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Report

**EDUCATION AND TRAINING 2010
WORK PROGRAMME**

Assessment of key competences

Joint seminar of the Peer Learning Clusters
'Key Competences', 'Teachers and Trainers',
'Maths, Science and Technology', and
'Learning Outcomes'

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1. CONTEXT AND RATIONALE FOR JOINT SEMINAR ON ASSESSMENT OF KEY COMPETENCES

The 2006 Recommendation on key competences for lifelong learning¹ defines the knowledge, skills and attitudes that young people in the European Union should develop by the end of their initial education and training. The key competences are designed to serve for personal fulfilment, social inclusion and active citizenship, and equip young people to master their careers in the rapidly changing world of work.

The key competences are:

1. Communication in the mother tongue;
2. Communication in foreign languages;
3. Mathematical competence and basic competences in science and technology;
4. Digital competence;
5. Learning to learn;
6. Social and civic competences;
7. Sense of initiative and entrepreneurship;
8. Cultural awareness and expression.

These eight key competences are underpinned by critical thinking, creativity, problem solving, initiative, risk assessment, decision-taking and management of one's own feelings.

The key competences include not only the '**traditional**' key competences such as mother tongue and foreign languages that are usually taught through subjects, but also the **transversal competences** such as learning to learn, social and civic, entrepreneurship and cultural competences. These transversal or '**cross-curricular**' competences often go beyond subject boundaries and require new approaches to teaching and learning, and a new range of teaching competences. They also pose a specific challenge to assessment: progress in developing those competences tends to be difficult to measure and yet assessment – in its various forms and purposes - plays a crucial role in guiding the learning process, and in giving learners the motivation and confidence to pursue and succeed at learning throughout life.

In November 2008, Ministers adopted an agenda for European cooperation on school education policies². The agenda brings together the above mentioned Recommendation on key competences, the 2007 agenda on improving the quality of teacher education³, and the joint work done on equity in education. Moreover, it builds on work by the Commission with Member States on specific competence areas such as ICT and Maths,

¹ Recommendation of the European Parliament and of the Council on key competences for lifelong learning (December 2006), http://ec.europa.eu/education/lifelong-learning-policy/doc42_en.htm

² Preparing young people for the 21st Century: an agenda for European cooperation on schools. OJ C 319/20 13.12.2008.

³ http://ec.europa.eu/education/school-education/doc832_en.htm

Science and Technology⁴ and the overall shift of focus from teaching to learning and the outcomes of learning.

This agenda emphasises that the development of schools requires a coherent approach: building on the Recommendation on key competences for lifelong learning, the joint work of the Commission and Member States should explore, inter alia, ways of promoting more "*personalised approaches to learning that involve suitable forms of assessment and that lead to better motivation for learning*".

2. AIMS, OBJECTIVES AND TARGET GROUP OF THE SEMINAR

This seminar aimed to provide a response to the request of the Council by bringing together expertise to discuss the role of assessment in developing the key competences for lifelong learning, and the roles of the different actors.

Building on the work done so far by Commission's and Member States' joint expert groups and inputs of invited experts, the specific objectives set for the seminar were to:

- a) Help participants understand better how the various forms of assessment impact upon the acquisition of key competences;**
- b) Discuss what kinds of assessment can be used to improve the learning of competences that involve many traditional subjects or go beyond subject boundaries altogether;**
- c) Examine examples of policy reforms that have targeted both curriculum and assessment and school development.**

These questions on assessment had been identified as cross-cutting issues for all the four peer-learning working groups ('clusters') invited to participate in the seminar.

The Cluster 'Key competences-curriculum reform', set up in 2006, has focused in particular on the implementation of the transversal, cross-curricular competences (digital competence, learning to learn, social and civic, entrepreneurship and cultural competences) that call for more holistic approaches to teaching and learning. The key role of assessment, both formative and summative, has come up as a key issue during the mutual exchange of experiences and good practice.

Crucial to the innovative use of assessment are the *competences of teachers*, and consequently their initial education and their career-long professional development. The Cluster 'Teachers and Trainers' has an important role to play in exchanging good policy practice for example as regards:

- ensuring that initial Teacher Education equips young teachers with a range of essential skills in pupil assessment and with an understanding of the significant impact that teachers' choices about pupil assessment can have on individuals and upon systems;
- ensuring that continuing professional development systems enable all teachers to deepen their understanding of the theory and practice of pupil assessment, and to integrate best practice in the classroom.

⁴ <http://www.kslll.net/PeerLearningClusters/clusterDetails.cfm?id=12>

The work of the Maths, Science and Technology cluster has recently built on the Report “Science education NOW” that calls for a renewed pedagogy for the future of Europe, including inquiry-based teaching, in which formative assessment in particular is a key element.

The Cluster 'Recognition of Learning Outcomes' has investigated the use of learning outcomes in the validation of informal and non-formal learning and in the development of national qualifications frameworks. With the implementation of the European Qualifications Framework (EQF) and the development of overarching national qualifications frameworks, there is a significant shift towards learning outcomes in the description of qualifications, and beyond it – in standards, curricula and assessment criteria. The current focus of the cluster is on how the use of learning outcomes in qualifications, curricula, standards and assessment can support learning and teaching practice and how learning outcomes based national qualifications frameworks can promote flexible learning pathways, thus lifelong learning .

The seminar was attended by members of the peer-learning Clusters mentioned, and representatives of parents, learners and teaching organisations. A list of participants is given in Appendix 1.

3. SEMINAR OPENING

***Ms Hélène Clark, Director, Lifelong Learning: policies and programmes:
'Preparing young people for the 21st century – the school as a foundation for lifelong learning'***

Ms Clark opened the seminar by locating the current work on assessment in the context of lifelong learning. This 'cradle to grave' paradigm of education supports all young people and adults in developing each of the eight key competences for lifelong learning. These are the competences that will allow individuals continuously to update their skills and knowledge in order to face the demands of daily and working life, achieve personal fulfilment, active citizenship and employability,

The European Recommendation on key competences for lifelong learning that was adopted in 2006 has proven to be a good reference tool for this. The Recommendation has inspired many curricular reforms in Member States, and has reinforced the overall shift towards competence-based teaching and learning.

This fundamental paradigm change has major implications for teaching and learning. It places much more emphasis on the skills and attitudes that help young people to apply their knowledge. It puts the learner at the centre of the process and supports individuals in becoming learners who are aware of their goals, can plan ahead, evaluate progress and constantly improve their own learning. This shift also poses a challenge for teachers and schools. Teachers should no longer transmit knowledge, but rather will support and encourage each student's own learning process – individually and in groups. To accomplish this, schools must create both the ethos and practical means to support each and every student to develop their full potential.

Assessment has a crucial in accomplishing these goals. Any well-intended reform can suffer if assessment has not been aligned with the reforms of curricula or with the ideas of the developing teacher competences. Assessment is a multi-faceted process and includes dimensions of culture, values and ethics. Developing assessment structures raises questions such as: who has the right to assess, the right to interpret results, and communicate them? What are the implications of assessment on an individual's self-esteem, motivation and life chances?

Assessment can also have a powerful influence on improving the learning process, and in fostering individuals' motivation to pursue learning. There is a growing body of research and expertise into learning and the impact of assessment on this process. This seminar provides the opportunity to explore this and to hear about promising policy examples from experts in research, policy making and practice who are present today.

***Mr. Adam Pokorny, Head of Unit 'School Education':
'The European Agenda for cooperation on schools policy'***

The impetus for this seminar is, in part, a result of the revolution in EU policy making which has taken place since 2000. Since the Lisbon Council set the strategic goal that Europe should become the most competitive and dynamic knowledge-based economy in

the world, capable of providing its citizens with both economic growth and social cohesion,⁵ the achievement of the knowledge society has become a priority for all member states. This has led to increased expectations that the EU should support member states in developing national education policies that enable them to achieve the Lisbon goal. The Open Method of Coordination, through the work of the peer learning clusters, has been a key process by which this work has been advanced. Much of this work has focussed on fundamental issues which still need to be tackled in the school sector.

As progress has been made in the development of EU and national policies, attention has centred increasingly on the challenge of moving from policy to implementation. Assessment of the key competences is a major issue which needs to be addressed if this transition is to be accomplished effectively. This in turn has focussed attention on the need to create effective processes for change management in schools and amongst teachers and trainers. This seminar provides the opportunity to consider these issues, as they impact on all of the key stakeholders.

4. WHY ASSESSMENT? STATEMENTS FROM THE CLUSTERS

The assessment of learners has emerged as a key issue in the context of many areas of the Education and Training 2010 Work Programme and in particular in the work of the clusters. Representatives of each of the four clusters summarised the relevance of the challenge of key competences assessment to their context.

Statement from the Cluster ‘Key Competences-Curriculum Reform’

This cluster has explored policy approaches to a wide range of topics including Learning to Learn, Creativity and Innovation, Adult Literacy, the use of materials and text and teacher education. Assessment has emerged as a crucial area of implementation in each of these contexts which calls for new approaches both in how learning is taught and how it is assessed in ways that can promote the concept and spirit of the key competences.

Partly, this is due to the well-established impact of assessment on teaching and learning. Partly it is due to the fact that ‘competence’ is a multi-dimensional concept, which is most visible in the transversal key competences but is also significant in those which most resemble subjects on the traditional curriculum. Cluster participants have repeatedly identified wider dimensions of competence than those traditionally assessed, such as attitudes, as presenting particular challenges to assessment.⁶ To implement this wider concept of competence, an integrated and cross-curricular approach to pedagogy is needed.

All these factors call for new methods, resources and organisational changes which will support the development of learners’ competence. Formative assessment has been

⁵ Presidency Conclusions Lisbon European Council 23 and 24 March 2000, http://europa.eu.int/comm/off/index_en.htm

⁶ European Commission (2007) “Synthesis Report on Cluster Key Competences-Curriculum” and Reports on Peer Learning Activities 2007 -2009, available on <http://www.kslll.net/PeerLearningClusters/clusterDetails.cfm?id=12>.

identified as one major resource which can help to accomplish this. However, this and other strategies imply the need for tools and the systemic changes needed to support their use. All of this will place new demands on the competences of teacher and trainers, and therefore on the structure and content of initial and continuing teacher education.

Statement from the Cluster ‘Learning Outcomes’

The cluster presented the approach to learning outcomes and key competences which is currently used in Norway. Norway has analysed how the key competences relate to the curriculum and how this is implemented in the education system. The national system seeks to foster a culture for, and of, learning. This involves the promotion of deep learning; in order to accomplish this, learning outcomes must be transparent and relevant to the learner. This ensures that learners know what will be assessed.

The actual process of developing learning outcomes has emerged as a key issue. It is important to ask, “Who has the right to develop/ define learning outcomes?” There are many stakeholders in the process, including teachers, trainers and learners themselves. The development of learning outcomes means that this is a societal, as well as an individual concern. It is especially crucial that learners should have ownership of the learning outcomes, and an active role in developing them. It is therefore essential that teachers develop the professional qualities and competences needed to facilitate this.

The role of feedback to the learner is crucial in improving competence. Formative assessment is a key tool in supporting feedback. However, it is essential that this be relevant and of high quality: research has shown that learners rarely receive specific feedback about what they can do to improve their performance. To do this, it is necessary to allow learners the space to ‘fail’ and to consider this as useful information for feedback purposes. In this way, individuals can reflect on their own learning.

Statement from the Cluster ‘Maths, Science, Technology’

This cluster has grappled with a number of key challenges in the teaching of this area: how to deepen competence; how to generate interest in the area; and how to address the gender imbalance. They have carried out substantial research into inquiry-based and problem-solving approaches to the teaching of science and mathematics.

The importance of cross-curricular approaches in order to deepen competence and interest has become clear. For example, in addressing real-life topics such as climate change, it is necessary to cross traditional subject boundaries. In the teaching of these areas, more focus on competence and on use in the real world, especially on innovation and creativity, are essential. This implies the need for a shift in pedagogy, and to facilitate teachers in crossing the subject boundaries, so that the physics, social science or biology teachers can work together on themes.

Assessment of competence is one of the vehicles that can be used to support teachers in making this paradigm shift in pedagogy. It is more difficult to teach and to assess competence than the content of traditional subjects. Therefore, the professional development of teachers is a key requirement for the way forward.

Statement from Cluster ‘Teachers and Trainers’

This Cluster undertakes peer-learning on a series of issues that had been defined as priorities for improving the quality of teacher education by Education Ministers in November 2007.

Ministers had noted that social, cultural, economic and technological changes in society place new demands on the teaching profession and hasten the need for the development of more competence-centred approaches to teaching, together with a greater emphasis on learning outcomes.

They agreed that, to enable teachers to adapt their teaching methods to the evolving needs of learners, there is a need for them regularly to update existing skills and/or develop new ones. They therefore agreed to promote during teacher education the acquisition of competences which will enable teachers, amongst other things, to teach transversal competences such as those outlined in the Recommendation on key competences.

This raises questions about how teacher education, especially initial teacher education, can be more effective in equipping teachers with both a theoretical understanding of the importance of assessment in learning, but also with evidence about effective classroom techniques to use both summative and formative assessment effectively to promote learning.

Since teachers are themselves lifelong learners, the question of how their learning and development should be assessed in such a way as to promote better learning is also relevant.

5. EURYDICE: NATIONAL TESTING OF PUPILS IN EUROPE

Teodora Parveva, Eurydice

This study deals with one assessment instrument, that of national testing. The full report⁷ provides a comparative review of the development, objectives and organisation of national tests in the countries of the Eurydice Network and explores the ways test results are used for the individual pupil's career and at school and system levels. This presentation summarised the historical context and the main objectives of national tests in Europe and how the results from tests are used. The data analysed, which were gathered for the year 2008 – 9 from 27 member states and 3 EEA countries, relates to national testing at the stage of compulsory education, ISCED levels 1 and 2.

⁷ Eurydice (2009) National Testing of Pupils in Europe: Objectives, Organisation and Use of Results: Working Document prepared for the 27th Meeting of European Network of the Policy Makers for the Evaluation of Education Systems,” Brussels: Education, Audiovisual and Culture Executive Agency. <http://www.eurydice.org>

The use of tests has gradually increased throughout Europe since the 1990's. This has coincided with: increasing decentralisation, the emerging emphasis on learning outcomes, management of schools by results, increased focus on quality in education and on the raising of standards. In 2008 – 9 only 5 countries or regions had no national tests: BE (de) CZ EL WLS LI; and at the time of writing (late 2009) not all tests have as yet been fully implemented in BG DK DE IT CY ES AT.

In relation to the purposes of tests: most have been designed primarily for summative purposes, including the awarding of certificates, and for system monitoring. Less frequently, test have been designed and/or used for formative purposes such as identification of learning needs. One striking feature of the underlying design of these instruments is that very often, the same test is used to serve a variety of purposes and objectives.

The way in which national testing is organised varies in relation to the population tested, the frequency of tests and the bodies responsible for the processes. Some countries test an entire cohort such as all of the pupils in a particular year or age group. Often, this is at the transition between primary and secondary schooling or at the end of the lower secondary stage, but occasionally, national testing is carried out at an earlier stage in primary schooling. Sometimes the focus of testing earlier at primary level is formative rather than summative. In other cases, a sample of the year or age group is tested. Some countries such as Denmark, Malta and Scotland have developed national tests for almost every year of compulsory education.

The content which is tested most often includes the mother tongue and mathematics and this a particular focus of testing at primary level. Later, at the end of lower secondary education, a broader range of content may be tested which in some countries may cover the whole curriculum, not only mother tongue and maths. In countries where more than two or three subjects are assessed in these national tests, subjects may be rotated from year to year. This is especially true when the testing is carried out for the purpose of system monitoring.

Test results are used for a variety of purposes. Half of the countries award certificates on the basis of results. Only a few use pupils' performance on national tests for streaming and this is being phased out in most places. Results are sometimes used for formative purposes, for example: to identify the learning needs of individuals; to inform teachers of the effectiveness of their teaching; to confirm judgements made from other assessment processes such as continuous assessment. Sometimes test results are complemented by information collected through background questionnaires, especially where there are disparities or underperformance. National tests are sometimes used at school level when schools get aggregated results for their own pupils, which they can compare with the national average or with other schools. Results can also be used to support internal evaluation and quality assurance processes.

Data on school test results are published in some countries but this is unusual in Europe and also controversial. There is a continuing debate about the relative benefits and disadvantages of putting this information into the public domain. Some countries forbid the publication of aggregated school data ('league tables'). Partly this is due to what are considered negative unintended effects of national testing, specifically in its impact on strategic behaviour of teachers and learners in working towards the tests, rather than to achieve wider goals of learning.

Discussion: Voices from the floor: 1

Teacher representatives stressed that

- teachers are very interested in supporting change, but they need to be supported by the system and the immediate learning environment;
- Many systemic factors hinder reform. These include: the dominance of assessment as an instrument for entry to higher education; over-crowded curriculums; lack of time for planning and communication; the demands of high-stakes assessments.
- Alternative views of learners' mistakes should be encouraged. Mistakes can be considered a source of useful information about learners' developing competence, rather than an indication of failure. This in turn would refocus the purpose and approach to assessment.

Parent representatives

- stressed the importance of including parents in dialogue, in developing key educational structures, including assessment.
- Expressed concern at unbalanced expectations fostered by assessment demands, and at the testing burden on even quite young children.
- Emphasised the need for balance to ensure that all necessary aspects – knowledge, competence and skill – are included in what is assessed.

Student representatives

- welcome the learner-centred approach to curriculum and assessment expressed here today;
- recommended engaging with learners in developing key structures, including assessment.

Other recurring themes included:

- the significance of informal and non-formal learning in the development of competence, and the need for assessment of key competences to support this;
- general consensus that assessment has many purposes and that there is often a tension between these purposes.

6. KEYNOTE SPEECH: “WHAT KINDS OF ASSESSMENT SUPPORT LEARNING?”

Professor Dylan Wiliam, Institute of Education, University of London⁸

Professor Wiliam began by giving an overview of the different functions of assessment, which may be:

- evaluative, to assess institutions, curricula and organisations;
- summative, to describe the performance of individuals; and
- formative, to support teaching and learning.

6.1. More than one purpose?

Designing an assessment system to perform more than one of these functions effectively is problematic and probably impossible: the more functions an assessment strategy is

⁸ www.dylanwiliam.net

expected to perform, the less well it will deliver on any one of them. It is therefore very important to clarify from the outset the purpose of an assessment system or instrument.

The concept of validity is central here. Validity is often considered to be a quality inherent in the actual assessment process – which is supposed to “test what it claims to test”. However, this traditional definition of validity is no longer useful. Rather, we should consider that validity is a property of the inferences made as a result of the assessment process, and not of the process itself. Therefore, there are no valid or invalid assessments: rather, it is the *interpretation* that is valid or not. The same can be said of bias, which is introduced when people make unwarranted interpretations that are not supported by the data. So, it is not the assessment or test that is biased: it is the way people interpret the results.

Validity is essentially a question of meaning: can the test reveal something that means something? Current concepts of validity frame this in terms of quality, which has traditionally included several dimensions such as reliability, representative coverage of content, relevance and predictiveness.

6.1. Validity and threats to validity

There are many threats to validity. Differences in learners’ performance can be caused by many factors which are not relevant to what is being assessed, including:

- Poor reliability. When a test is unreliable, the results for an individual candidate can fluctuate markedly from day to day. Clearly, any inferences based on the results of such a test will have questionable validity.
- interference that arises when the assessment process is based on unwarranted assumptions. For example, poor results on a maths test which has a high reading demand may be an indication of low maths ability – or of difficulty in reading the test. In this case, the construct - what is being assessed - is too wide: it includes unintended dimensions, in this case, reading (in the technical literature, this is called construct-irrelevant variance, because some of the differences in students’ scores are caused by factors that are irrelevant to what the assessment was designed to assess).
- limited information when the assessment does not assess all important parts of what it was intended to assess. For example, most assessment of mother tongue focuses largely on reading, to a lesser extent on writing and hardly at all on speaking or listening. In the past, learners’ performance on reading and writing were quite good proxies for their abilities on speaking and listening: that is, people who did well on such tests tended to be good at the other dimensions of mother tongue communication as well, probably because teachers and learners paid attention to all of these dimensions in the teaching and learning situation.

However, since the recent focus on high-stakes testing has concentrated the minds and efforts of both teachers and learners on what comes up in the tests, results on reading and writing are no longer such good proxies for speaking and listening. Mounting pressure from accountability demands has influenced the focus of the time and effort put into teaching and learning: thus, the narrowness of the construct (mostly reading, some

writing, no speaking and listening) and the impact of high-stakes testing, has weakened the correlation. Thus, we can no longer be sure that people who perform well on tests which probe certain dimensions of the construct are competent in 1 dimensions that were not assessed, such as the more practical elements of communication. This example also shows how the relationship between tests, teachers and learners is not static: it changes over time and it is sensitive to external pressures such as high-stakes accountability demands. Where an assessment does not assess all important aspects of the construct of interest (what it is designed to assess) the assessment is said to suffer from “construct under-representation”.

6.2. Designing quality assessment

The challenge for policy makers and teachers, therefore, is to find tests that are “worth teaching to”: assessment processes that will have a positive impact on teaching and learning and ensure that all crucial dimensions of the construct are addressed.

Assessment results are often included as performance indicators for accountability purposes. This can have a distorting effect on students’ performance – and on the actual practice of teaching and learning – to the extent that the results lose their meaning.

6.3. Clarifying the construct

This illustrates the crucial importance of defining the construct: that is, clarifying what exactly is being assessed, what is the true and full area of interest. If this is not done at the beginning (the stage we are now at in assessment of key competences development) then other stakeholders will do it at a later stage. It is also essential to be alert to the possibility of the adverse impact of different constructs; and the potential for manipulation.

How the construct can or should be interpreted is also of crucial importance: what does performance, good or bad, on this item, predict? What, if anything, is it a proxy for? What does it mean?

6.4. Formative assessment

Teaching and learning should be considered two aspects of the same process, not two different processes. Formative assessment generates decisions about future actions, as a result of feedback obtained in the teaching and learning situation. Feedback is an engineering term and, to a non-engineer is really ‘feed-forward’. It must have an impact on future performance and not merely describe past failures. If feedback only describes what was done incorrectly without giving guidance for the future, it is useless (and, to an engineer, not even feedback).

Feedback is one dimension of *formative assessment* but it is not synonymous with it. Formative assessment is a change in pedagogy that uses assessment to improve learning. It is not just a change in record-keeping procedures. Formative assessment does not only

identify where learners are at the present: it identifies what they need to do to move forward. This change in pedagogy requires a new way of working which can make substantial demands on teachers who have built up a lot of expertise in their current practices.

In some cases, it may be necessary for teachers to let go of some of their current ways of working. One example is the way in which questions are asked. Teachers have established ways of using this and other teaching tools which may not always be the most effective in supporting learning. It can be challenging for them to change the ways in which they use these familiar tools. For example, alternative and expanded approaches to questioning are one of the key tools in formative assessment.

Other strategies used in formative assessment, many developed by teachers themselves, illustrate that very effective uses of formative assessment can occur when the teacher is actually doing nothing, and when learners are fully engaged in a process which emerges from a positive environment for feedback and learning which the teacher has created.

Some concrete examples of formative assessment in action were described. These include learners' questioning and self-assessment of their own and peers' work. For example, one teacher corrected assignments but supplied the comments for each student on a separate strip of paper. Each group of four learners was given their four assignments, and the four comment strips, and, working as a group, they had then to decide which comment belonged with which assignment. Another strategy involved learners marking the work of their peers and discussing the reasons for the marks and comments. In both of these cases, reflections were carried out in group discussion. These and other examples include several dimensions: self-assessment, active learning, participation, discussion, giving and receiving feedback, alternative viewpoints, with the teacher as a facilitator. There is an endless possibility of methods and resources that teachers can develop themselves.

One aspect of this approach to the methodology of assessment is that it is motivating for learners. The question of motivation should not be considered as an individual, innate attribute, for example, of learners, and therefore, an input into the process. Motivation is, rather, an output: a result of a teaching and learning situation which is appropriately challenging for the learner. If there is a good match between the degree of challenge and the learner's capability, then there will be motivation or 'flow' as a result, an outcome of that match. So, people are, or are not, motivated by the situation.

6.5. Discussion: Voices from the floor: 2

Themes arising during the general discussion included the following:

- There is as yet no common understanding of the term 'competence'. Some speakers referred to a tension or conflict between 'knowledge' and 'competence'. It is important to be clear that definitions and concepts of competence encompass knowledge, skills and attitudes in context.
- Assessment, including the format of testing, has a strong impact on learners' performance and also on what is taught
- Emotion has a significant impact on the learning process, on the individual's disposition and motivation to learn.

- Learners' motivation is often generated outside the formal learning situation. Teaching and assessment of key competences should harness this as a resource for learning.
- People who have special needs are an important stakeholder group who already make extensive use of different types of assessment. The European Agency for Development in Special Needs Education has compiled an extensive Resource Guide including teaching materials, development of indicators and teacher development, all available on their web-site.⁹ The development of assessment of key competences should be informed by this work and ensure that people with special needs are adequately considered in the on-going work on assessment.

7. THE LEARNING OUTCOMES APPROACH

Mike Coles, Recognition of Learning Outcomes Cluster

To date, the learning outcomes cluster has been working in the context of the highest and most general level of applying learning outcomes: quality frameworks and occupational standards. The recent CEDEFOP report has summarised the uses of learning outcomes, including these and other levels. At the level of teaching, the aim of the learning outcomes approach is to personalise and individualise learning. This was addressed in the Guidelines on the validation of non-formal and informal learning. The section on assessment gives a brief overview of a range of assessment methods which serves as an introduction. This could be built on and expanded with a more evaluative approach, clarifying the potential uses of different assessment methods.

The fact that national frameworks of qualifications are expressed in terms of learning outcomes guides systems towards expressing qualifications in terms of learning outcomes. This top-down approach could be complemented by bottom-up initiatives. However, it is important to realise that learning outcomes are not the answer to everything. Nevertheless, standards are needed and these must be expressed clearly as learning outcomes. When learning outcomes are used to support assessment, it is necessary to break down the different components of what is being assessed, and to include criteria.

7.1. Discussion: Voices from the floor 3

Themes arising during the general discussion included the following:

- It will be necessary to explore how assessment of key competences can be supported by descriptions of standards or level of achievement, including the practicalities and wider implications of expressing levels as learning outcomes.
- Assessment focuses attention on the process of teaching and learning and on how the key competences may be developed in the context of the regular curriculum. It

⁹ <http://www.european-agency.org/news/assessment-resource-guide-with-new-design-and-new-entries>

will be necessary to clarify the relationship between these elements and also, to explore how the key competences can be developed in real life contexts, as well as in formal education.

8. KEY NOTE SPEECH: ASSESSMENT REFORM IN SCOTLAND

Dr. Mary Hoey, Her Majesty's Inspectorate

Curriculum for Excellence embodies a new way of working in the education of children and young people from 3 – 18 years. The recent curriculum reforms in Scotland are based on the principle that sustained and meaningful improvements in education should be shaped by the people who have to put them into practice. Partnership is therefore a key feature of Curriculum for Excellence. It was launched in 2004 and has represented a sustained partnership between the Scottish Government, Learning and Teaching Scotland, Her Majesty's Inspectorate and the Scottish Qualifications Authority.

Central to Curriculum for Excellence is based on a vision of the young people who will emerge from the education system. This is expressed as four capacities which education should foster in individuals. They should become: successful learners, confident individuals, responsible citizens and effective contributors. These capacities are underpinned by the relevant transversal skills. They are expressed in more detail in a set of frameworks called Experiences and Outcomes across eight curriculum areas. These were developed to facilitate a student-centred approach in developing the knowledge and understanding, skills, attributes and capabilities of the four capacities.

Curriculum for Excellence highlights the importance of skills for learning, life and work including literacy, numeracy and health and wellbeing. These areas of learning support the development in thinking skills and including a focus on the emotional aspects of learning. All teachers are responsible for the development of literacy, numeracy and health and wellbeing. The Experiences and Outcomes for these three areas relate to all aspects of the curriculum.

The definition of curriculum encompasses all aspects of learning, including the life and ethos of the school, curriculum areas and subjects, interdisciplinary learning and opportunities for personal achievement within and outwith the school (including informal and non-formal learning). It fosters opportunities for learners to work towards and build their achievements and sets out to motivate and stimulate this. Learner-centred values are an integral part of curriculum.

Levels and standards as specified in this broad definition of curriculum are similarly broader than those associated with the more traditional curriculum. The Curriculum for Excellence levels commonly span a three-year period: 'early' refers to learning in pre-school and first year in primary (P1) ; 'first' designates P2 to the end of P4; 'second' refers to P3 to the end of P6; 'third' and 'fourth' related to the first three years of secondary school (S1 – S3); and 'senior phase' is covered in S4 – S6 and then in further study. The specification of levels which are covered over a three-year time span allows for a more holistic, in-depth approach to standards specification and levels and is designed to encourage depth of study. In particular, this approach facilitates children progressing at different rates and through different routes and pathways.

Scotland is now working towards a new approach to assessment which will address these broader experiences and outcomes. Teachers will have access to a new National Assessment Resource from which they can obtain assessment materials, guidance and exemplars of learners' performance. This will help teachers develop a shared understanding of standards and expectations. Local and national moderation activities will support consistency in teachers' judgements. It is important that judgements of progress and achievement address how well the learning has happened and include the breadth, depth and security of knowledge which the pupil achieves.

Curriculum for Excellence connects learning and teaching, curriculum and assessment as interrelated and mutually supportive parts of the whole education experience. The framework for assessment which is currently being developed in consultation with teachers needs to reflect these values of Curriculum for Excellence and address the broad dimensions of learning expressed as experiences and outcomes. This involves using appropriate methods at appropriate times, which are quality assured and which inspire confidence and trust. Assessment methods which can probe the broad range of dimensions described in the experiences and outcomes frameworks will provide evidence for self-evaluation. The overall purpose of all of these interconnected processes is to support learning and teaching and the learner. The approach to assessment in Curriculum for Excellence builds on Scotland's successes in the Assessment is for Learning programme.

There is a perception that there is too much assessment but is this true? Is it perhaps that there is too much of the wrong kind of assessment, and that the methods and scope of traditional assessment are too narrow? When assessment is designed specifically to support learning and teaching this can increase the personal autonomy of learners and broaden the range and scope of what is assessed. For example, the new national literacy and numeracy qualifications will be awarded on the basis of portfolio evidence from across the curriculum rather than a one-off test or examination.

Assessment cannot simply be a once-off event. It needs to be an on-going process that includes periodic review of the evidence of students' learning, against expected standards. Special attention needs to be paid to the transition stages.

The practicalities of carrying out assessment in ways which meet all the demands already mentioned – the actual methods - yields many possibilities. There is a wide variety of approaches already in use which allow teachers and learners to gather a range of evidence of learning to reflect the wider concept of curriculum. When doing this, teachers need to ensure that the evidence gathered is proportionate, that it reflects the priorities for each situation. Assessment is also supported by quality assurance processes, especially for self-evaluation for improvement. Teachers can access local and national networks, both face-to-face and on-line.

Teachers need to be supported in implementing this approach to learning, teaching and assessment. The new on-line National Assessment Resource will include much more than just tests and paper-based tasks but include materials and guidelines for a wide range of activities. Supporting teachers in working in these ways is high-priority because it is recognised that effective assessment is essential to deliver the high aspirations of Curriculum for Excellence. The framework for assessment being developed in consultation with teachers will need to ensure that assessment supports these aspirations. This will be aligned with other appropriate national and international frameworks.

Reporting of assessment findings is another important part of the processes, ensuring that parents get individualised information about their children's and school outcomes. In this context, the accountability agenda has caused much discussion. The Scottish Government has agreed that information on pupils' performance will not be collated in the form of school league tables, though there will be some sharing of information.

One key message with regard to assessment is to avoid creating assessment instruments that are expected to fulfil many different purposes. Another is to ensure that all sectors of education need to work together. To accomplish all of this, a cultural shift is needed, with the overall aim of ensuring positive outcomes for all children and young people. This can only be done by enhancing the engagement and increasing the achievement of individual pupils. This will have the wider societal impact of reducing the gap between the highest and lowest performers which in turn, is a prerequisite for social equity.

8.1. Discussion: Voices from the floor 4

Themes arising during the general discussion included many comments from the floor which were elaborated with examples which the presenter gave from the development of Scotland's Curriculum for Excellence:

- There was general consensus that transversal competences can only be assessed in a dynamic dialogue with the teachers, the learners and the school. It will be necessary to find new assessment approaches to accomplish this.
- The presenter outlined the Scottish strategy to achieving this dialogue. In 2004 drafts of the Experiences and Outcomes frameworks were published and different activities for learning and assessment in many contexts were trialled by teachers in schools across Scotland.
- She also summarised approaches to the design of learning and assessment activities which address the holistic and contextual dimensions of learning included in the Experiences and Outcomes frameworks. Teachers and learners can make use of the pupil's Personal Learning Planning. For example, if the learner and teacher had already agreed that learning goal should involve developing initiative or teamwork, the teacher might say: "OK, let's design an activity that will let you take the initiative". Depending on the context and purpose, this could be a teaching and learning activity, or used for assessment purposes. The kind of activity developed would be different for a 3-year-old and for an 18-year old but these different capacities can be developed, and assessed, in ways that are appropriate for the learner and the context.
- Observation of learners during the learning process is a key assessment strategy which the Inspectorate in Scotland use during their school visits. The observation process uses the four capacities as a reference point and look for evidence of the young people demonstrating these capacities. The four capacities are therefore also a reference point for the development of learning experiences and they provide a vehicle for dialogue between teachers and learners
- The use of portfolios for assessment was referred to by several speakers. Portfolio work is a major area of development in the context of awarding qualifications in

several countries, as well as to support teaching and learning. However, the discussion emphasised that the volume of work included in portfolios may become problematic if it is submitted in an uncritical way. Nevertheless, there is a great deal of potential to support personalised learning through the development of a portfolio, which therefore acts both as an instrument of assessment, and as a tool for learning and teaching.

- There was general consensus that different assessment methods have different strengths and functions, and that it would be useful to explore in more depth a wide range of methods and their practical uses.
- Some speakers recommended investigating the relationship between different methods of assessing competence and the national assessment regimes; and how this could be linked to the assessment of particular key competences.
- Several participants noted the importance of having levels or standards against which learners' progress and achievements can be tracked.
- The presenter explained the rationale for this, and some practical strategies used in Scotland. The process of development of illustrations of learner performance, in which teachers are engaged, is seen as a key element of the assessment framework. This is necessary if teachers are to achieve a consistency of approach and expectations, for example to have a common understanding of what are the characteristics that should be typical of writing produced by a child in Primary 4; and what kind of work will count as evidence of this. Within qualifications developments, this can be done using level descriptors.
- Moderation is a useful strategy which teachers can use to arrive at a collective understanding about what it means for a learner to achieve a certain level. This in turn will clarify the basis on which a learner is allowed to progress to the next level. In doing this, it is necessary for teachers and learners together to consider the learner's progression in terms of the different dimensions already mentioned, and to ensure that the progression is demonstrated in those areas that are relevant for the individual.
- The Scottish experience has shown that these processes of framework development, moderation and the design of assessment activities has implications for the Continuing Professional Development of teachers.
- The presenter also referred to the use of international benchmarks such as PISA. These can be used to help teachers and learners to structure teaching and assessment activities, and where appropriate, to align the expectations for learners' performance with these external standards.
- She also referred to the need for proportionality and realism in the development of learning, teaching and assessment activities. In the context of most learning and teaching situations, this means offering enough variety and choice of contexts and situations to allow for the participation and engagement of all learners-it does not mean individualised experiences for all.

Finally, the rationale underpinning the wide-ranging Scottish reforms of Curriculum for Excellence is motivated by a vision of achieving social equity. This will be accomplished by closing the wide achievement gap between the highest and the lowest performing learners, which is connected to socio-economic factors. Policy makers and teachers increasingly recognise the need to focus on learning, the fact that effective teaching is about promoting learning; and that this is essential, given the changing nature of the economic world. In Scotland, good practice exists already but inconsistencies remain. The aspiration of the Scottish Government is that every child will have access to a high quality experience of education and achieve the highest standards of achievement.

Conclusions from cluster representatives, panel and chair

Assessment of learners is a key dimension of the work of many of the clusters and therefore provides a useful link between the topics they have addressed. It has reinforced awareness of the implementation challenges involved in achieving a shift in focus towards a learner-centred paradigm of learning, teaching and assessment. Increasingly, it is becoming clear that implementing the key competences in the curriculum is easier in some cases than in others. Not all are amenable to assessment by tests or by grades and alternative approaches should emerge from a process of dialogue between all stakeholders. Formative assessment is a powerful strategy which answers this need in the actual learning and teaching situation, and supports individualised dialogue between teachers and learners.

Not all stakeholders will understand or support this approach and it is not always possible, or desirable, to drop tests in favour of other methods. Some observers, whilst agreeing with the general conclusions overall, stated the need for more concrete examples and the need from now on to focus on the reality and the practicality of implementation.

Some contributors were concerned that focusing on competence would lead to a lack of attention being given to knowledge and skill.

Others believe that if the assessment system can be shown to support teaching and learning, then teachers, parents and learners will adapt to it. They will be further motivated to embrace this new approach if formative assessments involve not only testing, but activities which are integrated into the teaching and learning process.

The centrality of teachers to the reform process is clear. Teachers' competence is a key factor in ensuring that different forms of assessment are used on an on-going basis. Teachers' work needs to become imbued with an appropriate culture of assessment. This has implications for teachers' initial and continuing education in relation to pedagogy. Some people asked if it also has implications for the education of subject specialists: is the 'competence' approach to subject content in some way different from the actual subject specialism and if so, could this have implications for the education of teachers? This relates to ideas about how competence is defined. It is important to ensure that all stakeholders have a clear understanding of competence as a combination of knowledge, skills and attitudes, appropriate to the context.¹⁰

¹⁰ Recommendation of the European Parliament and of the Council on key competences for lifelong learning (December 2006), http://ec.europa.eu/education/lifelong-learning-policy/doc42_en.htm

The seminar reinforced the need to focus on implementation. Much work has already been carried out to clarify concepts of competence and wider dissemination amongst all stakeholders is needed. However, it is now clear that assessment is a key implementation issue across the work of all of the cluster groups. Member States are interested now in finding out about real examples of how the concepts, principles and plans are translating, or could be translated, into practice.

Currently a number of fora are being put in place through which these issues can be addressed and the views of this seminar disseminate: Directors-General for schools from Member States will meet soon to discuss the implementation of the key competences. In addition, other opportunities for the clusters to meet will be needed. The next stage of the work could focus on the key messages that have emerged from the Open Method of Coordination experiences, in order to achieve a synthesis between policy and implementation. This seminar has provided an opportunity to clarify progress to date and represents the start of a new process toward implementation of key competences into the future.

9. SUMMARY OF KEY ISSUES

Areas of consensus

1. Teaching, learning and assessment are inter-connected parts of the same process. Learners are at the centre of the process; their development is facilitated by teachers.
 2. 'Competence' is a multi-dimensional concept (i.e. skills, knowledge and attitudes). The acquisition and development of competence crosses traditional subject boundaries and therefore requires new approaches both to teaching and to assessment.
 3. Competences are acquired through informal and non-formal as well as formal education.
 4. The competence approach represents a significant paradigm shift towards a learner-centred ethos of teaching and learning. It emphasises the skills and attitudes that help young people to apply knowledge.
 5. This shift requires teachers no longer merely to transmit knowledge, but rather to support and encourage each student's own process of acquiring, developing and mastering skills and attitudes as well, both individually and in groups. This requires support in the form of staff development and resources.
 6. Assessment can be a tool to support this paradigm shift because, if undertaken correctly, it can support learning and promote the acquisition and development of competence.
 7. Assessment is a multi-faceted process and includes dimensions of culture, values and ethics.
 8. Developing assessment structures raises questions such as: who has the right to assess, the right to interpret results, and communicate them? What are the
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implications of assessment on an individual's self-esteem, motivation and life chances?

9. Many assessment methods, especially those developed for accountability purposes, can have unintended negative effects on teaching and learning. It is important to achieve a balance between the legitimate need for data and the potential for such consequences.
10. It is important that initial Teacher Education equips teachers with a range of skills in pupil assessment and with an understanding of the impact that teachers' choices about pupil assessment can have on individuals and upon systems.
11. Formative assessment is a powerful strategy which, research¹¹ has shown, can have a positive impact on learning. This approach to pedagogy encompasses learner-centred assessment methods that focus on giving learners effective feedback that not only helps them improve their learning but also motivates them to learn more.
12. The assessment of competences requires a dynamic dialogue between teachers and learners. Learners should have a role in assessing their own learning. This fosters reflection and 'learning to learn', helping learners to be aware of their goals, to plan how to reach them, to evaluate their own progress and constantly to improve their own learning. Self-assessment and peer-assessment are key elements of the 'Assessment for Learning' approach to formative assessment and of other interactive assessment methods.
13. All of this needs to be underpinned by systems, structures and tools which facilitate teachers and learners in their work. Designing and implementing the move to a competence approach must involve all stakeholders, including learners themselves. There is a need for partnership in developing key structures.

Areas for further exploration

1. The concept of 'competence' as it is used in the context of 'key competences' needs to be clarified; this is because many stakeholders currently understand it to be different from 'knowledge' or 'skill', whereas others use it to encompass the three elements of knowledge, skills and attitudes.
2. The relationship between the concept of 'competences' as understood in the key competences context, and concept of 'learning outcomes' needs to be explored further, especially as regards assessment.
3. Specific methods of assessing different competences should be explored. It will be necessary to find different ways of assessing competences: ways which are not only subject-based but which also cross subject boundaries.
4. Different assessment methods have different strengths and functions; it would be useful to identify and explore in more depth a wide range of methods and their practical uses.

¹¹ Black, P. and Wiliam, D. (1998) "Assessment and Classroom Learning," in *Assessment in Education 5 (1)* pp 7 – 71.

5. The question of levels of achievement of a given competence needs to be examined. The assessment of key competences will require some specification of standards or frameworks which include all of the relevant dimensions of situation and context. Different approaches are already in use in some places. Options for the key competences should be explored.

Appendix: Seminar Programme

9:30 - 10:00 Registration

10:00 - 10:20 Opening

Mrs Hélène Clark, Director, Lifelong Learning: policies and programme:

Preparing young people for the 21st Century – the school as a foundation for lifelong learning

Mr Adam Pokorny, Head of Unit: The European Agenda for cooperation on schools policy.

10:20 – 10:40: Why assessment?

Brief statements (5 min each) by Cluster representatives

10:40 – 11:20 "National Testing of Pupils in Europe"

Presentation by Eurydice. (20 min)

Discussion (20 min)

11.20-11.45 coffee

11:45 - 12.30 "What kinds of assessment support learning?"

Keynote speech by Prof D Wiliam, Institute of Education, London (45 min)

Discussion (30 min)

13:00 - 14:30 Lunch

14:30 – 15:00 The Learning Outcomes approach (15 min)

Presentation by the Cluster Recognition of Learning Outcomes

Discussion (15 min)

15:00 – 16:00 Assessment reform in Scotland (30 min)

Dr Mary Hoey HMI

Discussion (30 min)

16:00 – 16:30 Coffee

16:30 – 17:00 Reflections by cluster representatives, final discussion and conclusions

17:00 – 17:15 Closing

Mr Adam Pokorny, Head of Unit