European Commission

Eurydice Report

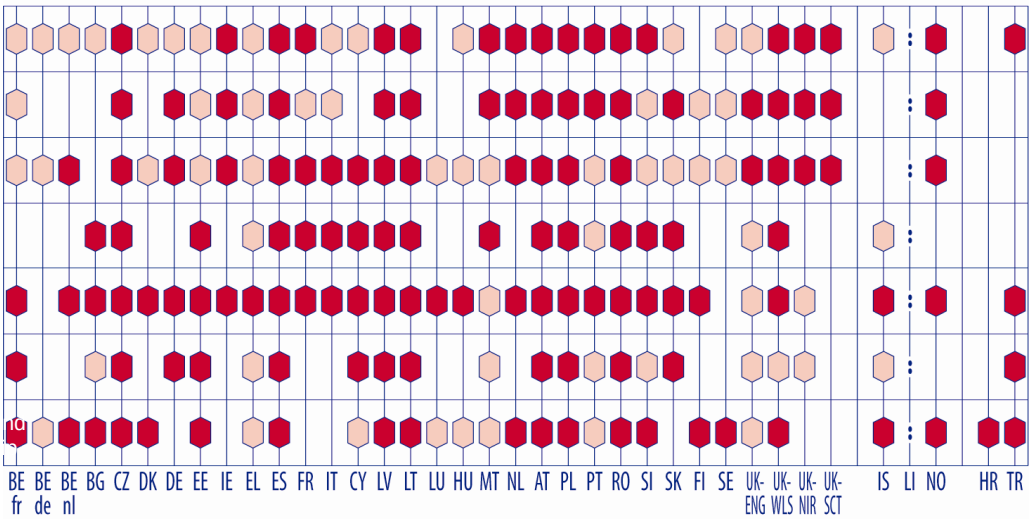
# Developing Key Competences at School in Europe:

## *Challenges and Opportunities for Policy*

*2011/12*

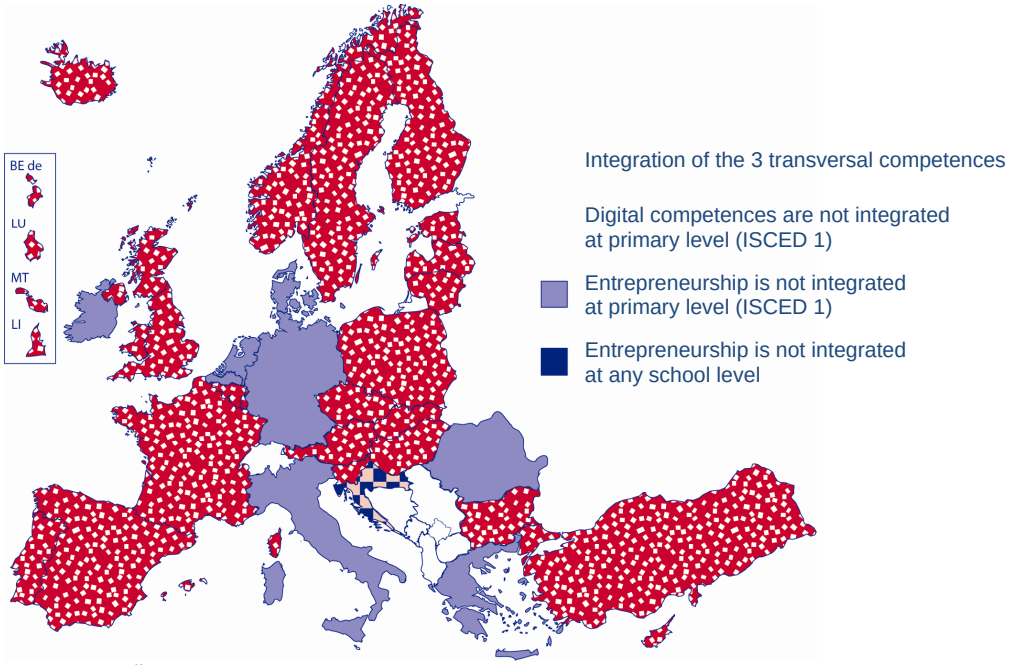
*Eurydice*

Eurydice


10
BE fr
BE de
BE nl
BG
CZ
DK
DE
EE
IE
EL
ES
FR
IT
CY
LV
LT
LU
HU
MT
NL
AT
PL
PT
RO
SI
SK
FI
SE
UK-ENG
UK-WLS
UK-NIR
UK-SCT
IS
LI
NO
HR
TR

and the national curriculum for ISCED level 1 in Croatia does not refer to digital competences. This changes significantly at secondary level with respect to entrepreneurship, where virtually all countries, except Croatia, integrate this competence into the curriculum in some form.

Figure 2.1: Integration of digital and entrepreneurship competences into national curricula (ISCED 1-3), 2011/12

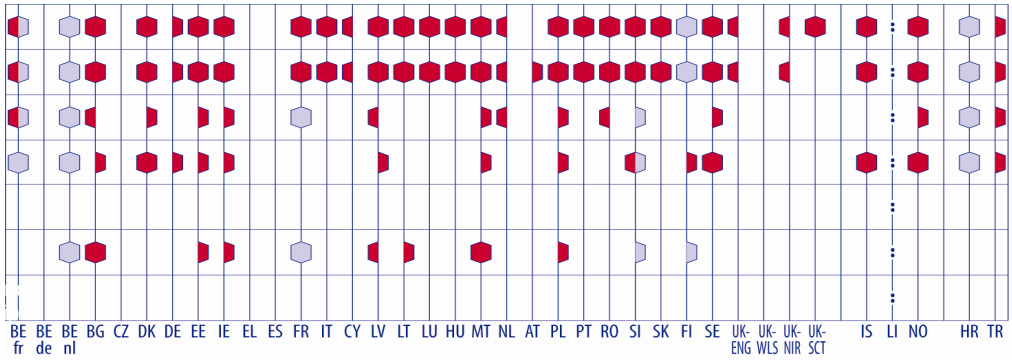



Source: Eurydice.

Country specific note

Belgium (BE nl) : Even though entrepreneurship is not explicitly recognised in the national curriculum for ISCED 1, there are a few learning outcomes related to pupils' general knowledge of the world of work and business.

There are three main ways in which the transversal key competences may be integrated into the curriculum in primary and secondary education: they may have cross-curricular status, they may be integrated into existing curriculum subjects or they may be introduced as separate curriculum subjects.




Source: Eurydice.

Explanatory note

The figure refers to the national administration of standardised tests and centrally set examinations.

The use of the term key competences does not imply that all national tests assess all elements of the concept, i.e. knowledge, skills and attitudes.

Rotating subjects are not tested on a year by year basis but according to a rotation principle determined by the central authorities.

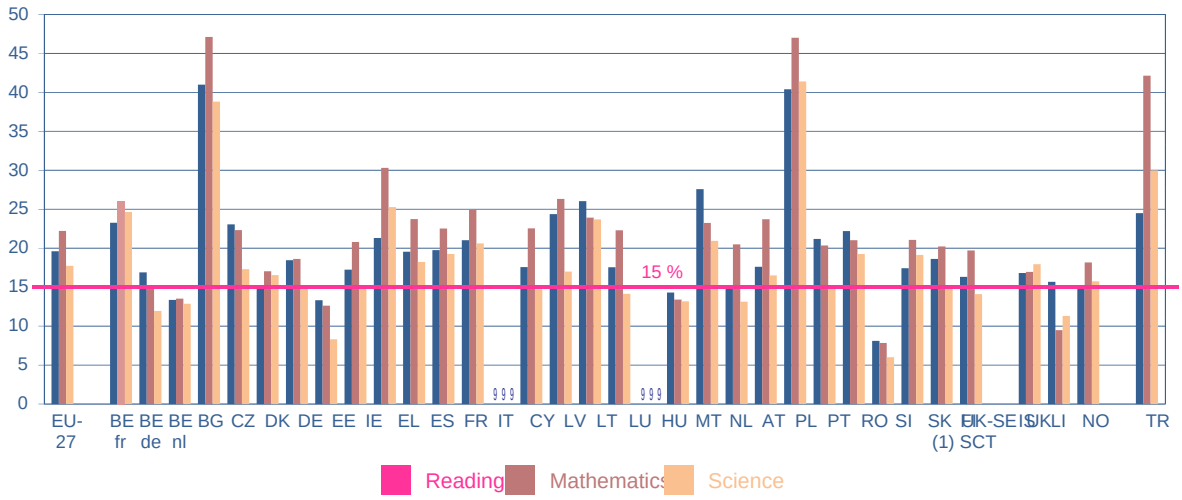
Country specific notes

Belgium (BE fr) : The national test at ISCED level 1 refers to the CEB (Certificat d'études de base). The remaining national tests in ISCED 1 and 2 rotate the subjects that are tested,
Belgium (BE nl) : National assessments for monitoring purposes take place in different subjects depending on government priorities.
Estonia : Foreign languages are tested as optional subjects in the national test at the end of compulsory education.
Slovakia : At ISCED level 1, the tests in 2012 were part of a pilot project based on a sample of pupils.
Spain : The last national standardised tests took place in 2008-2009 for primary, and 2009-2010 for lower secondary compulsory education. The areas evaluated were linguistic communication, mathematical competence, knowledge and interaction with the physical world, and social and civic competences.
Finland : Tests usually cover only one subject on a rotating basis, either mother tongue, or mathematics, or less often, a third subject or cluster of subjects according to national priorities.
United Kingdom (ENG/WLS/NIR) : Statutory teacher assessment which must be centrally reported is not covered in the figure.

Generally, some countries test only two or three subjects viewed as the core curriculum while others test a broader range. Eight countries, namely Bulgaria, Estonia, Ireland, Latvia, Malta, Poland, Slovenia and Belgium (Flemish Community) ([5]) organise national tests in mother tongue (or language of instruction), mathematics, science, one or more foreign languages, and social and civic competences.

([5]) On a rotation basis and therefore not all five competences are tested in school year 2011/12.

http://www.ecdl.org/programmes/index.jsp?p=102&n=108&a=0.




| | EU-27 | BE fr | BE de | BE nl | BG | CZ | DK | DE | EE | IE | EL | ES | FR | IT | CY | LV | LT | LU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reading | 19.6 | 23.3 | 16.9 | 13.4 | 41.0 | 23.1 | 15.2 | 18.5 | 13.3 | 17.2 | 21.3 | 19.6 | 19.8 | 21.0 | x | 17.6 | 24.4 | 26.0 |
| Mathematics | 22.2 | 26.1 | 15.2 | 13.5 | 47.1 | 22.3 | 17.1 | 18.6 | 12.6 | 20.8 | 30.3 | 23.7 | 22.5 | 24.9 | x | 22.6 | 26.3 | 23.9 |
| Science | 17.7 | 24.6 | 12.0 | 12.9 | 38.8 | 17.3 | 16.6 | 14.8 | 8.3 | 15.2 | 25.3 | 18.2 | 19.3 | 20.6 | x | 14.7 | 17.0 | 23.7 |

| | HU | MT | NL | AT | PL | PT | RO | SI | SK | FI | SE | UK (1) | UK-SCT | IS | LI | NO | TR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reading | 17.6 | x | 14.3 | 27.6 | 15.0 | 17.6 | 40.4 | 21.2 | 22.2 | 8.1 | 17.4 | 18.6 | 16.3 | | 16.8 | 15.7 | 15.0 | 24.5 |
| Mathematics | 22.3 | x | 13.4 | 23.2 | 20.5 | 23.7 | 47.0 | 20.3 | 21.0 | 7.8 | 21.1 | 20.2 | 19.7 | | 17.0 | 9.5 | 18.2 | 42.1 |
| Science | 14.1 | x | 13.2 | 20.9 | 13.1 | 16.5 | 41.4 | 14.8 | 19.3 | 6.0 | 19.1 | 15.1 | 14.1 | | 17.9 | 11.3 | 15.8 | 30.0 |

Source: OECD, PISA 2009 database.

(1): UK-ENG/WLS/NIR

(1) Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), OJ C 119, 28.5.2009.

http://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2010/2010_03_04-Foerderstrategie-Leistungsschwaechere.pdf

([4]) Raising Attainment, http://www.scotland.gov.uk/Publications/2012/03/7159

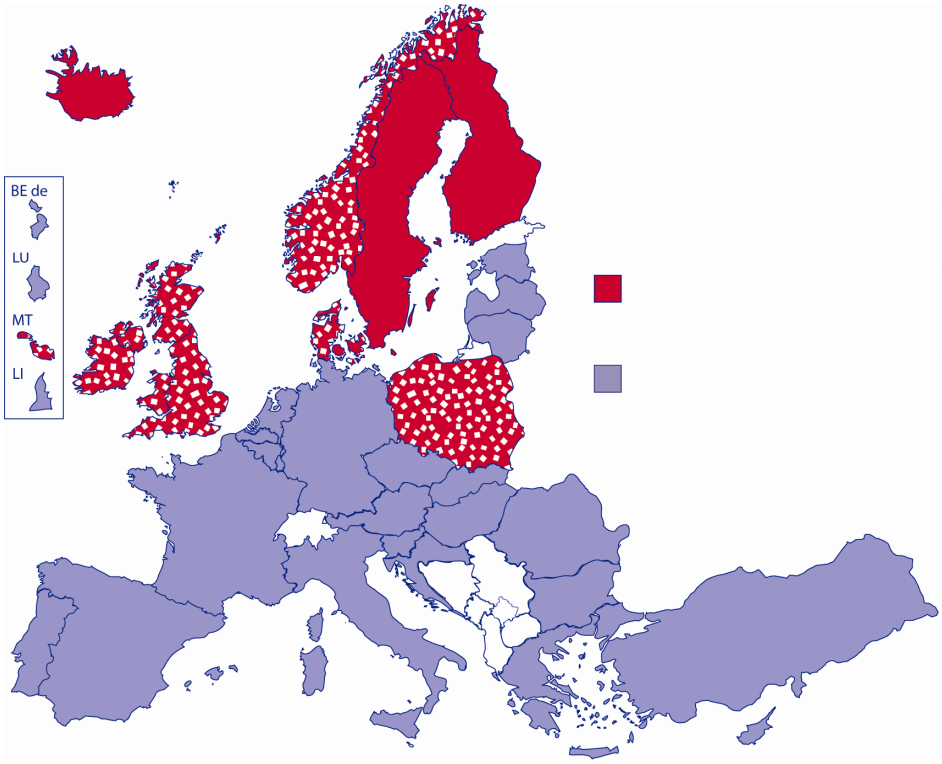
www.lukimat.fi

([6]) For a general discussion on assessment, see Chapter 3.

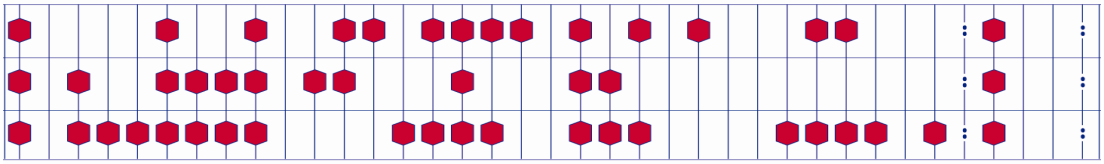
([7]) KIM (Quality in Mathematics education): http://www.udir.no

http://www.literacytrust.org.uk/policy/nlt_policy/boys_reading_commission

([9]) http://www.education.gov.uk/inthenews/inthenews/a00211482/%c2%a310m-literacy-catch-up-programme-for-disadvantaged-pupils-


BE de
LU
MT
LI

http://www.education.ie/admin/servlet/blobservlet/lit_num_strat.pdf


BE fr
BE de
BE nl
BG
CZ
DK
DE
EE
IE
EL
ES
FR
IT
CY
LV
LT
LU
HU
MT
NL
AT
PL
PT
RO
SI
SK
FI
SE
UK (1)
UK-SCT
IS
LI
NO
HR
TR

http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-executive-report-final_2-13-12.pdf

([7]) http://www.fuw.edu.pl/wo/lsf/ (in PL)
([8]) http://www.renatesenteret.no/ent3r/h

(9) www.komm-mach-mint.de
(10) http://www.wisecampaign.org.uk
(11) http://www.naturfagsenteret.no/c1515373/prosjekt/vis.html?tid=1514707

https://www.ncetm.org.uk/public/files/309231/Mathematics+Matters+Final+Report.pdf [Accessed March 2010].

Nicolaidou, M., Philippou, G., 2003. Attitudes towards mathematics, self-efficacy and achievement in problem solving. In: M.A. Mariotti, ed. European Research in Mathematics Education III. Pisa: University of Pisa.

OECD, 2002. Reading for change: performance and engagement across countries: results from PISA 2000. Paris: OECD Publishing.

OECD, 2010a. PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Volume I). Paris: OECD Publishing.

OECD, 2010b. PISA 2009 Results: Learning to Learn – Student Engagement, Strategies and Practices (Volume III). Paris: OECD Publishing.

OECD, 2011. Review on Evaluation and Assessment Frameworks for Improving School Outcomes Country Reviews and Country Background Reports. Available at: http://www.oecd.org/edu/evaluationpolicy [Accessed 2 September 2011].

Ornstein, A., Hunkins, F.P., 1998. Curriculum: Foundations, Principles and Issues. 5th ed. Pearson.

Pajares, F., Graham, L., 1999. Self-efficacy, motivation constructs, and mathematics performance of entering middle school students. Contemporary Educational Psychology, 24, pp. 124-139.

Pajares, F., Kranzler, J., 1995. Self-efficacy beliefs and general mental ability in mathematical problem-solving. Contemporary Educational Psychology, 20, pp. 426-443.

Pajares, F., Miller, M. D., 1994. Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. Journal of Educational Psychology, 86, pp. 193-203.

http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/d/robertsreview_introch1.pdf [Accessed 20 September 2010].

Roca, E. and Sánchez Núñez-Arenas, R. 2008. Citizens' competences and education for the 21st century-Working and assessing competences in the Spanish education system. In: C. Van Woensel, ed. 2008. A toolkit for the European citizens: the implementation of Key competences, challenges and opportunities. Slough: NFER, pp. 107-122.

Roger, A., Duffield, J., 2000. Factors Underlying Persistent Gendered Option Choices in School Science and Technology in Scotland. Gender and Education, 12(3), pp. 367-383.

Scallon, G., 2007. L'évaluation des apprentissages dans une approche par compétences [Assessing learning in a competence-based approach]. Bruxelles: De Boeck.

Schoon, I., Ross, A. & Martin, P., 2007. Science related careers: aspirations and outcomes in two British cohort studies. Equal Opportunities International, 26(2), pp. 129-143.

Shanahan, T. & Shanahan C., 2008. Teaching Disciplinary Literacy to Adolescents: Rethinking Content-area Literacy. Harvard Educational Review, 78(1), pp. 40-59.

Stevens, T., Olivarez, A., Lan, W. & Tallent-Runnels, M., 2004. Role of mathematics self-efficacy and motivation in mathematics performance across ethnicity. Journal of Educational Research, 97, pp. 208-222.

Tieso, C., 2001. Curriculum: Broad brushstrokes or paint-by-the numbers? Teacher Educator, 36, pp. 199-213.

Tieso, C., 2005. The effects of grouping practices and curricular adjustment on achievement. Journal for the Education of the Gifted, 29, pp. 60-89.

Urdan, T., Turner, J.C., 2005. Competence motivation in the classroom. In: A.J. Elliot and C.S. Dweck, eds. Handbook of competence and motivation. New York, NY: Guilford, pp. 297-317.

Van Woensel, C., 2010. Unity in diversity: the cross-Europe debates surrounding key skills and competences. In: S.M. Stoney, ed. 2010. Beyond Lisbon 2010: Perspectives from Research and Development for Education Policy in Europe (CIDREE Yearbook 2010). Slough: NFER, pp. 27-46.

Williams, P., 2008. Independent Review of Mathematics Teaching in Early Years Settings and Primary Schools: Final Report. London: DCSF. [pdf] Available at: http://publications.teachernet.gov.uk/eOrderingDownload/Williams%20Mathematics.pdf [Accessed 11 February 2011].

Wright, R., Martland, J. & Stafford, A., 2000. Early Numeracy: Assessment for Teaching and Intervention. London: Chapman.

Zan, R., Martino, P.D., 2007. Attitudes towards mathematics: Overcoming positive/negative dichotomy. The Montana Mathematics Enthusiasts, Monograph 3, pp. 157-168.

Zientek, L.R., Thompson, B., 2010. Using commonality analysis to quantify contributions that self-efficacy and motivational factors make in mathematics performance. Research in The Schools, 17, pp. 1-12.

Zientek, L.R., Yetkiner, Z.E., & Thompson, B., 2010. Characterizing the mathematics anxiety literature using confidence intervals as a literature review mechanism. Journal of Educational Research, 103, pp. 424-438.

## 1.3. Examples of large-scale initiatives to promote the key competences in the absence of national strategies[10]

Mother tongue/language of instruction

'Rage to read' is an annual reading event in Belgium (French Community) , mainly taking place in public libraries and bookshops, with the aim of promoting reading through interviews with authors and illustrators, storytelling family walks, reading aloud to children, exhibits on comics, etc.

In Germany , the programme 'Reading Start – Three milestones for Reading' was introduced by the Federal Ministry of Education and Research and the Reading Foundation in December 2010. The programme provides support for parents and their children in the early years. Children are presented with books and parents are instructed on the benefits of reading out aloud and on how they can promote reading ([11]).

In the United Kingdom (England) , the Government promotes reading for pleasure as part of its commitment to improve literacy skills for all pupils. Ofsted, the schools inspectorate, recommended in March 2012 that all schools should develop policies to promote reading for enjoyment and a new national reading competition was launched by the Department for Education (DfE) in October 2012. These new initiatives are in addition to a number of well-established schemes: Booktrust receives funding from the DfE and publishers to provide babies and young children with books through the Bookstart, Booktime, Booked Up and the Letterbox Club. Specialist books are also offered for children who are blind or partially sighted (Booktouch) and for deaf children (BookShine). The Summer Reading Challenge, coordinated by the Reading Agency, aims to encourage children (aged 4 to 11) to visit the public library and read over the long summer break when their reading skills can decline without regular reading activity at school.

Science

The objectives of the 'Programme TeaMe' in Estonia are to increase public awareness of the impact of research and development on the competitiveness of the economy; to inform young people and popularise science-related professions and career options; and to disseminate scientific thinking. Programme activities result in an increase of scientific discussion in the media and the production of learning materials for young people interested in MST. The programme which is funded by the ESF will run until 2015. Moreover, the Ministry of Education and Research, the University of Tartu and the city of Tartu founded the AHHAA Science Centre ([12]) in 1998. It develops new methods for explaining science and technology to the public and in particular to young people. The Science Centre is supported from

([10]) The vast majority of countries that have developed national strategies for key competences have also put in place various large-scale initiatives, which are not presented in this Annex.

([11]) http://www.lesestart.de

([12]) http://www.ahhaa.ee/en/

EC-31-12-120-EN-C

This report reviews national policies for the development of key competences at school in Europe. It acknowledges the progress made so far in implementing the key competences approach and discusses several policy challenges that are directly linked to the