Governance

The main conclusion in relation to governance is the need to develop a *coherent* framework for student assessment. Coherence implies that *(i)* the assessment framework is based on well-conceptualised reference documents (curricula, standards and learning progressions); *(ii)* the purposes of different assessment approaches are clearly set and complement each other; and *(iii)* the responsibilities for governing and implementing the assessment framework are well defined.

Establish a coherent framework for student assessment

Across countries there is increasing emphasis on designing and governing coherent assessment frameworks that integrate different types of assessments and use a range of information to make dependable judgements about student learning. Well-designed assessment frameworks can play a key role in building consensus about education goals, standards and criteria to judge proficiency. They can also be a lever to drive innovation in education by signalling the types of learning that are valued. Establishing clarity about the purposes and appropriate uses of different assessments is important to ensure that assessment frameworks optimally contribute to improvements at the classroom, school and system level. Building the assessment competencies of students, teachers and other stakeholders in the education system is crucial to ensuring the effective implementation of such frameworks.

A key governance challenge for countries is to develop a clear vision and strategy for assessment where different approaches developed nationally and locally each serve a clearly defined purpose and the format of the assessment is aligned to that particular purpose. For assessment to be meaningful, it must be well-aligned to the type of learning that is valued. For example, while simple knowledge tests are well-suited to assess the outcomes of traditional teaching approaches based on rote learning and knowledge transfer, such tests are less adequate when it comes to assessing complex competencies. Coherent assessment frameworks should aim to align curriculum, teaching and assessment around key learning goals and include a range of different assessment approaches and formats, along with opportunities for capacity building at all levels.

Develop clear goals and learning progressions to guide student assessment

In all student assessment systems, there is a need for clear external reference points in terms of expected levels of student performance at different levels of education. While it is important to leave sufficient room for teachers' professional judgements in the classroom, it is necessary to provide clear and visible guidance concerning valued learning outcomes in the central curriculum and standards. This is especially important as many curricula now highlight the need for students to acquire complex competencies. The challenge is that such competency goals are often stated in a general way with little guidance for teachers on how they can adapt their teaching and assessment to reach such goals. Hence, clear and concrete illustrations of the type of learning that should be achieved can provide important support.

Teachers can also benefit from specific learning progressions describing the way in which students typically move through learning in each subject area. Learning progressions can provide a picture from beginning learning to expertise and help provide teachers, parents and other stakeholders with concrete images of what to expect in student learning with direct links to the curriculum. Such learning progressions can provide a clear conceptual basis for a consistent assessment framework, along with assessment

tools that are aligned to different stages in the progressions. Clear descriptions and exemplars of expected learning, along with criteria to assess performance can provide further support.

Ensure a good balance between formative and summative assessment

A large body of research highlights the important role of formative assessment in improving learning outcomes. While most OECD countries have now developed policy frameworks to support and promote formative assessment, little information is available regarding the effective and systematic implementation across schools. There is a risk that pressures for summative scores may undermine effective formative assessment practices in the classroom. In fact, assessment systems that are useful for formative purposes are at risk of losing their credibility if high stakes are attached to them. Such tensions between formative and summative assessment need to be recognised and addressed.

Both formative and summative assessments should be well embedded within broader assessment frameworks. While summative assessment and reporting are important at key stages of the education process, it is the daily engagements of teachers' and students' with assessment information that will lead to sustainable improvements in learning outcomes. To support such practice, a national commitment to formative assessment on paper needs to be matched with a strategic approach to professional learning in assessment and concrete support for teachers and schools.

Establish safeguards against an overreliance on standardised assessments

A clear priority in assessment frameworks is the development of reliable measures of student learning outcomes. This effort has now started in most OECD countries with the development of standardised assessments in the main subjects at key stages of education. Standardised central assessments can help clarify learning expectations for all schools and motivate teachers and students to work towards high standards.

At the same time, there is a risk that the high visibility of standardised assessment, especially where high stakes are attached to them, might lead to distortions in the education process, such as excessive focus on teaching students the specific skills that are assessed, narrowing the curriculum, distributing repeated practice tests, training students to answer specific types of questions, adopting rote-learning styles of instruction, allocating more resources to those subjects that are tested, focussing more on students near the proficiency cut score and potentially even manipulation of results. Because of these potential negative effects, it is important to establish safeguards against excessive emphasis on a particular standardised test and to draw on a range of assessment information to make judgements about learning progress.

Because standardised central assessment is a relatively new phenomenon in many OECD countries, it is important to be clear about its purposes, to develop large-scale assessments over time to be able to accommodate the purposes that are reasonable, point out inappropriate uses and provide guidance for the way in which these assessments can be used as part of a broader assessment framework. Assessment systems require research evidence on the extent to which the interpretations of assessment results are appropriate, meaningful, and useful. The role of the standardised assessments should be clearly fixed and the assessments should be continually developed, reviewed and validated to ensure that they are fit for purpose. Validation is a long-term process of accumulating, interpreting, refining and communicating multiple sources of evidence about appropriate interpretation and use of assessment information. Where new standardised assessments

are introduced, it is important that they are first trialled to enable an evaluation of impacts before full-scale implementation. It is also important for national authorities to clarify the kinds of decisions the assessments can provide evidence for and what decisions require other kinds of information.

Share responsibilities for the governance and implementation of assessment frameworks

Several actors are involved in governing and designing assessment frameworks, including different levels of the educational administration, specialised central assessment agencies, the inspectorates, private assessment developers, educational research centres, school leaders, teachers and students. To ensure the coherence of various assessment approaches, it is important that these different actors engage with each other and investments are made in leadership and collaboration around a joint assessment strategy. Responsibilities for the development and administration of assessments need to be shared between schools and external partners.

A balanced combination of teacher-based and external assessments would be most suitable to leverage both central expertise and teacher ownership and to ensure maximum validity and reliability. Learning outcomes that can be readily assessed in external examinations should be covered this way, whereas more complex competencies should be assessed through continuous teacher-based assessment. There are several ways to centrally support the quality and reliability of teacher-based assessment, for example through the use of scoring guides, negotiated scoring criteria, external benchmarks, training for teachers, multiple judgements and external moderation. It is also important to provide a range of nationally validated assessment tools that teachers can use to assess their students reliably when they see fit.

Procedures

The main conclusion in relation to procedures is the importance of developing a *comprehensive* set of assessment approaches. Comprehensiveness implies that the assessment framework uses a range of assessment instruments, formats and methods so that it captures the key outcomes formulated in national learning goals. The framework should allow teachers to draw on multiple sources of evidence in order to form dependable judgements on student learning. Comprehensiveness also means that assessment approaches are inclusive and able to respond to the various needs of *all* learners.

Draw on a variety of assessment types to obtain a rounded picture of student learning

A comprehensive assessment system should include a range of internal and external approaches and make use of different assessment formats to capture a broad range of learning outcomes for different purposes. It is not appropriate to try and serve multiple purposes with a single assessment. It is important, instead, to develop a comprehensive assessment system that is clear about what the various formats and approaches can achieve and ensures that they are used appropriately for their intended purpose. Providing multiple opportunities and formats for student assessment can increase both the validity and reliability of student assessment.

To ensure a broad approach to student assessment, education systems can provide a range of nationally validated assessment tools for different summative and formative purposes. In addition, teachers also need to build their competencies to develop valid and reliable assessment tools corresponding to specific local needs. Particular attention should be paid to ensuring that the breadth of curriculum and learning goals is maintained in student assessment by ensuring that all subject areas and objectives are given certain forms of attention.

Support effective formative assessment processes

While the importance of formative assessment is widely recognised across OECD countries, in many settings there is room for improving teachers' approaches to formative assessment. For example, formative assessment is sometimes understood by teachers as having many small practice tests in view of preparing a final summative assessment, or as providing feedback in the form of praise or encouragement to make more effort. However, for formative assessment to be effective it needs to be independent of the requirement to rate performance, and for feedback to be helpful for student learning, it needs to provide timely, specific and detailed suggestions on the next steps to enhance further learning.

Education authorities can support formative assessment procedures with a range of tools that may help schools in developing systematic approaches. The use of individual development plans for each student can support medium- and long-cycle formative assessment processes. In addition, specific guidelines, workshops, online tools and professional learning opportunities can support effective formative assessment on a daily basis (more on this under "Capacity").

Clarify and illustrate criteria to judge performance in relation to national goals

To assist teachers in their practical assessment work against learning goals, there is also a need to develop support materials, such as scoring rubrics listing criteria for rating different aspects of performance and exemplars illustrating student performance at different levels of achievement. Clear scoring rubrics can make teachers' assessment transparent and fair and encourage students' metacognitive reflection on their own learning. They can be used to define what constitutes excellent work and enable teachers to clarify assessment criteria and quality definitions.

Such guidance can help teachers make accurate judgements about student performance and progress, which is essential to make decisions about how to adapt teaching to students' needs. Teachers also need to acquire skills to develop their own specific objectives and criteria aligned with national learning goals, and should be encouraged to share and co-construct such assessment criteria with students, so that they understand different levels of quality work.

Ensure the consistency of assessment and marking across schools

While most countries set basic requirements regarding the use of particular marking scales and reporting formats, there tend to be large inconsistencies in marking practices across teachers and schools. Such inconsistency in approaches to marking reduces the value of marks as a tool to summarise and inform learning. It is also unfair to students, especially when marks are used to make decisions about their future educational trajectory. Central specifications regarding summative assessment and marking are important to help a consistent application of assessment criteria across schools.

In addition, moderation processes are key to increase the reliability of teacher-based assessment. Moderation involves strategies for quality assurance of assessment judgements, such as teachers cross-marking each other's assessments within a school or across schools, teachers discussing samples of student work in groups or in collaboration with experienced moderators, or a competent authority or examination board externally checking school-based assessments. The objective is to reduce variations in the ways teachers assess students and set marks in order to achieve fairness in student assessment and reporting.

Moderation practices should be encouraged for different types of assessments at all levels of education. It would be beneficial to develop guidelines and support for appropriate approaches to moderation, both within and across schools. Such guidelines should emphasise the importance of moderation as a process for developing assessment confidence and common understandings of assessment standards among teachers, but also as a mechanism to increase the dependability (validity and reliability) of teacher assessments of student performance.

Promote assessment formats that capture valued key competencies

Across OECD countries, there is increasing emphasis in curricula on the importance for students to acquire key 21st century competencies and education systems need to adapt their assessment approaches so that they promote and capture this broader type of learning. To this end, teachers need to be supported in translating competency goals into concrete lesson plans, teaching units and assessment approaches. Professional learning opportunities where teachers can discuss and collaborate in assessing actual student products can contribute to their understanding of broader assessment practices.

In addition, innovative assessment formats should also be developed centrally to complement teacher-made assessments. Due to concerns about reliability and resources, "performance-based" or "authentic" assessments are often challenging to implement on a large scale and in a standardised way. Alternatively, education systems can opt for developing test banks for teachers, which can provide a range of innovative assessment tools for teachers to draw from when their students are ready. Such test banks provide an excellent opportunity to promote innovative assessment tools that have proven successful elsewhere. They can offer a map of assessment items suitable to assess the key areas and competencies outlined in the curriculum.

Another option is to implement innovative assessments that cover larger parts of the curriculum on a sample basis. Sample-based assessments that are applied to a representative proportion of the student cohort allow the assessment of a broader range of curriculum content at relatively low cost while at the same avoiding distortions deriving from potential "teaching to the test". Such assessments may be organised in cycles, assessing a different curriculum area each year and not assessing all students on the same tasks, thus allowing the assessment of a wider range of content without overburdening individual students. While the purpose of such sample-based assessment typically is to monitor the education system (see Chapter 8), they can still be beneficial for individual teachers and students when they receive their results. The tasks of previous years may also be made available for teachers to use in their formative classroom assessment. Where teachers are centrally employed and trained to correct such sample-based assessments, this can constitute a valuable professional learning experience that will also help them in their classroom teaching and assessment practice.

Build on innovative approaches developed in particular education sectors

In many countries, there are some education sectors which have a longer tradition than others in using innovative assessment approaches. Often, there is a stronger tradition in the vocational education and training (VET) sector than in general education programmes to include innovative assessment approaches that may take place in practical and authentic work situations and are connected to real-life challenges that graduates may encounter in the workplace.

Sometimes there is also greater attention to assessing authentic performances in special needs education, second chance education programmes or special programmes for migrant students. In designing assessment approaches for general education programmes, it would be important to pay close attention to innovative assessments developed in other programmes and learn from approaches that have been shown successful and could be integrated and/or adapted. Policy makers should promote communication and collaboration regarding the assessment of competencies across education sectors and programmes, so that mutual learning can be facilitated.

Tap into the potential of ICT to develop sophisticated assessment instruments

Increasingly sophisticated ICT programmes that score open-ended performances, measure students' reasoning processes, examine how students go about thinking through problems and even provide feedback to students have been developed in some settings, predominantly in the United States. While it has always been possible for teachers or external assessors to perform these functions, ICT offers the possibility for large-scale and more cost-effective assessment of complex skills (Mislevy et al., 2001, in Looney, 2009).

While introducing constructed-response items and open-ended performance tasks in large-scale assessments is quite demanding, technology today makes this possible and more affordable. Increased efficiency would allow systems to administer tests, at different points in the school year, with results to be used formatively (as with curriculum-embedded or on-demand assessments). In addition, computer-based assessments can help increase the timeliness of feedback to teachers and students. While in many countries, central assessment systems provide teachers with results several months after the tests were administrated, the use of ICT-based assessment allows providing feedback to teachers very rapidly. With computer-based tests, it is possible to provide teachers and students with their test results the next day, which can foster the use of the test results for adapting teaching and learning for individual student progress.

In addition, computer-based assessments that adapt test items to the level of student performance on previous items can strengthen the diagnostic dimension of large-scale assessments. Only a few countries are using computer-based adaptive tests but these may provide powerful pedagogical tools for teachers. While a standardised test can only provide a snapshot of student achievement in selected targets and subjects, within a discrete area adaptive tests are able to provide a very accurate diagnosis of student performance. As each student sits a different test including questions that are adapted to his/her ability level, this can allow a more thorough diagnostic feedback.

These kinds of assessments are relatively new, and as of yet, relatively limited in number across OECD countries. However, as systems invest more in research to develop appropriate measurement technologies that are able to score complex performances and that reflect models of learning in different domains, development is likely to accelerate.

Ensure that student assessment is inclusive and responsive to different learner needs

Assessment systems should underline the importance of responding to individual learner needs and school community contexts, and design assessment strategies that suit the needs of different learner groups. The objective is to develop an inclusive student assessment system based on the principle that all students have the opportunity to participate in educational activities, including assessment activities, and to demonstrate their knowledge, skills and competencies in a fair way. Hence, teacher assessment practices as well as the content and format of standardised assessments should be sensitive to particular groups of students and avoid biases by socio-economic background, immigrant or minority status, and gender.

While innovative and motivating assessment strategies are important for all students, this is particularly the case for vulnerable students or students at risk of dropping out. Several studies indicate that certain formats of assessment may advantage or disadvantage certain student groups. Hence, to ensure fairness in assessment, it is important to offer a range of different assessment formats and tasks (e.g. test-based, performance-tasks, oral, written).

Dimensions of inclusive assessment, such as the sensitivity to cultural and linguistic aspects of assessment, should also be further included and developed in both initial education and professional development for teachers. The accessibility and lack of bias of standardised assessments for certain groups at risk of underachievement should receive due attention. This requires studies on differential test functioning for particular groups and the provision of specific test accommodations where necessary. It is suggested that quality assurance guidelines are prepared and practices adopted to ensure that assessments are reviewed for their potential bias in these respects.

Capacity

The main conclusion in relation to capacity relates to the need for assessment frameworks to be *participatory*. Student assessment involves a broad range of actors including students, teachers, school leaders, parents, education authorities and assessment agencies. All of these actors need to develop their competencies to ensure that stated objectives are reached, starting with the students themselves.

Put the learner at the centre and build students' capacity to engage in their own assessment

For assessment systems to enhance learning – and not just measure it – students need to be at the centre of the assessment framework. To become lifelong learners, they need to be able to assess their own progress, make adjustments to their understandings and take control of their own learning. Assessment can only lead to improvement in learning outcomes if students themselves take action and use assessment information to close gaps in their own learning. Recent educational research emphasises the importance of assessment as a process of metacognition, where learners become aware of their own thought processes, personally monitor what they are learning and make adaptations in their learning to achieve deeper understanding.

Self-and peer-assessment are powerful processes where students identify standards and criteria to make judgements about their own and their peers' work, which can promote a greater sense of agency and responsibility for their (life-long) learning. But

developing skills for self-assessment and self-regulation takes time and requires structured support by teachers in the classroom. Teachers can use classroom assessment to provide opportunities for students to engage in reflection and critical analysis of their own learning, for example by guiding students in setting learning goals and monitoring their progress towards them; working with them to develop criteria to judge progress; using exemplars and models of good practice and questioning of their own thinking and learning processes. Policy makers can support such practices by developing requirements, guidelines and support regarding learner-centred teaching and assessment.

Maintain the centrality of teacher-based assessment and promote teacher professionalism

Across many countries, there is recognition that teacher professionalism needs to be at the heart of effective assessment for learning. Students will develop their own assessment capacity only if teachers themselves have such capacity and are adequately resourced (Absolum et al., 2009). Placing a strong emphasis on teacher-based assessment has many advantages: it allows for competencies to be measured that are difficult to capture in a standardised assessment, it is embedded in regular coursework and more authentic than a test-based examination and it has greater potential to be used for subsequent improvements in teaching and learning.

However, in order to reach the full potential of teacher-based assessment, it is important for policy makers and stakeholders to adopt a strategic approach to teacher learning in assessment and invest in professional learning opportunities. Assessment capacity should be reflected in teacher standards and be addressed in a coherent way across teacher preparation programmes and publicly funded professional development programmes.

Teachers' assessment capacity can further be built and strengthened through systematic arrangements for moderation of assessments. There is considerable evidence that involving teachers in moderation is a powerful process not only for enhancing consistency but also for enabling teachers to deeply understand student learning objectives and to develop stronger curriculum and instruction. Moderated assessment and scoring processes are strong professional learning experiences that can drive improvements in teaching, as teachers become more skilled at various assessment practices and the use of assessment information to make adjustments to teaching and learning approaches.

Identify assessment priority areas for teacher initial education and professional development

There are variations across countries regarding the areas where teachers need most support to develop effective assessment practice. It is important for policy makers, together with teacher education institutions and stakeholders, to identify the topics related to assessment that are most in need of development within teacher education. Experience from the OECD Review indicates that the following areas require particular attention in many countries.

First, to be able to assess students' progress in developing complex competencies, it is important that teachers learn to develop a variety of assessment approaches and understand different aspects of validity, including what different assessments can and cannot reveal about student learning. Second, for summative teacher-based assessment to be reliable, it is important to provide focussed training on how to make summative

judgements on student performance in relation to national curriculum goals or standards and how to apply marking criteria to very different types of evidence of student learning. Third, for formative assessment to be effective, it is essential that teachers are offered in-depth professional learning opportunities in particular on embedding formative assessment in regular daily teaching practice, co-developing clear criteria for assessment with learners, giving specific, timely and detailed feedback, and creating conditions for students to develop self-monitoring skills. Fourth, to increase equity and fairness in assessment, training should also focus on ensuring that teachers are sensitive to cultural and linguistic aspects of learning and assessment.

Use teacher appraisal and school evaluation processes to help teachers develop their assessment capacity

Teacher appraisal and school evaluation processes can also contribute to identifying those areas of student assessment where teachers most need to develop their skills. Effective models of teacher appraisal and school evaluation specifically focused on teachers' and schools' assessment approaches have been piloted in some settings but are only in the early stages of development. Inspection visits, for example, may contribute to fostering innovation in assessment, by focussing on a wide range of quality indicators (beyond test results) including the capacity of teachers and schools to promote and assess key competencies.

Reporting and use of results

The main conclusion regarding the reporting and use of assessment results is the need for the assessment framework to be *informative*. It needs to produce high-quality information that can be shared with students, parents, school leaders and others with an interest in student learning outcomes. Reporting of assessment information needs to be clear, contextualised, and useful to foster learning and feed into decision making at different levels of the education system.

Develop clear reporting guidelines

Effective reporting is essential to communicate summary statements of achievement to students and their parents, as well as to other teachers within the school. Such records can support co-operation with parents, ensure consistency of support after student transitions to higher levels of education and provide a basis to make decisions about a student's further educational career. However, where there is a lack of transparency and consistency in the ways in which marks and report cards are constructed, the effect of such reporting will be counterproductive for student motivation and future learning.

Clear central reporting guidelines can help build a common understanding around the meaning of marks and the criteria used to establish student performance. They can also help to clarify that information about student behaviour, effort and motivation should not be mixed into performance marks. Keeping these elements separate in reporting allows communicating more accurate information about the student as a complex learner and can provide better indications about how particular learning needs can best be addressed.

Engage parents in education through adequate reporting and communication

Good reporting and communication strategies are important for involving parents in supporting their children's learning and in focussing resources, both at school and at home, on essential learning targets. Hence, reporting needs to be clear and easy to understand,

especially in primary education when parents and teachers can have the greatest impact on a child's learning. While some countries have standardised reporting approaches, others leave it to the local and school level to determine the format of reporting.

To ensure minimum quality requirements, countries could consider providing a template for reporting student achievement and provide guidance materials that teachers can use to report student performance in relation to student learning objectives. Useful information, beyond simple marks, would include details about student progress, strengths, areas of concern, identified needs, recommendations for further learning and illustrative examples.

Ensure transparency and fairness when using assessment results for high-stakes decisions

The results of summative assessment may be used by a range of stakeholders for different purposes and some of these users may have little knowledge of the intended uses of the assessments, the content of the assessments and the evidence concerning the validity of inferences from the assessments. Hence, there is a risk of misuse of assessment results. Also, several reviews of research have found the high stakes use of a single assessment to be strongly related with teachers focusing on the content of the assessments rather than underlying learning goals, administering repeated practice tests, training students for answering specific types of questions and students adopting surface learning techniques. To avoid such negative impacts on teaching and learning and reduce the risk of misuse of results, a number of principles on appropriate use of test results should be respected. For example, students should have multiple opportunities to show their learning, results from a single assessment alone should not be used to make high-stakes decisions about their future learning pathways, and alternative assessments should be considered to replace high-stakes testing, especially for students where there is a high probability that tests give a misleadingly low indication of their competencies.

Promote the regular use of assessment results for improvement

Assessment is closely intertwined with teaching and learning. Whether internal or external, assessment cannot be separated from a vision about the kind of learning that is valued and the teaching and learning strategies that can help students to get there. In turn, there is strong research evidence on the power of assessment to feed forward into new teaching and learning strategies and the strong relationship between assessment for learning and improvement of learning outcomes. To optimise the potential of assessment to improve what is at the heart of education – student learning – policy makers should promote the regular use of assessment results for improvements in the classroom. All types of assessment should have educational value, and be meaningful to those who participate in the assessment. To this end, it is important that all those involved in assessment at the central, local and school level have a broad vision of assessment and of the need to bring together results from different types of assessment activities to form rounded judgements about student learning and the use of assessment information for further improvement.