

Language and mathematics in the spotlight

To ensure good and sustained quality of language and maths teaching, the Dutch Education Council advises a comprehensive and structural focus on these subjects from stakeholders including the government, school administrators, school heads and teachers. The Council advises central government to formulate clear goals for language and mathematics teaching as part of the national attainment targets and standards (core attainment targets, examination standards, qualification requirements and benchmarks) and to monitor the achievement of those goals on an ongoing basis. Other recommendations include embedding language and mathematics teaching in all subjects and subject areas, setting high language and mathematics competence standards for graduates of teacher training programmes and enhancing the professionalism of language and mathematics teaching.

Background: concerns about competence in language and mathematics

Language and mathematics are essential skills for adequate participation in education and society. A good command of language and mathematics is a prerequisite for learning other school subjects; conversely, other subjects and disciplines create the knowledge-rich context needed to gain a sufficient command of language and mathematics. Ensuring that pupils are sufficiently literate and numerate is thus a key mission for education. Currently, there is a lack of clarity regarding pupils' language and mathematics competence in virtually all phases of the education process, but the figures that are available have long been leading to concerns in society. International studies and national surveys by the Dutch Inspectorate of Education make it abundantly clear that there is genuine cause for concern regarding certain aspects of language and mathematics education and/or specific groups. The international PISA study, for example, shows that a substantial proportion of 15 year-olds fail to attain the minimum standard for reading (24%) and mathematics (16%). Their weak literacy and numeracy skills mean these pupils probably do less well at school and in society and are at heightened risk of low literacy and low numeracy. This applies particularly for pupils in pre-vocational secondary education (VMBO) and senior secondary vocational students (MBO). Additionally, too few primary school pupils achieve the target standard in many components of language and mathematics.

Given the high importance of language and mathematics and the negative indications concerning pupils' command of these subjects, the Dutch Parliament asked the Education Council to compile an advisory report to address the question of how education can bring about a lasting improvement in language and mathematics skills. The focus of the report is on primary and secondary education and senior secondary vocational education.

Advice: maintain a consistent focus on language and mathematics

The Education Council advises an integrated and structural focus on language and mathematics. The quality of language and mathematics teaching is determined by many, often interrelated factors, such as the national attainment targets and standards, testing methods teachers' initial skill levels, teaching methods, professionalisation and the knowledge infrastructure. All these factors need to be addressed comprehensively and on a long-term basis. All stakeholders – government, teacher training colleges, professionalisation bodies, developers of textbooks and teaching materials, researchers, school boards, school heads and teachers, including teachers of subjects other than language and mathematics – need to maintain a constant focus on this mission. The Council puts forward four recommendations to achieve this.

Recommendation 1: Be crystal clear about the mission for language and mathematics

The Education Council advises the government to formulate clearly what level of knowledge and ability pupils must attain in language and mathematics by the time they leave school, and should define attainment standards for primary, secondary and senior secondary vocational education. Uniformity in defining and constructing the national attainment targets and standards is important here, as is a continuous learning pathway in which competence targets play a central role alongside learning targets and experience targets.

The government also needs to systematically monitor whether pupils are attaining the goals and associated competence standards, so that it is possible to reflect on and evaluate language and maths teaching and make adjustments where necessary. The Council recommends that pupil achievements be measured in year groups 5 and 8 at primary school, in years 2 or 3 and in the final year of secondary school and in senior secondary vocational education. The Council also recommends tightening up the external oversight of the quality of language and maths teaching and the competence levels in these subjects of pupils at all schools. School boards in all sectors of education

should also include information in their reports on what competence levels in language and mathematics their schools are achieving for their pupils.

Recommendation 2: Embed language and mathematics in other subjects and subject areas

The Council recommends that the national attainment targets and standards for language and mathematics be integrated more closely with those for other subjects. Pupils' language and maths development currently receives too little attention in other subjects, and many opportunities are lost as a result. Teaching in other subjects offers meaningful and effective contexts for language and maths teaching; conversely, good language and mathematical skills on the part of pupils are a precondition for developing knowledge in all other school subjects. Language and maths skills should therefore not be practised in isolation, but should be embedded in a meaningful way in other subjects and subject areas, making language and maths teaching a responsibility of everyone.

This also needs to be given form within schools; this requires a school culture based on shared responsibility, where all education professionals work on improving pupil literacy and numeracy. The need for such an integrated approach also extends to higher education.

Recommendation 3: Set high language and maths standards for teacher training graduates

It is important that graduates from teacher training programmes are qualified to deliver good language and mathematics teaching, but there are currently concerns about both their didactic skills for teaching language and mathematics and about their own language and mathematics skills. There is moreover wide variation between teacher training programmes. To guarantee the quality of teacher training programme graduates, the Council recommends the introduction of a final language and maths test for primary and secondary school teacher training programmes in Dutch language and mathematics. This test would include a theory and practical component and test whether students have sufficient command of language and mathematics themselves, and whether they possess the subject and didactic knowledge and skills needed to teach language and mathematics.

Recommendation 4: Enhance the professionalism of language and maths teaching

The Education Council recommends that more efforts be directed towards further professionalisation of language and maths teachers. An initial training qualification is not sufficient; lifelong professionalisation should be the norm. School boards and school heads have a responsibility to encourage and facilitate teachers in this professionalisation drive. There should also be a strong link between theory and practice. Theoretical knowledge warrants a place in the school. Teachers should have access to knowledge from scientific research and be given the scope to immerse themselves in it. And that theoretical knowledge should be used in the development of teaching materials.

The full advisory report 'Taal en rekenen in het vizier' (in Dutch) can be found at www.onderwijsraad.nl/taal-en-rekenen-in-het-vizier

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