

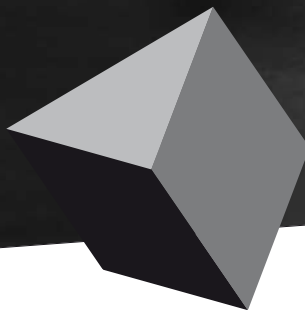
$$n = N_c e^{\frac{q(E_c - E_d)}{kT}}$$

$$n_i \cdot p_i = n_i^2$$

$$\left( \frac{300}{kT} \right)^{3/2} \cdot \frac{q(E_g)}{kT} e^{\frac{q(E_g)}{kT}}$$



**THE STATE OF EDUCATION  
IN THE NETHERLANDS  
2005/2006**



### Institutions in 2005 (agricultural education excl.)

Primary education	6.954
Special primary education	326
Special education	323
Secondary education	655
Vocational training and adult education	59
Higher professional education	42
University	12

Source: OCW (2006)

### Personnel in full-time equivalents x 1000 in 2005 (agricultural education excl.)

(Special) primary education	114,2
Special education	16,5
Secondary education	83,2
Vocational training and adult education	36,6
Higher professional education	23,9*
University	38,4*

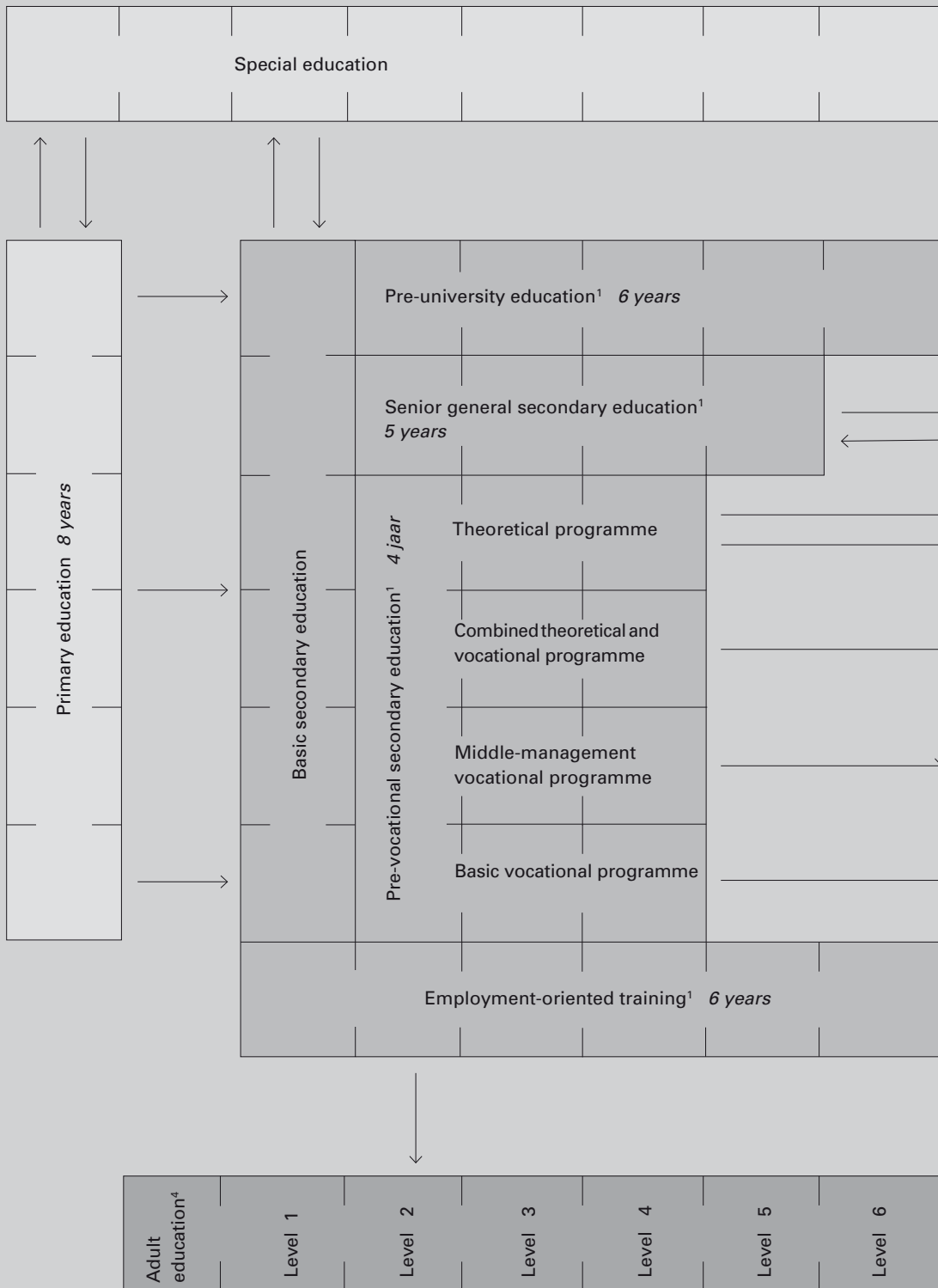
Source: OCW (2006)

\*Data 2004.

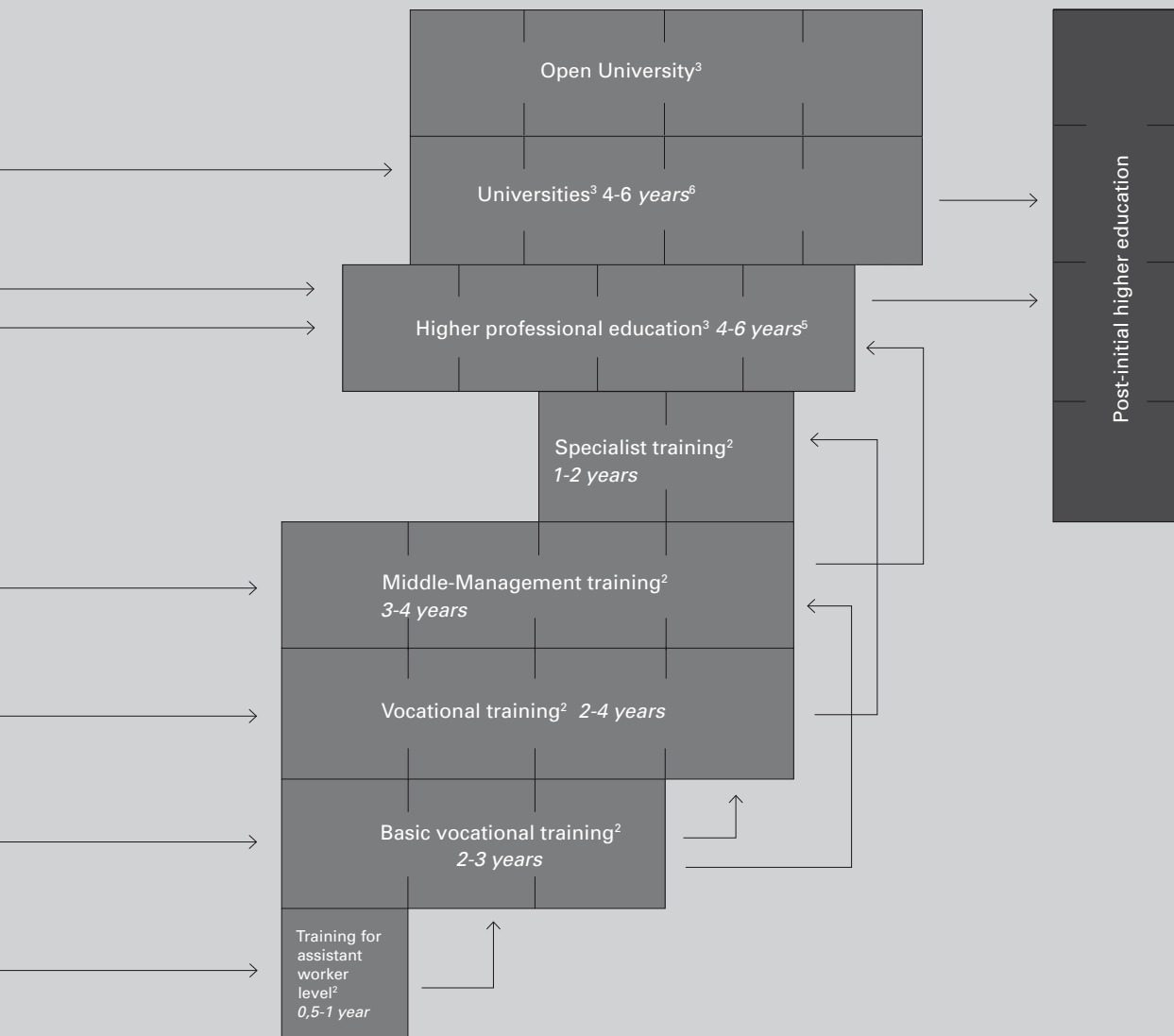
### Pupils/students x 1000 in 2005 (agricultural education excl.)

Primary education	1.549,0
Special primary education	48,3
Special education	60,0
Secondary education	792,5
Learning support programmes and special needs education	110,5
Vocational secondary education	460,2
Adult education	144,8
Higher professional education	347,1
University	199,3

Bron: OCW (2006)



# The Dutch education system



1. Pre-university education, senior general secondary education, pre-vocational secondary education and employment-oriented training are types of secondary education.


2. Training for assistant worker level, basic vocational training, vocational training, middle-management and specialist training are types of senior secondary vocational education.

3. Higher professional education, university and open university are types of higher education.



4. Adult education has 4 courses: adult general, secondary education, Dutch as a second language, self-reliance and versatility.

5. Bachelor 4 years  
Master 1-2 years

6. Bachelor 3 years  
Master 1-3 years



THE STATE OF EDUCATION  
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2005/2006





# THE STATE OF EDUCATION IN THE NETHERLANDS 2005/2006



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# THE STATE OF EDUCATION IN THE NETHERLANDS

*Education has more than sufficient quality, but there are problems with basic skills, special needs pupils and early school-leaving*

**Key role for education** In the Spring of 2007 the new cabinet presented an ambitious programme for the coming four years. Education will play a key role in realising this programme: it is vitally important that everyone's abilities and talents are given their due within a society in which people feel connected to one another. Good education is also required to place the Netherlands firmly on the map as a country with an innovative, competitive and enterprising economy.

**The school cannot do it alone** Education cannot take on these roles alone. It needs collaboration with many partners, beginning with parents. The network of youth-oriented facilities around schools is increasingly important. Each year more schools expand their services to the wider community they are part of. We see a growing number of teams in and around schools that provide help for children with special needs and advise parents and teachers. This is appealing for both parents and children, because it boosts opportunities for development. With a solid special needs support structure in and around the school, risks will be identified and addressed sooner. This will provide young people with appropriate attention and assistance when and where they need it. Good co-ordination between schools and local governments is a prerequisite to make this work.

**Positive developments as well as risks** Education is on the move and, for the most part, headed in the right direction, although there is cause for concern in some areas. In addition to the positive developments, this Education Report also points out the risks: a picture that has been confirmed by recent recommendations. In its advisory report 'Achieving according to a person's ability', the highest advisory body for education policy, the Education Council, stressed that one in ten pupils in primary education and secondary education performs under his or her level of ability. The costs of improving the provision of schools would therefore be more than compensated for by the expected social and personal benefits that would ensue from the better utilisation of talents. Earlier, the Scientific Council for Government Policy (WRR) pointed out in its report 'The Welfare State Reconsidered' that, in comparison with surrounding countries, pupils in the Netherlands achieve a relatively low level of education and attend school for a longer time. A big problem is the fact that many pupils leave school prematurely; even more serious is the fact that few young people re-enter education once they leave. The WRR also thinks that greater investments must be made in Dutch education in order to rectify this under-use of human talents.

**Main challenges** Meeting the high hopes ensuing from the new government's ambitions presents a big challenge to education in the coming years. This first chapter briefly reviews the most significant challenges that education will face in the years to come.



# 1 The quality of education in the Netherlands

**More than satisfactory** Dutch education has received very satisfactory marks, but a couple of serious and stubborn problems remain. Several findings are highlighted below by sector.

## 1.1 Primary education

The quality of primary education is adequate and in some respects even good. Currently, the level of the results at the end of primary school is at least satisfactory at 93 per cent of the schools. On the other hand, considerable improvement still has to be made: for example, in the area of reading and supervising children with problems. The Inspectorate of Education has found that in 2006 some 1.5 per cent of primary schools performed below standard. This percentage does not differ from the percentage for the 2004/2005 school year. For next year, as well, giving attention to (preventing) very weak schools will be crucial. The Inspectorate is concerned about the quality of special primary education and special (secondary) education for pupils with behavioural problems at a large number of schools.

## 1.2 Secondary education

The quality of secondary education is, on the whole, satisfactory. The implementation of special needs provision and counselling could be more systematic. The large number of early school-leavers (drop outs) is also a cause for concern. Particularly in pre-vocational secondary education (vmbo; basic vocational and middle management vocational programmes) within the four large cities, the quality of education compares poorly with education elsewhere in the Netherlands. Almost all schools have a special needs advisory team with external (special needs) experts (youth care, social work, school doctor, school attendance officer, the police). Many of these special needs advisory teams could work more effectively: by consulting in a more professional manner, by taking on mutual obligations and by agreeing on concrete cooperative action. At secondary schools, the conditions for conducting good examinations are not fully guaranteed and, furthermore, the examination regulations of many schools do not entirely meet legal requirements. The degree to which secondary schools guarantee the quality of their testing for the school examination should also improve. At a number of schools, the discrepancy between the level of the school examinations and the level of national examinations is too great.

## 1.3 Vocational education

During the period 2003/2006, the quality of education in the adult and vocational education (bve) sector improved from the quality level in the years 1999/2002. In at least nine of the ten institution departments, four of the eight quality aspects are now in order. This contrasts with the fact that the number of weak institution departments increased last year. The Inspectorate is concerned about early school-leavers. With the introduction of competency-oriented education, it regularly appears that the essential conditions for

organisation and personnel are not being met. The number of complaints about this is gradually increasing. There also appears to be some confusion concerning the guarantee for the examinations by the Quality Centre for Examinations (KCE).

## 1.4 Higher education

Accreditation of study programmes in higher education serves as a guarantee for basic quality. Of the more than 350 study programmes that were assessed last academic year, only two were rejected. Almost all assessed programmes were therefore up to standard. However, the generic quality of a number of institutions is not sufficient. Initiatives and efforts to achieve excellence show that institutions have a need to distinguish themselves. For instance, some institutions are developing so-called honours programmes. But the introduction of selection criteria for admissions, which this aspiration can lead to, can be at odds with the accessibility of higher education. Accessibility for ethnic minority students especially should be improved, because their participation rate is still far from proportional to that of their native Dutch peers.

## 2 Our education system from a European perspective

**Greater autonomy** Schools and other educational institutions are being given greater autonomy. And while they are being asked more insistently to account for the quality of the education they provide, the emphasis of the responsibilities of the Minister of Education, Culture and Science (OCW) has shifted to the quality of the education system as a whole. Under the impact of these developments, the task of the Inspectorate of Education shifts towards on supervising:

- the quality of the system;
- the guarantee of the basic quality of the schools;
- the quality of the accountability efforts provided by the schools.

The assessment of the quality of the Dutch education system is determined in part by its performance in comparison with other education systems.

**Lisbon objectives** If we consider the state of our education system from a European perspective, we must do so in light of the 'Lisbon Objectives'. When, in 2000, the European Council was held in the Portuguese capital, government leaders set the goal of achieving a competitive and socially cohesive European society by 2010. Several years later in Brussels (in 2003), the Council established five education objectives to achieve this goal in the areas of:

- a. early school-leaving;
- b. studies in the exact sciences/technology;
- c. the level of education among young people;
- d. reading skills;
- e. lifelong learning.

In the same year, the Dutch Ministry of Education, Culture and Science drafted an action plan to realise these five 'Lisbon benchmarks'. We will now present these objectives and indicate the degree to which they have been achieved.

**Re a. Early school-leaving** Under the European definition, an 'early school-leaver' is someone who is not enrolled in education and has not acquired an upper secondary education diploma. It sometimes also refers to pupils who have not earned a basic qualification in education.

From a Dutch perspective, this last group consists of pupils who have no diploma at the minimum levels of senior secondary vocational education (mbo), senior general secondary education (havo) or pre-university education (vwo). In 2000, the percentage of early school-leavers in our country was 15.5 per cent. In 2006, 12.9 per cent of 18 to 24 year-olds had no basic qualification and were no longer enrolled in school. We have set the goal of reducing the percentage of early school-leavers to 8 per cent by 2010.

**Re b. Studies in the exact sciences/technology** The number of graduates and doctoral students in maths, the exact sciences and technology in 2003 in the Netherlands amounted to 7.3 for every thousand inhabitants aged between 20 and 29. In 2000, the figure was 5.8 per thousand. It therefore appears that the objective – 15 per cent more graduates in higher education studies in the exact sciences/technology by 2010 in comparison with 2000 – has already been achieved (OCW, 2006a). The Netherlands

has also set itself the goal of striking a better balance between men and women in study programmes in the exact sciences/technology. Since the turn of the century, the proportion of women entering the exact sciences and technology in higher education had fallen to 17 per cent in 2002/2003. This contrasts sharply with the proportion of women in higher education as a whole, i.e. 53 per cent (CBS, 2003). Nonetheless, the proportion of women in exact sciences and technology has increased slightly since 2005: in 2006 the proportion of women in exact sciences and technology was 18.5 per cent. There is a marked difference in the proportion of women taking exact sciences and technology majors in higher professional education (14 per cent) and the proportion in university education (26 per cent).

**Re c. Level of education among young people** In the Netherlands in 2000, 73 per cent of 22 year-olds had a diploma at the minimum level of senior secondary vocational education (mbo), senior general secondary education (havo) or pre-university education vwo). In 2005, this figure had risen to 74.7 per cent of 20-24 year-olds. The goal for 2010 is 85 per cent.

**Re d. Reading skills** The European objective is the following: by 2010 the percentage of 15 year-olds with low-level reading skills in the European Union should fall by at least 20 per cent from the figure in 2000. Low-level reading skills are understood as level 1 in the scale of abilities of the so-called PISA survey. For the Netherlands, by 2010, no more than 9 per cent of 15 year-old pupils should have a low level of reading skills (OCW, 2003). In 2003, 11.5 per cent of pupils had low-level reading skills (OCW, 2005).

**Re e. Lifelong Learning** In 2000, 15.6 per cent of 25 to 64 year-olds in the Netherlands were participating in learning activities for adults. The objective for 2010 is for at least 20 per cent of 25 to 64 year-olds to participate in education and training. In 2005, 16.6 per cent of Dutch 25 to 64 year-olds participated in adult learning (OCW, 2006a).

How close have we come to achieving the Lisbon objectives?

- The number of young people that do not have a diploma at the minimum level of senior secondary vocational education (mbo), senior general secondary education (havo) or pre-university education vwo) has fallen, but is not yet at the point we would like to achieve.
- With the current number of graduates and doctoral students in maths, the exact sciences and technology, the Netherlands has reached the set objective, but the proportion of women entering higher education science and technology programmes is still too low.
- The number of young people with low-level reading skills is still too high.
- The number of adults who participate in educational and training activities has risen slightly, but the set objective has not yet been reached.

## 3 Points of attention in Dutch education

**Not all talents are developed** The core problems in our education system consist of the fact that the number of early school-leavers is too large, that too many young people have behavioural problems and insufficient reading skills, and finally that many young people show a limited ambition to continue learning through their whole life.

There are indications that not all pupils are developing their talents to the full: pupils among whom the development of basic skills has stagnated, pupils that are not given the attention that they require, pupils that are performing below their potential and pupils that gain little satisfaction from learning. Below, the most important issues will be discussed specifically.

### 3.1 Basic skills: language and arithmetic

**Decoding in primary education** Last year the Inspectorate found that one-fourth of pupils leave primary education with decoding skills at a level that does not exceed the level of year 6 (ages 9 and 10). It appears that in year 3 (ages 6 and 7) approximately 15 per cent score below par, in year 4 (ages 7 and 8) this increases to a quarter of all pupils. In other words, some 20,000 pupils in year 4 perform significantly lower than should be expected based on their performance in year 3. Their problems with decoding proficiency, which is necessary to understand texts, cannot be attributed to factors such as ethnicity, environment, culture or school size. Good programmes and textbooks, sufficient time for reading and teaching of a high quality seem, in combination, to ensure that almost every pupil learns to read proficiently.

**Language in special primary education** In special primary education, pupils often do not progress further with language than the level of pupils in year 5 (ages 8 and 9) in mainstream primary education (Heesters, Van Berkel, Krom, Van der Schoot & Hemker, 2007). In the education provided, the weak point is that the curriculum contents of the different school years (forms or grades) are insufficiently connected with one another. And with respect to teaching strategy, teachers insufficiently analyse the progress of pupils to be able to establish what adaptations to the teaching-learning process are needed. They do not give the pupils enough feedback on their learning and development process, and they insufficiently adapt instruction and assessment to the differences in development between pupils. Special primary schools do not by far set up a development plan for each pupil at the time of enrollment and they monitor children's development insufficiently to be able to make well-considered choices based on it.

**Reading in secondary education** A study conducted by Hacquebord, Linthorst, Stellingwerf and De Zeeuw in 2004 revealed that approximately 24 per cent of pupils in basic vocational programmes were not able to independently read textbooks that were written for their age group. The same is true for 17 per cent of pupils in more theoretically oriented vocational programmes and for 18 per cent of pupils in general secondary education (havo and vwo). This shows that the 'maintenance' of basic skills continues to be important in secondary education. In 2007, the Inspectorate will conduct a more in-depth study into the language proficiency level of secondary school pupils.

**The subject Dutch in senior secondary vocational education** A study conducted by the Inspectorate itself and academic research into the subject Dutch in senior secondary vocational education (mbo) revealed that 60 to 70 per cent of the surveyed teachers thought that the language ability of the participants was insufficient to complete the study programme successfully. In 2007, the Inspectorate will conduct a further study into pupils' proficiency level in language and arithmetic/maths. In this study, the Inspectorate will primarily focus on the socio-pedagogical programmes for teaching assistants, in view of the fact that their future job will primarily require these skills and that they often enter primary school teacher training colleges where this is still given insufficient attention.

**Arithmetic in primary education** From an international perspective, Dutch pupils in the past achieved good results in arithmetic. In 2007, a new international comparison will be conducted which should reveal whether or not the Netherlands has maintained this position in the international ranking. There are indications that this area needs some attention. The Periodic Assessment of Educational Achievement (PPON) provides insight into the arithmetic proficiency of pupils at the end of primary education. A positive point is the fact that pupils have gained greater insight into the structure of numbers and the relationships between numbers and that progress has been achieved in working with pocket calculators. But abilities in the basic processes (adding, subtracting, multiplying and dividing) seem to have declined. There are clear signs that many pupils have insufficient numerical skills in secondary education. The Inspectorate will conduct a study into this subject in 2007.

**Arithmetic in special primary education** The arithmetic proficiency of the pupils in special primary education is at the same level as their language proficiency. By the end of special primary education, the pupils achieve a proficiency level in 'numbers and numerical relationships', 'measuring', 'time' and 'money' that lies between the level of years 4 and 5 in mainstream primary education. In the basic processes, such as adding and subtracting, the level is no higher (Kraemer, Van der Schoot, Hemker & Van Rijn (in progress)).

**Arithmetic in secondary education** Research conducted by Van Groenestijn (2007) shows that there are large differences in the numerical skills of pupils at the beginning of secondary education (12-16 year olds). More than 3,000 pupils were given a test in which the level of difficulty of the problems presented was at the level used for primary years 6 and 7. Approximately 80 per cent of the pupils in the academically least demanding programmes answered no more than half of the problems in this arithmetic test correctly. Half of the pupils in the other vocational programmes do not meet this criterion and the same is true for a quarter of pupils in the theoretical programme. In havo (senior general secondary education), approximately 10 per cent of the pupils answered no more than half of the arithmetic problems correctly. Vmbo pupils (pre-vocational secondary education) on average rarely achieve the level of pupils at the end of primary year 6.

**A new balance** In recent years great effort has been given to reforming both language and arithmetic instruction. Added emphasis has been placed on oral language skills, comprehensive reading and understanding numerical structures. Although significant progress has been achieved since then, there are now risks apparent in the more traditional subjects such as grammar, spelling and the basic processes in arithmetic. In

language and arithmetic instruction, it is important to strike a new balance between the new elements and the more traditional basic skills.

There is a need for clarity with respect to the expected level of proficiency in language and numerical skills for the different phases in education: the current attainment targets are too general. The Education Council has proposed the establishment of learning standards at three levels: basic, sufficient and advanced. The Inspectorate sees the great advantages of learning standards for both intermediate and the completion levels of primary and secondary education. This will give schools a clear picture of the proficiency levels their pupils must achieve and a clear basis for reporting progress, also to the Inspectorate. It is also important for the final level of primary education to be assessed more precisely, taking into consideration the different types of secondary schools. Secondary education needs this kind of standardised information.

### 3.2 Pupils that need extra attention

**The quality of special primary education** The most significant shortfall in quality in special primary education concerns the accountability for the results of the education provided. Only a limited number of schools are able to compare the results of education provided with prognoses based on the characteristics of the pupils. Special primary schools are still insufficiently able to show that they realise the full potential of their pupils. For this reason, the Inspectorate has placed half of these schools under a form of intensified supervision.

Apart from this essential shortfall, progress has been achieved in comparison with 2002 if we look at the quality aspects of teaching content and pupil care, which were assessed as being insufficient at that time. More special primary schools now meet significant indicators of both aspects. The predominant 'listen-and-follow' method of working from 2002 is slowly giving way to a more plan-oriented approach. However, many schools have formulated no development plan for their pupils and, due to the lack of this plan, cannot sufficiently give an account of the results of the education they provide. Another reason for concern is the fact that approximately one-third of the schools are lagging behind considerably. Without targeted intervention, a substantial number of these approximately one hundred schools will definitively miss the link with the rest of the schools. The immediate and serious consequences this will have for the pupils of these schools makes it necessary to take measures.

**Pupils with behaviour problems** Increasingly, schools are facing difficulty with pupils that display behaviour problems. This is apparent, among other things, from the growth of schools for children with serious behaviour problems and the growing waiting lists for this type of schools. Also, the number of 'pupils with a personal budget' identified in mainstream education is increasing sharply. This, in turn, is placing great pressure on the peripatetic supervision that must be provided from the Regional Expertise Centres. Greater pressure is also being placed on the rebound facilities in secondary education. The Inspectorate has conducted a study into the quality of the education provided in institutions for children with serious behaviour problems and into the quality of the special needs care and supervision given to pupils with a recommendation to enrol in this type of education, both in primary education and secondary education. In 2007, the Inspectorate will conduct a study of the rebound facilities.

**The quality of special (secondary) education in schools for children with serious behaviour problems** Only a few special schools for children with serious behaviour problems are able to provide accountability reports for their results. They also rarely evaluate the quality of the education provided. Only 30 per cent of the schools regularly evaluate the quality of their pupil care. Only one-fourth of the schools establish a development plan for all pupils. Most of the schools do draft individual education plans. In most of these cases, they are sufficiently functional, though at most of the schools there is a discrepancy between individual education plans on paper and the (remedial) teaching of the team members in the classroom.

Last year the Inspectorate stated that it expected it would take a year or two before the special secondary schools met all new legal regulations in the area of special needs and supervision. The Inspectorate saw this expectation confirmed this year in the study conducted at the schools for children with serious behaviour problems: one-third of the schools do not consult the parents when drafting individual education plans, 40 per cent of the schools have no coherent system to monitor the development of the pupils and at a majority of the schools there is still no systematic evaluation of the implementation of individual education plans. The Inspectorate has placed more than 60 per cent of these institutions under a form of intensified supervision.

‘Pupils with a personal budget’ in mainstream education Pupils with a recommendation for a school for children with serious behaviour problems can enrol in regular schools if their parents want them to and if the school in question accepts them. By law, the school is then required to draft an individual education plan in consultation with the parents that describes what the goals are and what the education will look like. Such a plan also justifies the use of the pupil-linked budget (the personal budget); parents have to sign the plan. Both in primary education and in secondary education, however, these individual education plans are generally of an insufficient quality. Often the parents have not signed them and no insight is provided into the desirable teaching strategy of the teacher.

**Dropout rates in secondary education** It appears that 2.4 per cent of the pupils enrolled in secondary education in 2003/2004 left education in 2004 without a basic qualification. In total, this concerns nearly 21,500 young people. The remaining pupils earned a havo or vwo diploma and/or transferred to other types of education in regular vocational education or higher education. The aforementioned 21,500 young people are a very heterogeneous group. Each (sub)group requires a particular approach: for the more than nine thousand young people that enter the job market with only a vmbo diploma, other measures are necessary than those needed for the group of over 4,500 young people that give up on education during the lower years of secondary school. The same is true for the approximately four thousand young people that leave basic or middle management vocational programmes without a diploma and the nearly 3,500 young people that leave a theoretical programme, havo or vwo without a diploma. The large numbers of young people that leave secondary education for the labour market without a basic qualification and without an vmbo diploma can predominantly be found in the rural areas of the Netherlands and to a large degree in the three large cities of the Netherlands. This probably requires a specific approach as well.

There are sharp differences between schools when it comes to early school-leavers. At approximately 10 per cent of secondary schools, the proportion of early school-leavers is less than 0.5 per cent of the total pupil population. An equal percentage of these schools have 6 per cent or more early school-leavers.



Several differences can be pointed out between schools with few early school-leavers and schools with many early school-leavers: schools with low dropout rates introduce coherence to the curriculum, they provide pupils with sufficient learning time to master the subject matter in the curriculum and they provide good assistance to pupils, especially to pupils with specific educational needs. They also have a good school climate: teachers and pupils relate to one another in a more positive manner. These schools are also safer, the learning environment functions better and is more challenging for the pupils. They make every effort to help pupils enjoy the challenge of learning.

**Dropout rates in vocational education** Vocational education has a relatively large number of early school-leavers: nearly 41,000 in 2004. This is almost 38 per cent of the total number of school leavers (both qualified and unqualified). With respect to type of education, part-time vocational training comes to the fore in a negative sense: three-quarters of those pupils leaving depart the programme without a basic qualification. Early school leaving occurs pretty much equally in all age groups and in all sectors.

**Dropout rates in higher education** In higher education in 2005, 10 per cent of the students dropped out in the first two years. In higher professional education, the dropout rate was higher than at university level. In some programmes such as primary school teacher training colleges, previous education and age play a role in the dropout rates among students.

The number of ethnic minorities in higher education is increasing, but is nowhere near the proportion of this group within the population of the Netherlands as a whole.

### 3.3 Teachers

**Teachers play an important role** The role of teachers in limiting the number of young people that leave education prematurely is crucial. They have a greater influence than anyone on the development of basic skills in reading and arithmetic and they play a key role in letting young people enjoy learning. This is important for young people at a time when 'lifelong learning' is a necessity. Teachers that analyse the progress of pupils are in a position to determine what adaptations to the curriculum or to the teaching-learning process are necessary. Through good teaching methods and by promoting self-confidence in pupils, they can ensure that a pupil keeps his mind on his studies. This is necessary for them to acquire basic skills such as reading, spelling and an understanding of numbers and figures. Encouraging pupils and creating a safe and motivating environment for the pupils also prevents them from dropping out.

**Language and numerical skills of student teachers** Recently the quality of student teachers entering the profession from primary school teacher training colleges has been under discussion. The language and numerical skills of the student teachers have been a particular point of concern. For this reason, measures have been taken to improve the language and numerical skills of student teachers. In view of the crucial role that teachers play in teaching these basic skills, in imparting a joy of learning to pupils and in preventing early school-leaving, it is vitally important to invest in the quality of the teacher.

**Teacher shortages** If the economic recovery continues, primary education will face problems in the future with recruiting teachers. This will be a particular problem at

schools with a relatively large number of disadvantaged pupils. The biggest shortage, which can rise to 5 per cent during an economic boom, seems to become apparent in the acquisition of school heads.

In secondary education, expectations for the future are even more sombre. At a large number of schools there is a danger of a large shortage developing, particularly for the exact science subjects (primarily maths), modern foreign languages and Dutch. Shortages are also expected to occur in subjects that are not available at all schools, such as classical languages and vocational subjects. It is vitally important that everything is done to tackle the problem of teacher shortages.

### 3.4 Teaching time

Research has shown that pupils underachieve when they are not given enough time to master the attainment targets and the exit qualifications. Recent data gained from supervision also shows a clear relationship between the results in basic skills and the time that schools devote to these skills in the classroom.

**Primary education** Primary schools with sufficient final results for language and arithmetic have more often scheduled sufficient teaching time for these basic skills than have schools whose results are below standard. Also, the co-ordination of the amount of time given to language and reading with the educational needs of pupils appears to correspond clearly with the higher final results for language, reading and arithmetic. In 97 per cent of primary schools, teachers make efficient use of the planned learning time. In 87 per cent of primary schools, the learning and teaching time for language and arithmetic is sufficiently adapted to the educational needs of the pupils.

**Secondary education** In the months of May and June 2006, the Inspectorate of Education conducted an unannounced study into the teaching time in secondary education and senior secondary vocational education. At virtually all the secondary schools, it was found that the teaching time actually realised did not meet the legal requirements. At the end of the school year, especially, considerable teaching time is lost. Approximately half of the secondary schools have eight or more days without any activities for pupils. A follow-up study conducted by the Inspectorate of Education in 2006 again showed that 14 of the 25 secondary schools did not have their timetable in order and that 4 of the 25 schools could not demonstrate whether or not they actually realised the legally required 1,040 teaching hours (Inspectorate of Education, 2006).

**Vocational education** Full-time study programmes in vocational education should provide a minimum of 850 hours of face-to-face instruction each school year. This is a requirement for participants in order to qualify for student aid and for the institutions in order to receive full-time funding. The study showed that 28 per cent of the programmes did not meet the required amount of teaching time: one of their course years comprised less than 850 hours of teaching. Most of the shortfalls occurred in the initial years of the longer study programmes. Those are the course years in which the programme often does not include any practical training and in which insufficient teaching time is provided as compensation. If insufficient teaching hours were provided in a particular course year of a study programme, it generally was not a marginal shortfall. In 55 per cent of these cases, the shortfall was greater than 75 hours. The average shortfall was 113 hours. In the 2006/2007 school year, a follow-up study was conducted into teach-

ing time. The situation in senior secondary vocational education has since improved. In 24 of the 25 study programmes, the timetable is now in order. However, nine of the 25 study programmes still have problems with the registration, the monitoring and the accountability provided for the hours of teaching they put in.

### 3.5 Innovative teaching practices

**Positive points and bottlenecks** The Inspectorate of Education estimates that in primary education approximately 6 per cent of the schools are highly innovative and that in secondary education 7 per cent of the schools are highly innovative. The Inspectorate visited a small number of these primary schools and found several bottlenecks in the results of pupils and the education provided. In secondary education, the Inspectorate assesses the highly innovative schools more positively than other schools with respect to the special needs care given to pupils, but less favourably on the points of quality assurance and instruction. In senior secondary vocational education, a third of the study programmes is experimenting with 'competency-oriented learning'. There are no differences with other study programmes with respect to teaching time or the assistance to pupils. Complaints about these programmes are often focused on poor organisational preconditions for the innovations.

## 4 The guarantee of basic quality

An important element in the guarantee of basic quality consists in conducting risk analyses. These form the basis for the supervision of the weak and very weak schools and other educational institutions.

**Very weak schools** In the 1999/2002 period, it was found that 4 per cent of primary schools were very weak. In 2003/2006 the proportion amounted to some 1.5 per cent. In special primary education, ten schools are very weak. Among the institutions for special education, 14 schools and/or departments are very weak. This primarily pertains to schools for pupils with (serious) behavioural problems. The Inspectorate has serious concerns about the quality of the education provided at these schools.

In secondary education, 15 schools have been designated as very weak. Just as in primary education, this concerns schools at which both the results and the quality of the teaching-learning process are below standard.

At institutions for vocational education in the 2003/2006 period, 428 units were studied. Eight per cent of them were found to provide insufficient quality.

It is important to take firm action with respect to very weak schools and educational institutions when school boards themselves are not taking responsibility for the situation. At the national level, the Inspectorate conducts analyses to identify schools that run the risk of becoming very weak. The study into improving the quality of these schools is carried out by a specialised team of inspectors. An 'intervention ladder' is developed: the slower the development process of very weak schools is progressing, the more invasive the intervention.

**Schools at risk** In primary education, approximately 12 per cent of the schools are at risk of becoming very weak. This is because these schools have falling results or results that barely meet the grade, because the teaching process is found to have major shortcomings, because the school management is weak or because there are major differences of opinion concerning teaching strategy within the school team.

In special primary education and the institutions for special education, approximately half of the schools run the risk of becoming very weak.

Approximately 14 per cent of secondary schools run the risk of becoming very weak because the final exam results of the pupils are below the level that could be achieved by their pupil population.

At these schools at risk, a follow-up periodic inspection will be conducted within two years. The Inspectorate aim is that that this intensified supervision will prevent these schools from becoming very weak.

**Transition from primary education to secondary education** In the third course year of secondary education, one in four pupils is no longer enrolled at the level of education corresponding with the recommendation they were given at the completion of primary school. More than 11 per cent of the pupils transfer to a type of education that is at a lower level than the one they were recommended for by their primary school. 12 to 13 per cent of the pupils, on the other hand, enter a type of education at a higher level. More than 3 per cent of the pupils repeats the first or second course year.

To a large degree, this can be explained by the fact that the content of education and the teaching strategy in primary education and secondary education correspond insufficiently. This is also no simple task, because nearly half of the secondary schools are

fed by more than thirty primary schools. Each of these schools has its own identity and is autonomous.

Almost all primary schools give sufficient attention to the transfer of information about the pupils. There are, however, indications that the teachers in the final primary year are insufficiently informed about the possibilities within the first cycle of vocational education. It is difficult for them to make a distinction between the level of the different vocational programmes. Also, the combined theoretical and vocational programme is incorrectly considered as a programme that is midway between the middle management vocational programme and the theoretical programme. The strong preference of parents to send their child to the theoretical programme of vmbo also plays a role in the large number of later transfers to the vocational streams of these schools.

**The quality of education matters** There are also indications that the quality of secondary education matters. During the 2004/2005 period, it was found that, at a little over 1 per cent of schools, no pupils in the lower years of secondary education had to repeat a year nor were transferred to a type of education at a lower level. At more than 11 per cent of the secondary schools, more than 10 per cent of the pupils had to repeat a year in the first two years or more than 20 per cent of the pupils were transferred to a type of education at a lower level. At schools where more pupils repeated years or the transfers to lower levels were higher, the instruction of teachers seem to be less clear, educational activities have less structure, (work) conditions are less orderly and the pupils are less involved in the teaching-learning process. The teaching climate is less stimulating and the pupils experience the school as being less safe. Locations where pupils have not repeated years and transfers have not occurred show not only a better teaching-learning process, but also better results.

**Intelligence and level of educational attainment** Intelligence as measured by IQ tests provides an indication of the capacities of pupils and the educational level they can achieve. A study conducted by the Education Council shows that 12 per cent of the pupils in primary education have considerably lower scores on the Primary School Leavers Attainment Test than one would expect based on their level of intelligence. The same study shows that the school report marks of 4 to 10 per cent of secondary school pupils for the subjects Dutch, English and maths are below what would be expected for them given their IQ. The percentage of underachievers is the largest among havo pupils and the smallest among vwo pupils. Underachievement is more prevalent among ethnic minority pupils whose parents have a low level of education. It is a crucial task of the school to ensure that all pupils perform according to the level of their abilities. Parents should be able to expect that the education provided enables pupils to develop their full potential.

## 5 The quality of accountability reports provided by schools and educational institutions

Since the 1999/2000 school year, the Inspectorate of Education has become increasingly strict, taking into consideration the development process of schools and educational institutions, in ascertaining whether the accountability reports that educational institutions provide about their teaching results meet the elementary requirements of validity, reliability and national standardisation.

**Quality assurance** A fixed element is the question whether the institutions show sufficient concern for the quality of the education provided. The development of quality assurance in education seems to be progressing slowly. The percentage of primary schools that annually evaluate the quality of the results and the teaching-learning processes hovered around 40 per cent during the 2003/2006 period.

In secondary education during this period, the percentage of schools that systematically and regularly ascertained the quality of the education they provided was about 30 per cent.

In vocational education, where higher requirements are established for quality assurance, the percentage of institutions at which the quality assurance is sufficient has stagnated at 23 per cent.

One problem is that those schools whose quality is below standard are the very ones that do not have their system of quality assurance in order. The developments in the area of quality assurance do not correspond with the preferred process of development in the direction of good educational governance and the school taking its own responsibility.

**Accountability report of educational achievements** With the greater autonomy that schools now have, it is appropriate that they should be able to demonstrate to what extent they have been able to bring young people in their development. This concerns not only the pupils' cognitive achievements, but also their social and creative achievements. Schools should be able to demonstrate that they are fully tapping the abilities and talents of pupils. In this context, they should also be able to show how they give young people an understanding of 'citizenship' and of how our society functions. And no less important is the question: what have schools done to impart a joy of learning to their pupils? It is an attitude that will serve them well throughout their lives.

Accountability in this sense continues to be a problem at too many schools, even when they do not yet take into consideration the entire spectrum of what pupils learn. The problem varies: it occurs that not all pupils take tests meant to assess the results at the end of primary education; a secondary school, for example, may not entirely meet the legal examination regulations. Also, the degree to which schools guarantee the quality of tests for the school examinations should improve. By no means are the school examination tests checked by a second subject teacher at all the schools. At a number of schools, the difference between the scores for the school examination and those for the national examination is too large. Finally, in vocational education, the guarantee for the examinations by the Quality Centre for Examinations (KCE) is insufficient.

In order to give a reliable account of the educational achievements, it is necessary that the results of all pupils can be compared in an objective and standardised manner. In primary and secondary education, this is certainly an essential condition that goes hand in hand with having greater autonomy.

**Taking stronger action when necessary** As long as schools and educational institutions fail to meet expectations with respect to providing a good accountability report on the quality of the education they provide, a proper form of external supervision will continue to be necessary. The Inspectorate has started to take stronger action at schools whose accountability for the quality of the education they provide is below standard. In primary education, it is the Inspectorate's particular responsibility to ensure that schools give an account for all pupils concerning the accomplishment level they have achieved. In secondary education, the inspection of the quality of the school examinations and of the discrepancy between the level of the school examinations and the level of the national examinations has been intensified. As stated earlier, the same is true for inspecting teaching time in secondary education and vocational education.

## 6 Towards new supervision

At the beginning of this chapter, we wrote: 'The school cannot do it alone'. Inspection should not be limited to education, but should be seen in the broader context of the policy on young people. Inspection that promotes the interests of children should be based on a wide-ranging approach to risks so that each child is given the opportunity to develop. This requires three types of supervision: (a) supervision of institutions, (b) chain-focused supervision, and (c) theme-focused supervision. In each type of supervision, the concepts of 'less burden' and 'greater effect' are key points of focus. (BZK, 2001; OCW, 2006b).

**Supervision of institutions** Supervision should be effective and place as little burden on the schools and institutions as possible. A number of steps have already been taken, but more are necessary. The supervision of the Inspectorate will be risk-oriented, in a way that the accountability report the school provides on its policy and results form the primary source for the inspection. This accountability report will be supplemented by and tested against information from independent sources. The 'supervision product' is therefore no longer the inspection at the school, but now consists of the package of agreements reached with the school on a range of inspection interventions in the near future. This calls for a programmatic approach to compliance, coupled with a clear and effective repertoire of interventions. Currently, schools must deal with different supervisors. To reduce this burden of supervision further, it is best to introduce additional co-ordination between national supervision (Inspectorate of Education, Auditing Department, Central Funding of Institutions Agency et al) and supervisors from other government levels. This should be coupled with a more coherent management over the full range of all organisations that are active with young people in order to facilitate greater coherence in the supervision of these organisations. So the focus is not on schools alone, but the entire social context of pupils.

**Chain-focused supervision** Many risks for young people occur at the margins of institutions and to some degree fall within the sphere of youth welfare work, social work, school attendance officers and the law. For a number of years now, the Inspectorate of Education has played an important role in the development of risk-oriented supervision throughout the chain. This is done in close co-operation with other inspectorates that are concerned with the youth sector within the Integral Supervision of Jouth Affairs (ITJ) programme. It fits in with the development of a coherent policy on young people in order to further develop supervision in this direction.

**Theme-focused supervision** The quality of the Dutch education system is more than the sum of the quality of the institutions within it. Different factors inside and outside schools have impact on the operation of the system. This could include things such as the degree to which 15 year-olds master basic skills, the special needs care provided to weak pupils and pupils dropping out of school. Another example is the shortage of teachers, which represents a very real risk to the quality of education and the operation of the institutions. For studies into such factors, theme-focused supervision contributes to identifying the risks for young people.



**Three forms of supervision** The Inspectorate of Education achieves these three forms of supervision in a cohesive manner. Based on the analysis it makes, the Inspectorate decides each time which approach will make the most effective contribution to solving the problems found in our education system.

A handwritten signature in black ink, consisting of a vertical line on the left, a horizontal line extending to the right, and a curved line that loops back to the right and then down.

The Inspector General of Education,  
J.H.J. Teuwen

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ISBN 978-90-8503-084-3



The Netherlands Inspectorate of Education  
P.O. Box 2730  
3500 GS Utrecht

T +31 30 669 06 00  
F +31 30 662 20 91

E [info@owinsp.nl](mailto:info@owinsp.nl)  
[www.onderwijsinspectie.nl](http://www.onderwijsinspectie.nl)

Additional copies can be requested under number 2007-15, 22BR2007B015 from Postbus 51,  
phone +31 70 3081985, [www.postbus51.nl](http://www.postbus51.nl)

# Colofon

This publication is published by The Netherlands Inspectorate  
of Education in May 2007

**Coordination** Brenda Boon (management assistant)  
Wim van de Grift (project leader)  
Leon Henkens (chair)

**Public relations** Daniel Bourguignon  
Melanie Cramer-Mulder  
Harm van Gerven  
Daisy Hombergen  
Gerard de Vries

**Literature review** Frans van den Bedem  
Evelien Evenhuis  
Michel Stoc

**Design** Blik grafisch ontwerp, Utrecht

**Photografie** Shutterstock Inc.  
Blik grafisch ontwerp, Utrecht

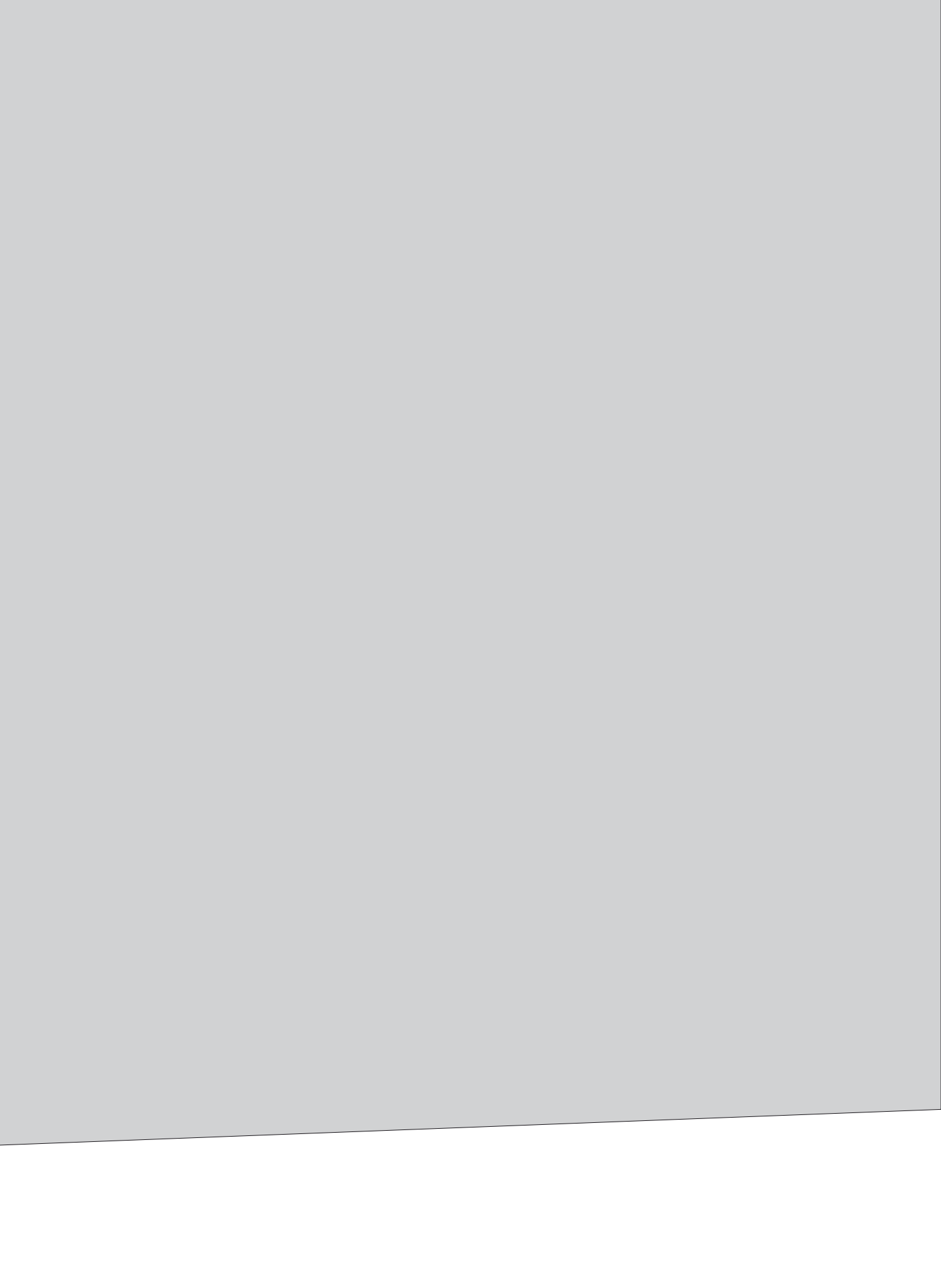
**Printing** OBT bv, Den Haag

## Authors and analysts

Jan Willem Baten  
Vic van den Broek-d'Obrenan  
Henk den Boer  
Bep Corporaal  
Hans Dekker  
Rinske Doehri-Plomp  
Dré van Dongen  
Anne Bert Dijkstra  
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Monique Visser  
Bert de Vries  
Geertje van der Wal  
Ingrid Wijgh  
Inge de Wolf



# Schrödinger

$$H\psi = E\psi$$

$$\frac{\hbar^2 \nabla^2}{2m^*} \left( \sum_n C_n(k) e^{i(k \cdot r)} \right) = E \psi$$

$E_c$

$$\nabla^2 \psi = -\frac{2m^* E}{\hbar^2} \psi$$

$E_c - E_g$

$$\left( \frac{\hbar^2 \nabla^2}{2m^*} + U \right) \psi_k(k) = E \psi_k(k)$$

