• **IHCP** – *Ispra, Italy*

Institute for Health and Consumer Protection

• **IPTS** – *Seville, Spain*

Institute for Prospective Technological Studies

Who are we and what do we do?

JRC is the European Commission's in-house science service. It provides the science for policy decisions, with a view to ensuring that the EU achieves its Europe 2020 goals for a productive economy as well as a safe, secure and sustainable future.

The JRC plays a key role in the European Research Area and reinforces its multi-disciplinarity by networking extensively with leading scientific organisations in the Member States, Associated Countries and worldwide.

Mission... is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies.

Vision driven by the Europe 2020 Strategy... is to be a trusted provider of science-based policy options to EU policy-makers to address key challenges facing our society, underpinned by internationally-recognised research.

Impacts for the EU citizen... supporting general well-being via harmonised research on energy, environment, transport, climate change, safety of food and consumer products, crisis management, and nuclear safety and security, that have important positive impacts on the daily life of the citizen.

The JRC inside the European Commission



President
Jean-Claude Juncker

28 Commission Members



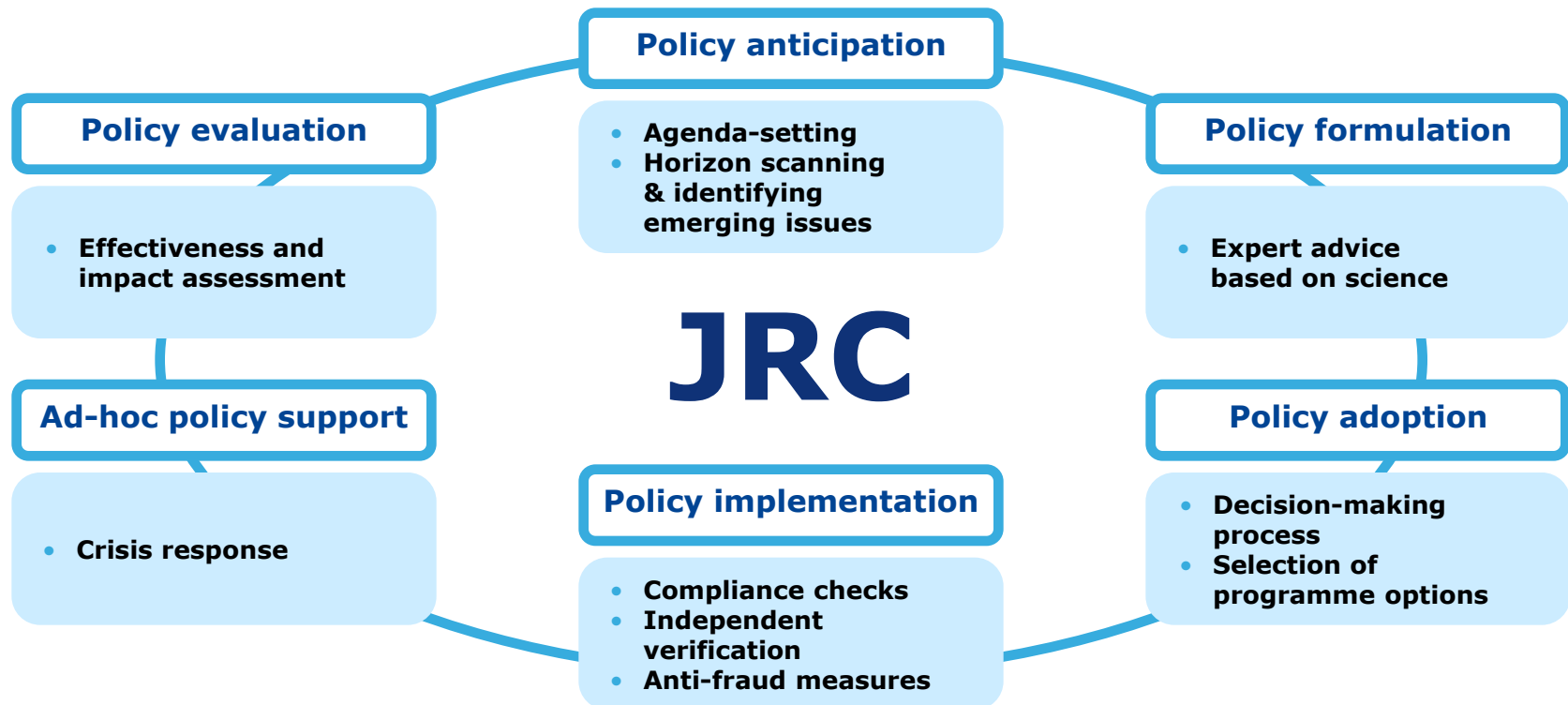
Commissioner
Tibor Navracsics
Education, Culture, Youth & Sport



Director-General
Vladimír Šucha
Joint Research Centre

DG Education and Culture (EAC)

The JRC's Role in the EU Policy Cycle



Science-based input to EU legislation and standardisation

JRC



**Scientific-based
Support**



**EU Legislation
Standardisation**



**Innovation
Jobs & Growth**



Main competence areas

- Energy
- Clean transport
- Environment & Climate change
- Agriculture & Food security
- Health & Consumer protection
- Safety and security, including nuclear
- Information and communication technology



Competence area **EDUCATION:** **CRELL**

*JRC Unit DDG01: Econometrics and Applied Statistics
Ispra, Italy*



<http://crell.jrc.ec.europa.eu/>

Objective:

Increasing EU research capacity for establishing **indicators** and **monitoring** the education and training systems in Europe, so as to reinforce **evidence-based policy-making** and place education systems at the heart of growth and well-being enhancing policies.

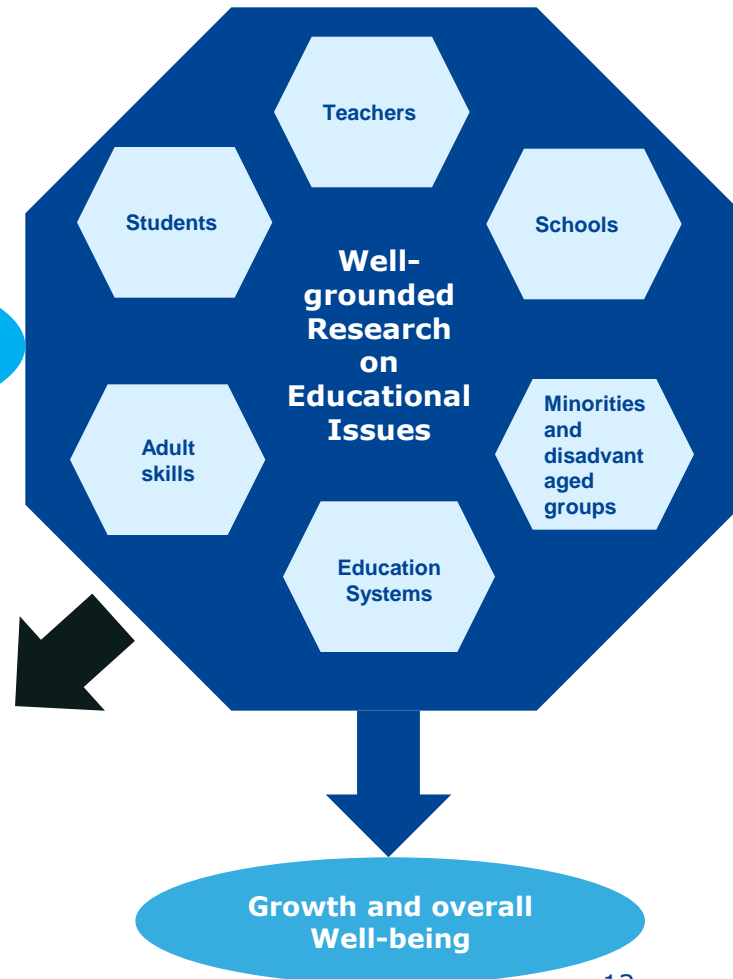
The European Council Conclusions of 24 May 2005 on new indicators in education and training recognized that it was necessary to develop a coherent framework of indicators and benchmarks to monitor performance and progress, and stated that "the establishment of the research unit on lifelong learning at the Joint Research Centre at Ispra can significantly increase the Commission's research capacity in terms of the development of new indicators."

Working approach:

✓ **PIRLS**
✓ **TIMMS**
✓ **CIVED/ICCS**
✓ **IEA ICT Surveys**
✓ **LFS**
✓ **EU-SILC**
✓ **PIAAC**
✓ **PISA**
✓ **TALIS**
✓ **Other aggregated official statistics**

**Quantitative
secondary data
analysis**

- **Support European Institution Policy Officers**
Main Client: DG Education and Culture (EAC)
- **Support to Member States Policy Makers**



Selected outputs – IEA data

SAISANA Michaela, HOSKINS Bryony, HARRISON VILLABA Cynthia; The 2011 Civic Competence Composite Indicator ; Publications Office of the European Union, Luxembourg, (Luxembourg); 2012; JRC68398

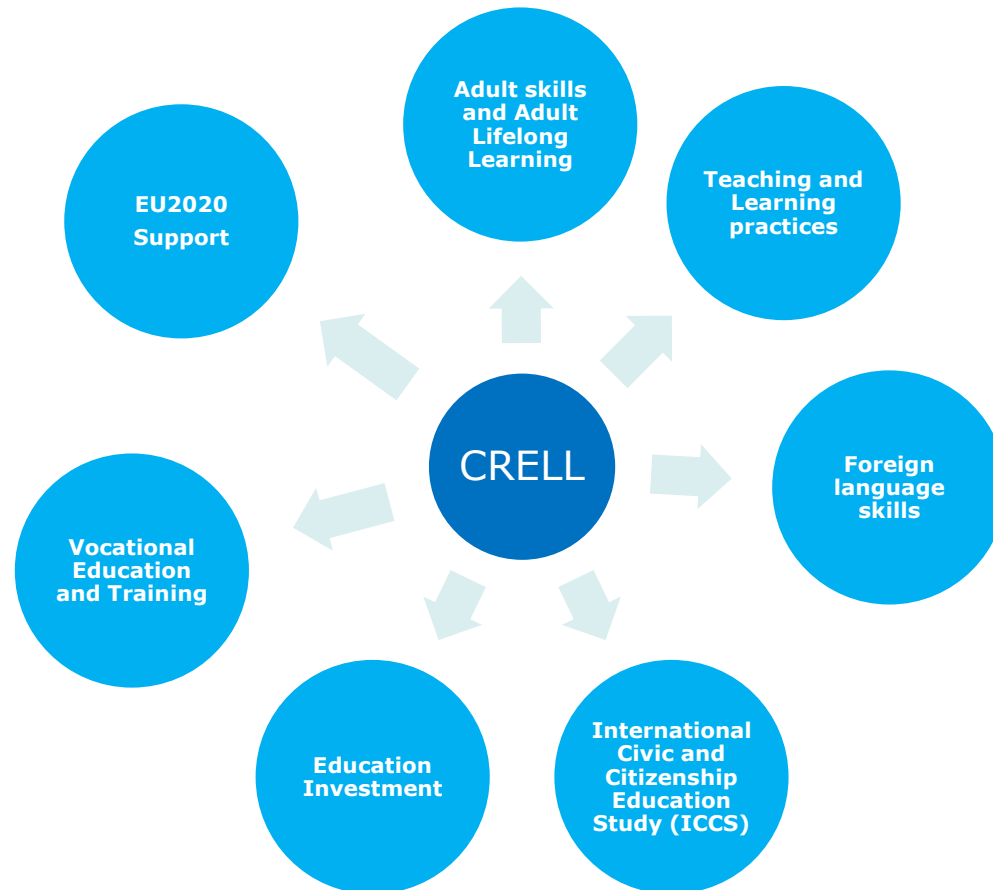
WIREN Eva; Migrants in Education – what factors are important? A study of European Countries participating in PIRLS 2006; Publications Office of the European Union, Luxembourg, (Luxembourg); 2012; JRC76064

WIREN Eva; Migrants in Education – what factors are important? A study of European countries participating in TIMSS2007; Publications Office of the European Union, Luxembourg, (Luxembourg); 2012; JRC77646

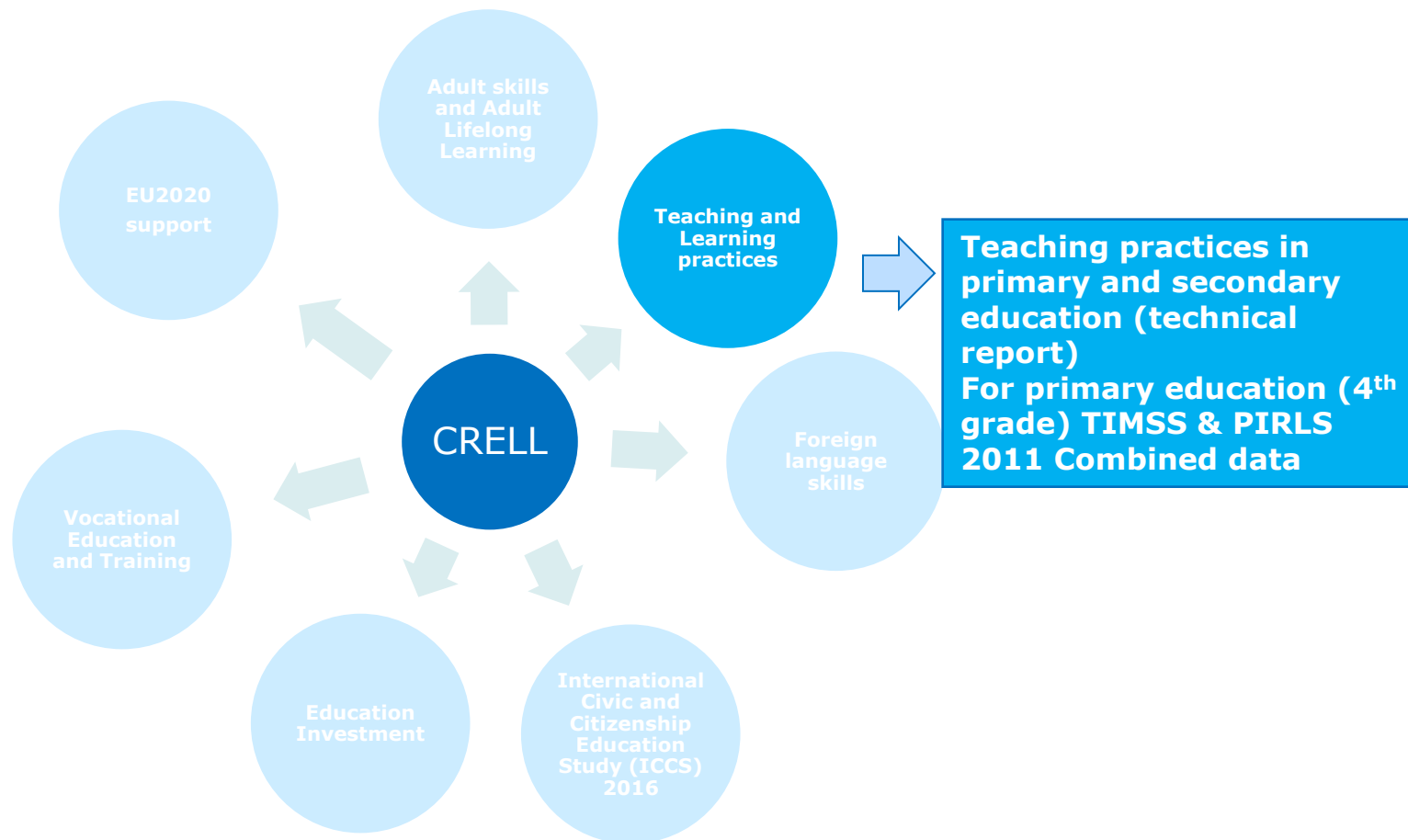
DINIS MOTA DA COSTA Patricia, SOARES DE ALBERGARIA DE ALMEIDA Patricia, DE SOUSA LOBO BORGES DE ARAUJO Luisa; Reading literacy in Europe: Evidence from PIRLS; Publications Office of the European Union; 2013; JRC86217

See more at <https://crell.jrc.ec.europa.eu/?q=publications>

Current Areas of Activity



Current activities



EU Policy on Education

Role of the EC established by the Maastrich Treaty of November 1993.

The EC is to contribute to the development of quality education by encouraging cooperation between member states and, if necessary, by supporting and supplementing their actions.

YET

Any harmonisation of the laws and regulations of the Member States is clearly forbidden.

The content of teaching, the organization of education systems and their cultural and linguistic diversity is the full responsibility of the Member States (article 149 of the Maastrich Treaty).

THEREFORE

No legislative power (e.g. to harmonize curricula or school systems) but **possibility to propose policies that aim to encourage and facilitate voluntary cooperation between Member States.**

EU Policy on Education

COMMON OBJECTIVES

The **Strategic Framework for Education and Training ET2020** (Council Conclusions of 12 May 2009) - four challenges to be addressed by 2020:

- Making lifelong learning and mobility a reality;
- Improving the quality and efficiency of education and training;
- Promoting equity, social cohesion, and active citizenship;
- Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

POLICY TOOL

The Open Method of Coordination - aims to promote mutual learning, exchange of good practices, fostering national reforms and developing EU-level tools.

EU Policy on Education

EU benchmarks for 2020 set for education:

- At least 95% of children (from 4 to compulsory school age) should participate in early childhood education;
- fewer than 15% of 15-year-olds should be under-skilled in reading, mathematics and science;
- the rate of early leavers from education and training aged 18-24 should be below 10%;
- at least 40% of people aged 30-34 should have completed some form of higher education;
- at least 15% of adults should participate in lifelong learning;
- at least 20% of higher education graduates and 6% of 18-34 year-olds with an initial vocational qualification should have spent some time studying or training abroad;
- the share of employed graduates (aged 20-34 with at least upper secondary education attainment and having left education 1-3 years ago) should be at least 82%.

ET 2020 National Reports and DG EAC Education and Training Monitor support the implementation of ET 2020. Additional reports document the conditions needed to support the

ET2020 objectives.

IEA data & EU Policy on Education

IEA studies are a valuable comprehensive international sources of information regarding several objectives/areas:

- Student achievement
- Teaching practices and teacher professional development.
- ICT integration in teaching and learning.
- Civic and citizenship education and civic competences etc.

They provide the possibility of an implementation check for the EC and Member States when certain policies were to be implemented.

An example - Forthcoming CRELL report:

*Teaching Practices in Primary and Secondary Schools in Europe:
Insights from Large-Scale Assessments in Education*



Part I Teaching Practices in Primary Schools in the EU

TIMSS & PIRLS 2011 Combined

4th grade (primary education)

17 Participating EU MS:

AT, CZ, DE, ES, FI, IE, IT, HR, HU, MT, LT, RO, PL, PT, SI,
SK, SE

Part I Teaching Practices in Primary Schools in the EU

Policy context

- Educational Quality, Excellence & Inclusiveness
- Quality and innovativeness of teaching practices (including ICT integration)
- Support the teachers and school principals (resources, environment, and training)

Indicators (descriptive) on four overarching topics:

- Goals and outcomes of teaching and learning;
- Generic and content-specific instructional practices;
- Teachers' collaborative practices;
- School environment and support that shape teaching practices.

Key Messages

STUDENT ACHIEVEMENT. On average, across subjects, over 90% of European fourth graders have at least a well-rounded foundation of basic skills (reaching at least the Low Benchmark). The EU MS where a vast majority of students – over 95% - reached the Low Benchmark are also those with over 40% of the students reaching the High Benchmark (e.g. Finland – all subjects; Czech Republic – Mathematics & Reading; Croatia – Reading; Austria - Science). However, some educational systems have relatively high shares of low achievers across learning domains (e.g. Romania – all subjects; Malta – Reading & Science).

STUDENT ENGAGEMENT. On average, across learning domains and countries, a large proportion of pupils in fourth grade (over 91%) report being at least 'somewhat engaged' with their Reading, Mathematics and Science instruction. In some high performing countries (e.g. Finland), higher shares of students tend to report 'not being engaged' with their Reading, Mathematics and Science instruction.

Key Messages

GENERIC INSTRUCTIONAL PRACTICES. On average, large proportions of students (over 70%) have teachers that use a variety of generic instructional practices to engage them in learning on a daily basis. Across the seventeen EU MS, the most commonly used generic instructional practices are praising students for good effort, encouraging them to improve their performance and involving them in deep questioning. A far less common practice is bringing interesting materials to the class on a daily basis.

PRACTICES TO DEVELOP HIGHER ORDER SKILLS. For Reading, Mathematics and Science, on average, the use of practices aimed at developing higher order skills (e.g. asking students to determine the style of a text, working problems collaboratively in the classroom and conducting experiments) is common only for half of primary school students or substantially less. These kinds of practices also vary widely from country to country.

Key Messages

USE OF COMPUTER SOFTWARE. In the seventeen EU MS, computer software is mainly used as a supplement and not as basis for instruction. On average, about half of students are in classrooms where computer software is used as a supplement for instruction in all subjects. On average, ICT software is used slightly more to look up information rather than for developing skills and strategies in Reading and Science while, for Mathematics, the opposite is true. Differences between countries are most pronounced for Science.

Key Messages

FREQUENT COLLABORATIVE TEACHING PRACTICES. Across the 17 EU MS more than one third (36.06%) of fourth graders have teachers report a high degree of collaboration with other teachers with the goal of improving teaching and learning, but large differences among countries are apparent. On a *weekly* basis, about half of students, on average, have teachers sharing what they have learned about their teaching experiences; discuss how to teach a particular topic; and collaborating in planning and preparing instructional materials.

LESS FREQUENT COLLABORATIVE TEACHING PRACTICES. Practices such as working together to try out new ideas, and visit another classroom to learn more about teaching are less frequent when compared to the other three forms of collaboration and occur mostly on a *monthly* basis. On average, only about one third of the students have teachers visiting another classroom to learn more about teaching at least one to three times per month. However, the frequency of collaboration also varies widely from country to country.

Key Messages

SCHOOL CLIMATE. On average, across the seventeen EU MS more than two thirds of fourth grade students have their teachers report a high or very high emphasis on academic success. Only about half of the students, on average, attend schools judged by their teachers to be safe and orderly.

AVAILABILITY OF SCHOOL RESOURCES. Positive perceptions regarding the availability of resources are not common. Only about one third of the students, on average, have teachers who signal that they have hardly any problems in terms of resources.

Policy implications

- The common focus on core competences or basic skills for all students must be maintained and efforts to achieve excellence should not come at the cost of inclusiveness and equity.
- The consistent high focus on well documented effective generic instructional strategies aimed at developing key basic skills should also be maintained.
- A further effort could be made to integrate a diversified repertoire of instructional strategies for addressing different learning domains and levels of skills.
- Teacher collaboration could be further encouraged by exploring more the role of individual and school level conditions that support the development of professional learning communities.
- Further efforts could be made to ensure that schools receive adequate resources, are safe and orderly environments and promote a high focus on academic success for all students.

Thank you for your attention!

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