KEYCONET’S CONCLUSIONS AND RECOMMENDATIONS FOR STRENGTHENING KEY COMPETENCE DEVELOPMENT IN POLICY AND PRACTICE

FINAL REPORT
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INTRODUCTION

The European Policy Network on Key Competences in School Education (KeyCoNet) was launched in 2012 with the remit to analyse and map emergent strategies in implementing key competences in education across Europe, and to develop recommendations to strengthen policy and practice in different country contexts. This report sets out the Network’s final recommendations. It draws on evidence collected through literature reviews, country overviews, case studies, peer learning visits, national expert consultations, and an international online public consultation which gathered feedback from education stakeholders.

The report first provides a brief summary of the key competence approach and its implications for teaching, learning and assessment. The following section presents the state of the art in policy and implementation, identifying common enablers and ongoing challenges. The final section presents recommendations first, for deepening and sustaining competence-based education where significant progress has already been made, and second, for scaling key competence reforms in varied national and local contexts. Recommendations for the European level are also included. The European Commission has a key role to play in supporting the process of change and promoting international peer learning.

KEYCONET’S REACH ACROSS COUNTRIES AND STAKEHOLDERS

COUNTRIES:
- Founding countries of KeyCoNet in 2012: Austria, Belgium, Estonia, Ireland, France, Finland, Norway, Portugal, Sweden
- Countries which joined the network in 2013: Spain, UK, Poland, Albania, Romania, Greece, Luxembourg
- Countries which joined the network in 2014: Croatia, Italy, Lithuania, Latvia, Denmark, Cyprus, Slovakia, Bulgaria, Slovenia, Czech Republic, Germany, Malta, Netherlands and Hungary

STAKEHOLDERS:
- Ministries of Education/Related Agencies
- Regional Entities
- Universities/Research Organisations
- Teacher Training Institutions
- National & European Networks
- Primary & Secondary Schools
- Non-Governmental Organisations
BACKGROUND ON KEY COMPETENCES AND IMPLICATIONS FOR TEACHING, LEARNING AND ASSESSMENT

The European Reference Framework of Key Competences was defined in the Recommendation on key competences for lifelong learning\(^1\) adopted by the Council and the European Parliament in December 2006. The framework identifies eight key competences – which combine knowledge, skills and attitudes – considered as necessary for personal fulfilment and development, active citizenship, social inclusion and employment in the 21st century.

Teaching key competences may involve:

- A greater emphasis on interactive learning environments, presenting learners with open-ended problems and challenges. Learners may debate and test ideas, work in teams, access online platforms for collaboration.
- Collaboration with external community and business stakeholders to create more opportunities for “real world” learning.
- Closer attention to the social-emotional aspect of learning, including the quality of relationships between and among teachers and learners.
- Closer attention to how learners apply their informal and non-formal learning to what they learn in school.
- New approaches to assessment, including classroom-based formative assessment and summative assessments that provide information on learners’ understanding of interconnections and processes (rather than fragments of knowledge), or ability to perform complex tasks.
- Relevant use of ICT to support collaborative work, provide access to educational resources, track learner progress and assess higher-order thinking.

\(^{(Arjomand et al., 2013; Pepper, 2013)}\)

Such deep changes in classroom practice require comprehensive and coherent policies at national, regional, local and school levels, investments in both human and material resources and supports, and time for teachers to change mind-sets and develop new pedagogical approaches and practices. The state of the art in national/regional policies on key competence education is explored in the next section. This is followed by a discussion of progress in implementation of key competences in schools and classrooms that have featured in KeyCoNet case studies.

POLICY FRAMEWORKS

While no country has made a complete shift toward competence-based education, several of the KeyCoNet partner countries have made significant progress. This section sets out the different strategies partner countries have used to introduce key competences at the policy level and to influence changes in classrooms.

These strategies have included:
- Legal frameworks for key competences
- New competence-based curricular frameworks
- New and innovative partnerships, pilot projects
- Dedicated funding
- Capacity building
- Monitoring and evaluation of new initiatives

Selected examples of partner country approaches to each of these strategies are set out below.

LEGAL FRAMEWORKS FOR KEY COMPETENCES

Several KeyCoNet partner countries have introduced new legislation, amended existing legislation, or issued special decrees or orders setting out goals and frameworks for key competences (Austria, Bulgaria, Fl. Belgium, Finland, France, Norway, Spain, Portugal and Poland).

Legislation or special decrees or orders may ensure high visibility for key competences and help clarify government priorities for education. They do not necessarily ensure long-term sustainability, however, as initiatives may be underfunded, strategies for implementation may be weak, or subsequent governments may shift priorities. At the level of both policy and practice, there are still tensions as to whether curricula and teaching should focus more on traditional subject-based approaches, or on key competences. This may result in a complete backtracking on earlier reforms to integrate key competences, or in ongoing debates on whether and how to balance the two approaches.

NEW COMPETENCE-BASED CURRICULAR FRAMEWORKS

Several partner countries have introduced key competences in new, re-designed curricula. Ireland is introducing competences in a series of curricular reforms for learners at different levels – the main focus has been for the key skills of junior cycle (lower secondary), which is now being mainstreamed to all schools (from September 2014). It features key skills in the curriculum of all subjects in junior cycle schools. France first set out its version of key competence education in 2005 in the “socle commun”, which is comprised of seven major competences (largely in line with the European key competences). A new education act, which confirms a new common core for knowledge, competences and culture, the “loi d’orientation et de programmation pour la refondation de l’école de la République”, was adopted in July 2013. In 2006, Spain introduced a competence-based curricular framework at the national level. The key competence paradigm has been sustained in more recent curricular forms focused on improving quality in education. In 2008, Poland introduced a new core curriculum, first for lower secondary schools, and gradually for all levels of education. It is closely aligned with the EU key competence framework.

Most countries have specified key competences in a cross-curricular framework, while others have added competences to specific areas in existing curricula. The different approaches reflect prevailing political ideas about education as well as long-standing education traditions.
### NEW AND INNOVATIVE PARTNERSHIPS, PILOT PROJECTS

National ministries, private foundations, associations and non-profit groups have launched a range of innovative projects and initiatives to test new teaching and assessment methods in one or more key competence areas.

In several cases, collaboration with stakeholders external to education systems has been vital for bolstering competence-based approaches. In Poland, the Students’ Academy to strengthen teaching and learning in science and mathematics, ICT, foreign languages and entrepreneurship promotes cross-curricular competences through Student Science Clubs in schools. It is led by the Centre for Citizenship Education (Centrum Edukacji Obywatelskiej – CEO) and its partners, the International Institute of Molecular and Cell Biology (IIMCB) and the Polish-American Freedom Foundation (PAFF). The IIMCB has been particularly active in developing activities for teacher training, proposing sample experiments and problems to be solved, identifying examples of good practice, and assessing student work at science fairs. The Foundation has provided support for an online platform. This pilot project has reached approximately 40,000 students in five regions in Poland.

The Global Enterprise Project (GEP) is a pan-European project for European businesses and education. It is led by three European networks (Junior Achievement-Young Enterprise Europe, European Schoolnet and the European Roundtable of Industrialists). Learners between 15 and 18 years of age may learn about different sectors, create and manage their own enterprise, and strengthen their entrepreneurial know how. This programme currently reaches more than 10,000 students and involves 200 company volunteers and 150 teachers across Europe.

Norway’s Cultural Rucksack programme is also based on a partnership model. The goal of this initiative is to provide learners with the opportunity to become acquainted with and

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**Halasz and Michel** have categorised country approaches as follows:

<table>
<thead>
<tr>
<th>Approach</th>
<th>EU Member State</th>
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<tr>
<td>Mostly skills or competence-based</td>
<td>Albania*, Cyprus, Germany, Ireland, Lithuania, Norway*, Poland, Romania*, Slovenia, Spain*, Sweden*, United Kingdom</td>
</tr>
<tr>
<td>Mostly subject-based</td>
<td>Bulgaria, France³, Italy, Malta, Portugal</td>
</tr>
<tr>
<td>Thematic approaches</td>
<td>No states</td>
</tr>
<tr>
<td>Mostly through major issues of society</td>
<td>Denmark, Slovakia</td>
</tr>
<tr>
<td>Mostly through developing personal qualities</td>
<td>Austria (primary education), Czech Republic, Greece, Hungary, Luxembourg</td>
</tr>
<tr>
<td>Goals and principles-based</td>
<td>Estonia*, Finland, Latvia, Netherlands</td>
</tr>
<tr>
<td>Mixed approach</td>
<td>Belgium (Flanders)</td>
</tr>
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³ In France, legislation and official public policy concerning compulsory education (primary and lower secondary) refers explicitly to 7 key competences (including transversal ones) but with respect to implementation the curriculum is still mainly subject-based.

* Updates to 2011 table by KeyCoNet partners
understand all forms of artistic and cultural expression at a professional level. Funds are distributed to municipalities, which then develop strategies for distributing funds and which artists they would like to engage locally.

Collaboration within and across ministries and other education stakeholder groups has also been important. Ireland’s Project Maths, a four-year initiative to change approaches to teaching mathematical competence, engaged a range of policy stakeholders in its design and implementation, including the National Council for Curriculum and Assessment, the Department of Education and Skills, the Maths Inspectorate, Teacher Education Section and the Project Maths Development Team the State Exams Commission. Collaboration among these particular stakeholders was seen as essential for ensuring overall coherence of the programme.

In Spain, the national COMBAS programme and PICBA in Andalusia have a holistic approach to integrating key competences in student learning. Part of this has also involved a strong focus on involving families in developing learning outside the formal school context. Cooperation among government agencies concerned with education, between central and regional governments, collaborative teacher networks, and partnerships with universities have also been important.

**DEDICATED FUNDING**

Dedicated funding for new project design, teacher professional development, and the necessary material resources has been central to the success of these initiatives. European Social Funds have supported the development of key competence initiatives in Estonia (for teachers’ in-service training on the implementation of key competences and cross-curricular themes), Lithuania (for “Development of Students’ Key Competences in Basic School (grades 5–8)”, a 6-year project), Poland (the Students’ Academy mentioned above benefited from an ESF-supported grant), and Slovakia (for continuing teaching education within the National Project “Professional and Career Development of Pedagogical Employees”). These ESF-funded projects have limited time horizons. Initiatives may be integrated into mainstream programmes and curricula over time, or governments may be willing to allocate funding for initiatives with demonstrated high impact.

Norway has supported its Cultural Rucksack initiative with surplus lottery funds from the state-owned gaming company Norsk Tipping (Norwegian lottery). This is a unique approach to funding in education; it is sustainable so long as people continue to participate in the lottery.

Lack of sufficient funding has been cited as a significant barrier for change. According to the findings of KeyCoNet’s international online public consultation, insufficient financial resources for teacher education and continuous professional development was the most frequently cited obstacle to change in Croatia (73%), Finland (62%), Italy (59%), and Romania (52%). In Romania, 62% of head teachers also cited insufficient resources for changing learning environments as an important obstacle. (The consultation methodology and results are described in more detail below.)
Capacity Building

Teacher development – including training programmes and centrally developed guidelines, tools and exemplars – has featured prominently in all of the case study initiatives. Professional development is absolutely essential for teachers integrating new teaching and assessment practices. Indeed, student-centred approaches and problem-based learning are much more demanding than are teacher-centred approaches featuring knowledge transmission. Teachers need to develop new pedagogical skills, and may also need to refresh their subject knowledge.

The TRANSIt programme is a European-level training project based in Greece. It includes a pilot training programme for teachers in pedagogies for transversal competences and e-assessment (i.e. e-portfolios). The model is based on organising a community of qualified teachers to collaborate with colleagues, set out common guidelines and recommendations for professional development, and evaluate the learning content or teacher training programmes. Although it has sometimes been difficult to find common ground across countries with very different contexts, priorities and pedagogical traditions, the cross-fertilisation has been beneficial.

In Austria, the Federal Institute for Educational Research, Innovation and Development of the Austrian School System is responsible for the development of key competence standards and for professional development. The Institute works closely with the teacher training colleges. In turn, the teacher training colleges are responsible for all educational and training measures, and they also serve as the guidance and advisory board for teachers.

Some countries have also invested in more intensive training in the early stages of special initiatives. Ireland’s Project Maths, for example, established direct contact between schools and a person from the professional development team, and also developed in-school training for the new curriculum and appropriate for the school context. Malta’s Core Curriculum Programme for lower-skill learners designated two mentors for the pilot schools. In Spain, the COMBAS and PICBA initiatives designated a coordinator to work with school networks. As noted above, however, insufficient funding in many countries may also be an obstacle to this model of intensive training and mentorship.

Centrally-developed guidelines, tools and exemplars are another way to support teachers in changing practice. These may include filmed exemplars (Ireland), new assessment tools (UK), or information on new pedagogies for key competences (Poland).

Partner countries have also supported initiatives to help build teachers ICT skills. For example, the Eduscrytch initiative in Portugal is an intuitive programme tool to support computational thinking. This initiative was implemented through a partnership between the Directorate-General for Education of the Portuguese Ministry of Education and Science and one of its ICT Competence Centres. In its early stages, some teachers participated in-service training workshops to learn the programme. As teachers at different levels used EduScratch in very different ways, training was tailored to meet their different needs. An important aspect of this programme has been its attention to substantive as well as technological issues.

Teachers need feedback on their practice in order to improve, so school leaders and inspectors may also benefit from relevant professional development.
MONITORING AND EVALUATION OF NEW INITIATIVES

Each of the initiatives featured in the KeyCoNet case studies has included evaluation of implementation and impact. These have been important for identifying what’s working and what may need to be adjusted. Evidence of positive impact on teaching and learning has also been important for sustaining initiatives and securing funding.

Inspectorates may undermine innovative teaching and assessment approaches if they do not see new approaches as being in line with their own view of good practice. Several countries have noted that it is essential to include Inspectorates early in the process of developing new curricular programmes.

IMPLEMENTING KEY COMPETENCES IN SCHOOLS AND CLASSROOMS

This section draws on findings from the KeyCoNet case studies, peer learning visits, and online international public consultation.

It should be noted that there is a significant heterogeneity among the 19 case studies (Austria, Flemish Belgium, Estonia, Finland, France, Ireland, Norway, Poland, Portugal, Spain, Sweden, UK and European level projects) in terms of whether they present national, regional, local or school initiatives or projects. (A full reference list of literature reviews and case studies is included at the end of this document.) Depending on the case study, they cover compulsory education, lower secondary, upper secondary and further education. They draw on pilot projects, official curriculum reforms, specific projects or mainstream reforms. The specific projects address a broad range of issues, such as ICT management assessment in schools, natural science learning environments, self-esteem, and so on.

In spite of this diversity, it is possible to identify common principles for effective practice as well as potential obstacles that can help guide other innovators. Indeed, the focus on principles for effective practice rather than on programme replication may be more useful in the context of education, given the wide range of provision.

The principles for effective school implementation and practice that emerged from the KeyCoNet case studies include:

- A central focus on teaching, learning and assessment
- Effective communication with stakeholders
- Engagement with the broader community
- School plans that incorporate key competences and evaluation of progress

The theme of collaboration and engagement runs throughout these principles.
A CENTRAL FOCUS ON TEACHING, LEARNING AND ASSESSMENT

Several of the KeyCoNet case studies have highlighted the importance of involving teachers in all aspects of project design and implementation. In schools, this may begin with teacher collaboration to understand the implications of key competences for classroom teaching and assessment and develop new approaches.

Teachers engaged in action research also work in a reflexive mode. A project developed by teachers at a secondary school in Vérac, France is a good example of action research. The teachers at this school developed an online tool for formative assessment of student work – in other words, interactive assessment to identify and address learning needs (VERAC – Vers une Evaluation Réussie Avec les Compétences – toward successful competence evaluation). The teachers worked together to identify micro-competences and then constructed an overall target competence. Assessment strategies were then adapted appropriately. The teachers were particularly interested in assessing progressive acquisition of competences in order to build learner confidence.

In the UK, many schools are using the Certificate of Personal Effectiveness (CoPE) for assessment of transversal skills and skills students gain while engaging in extra-curricular activities such as charity work, sports and part-time work. The CoPE tool was first introduced in 1994 and has survived numerous shifts in education policies and priorities.

Malta’s Core Curriculum Programme involved action research as teachers have developed lessons based on principles of formative assessment to identify learner progress and gaps and understanding, and scaffolding to help address needs at the appropriate level. Teachers have also worked collaboratively to develop new inquiry-based learning approaches.

COMMUNICATION WITH STAKEHOLDERS

School leaders play an important role in keeping stakeholders focused on teaching, learning and assessment (as opposed to administrative issues). They also play an important role in communicating the goals and objectives of education reforms with teachers, parents and learners. This communication can be vital for building broad-based support for new initiatives.

Ireland’s experience in the early roll out of Project Maths is a case in point. Critics of the new programme were vocal in the media, particularly prior to examinations. Much of the negative media was based on misinformation. It was nevertheless stressful for students, teachers and parents. Policy makers believe it will be important to develop a strong communication strategy prior to the introduction of new reforms.

ENGAGEMENT WITH THE BROADER COMMUNITY (ECONOMIC, SOCIAL AND CULTURAL INSTITUTIONS)

Key competences highlight the importance of connecting learning to the real world, as well as providing opportunities for learners to apply informal and non-formal learning in school.

In Lithuania, several schools are working with Creative Partnerships, an international non-profit, to develop new opportunities for collaboration between creative professionals – artists, cultural and creative industry representatives and scientists – and teachers. The artists and teachers together rethink teaching methods, means, organisation and learning environments to improve learning and teaching.

In Poland, learners involved in the Student Academy for science learning take educational trips to museums, and nature reserves to explore and observe. In addition, scientists at the IIMCB, a programme partner, are engaged in content and pedagogy.
SCHOOL PLANNING THAT INCORPORATES KEY COMPETENCES AND EVALUATION OF PROGRESS

School plans set priorities for development and benchmarks against which to measure progress, and are therefore an important strategic tool for highlighting key competence development. In Estonia, a programme of the Ministry of Education and Research and the Tiger Leap Foundation (now part of the Information Technology Foundation for Education) has developed ICT tools to support school self-evaluation and planning. In 2011, the Foundation launched a programme to train school staff how to use ICT for school management. This training has been important both for building technical capacity and for learning how to better use data to evaluate their work.

A transversal analysis of the KeyCoNet case studies found that school plans were an important feature for only half of these initiatives. However, programme evaluation has been important, given that most of these activities are at the pilot stage.

KEYCONET’S ONLINE PUBLIC CONSULTATION

PROFILE OF RESPONDENTS

5,615 respondents from 29 countries including:

- 3,451 teachers
- 768 students
- 652 parents
- 468 head teachers
- 276 other stakeholders

As this consultation is not based on random sampling, the self-selection bias of respondents needs to be taken into account. It should also be noted that the number of respondents across countries is uneven.

IMPORTANCE OF KEY COMPETENCE DEVELOPMENT

There is almost universal agreement among respondents in all stakeholder groups that key competences are important for helping young people to succeed in learning and life.

- 98% teachers and head teachers
- 97% parents
- 87% students
PREFERRED TEACHING APPROACHES FOR KEY COMPETENCE DEVELOPMENT

### PRIMARY students

- **77%**
  - Open class discussion
- **67%**
  - Trips outside school
- **63%**
  - Working on projects
- **63%**
  - Having a clear learning goal
- **56%**
  - Guidance on how to improve work
- **49%**
  - Games-based learning
- **45%**
  - Combining more than one subject
- **42%**
  - Discussing in small groups
- **41%**
  - Visits from outside professionals
- **40%**
  - Tracking learning progress
- **39%**
  - Learning with ICT
- **36%**
  - Feeling comfortable enough to make mistakes

### SECONDARY students

- **65%**
  - Open class discussion
- **63%**
  - Projects
- **60%**
  - Trips outside of school
- **48%**
  - Game-based learning
- **43%**
  - Interdisciplinary learning
- **41%**
  - Having a clear learning goal
- **40%**
  - Tracking their learning progress
- **37%**
  - Visits from outside professionals or other community members
- **33%**
  - Learning with ICT
- **32%**
  - Small group discussions
- **31%**
  - Feeling comfortable enough to make mistakes
- **28%**
  - Feeling comfortable enough to make mistakes

### PROGRESS HAS BEEN MADE IN DEFINING AND INTEGRATING KEY COMPETENCES IN NATIONAL CURRICULUM GUIDELINES

According to:

- **86%** stated key competences are **defined** in their national curriculum guidelines
- **66%** stated they are also **integrated** in their national curriculum guidelines

According to:

- **91%** stated key competences are **defined** in their national curriculum guidelines
- **73%** stated they are also **integrated** in their national curriculum guidelines

### IMPROVEMENT IS NEEDED IN TERMS OF COLLABORATION AND COMMUNICATION:

According to:

- **36%** believe that collaboration and networking were used as a means of professional development
- **18%** indicated that their school had engaged with the broader community to facilitate implementation of key competences

According to:

- **65%** said that their teachers had explained the purpose and goals of key competences

According to:

- **21%** indicated that they had participated in discussions on key competence education
PROGRESS AND ONGOING CHALLENGES: RESULTS OF THE KEYCONET INTERNATIONAL ONLINE PUBLIC CONSULTATION

In early 2014, the European Key Competences Network (KeyCoNet) implemented an international online public consultation on policies and practices for teaching and learning of key competences. More than 5,600 individuals from 29 countries participated in the online consultation, including 3,451 teachers, 468 head teachers, 768 students, 652 parents and 276 other stakeholders (including for example representatives from ministries, universities, teacher training organisations, inspectorates, Non-Governmental Organisations etc.)

It should be noted that these consultations did not use a random sampling methodology, so the self-selection bias of respondents needs to be taken into account. Those who responded clearly support key competence reforms – with almost universal agreement in all stakeholder groups that key competences are important for helping young people to succeed in learning and life (98% of teachers, and head teachers, 97% of parents and 87% of students agree or strongly agree). It should also be noted that the number of respondents across countries is uneven, with significantly more representation from a few countries (Romania, Spain, Portugal, Poland and France). Nevertheless, the responses do highlight a range of stakeholder viewpoints and provide important input for policy and practice.

Respondents indicated areas of clear progress. A significant majority of teachers and head teachers at all levels and in most countries agree that in their national curriculum guidelines, key competences are defined and integrated. Head teachers and teachers alike indicate they have taken a strategic approach to implementing key competences in school curriculum, including teacher professional development (58%), key competences taken into account in school development plans (50%), and ICT training (50%).

There are also signs of progress in changes in classroom practice. Student respondents indicated that teaching that incorporates open class discussion and dialogue (65%), project-work (63%), games-based learning (48%) and other methods considered as more innovative were helpful for learning key competences. 59% of students responded that all of their teachers had assessed their key competences. 38% said that some but not all of their teachers had assessed key competences.

But respondents also noted ongoing challenges. Most indicated a need for greater collaboration within and beyond schools (only 36% of teachers believe that collaboration and networking were used as a means of professional development; 18% of teachers indicated that their school had engaged with the broader community to facilitate implementation of key competences). Teachers and parents alike want to improve cooperation between schools and families. These two stakeholder groups indicated a clear interest in improving engagement with business and community leaders.

There is also room for improvement in communication. 65% of learners said that their teachers had explained the purpose and goals of key competences, so a significant minority have not had these approaches explained. Only 21% of parents indicated that they had participated in discussions on key competence education.

The theme of time is prominent in both case study and consultation findings. In open responses, teachers indicated the need for more time to change mind-sets regarding new

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2 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.
key competences and new approaches to teaching and assessment. Assessment that is not effectively aligned with key competences or with high stakes for learners is a particularly important concern for stakeholders in France and Spain. Stakeholders (teachers, head teachers and parents) in Poland and Romania also indicated the need to rethink assessment in response to questions about priority actions to improve implementation. Across countries, the majority of teachers indicate the need for further investment in changing learning environments (timetabling, ICT, cooperation with stakeholders outside schools) and in teacher training.

These findings are consistent with findings in other KeyCoNet research contributions. They point to the need for more coherent, systemic approaches and strategic investments to close the gaps identified in these consultations. The next section outlines recommendations for the national/regional, school and European levels.

**RECOMMENDATIONS**

Most European countries have made significant progress towards defining key competences in national curricula and other frameworks (European Commission et al., 2012). Countries are nevertheless at very different stages in terms of integrating key competences in curricula, engaging stakeholders, and in investing in teacher and school capacity. Implementation is also shaped by factors such as current political and policy priorities, resource constraints, and historical and institutional contexts. Individual schools also take different approaches to developing new ways of working.

The recommendations set out here recognise the diversity of contexts and the varying rates of progress across countries, regions and schools. They therefore first address national/regional levels and schools where there has already been significant progress in introducing key competences, but where more will need to be done to deepen and sustain these reforms.

A second set of recommendations address challenges for scaling reforms, and are of particular relevance to education systems and/or schools at an earlier stage of development.

Both sets of recommendations are relevant for all countries/regions and schools. No country has scaled policies across all areas of the curricula or for all school levels. Those countries/regions and schools that are at an earlier stage of reform may also start to plan how they will ensure the sustainability of new policies and practices. The recommendations for all levels (countries/regions and schools) are based on broad principles that may be adapted (rather than replicated) in very different contexts.

The first set of recommendations below suggests approaches to deepening and sustaining reforms at both policy and school levels. These are followed by recommendations for scaling reforms across countries/regions and schools that are now in the earlier stages of development. Those in the early stages of implementation may benefit from the lessons learned in other countries (and school-level practitioners may learn from effective innovations in other settings). At the same time, they may also need to develop strategies to address more significant resource and political constraints, or a more sceptical group of stakeholders.

The final set of recommendations identifies European level strategies to support ongoing key competence reform.
DEEPENING AND SUSTAINING REFORMS

The country overviews and case studies developed for KeyCoNet show that partner countries have made significant progress in introducing new policies and curricular frameworks. Innovative pilot initiatives have been important for testing new approaches to teaching, learning and assessment. It will now be important to develop strategies to deepen and sustain reforms at the policy level and in schools.

At the POLICY LEVEL, it will be important for national/regional policy makers to:

• **Further clarify objectives, deepen curricular reforms**: Most countries have defined key competences in national curricula and other frameworks (either adopting the European definition or adapting the definition to the national context). However, stakeholders have indicated a need for greater clarity through a more precise vocabulary on competences, as well as for clear overall curriculum objectives and supporting materials. Expectations for acquiring and developing key competences should be clear and set at levels appropriate for learners of different ages and stages.

Countris have developed different strategies for integrating key competences. In some cases, the focus has been on introducing key competences through extra-curricular initiatives rather than the core curricula. These are important first steps toward broader change, but policy makers will also need to consider strategic approaches to systemic change. Curricula should also be flexible enough to include other competences that are not currently in the eight competences outlined in the European framework.

At the same time, curricular reform efforts should also include a close look at what might be cut. Curricula are often overly crowded and teachers are left with the choice of not covering everything in the curriculum or moving so quickly that it is difficult to be sure if learners have understood key concepts or developed the necessary competences. Future curricular reforms should focus on priorities for learning in order to allow time for deep learning within the competence-based approach.

• **Develop coherent assessment and evaluation frameworks**: Learner assessments that are poorly aligned with new key competence-based curricula (for example, emphasising the acquisition of discrete bits of knowledge rather than problem-solving skills) or that cannot measure complex performances may undermine these innovations. In addition, the lack of agreement on how to assess these “softer” transversal skills, such as creativity and initiative, may also mean that teachers pay less attention to them. New tools and criteria to help teachers in assessing competences— for both summative and formative purposes—are needed. Policies to
Support formative assessment (assessments for learning – as opposed to summative assessments of learning) reinforce key competence approaches. Classroom-based formative assessments emphasise in-depth questioning and extended dialogues, self- and peer-assessment, as well as feedback and guidance on improvement.

Summative examinations with high stakes for learners and teachers (i.e. when used for school accountability or for teacher evaluation) can undermine formative assessment and create obstacles to innovation. Innovative approaches, such as portfolio assessments or ICT-based assessments that allow learners to demonstrate complex skills and reasoning processes are more effectively aligned with key competence approaches. Multiple measures of school and learner achievement over time provide a better view of overall performance.

The overall assessment and evaluation frameworks also include school self-evaluation and inspection. Although not all countries require schools to self-evaluate, this approach may support schools to monitor and adjust implementation of key competence reforms. School inspectorates are common across countries. Training for inspectors is needed to better ensure that their evaluations are appropriately aligned and that they are able to support the implementation of key competences in schools. Policies promoting school self-evaluation may also ensure that schools are able to monitor and adjust implementation.

- **Support teachers:** Countries will need to develop comprehensive strategies to include teachers in policy reforms and to support them as they integrate new approaches to teaching, learning and assessment.

As teachers play the most crucial role in implementing key competences, resources for their continuous professional development should be a priority. Teachers should also be considered as important stakeholders and included in the formulation, monitoring and evaluation of ongoing policy and curricular reforms. These efforts are likely to increase teacher support for new approaches and therefore to improve implementation. As front-line providers, teachers also have a great deal to contribute to research, reflection and exchange on the effectiveness and impact of innovative approaches that support the learning key competences.

At the same time, teachers need to have clear guidelines, access to appropriate tools and materials, and exemplars of effective practice. This is particularly the case for key competence approaches that are new for a majority of teachers. As technologies play an increasingly significant and useful role in education, teacher training related to the integration of ICT should address both the technical and pedagogical aspects in depth. Investments in research and development as well as in identifying effective support tools will be important. Initial teacher education will need to be reformed in order to align with key competence education. For a variety of reasons, reforms to teacher education lag behind. This should be a priority as countries make efforts to deepen and sustain key competence reforms.

- **Provide opportunities for networking and collaboration:** A transversal analysis of the KeyCoNet case studies found that the majority of these initiatives place an important emphasis on collaboration within and beyond schools. The traditional organisation of schools has meant that teachers are often isolated in their classrooms and have few opportunities to exchange ideas and insights. Teacher networks, whether online or face-to-face, may support the development of learning communities and may also stimulate innovation.
Collaboration with external stakeholders is also essential to ensure that teaching and learner reflect “real world” challenges, and supports the blending of formal, non-formal and informal learning. External stakeholders may help teachers to refresh their own knowledge.

Collaboration with researchers is also important. Researchers may work alongside teachers engaged in action research to design new initiatives and pedagogies. Researchers may also play a valuable role in designing controlled studies to measure the impact of different methods for diverse learners and contexts.

**Strengthen political support:** In several countries, there are ongoing tensions regarding the appropriate aims and priorities for education. Education policies may shift as power shifts between political parties. These changes make it difficult to deepen and sustain reforms.

Strategies to strengthen political support and sustainability may involve harnessing broad stakeholder support for key competence education (including parents, the business and cultural communities). Teacher unions exert political influence, so their buy-in and support is also important. Communication with all stakeholders on the goals of key competences will need to be improved, as well.

Evidence of impact of key competence approaches on learning will also be vital for sustaining policies. It will be important to also communicate the benefits of project-based learning or of transversal skills. This evidence may initially be derived from smaller research studies on the impact of different key competence approaches, as well as programme evaluations.

**Invest strategically:** Key competence reforms entail significant investments in human and material resources. Several of the KeyCoNet case studies have pointed to the importance of intensive teacher training and mentoring support in the early stages. They have also noted that this kind of training is expensive and cannot be sustained over the long term. Training for core staff, who then share their experience with other colleagues, may be a smart use of resources, and also reinforce learning among the core staff.

Renewal and possibly remodeling of school facilities involves significant expense and will need to be planned for over the long term. Communities that are planning to construct new school buildings will have the opportunity to plan for innovative spaces that support new approaches to teaching and learning.

While schools are constantly working to keep up with ICT needs, some countries have been able to moderate expenses through Bring Your Own Device (BYOD) policies. However, such policies will need to be piloted and tested in different communities, as parents’ willingness and ability to invest in mobile devices, such as smart phones tablets or laptop computers, will vary – thereby potentially creating inequities in the school system.

To deepen and sustain key competences at the **SCHOOL LEVEL**, it may be important to:

**Allow time for teachers to develop and deepen their practice:** Many teachers are used to prioritising teaching which focuses on content in one single subject area. They may need time to change their perceptions on the value of competence-based approaches. Schools should set aside time for teachers to reflect on
attainment targets expressed in terms of key competences and transversal capacities, which require a common understanding of what is meant by a key competence, the expectations for learners at different levels and stages of learning, criteria and procedures for assessing their achievement. They will also need time to develop their own understanding of key competences and to integrate new methods, such as project-based learning, and meaningful assessments. New ways of relating to students, parents and other stakeholders will also take time.

- **Modify learning environments to better support project-based and interdisciplinary learning:** To some extent, classroom environments may be fairly easily changed to support collaborative work and research, by rearranging furniture. But investments in new tools such as interactive whiteboards or other technologies, or remodeled facilities may also be needed over the long term.

 Modified learning environments may also involve new school timetables. School schedules typically feature class times of 35 to 50 minutes. This may be too brief to organise collaborative and exploratory learning. All the school stakeholders should discuss whether and how to modify schedules to accommodate deeper learning.

- **Improve communications on the objectives to build broader support:** Key competences represent a fundamentally new approach to education. Participative processes associating the main stakeholders (teachers, students, parents, community and business leaders) should continue on a regular basis to ensure ongoing support and to gather feedback on how approaches should evolve. Networking and collaboration among teachers and with local communities are also vital to sustaining school-level reforms.

- **Highlight key competences as a priority in school plans:** School plans set out priorities and intentions. They provide a way to benchmark progress and identify areas for improvement. The school plan signals how school heads will lead change. These plans should also reflect feedback from teachers, students and parents. This is an area that requires greater focus in future work on key competences in schools.

- **Monitor and evaluate at the school level:** Qualitative and quantitative data on learner and school performance will help school leaders to identify what is working well, and where adjustments may be needed. This kind of formative self-evaluation is essential for effective innovation and change. School support for professional development aligned with identified school needs is also vital.
SCALING REFORMS

Key competences touch on all aspects of the curriculum, although no country has yet fully integrated the eight key competences in national curricula for all levels and domains. Countries that have made some progress will therefore, in addition to deepening and sustaining practice, also look to scale reforms.

Policy makers and school leaders that are now introducing key competence reforms will have the advantage of learning from earlier innovators. But they will also have unique opportunities and challenges.

At the POLICY LEVEL, it may be important to:

- **Participate in international policy networks:** International networks are vital for peer learning at the policy level and for building the evidence base on what has worked, for whom and under what circumstances. Countries and regions that are now in the early phases of developing key competence reforms will be well positioned to develop evidence-based policies as they learn from the experiences of early innovators. At the same time, it is important to recognise that, inevitably, no model can be fully replicated. Networks should therefore identify common principles to support effective reform efforts, rather than seeking to develop a recipe for success.

- **Make strategic investments in human and material resources:** In many cases, countries and regions that are now in the early stages of key competence reforms have fewer resources available. They will need to make strategic decisions on how to leverage limited resources for effective professional development and reforms to initial teacher education (where investments will have a long-term impact). Investments in high-quality training materials and exemplars will also be important.

Countries will also need to invest in teaching materials that are more effectively aligned with key competence approaches and that are in the local language. It will be important to consider the costs and benefits of improving ICT infrastructure. ICT-based materials are easy to update and disseminate. Online platforms also promote learner interactivity, project-based learning, and assessment of complex performances.

Schools that are in the early stages of integrating key competences will also have unique opportunities and challenges. At the SCHOOL LEVEL, it may be important to:

- **Promote peer learning across schools:** Schools that are now at the early stages of implementing new curricula and/or new initiatives for key competences can benefit from experiences of schools that have piloted new approaches, and learn from how they implemented the change process. However, as was the case for early innovators, it will be important to set aside time for teachers to make sense of new key competence approaches and their implications for teaching, learning and assessment. Support for teacher collaboration within and among schools (including, if possible, schools that are already engaged in change) and professional development opportunities will be important for these teachers.

- **Address the sceptics:** In some cases, schools and teachers may have avoided adopting reforms because they are sceptical about the value of the key competence approach. Leaders in these schools face additional challenges. Effective communication, including opportunities for exchange and feedback will be vital.
RECOMMENDATIONS FOR THE EUROPEAN COMMISSION

The European Commission may also take several actions to support key competence reforms. At the **EUROPEAN LEVEL**, it may be important to:

- **Support networking activities**: Networking activities for developing key competences as these activities allow for cross-fertilisation and peer exchange concerning the experience of implementation should be supported. These exchanges may build on KeyCoNet’s established network of stakeholders.

- **Support peer learning**: School twinning activities related to key competence development across Europe would strengthen opportunities for peer learning.

- **Share examples of good practice**: It is recommended to communicate more on examples of good practice in Europe and further afield. This is important for each of the eight key competences, but a special focus should be placed on good practice in teaching and assessing the transversal skills, as this is an area where teachers have less training and experience and fewer tools. These examples should be based on a set of clear criteria regarding good practice. In this perspective, it may be advisable for the Commission to propose videos with examples of effective teaching and assessment on its website, along with support tools that may be adapted to different contexts. Their availability should be widely communicated. Internal and external evaluations can also help identify effective innovations worth sharing, and their potential for scale-up.

- **Monitor progress over time**: Because key competences represent such a fundamental and deep change to education policy and practice, it will be important to monitor progress in implementation over time. This may involve periodic international stakeholder surveys (for example, every three to five years) and/or studies addressing specific aspects of implementation, such as changes in initial teacher education. These studies may build on KeyCoNet’s initial work to map key competence policies and practices across Europe.

- **Plan for future needs**: European policy on ongoing key competence reforms should link to a foresight perspective, addressing how well current competences are preparing students and identifying future challenges and needs.
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About KeyCoNet

KeyCoNet (2012 – 2014) is a European policy network focused on identifying and analyzing initiatives on the implementation of key competences in primary and secondary school education.

It is a network of more than 100 members from 30 countries gathering together Ministries of Education/related agencies, universities/research institutes, European organisations, and practice related partners.

On the basis of the evidence collected through literature reviews, case studies, peer learning visits, country overviews, and consultations with experts and stakeholders, the network has produced recommendations to strengthen key competence development in policy and practice across Europe.

About European Schoolnet

European Schoolnet is the coordinator of the KeyCoNet project.

European Schoolnet is a network of 30 Ministries of Education from across the European member states, leading educational innovation at European level. As a major international think tank, European Schoolnet operates key European services in education on behalf of the European Commission, member Ministries of Education and industry partners.

European Schoolnet’s activities are divided among three areas of work:

- Policy, research and innovation: information sharing and evidence building.
- Schools services: enhancing cooperation between schools across Europe.
- Advocacy: how ICT and digital media contribute to transforming teaching and learning processes.
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