KNOWLEDGE AGENDA FOR EDUCATION
LET’S GET STARTED!
CONTENTS

Introduction 3
Getting started with the knowledge agenda 4
The route map to the knowledge agenda 6
Interview with a teacher and a researcher who contributed to the Knowledge Agenda 9

KNOWLEDGE AGENDA THEMES:

STUDENTS’ KNOWLEDGE AND SKILLS 12
ACCESS TO A MORE INCLUSIVE LEARNING ENVIRONMENT 19
TECHNOLOGY IN EDUCATION 24
EQUAL OPPORTUNITIES 30
QUALIFICATIONS OF FUTURE TEACHERS AND THE QUALITY OF THEIR TRAINING 36
SCHOOL AS A LEARNING AND PROFESSIONAL ORGANISATION 42

References 49
Acknowledgements 56
How can we make sure that every pupil and student in the Netherlands receives high-quality education? What can we do to make sure that every child and young adult is free to develop to their full potential and to participate in our rapidly changing society? And, how can we shape an education system that is ready for the future ahead?

These are important, complex questions that arise from real concerns about issues including equal opportunities, decreasing literacy and school dropouts. They are questions that are being asked throughout the education sector and that need to be answered in unison and based on knowledge. But, where to start? The first Knowledge Agenda for Education provides some pointers.

**Themes with impact**
To develop the Knowledge Agenda for Education, teachers, school managers, school governors, policymakers, teacher trainers and education researchers together considered the future of education. They identified the six themes that can make a difference: themes that will have the greatest impact on the quality of primary, secondary and secondary vocational education.

The Knowledge Agenda describes these six themes and identifies ‘game changers’ for each theme: opportunities for bringing about significant change. The aim of the Knowledge Agenda is to guide evidence-informed educational practice, add to knowledge on the main themes in education and encourage research on these themes.

**How to use the Knowledge Agenda**
The Knowledge Agenda is ready, but this is only the start. Would you like to contribute to evidence-informed educational practice? If so, get started with the Knowledge Agenda!

You can use the six themes to start a discussion, share knowledge and initiate new research projects. For example, you could talk to colleagues about how your pupils, students and schools stand in relation to these themes. What is going well, and what knowledge and experiences could you share with other schools and education partners? And, which themes still need working on? What are the research questions that will particularly benefit education, and which research initiatives could you and your colleagues develop to create new knowledge? The opportunities and possibilities are endless!

**Proud**
We are proud to work together as the education councils of the Netherlands and NRO on this first Knowledge Agenda for Education. We hope that it will signal the start of a broader movement to together develop evidence-informed high-quality education for every pupil and student.
Every child and young adult in the Netherlands is entitled to good education. This may seem obvious, but to achieve it, a continuous effort needs to be made at every level: that of the government, school governors, schools and education professionals. One reason for this is that society is changing rapidly, and the demands being made of education are changing accordingly. Which choices do schools need to make? What works, and what does not? The Knowledge Agenda for Education has been developed to help education professionals and researchers answer these questions.

The Agenda identifies the six main themes for which more knowledge is needed – now and in the future – in order to provide high-quality primary, secondary and secondary vocational education. Education professionals and researchers have worked closely together to develop this Knowledge Agenda, but how exactly can the Knowledge Agenda be used in education?

A high-quality, future-proof education system requires continuous reform and innovation, and this requires knowledge. It is therefore important that schools and school governors take an evidence-informed approach: that they base changes on knowledge gained from research and educational practice. Only then can they make well-informed choices and improve the quality of the education they provide. Such an evidence-informed approach can only work if the link between education and research is strengthened, so that the knowledge gained from research is disseminated more quickly and more widely and is better aligned with educational practice.1

Such a learning education system requires a properly functioning knowledge infrastructure in which education professionals and researchers can learn from one another. This infrastructure consists of various elements that build on each other in a continuous cycle. Education professionals and researchers contribute their expertise to each of these elements.2

GETTING STARTED WITH THE KNOWLEDGE AGENDA

1. [Link to source]

2. [Link to source]
1. **Formulate questions**: design realistic research questions based on current needs in education;
2. **Develop knowledge**: create new knowledge to answer these questions based on research;
3. **Provide access to knowledge**: ensure that the resulting knowledge is useable and accessible;
4. **Share knowledge**: encourage the dissemination of knowledge on what does and what does not work through various networks and initiatives;
5. **Use knowledge**: encourage the application of knowledge obtained through research in the classroom, in the school and in the education system.

The current knowledge infrastructure as it stands in the Dutch education system is not yet optimal. For example, the five education councils of the Netherlands (PO-Raad, VO-raad, MBO Raad, Vereniging Hogescholen (The Netherlands Association of Universities of Applied Sciences) and Universiteiten van Nederland (Universities of the Netherlands)) highlight the need for a formal connection between practice and research. Strengthening the involvement of education professionals in education research would increase the applicability of research results to schools and governing boards.

In the 2019 advisory report *Slimme verbindingen* (Smart Connections), the councils suggested various initiatives for strengthening the knowledge infrastructure. The Knowledge Agenda for Education is one of these initiatives.

**Let’s get started!**

The Knowledge Agenda for Education is now ready to be used by education professionals and researchers. It can be used as a basis for discussions with colleagues, to share insights or to initiate new research projects. Let’s get started, for high-quality, future-proof education!

**Structure of the report**

The Knowledge Agenda contains descriptions of the six most important themes in the future education system. For each theme, we describe the background and the current state of affairs, before going on to consider the game changers, which are identified based on the academic literature and experiences in educational practice. By way of illustration, a few possible questions are included that are relevant to the theme or the game changer. These questions are intended to serve as examples only: other questions are of course also possible.

Anyone reading through each theme may notice that there is some overlap. For example, technology can be used to ensure equal opportunity, but also to create a more inclusive learning environment. The importance of leadership and the competence of education professionals is also discussed in several themes. It is therefore important not only to develop and utilise knowledge for each of the separate themes, but also across the themes as a whole.

Before describing the six themes, we first explain the background to the Knowledge Agenda and the people involved in its development. This is followed by the thoughts of a lecturer and a researcher on the process by which the Agenda was developed. Throughout the Knowledge Agenda, we cite education professionals and researchers who contributed to the Agenda.

Brief descriptions are then given of the themes. The full descriptions, including a more detailed overview of possible knowledge questions, can be found at nro.nl/onderzoeksprojecten/kennisagenda.
How did the Knowledge Agenda come about? Who contributed, and what were the main underlying principles? In other words, what did the route map to the first Knowledge Agenda for Education look like?

THE KNOWLEDGE AGENDA IN THREE STEPS

The Knowledge Agenda for Education was developed in three steps:

1. **Identify**: What are the most important themes in primary, secondary and secondary vocational education?
   Based on a literature study and an online questionnaire that was completed by over 250 teachers, school managers, school governors, policymakers, teacher trainers and education researchers in primary, secondary and secondary vocational education, a longlist of 19 important themes for education was drawn up in 2021.

2. **Prioritise**: What are the most important themes for continued high-quality education?
   About 150 teachers, school managers, school governors, policymakers, teacher trainers and education researchers in primary, secondary and secondary vocational education took part in six online co-creation sessions, in which they ordered the 19 themes according to their importance. This resulted in a clear top six (shortlist).

3. **Develop**: What is the current state of affairs regarding the themes in primary, secondary and secondary vocational education? What are the game changers for each theme?
   The six themes were further developed and described by experts. The descriptions are based on academic and practice-relevant knowledge of education. Each theme was developed based on input from teachers, school managers, school governors, policymakers, teacher trainers and education researchers in primary, secondary and secondary vocational education.
WHO TOOK PART?

Many people and organisations were involved in developing the first Knowledge Agenda. Following the recommendation made by the education councils to develop a Knowledge Agenda, NRO put in place a process to achieve this. The education councils and the Dutch Ministry of Education, Culture and Science also had input into the process. NRO decided to develop this Agenda because, together with the Ministry of Education, Culture and Science’s 2019-2024 Strategic Knowledge Agenda, it makes an important contribution to the 2021-2025 NRO research programme.

One criterion for the development of the Agenda was that education professionals - who are after all acquainted with the issues and will ultimately implement the knowledge in practice - should be given a prominent role in the various steps. It is for this reason that an attempt was made throughout the process to ensure a dialogue based on equality between teachers, school managers, school governors, policymakers, teacher trainers and education researchers: in other words, co-creation.

This Knowledge Agenda would not have been possible without the contribution and cooperation of hundreds of education professionals and researchers from every education sector and discipline. More than 35 education organisations contributed by disseminating information about the Knowledge Agenda and by asking education professionals and researchers to take part. As a result, more than 700 teachers, school managers, school governors, policymakers, teacher trainers and education researchers in primary, secondary and secondary vocational education were prepared to contribute. Their participation was essential for achieving a broadly supported Knowledge Agenda.

Wherever possible, we also sought to connect with other initiatives in the knowledge infrastructure, such as research-oriented expertise platforms, communities of research and practice, knowledge networks and the collaborative research platform ‘Platform Samen Onderzoeken’.

‘The Knowledge Agenda makes it possible to work on education issues beyond the boundaries of your own school or programme. For the issues of today, this is a must, as they are too complex to tackle on your own.’
Hendrin Heldens, lecturer-researcher in higher education
PEOPLE AND ORGANISATIONS INVOLVED IN THE DEVELOPMENT OF THE KNOWLEDGE AGENDA

ORGANISATIONS INVOLVED: ALGEMENE DIRECTEUR, OVERLEG EDUCATIEFACULTEITEN • ALGEMENE VERENIGING SCHOLEN • BEROEPENVERENIGING ACADEMICI • BASISONDERWIJS • BEROEPENVERENIGING OPLEIDERS MBO • CONNECT GROEN • DIDACTIEF • HOGESCHOLEN • INSPEKTIE VAN HET ONDERWIJS • INTERUNIVERSITAIR CENTRUM VOOR ONDERWIJSWETENSCHAPPEN • INTERUNIVERSITAIRER COMMISSIE LERARENOPPLEIDINGEN • JONGEREN ORGANISATIE BEROEPSONDERWIJS • KENNISINSTITUTEN • KENNISNET • KENNISROTONDE • LANDELIJK AKTIE KOMITEE SCHOLIERS • LANDELIJK OVERLEG MASTER LEREN EN INNOVEREN • LERARENONTWIKKELFONDS • LERARENCOLLECTief • MBO RAAD • MINISTERIE VAN ONDERWIJS, CULTUUR EN WETENSCHAP • NATIONAAL REGIOORGAN ONDERWIJS ONDERZOEK • NEDERLANDSE ORGANISATIE VOOR WETENSCHAPPELIJK ONDERZOEK • NETWERK LEIDINGGEVENDEN PASSEND ONDERWIJS • PLATFORM SAMEN ONDERZOEKEN • PLATFORM VAKINHOUDELIJKE VERENIGINGEN • VO • PO-RAAD • PRACTORATEN • SCHOLEN • DE TOEKOMST • SECTORRAAD GO • STICHTING PLATFORMS VMBO • TRAINEES • UNIVERSITEITEN • UNIVERSITEITEN VAN NEDERLAND • VERENIGING VOOR ONDERWIJS RESEARCH • VERENIGING HOGESCHOLEN • VERENIGING LERARENopleiders NEDERLAND • VO-RAAD
‘I SEE THE KNOWLEDGE AGENDA AS A STARTING POINT’

Interview with a lecturer and a researcher who contributed to the Knowledge Agenda

The Knowledge Agenda was shaped by education professionals and researchers. Two participants were interviewed about their opinion of this process: Erna van Hest and Gézina Trouw. What do they think the Knowledge Agenda will achieve? “It can be used not just to improve education, but also the well-being of teachers and lecturers.”

Gézina Trouw is a lecturer in nursing and a member of the board of BVMBO, the professional association for lecturers in secondary vocational education. Why was it important for her to participate in the Knowledge Agenda? “All too often, people talk about teachers and lecturers, instead of with them. I saw participation in the Knowledge Agenda as an opportunity to have a say and be involved. Plus, it was hugely interesting. This is my work! How can you not want to contribute?”

Erna van Hest, Director of Education of the Research Institute of Child Development and Education at the University of Amsterdam: “As well as director of education, I also coordinate the Werkplaats Onderwijsonderzoek Amsterdam (Amsterdam Research Workshop for Education). Here, I work closely together with teachers and lecturers, so that I can see what is needed in educational practice, and I wanted to see this reflected in the Knowledge Agenda. And of course, I also represent the researchers. There had to be something in it for them too.”
BRINGING RESEARCH AND PRACTICE CLOSER

Education professionals can sometimes feel that education research and practice are far removed from one another; was that noticeable during the sessions? Gézina starts laughing: “Yes, because if you had shown me the chosen themes at the start, I would have said: ‘I’m not interested.’ I really had other themes in mind.” Even so, she fully supports the final Knowledge Agenda. “Because the result is based on good, well-considered discussions that got me thinking differently about things.” She pauses briefly, then continues: “I realised that I had become a bit blinkered, and thought: ‘You know, you could also look at things from a different point of view.’”

Erna also learned from the interaction between research and practice. For example, she would never have chosen the theme Students’ Knowledge and Skills. “Because I thought that comes naturally if the teachers and lecturers are well trained. But that was based on my perspective as director of a teacher training programme, and the arguments that the teachers and lecturers put forward to include this as a separate theme were made so passionately that it touched me, and I understand it now much better now.” She adds: “I think that the whole process has brought research and practice closer to one another.”

LOOKING AHEAD

Looking ahead to the implementation of the Knowledge Agenda in practice, Gézina has a request: to not only involve education support professionals in initiatives, but also the teachers and lecturers themselves. “Otherwise, it is the people outside the classroom who determine what needs to change, and that doesn’t work.” But have teachers and lecturers got the time, given the acute shortage of teachers? “Time is an issue, certainly, but it also gives you a huge amount of energy, finding solutions to problems that you have been coping with for so long. And don’t forget, the solutions can also reduce the workload.”

Erna agrees: “My advice is mainly for the school governors. If you have teachers and lecturers who want to do research, try to give them the space to do something with the Knowledge Agenda. The standard response is: ‘We don’t have enough teachers, so we need everyone in the classroom.’ But the result will be that these teachers will soon become disappointed and leave. However, if you give them something they can really get their teeth into, what they learn can also help other colleagues. This improves the quality of education and the well-being of teachers at the same time.”

Gézina concludes: “There is so much knowledge, but so little is done with it, and that’s a shame. I therefore really think that the Knowledge Agenda represents a starting point. We are just getting started; not because it’s what I want, or what Erna wants, but because we have decided together that this is important.”
KNOWLEDGE AGENDA THEMES

STUDENTS’ KNOWLEDGE AND SKILLS 12
ACCESS TO A MORE INCLUSIVE LEARNING ENVIRONMENT 19
TECHNOLOGY IN EDUCATION 24
EQUAL OPPORTUNITIES 30
QUALIFICATIONS OF FUTURE TEACHERS AND THE QUALITY OF THEIR TRAINING 36
SCHOOL AS A LEARNING AND PROFESSIONAL ORGANISATION 42
As they go through the education system, students learn the knowledge and skills that they need to be able to function well in society. The term ‘knowledge and skills’ refers to the content of the educational programme that students need to learn: what should students learn at school? It is also important when the content is offered (the learning progressions), how the content is introduced and practiced (the teaching methods or resource-based approach), and why this is effective (the scientific basis and experiences in educational practice). The answers to all these questions should be considered in unison.

In the current Dutch education system, primary school pupils learn basic knowledge and skills that are broadened and deepened in separate subjects in secondary education. In secondary vocational education (MBO), the emphasis is on the knowledge, skills and attitudes required for specific professions, although attention is also paid to general knowledge and skills. Because of the many differences between the education sectors as far as this theme is concerned, they are here treated separately.
BACKGROUND

The Dutch education system has changed considerably over the past 100 years. Nowadays, education has a societal task too: teachers must teach their students not only to read, write and count, but also to learn about themselves, make choices, contribute to social cohesion and achieve success in their later studies and work. The demands being made of education are also changing faster than ever before, as educational innovations follow one another in rapid succession. The knowledge and skills required of students - and so the opportunities for improving educational quality – therefore also need to be kept up-to-date.

CURRENT STATE OF AFFAIRS IN PRIMARY EDUCATION

The content of the educational programme for primary education is currently described in 58 learning objectives, in the subjects Dutch, English (or Fries in Friesland), mathematics/arithmetic, personal and world orientation, artistic orientation and physical education. These learning objectives are intentionally kept general, so that schools can interpret them as they see fit.

Schools arrange the learning objectives in learning progressions, which describe what should be taught when. Schools may make use of example learning progressions, which organise the learning objectives by age or by year group. Alternatively, they can look for inspiration in the teaching methods produced by educational publishers, which also describe in which order the learning objectives can be taught. This usually seems to be from simple to complex, but the reasoning behind the order is not usually given. It is also unclear why certain knowledge or a particular skill is taught at a certain time.

The teaching method used in primary education is tailored to the development level of the child. While there is initially a focus on learning through play, the focus shifts in Groups 5 and 6 (age 8-10) to more structured instruction. At the same time, the use of physical learning materials gradually shifts to more symbolic representations. In Groups 7 and 8 (age 10–12), children are also encouraged to work independently. Working together - both as a means and an end - is encouraged throughout primary school.

CURRENT STATE OF AFFAIRS IN SECONDARY EDUCATION

The learning objectives and disciplines from primary education continue in the first few years of secondary education. Schools must spend at least two thirds of the instruction time on the learning objectives; the remaining one third can be used as they see fit. In the last two or three years of secondary school, students choose a profile and therefore no longer follow every subject. The knowledge and skills that students need to have acquired by the time they finish secondary school are described in learning outcomes, which are combined in subject-specific examination programmes.

More than in primary education, secondary school students are taught in subjects. The learning progressions are therefore largely subject-specific, although attempts have been made to develop a common learning progression for knowledge and skills that are taught in more than one subject. However, even in these learning progressions, which have been developed by researchers, the reason for their order is not given.

A lack of review studies on the subject means that it is difficult to obtain a complete overview of the teaching methods used in secondary education. The emphasis however seems to lie on teacher-centred instruction. In addition, teachers use a wide range of active learning methods to encourage students to work independently. Half of the schools provide differentiation for students who develop more quickly or more slowly, or differently from other students. Students are also expected to become more independent in the last two or three years of secondary school.
CURRENT STATE OF AFFAIRS IN SECONDARY VOCATIONAL EDUCATION (MBO)

Many occupations require specialist knowledge and skills. For this reason, occupational qualifications have been developed for secondary vocational education that describe the required knowledge, skills and attitudes that are needed to start work in a particular occupation. The qualifications are bundled in a qualification file, which consists of two parts: a basic part and a specific, ‘profile’, part. The basic part is compulsory for every MBO programme, while the profile part describes the knowledge, skills and attitudes for a particular occupation. Students may also choose optional subjects to enrich or extend the programme. The vocational education institution and employers together determine the qualifications and the optional subjects.

The learning progressions within MBO programmes are fairly fixed and are ordered according to complexity. Learning progressions between programmes have also received a lot of attention in recent years. These are continuous learning progressions, or flexible learning pathways, that are intended to reduce the problems that students encounter in the transition from pre-vocational secondary education to secondary vocational education. They also aim to ensure that more students leave secondary vocational education with a diploma.

Secondary vocational education is highly oriented towards the workplace, and students learn through practice or by completing work placements. The lessons are also often practical, practice-based and demand-oriented. The professional field also has a considerable input, for example by assigning practical assignments or providing guest lessons. Such practical and personalised lessons make differentiation possible, although it does not always take place.

GAME CHANGERS

There are various possibilities within the Students’ Knowledge and Skills theme for improving the quality of education. These relate to obstacles, opportunities and challenges that have the potential to be game changers. These potential game changers are more or less unrelated and are therefore presented here separately.
PRIMARY EDUCATION

1 A large-scale curriculum review is currently being prepared for primary education and the first two or three years of secondary education, in which clear choices are being made regarding the content of the educational programmes. The planned learning objectives will be tested in a few schools over the next two years. The question is to what extent the underlying principles of this curriculum review will be reflected in the actual curriculum.

2 Little is known about the scientific underpinning of the learning progressions, which seem to be largely based on unnamed educational practice. If there is indeed an insufficient scientific basis, some knowledge and skills may not be introduced at the best time for every student. Another problem is that the learning progressions may, as a result, make it difficult to identify gaps in learning.

3 Many teachers indicated that they find it difficult to differentiate in the classroom. They therefore apply this pedagogical strategy less than they should in their teaching. Differentiation is particularly important in primary education, where there is such a wide range in abilities.

4 A heated debate is currently taking place on social media concerning the effectiveness of different types of teaching methods; however, this debate has been going on for several decades. Proponents of methods that focus on knowledge transfer seem to be fiercely opposed to learner-centred teaching methods. However, most education researchers take a more nuanced view of the benefit of direct teaching methods. The question is whether, for which students and under which circumstances certain teaching methods are effective.

5 Primary schools are successful in ensuring that pupils achieve a minimum level in language and arithmetic, but we also need to pay attention to the more able pupils. The ambition for 65% of pupils to attain the higher target level is now only achieved for reading. For arithmetic, the percentage of pupils that achieves a ‘high’ or ‘excellent’ level has declined in recent years. This is because teachers lack knowledge of the learning progressions and reference levels, and because they do not stimulate pupils who are good in arithmetic to do better.

6 The results for science and technology have remained stable in recent years, although there are large differences between pupils. Science and technology lessons need to better address the needs of both the more and the less able children in the classroom, especially since science and technology was made a compulsory component of the curriculum last year.
What is needed to improve science and technology learning outcomes and to increase pupils' interest in technical professions?

7 Monitoring studies do not assess general knowledge and skills, for example with regard to creativity or critical thinking. There is therefore a chance that such general knowledge and skills will receive less attention, which would conflict with the social responsibility of education.

‘We all want good education. However, opinions differ as to what that is. By working together on the issues in the Knowledge Agenda, we discover new leading principles for good education.’
Jacqueline Blaak, education and development advisor

SECONDARY EDUCATION

1 In addition to the curriculum review for the first two or three years of secondary education, the examination programmes for senior general secondary education (HAVO) and university preparatory education (VWO) will also soon be reviewed. The plan is to deepen the knowledge required in some subjects, which is striking, given that higher education institutions consider subject-specific knowledge and skills to be much less important than cross-curricular knowledge and skills. The question, therefore, is how much teaching time should be spent on subject-specific knowledge and skills and how much on cross-curricular knowledge and skills. Furthermore, an evaluation also needs to be made of the extent to which the underlying principles of the curriculum review are actually reflected in the implemented curriculum.

2 The scientific underpinning of the learning progressions is also a point of concern in secondary education. The connection with primary education – continuous learning progressions – plays an important role in this. Research shows that almost half of secondary school students are following a different level of education after three years than was recommended at the end of primary school. At the same time, pre-vocational secondary education (VMBO) students find it very difficult to progress to a higher level. As yet, little is known about the reasons for this seemingly poor connection between primary and secondary education.

3 The competency level of first-year secondary school students in Dutch and arithmetic/maths has decreased in recent years. Internationally, the general level of education of Dutch students is still high, but the Netherlands has lost its leading position and there are few areas in which it stands out. Moreover, one quarter of 15-year-olds is at risk of failing to achieve a minimum level of literacy proficiency. We therefore need to examine ways to increase the percentage of children with sufficient literacy proficiency while also promoting excellence.
4 Approximately one third of young people (aged 12-20) reads a book every week. The decline in reading seen among secondary school students in recent years may lead to a further decline in reading proficiency. Secondary schools do relatively little to encourage more children to read. The question, therefore, is how to stimulate students to read.

5 Lack of motivation and a negative perception are also a challenge for science, technology, engineering and mathematics (STEM) subjects. Despite the increasing demand for technical staff, relatively few young people choose technical subjects at school. This is particularly true among VMBO and HAVO students, and girls and students from migrant backgrounds are the least likely to choose a technical profession. Initiatives to encourage more interest have so far had little effect.

6 As soon as young people enter puberty, they exercise less and adopt a less active lifestyle. This has a negative impact on their school performance, physical health and mental well-being. Adolescents indicate that they are less active because sport and exercise take too much time. With this in mind, what can be done about the lack of exercise and the associated impact on school performance?

7 Education professionals often talk of the need for secondary school students to improve their study skills, but teachers pay little attention to this in their lessons. It is important to know whether the study strategies that research shows are successful for adults, are also effective and useful for secondary school students. It is also important to understand the individual differences between students and between subjects.

8 At many schools, curriculum integration is a relevant issue in both the STEM subjects and the humanities and social science subjects. Curriculum integration concerns connections within a certain domain, but also connections between domains. Although schools have had positive experiences with the integration of language lessons in humanities and social science subjects, it is not yet clear how this could be applied to other subjects, and whether and why such integration improves students’ school performance.

‘Co-creation leads to widely supported results, and the methods used make it possible to achieve valuable results.’

Willem van Ouwerkerk, member of the core team of Schoolleiders voor de Toekomst (School Managers for the Future) and peer supervisor for Voortgezet Leren (Secondary Learning) (until recently, director of secondary education)
SECONDARY VOCATIONAL EDUCATION

1 Secondary vocational education institutions work together with employers, professionals and former students to develop vocational qualifications. However, these public-private partnerships can sometimes cause friction. For example, employers often find subject-specific knowledge and personality more important than language and arithmetic, but the institutions are obliged to teach these subjects. What impact does this have on the education provided, and what can be done to reduce such friction?

2 It is still not clear what the ideal balance is between general and subject-specific knowledge, skills and attitudes. To what extent, therefore, should general knowledge be incorporated into vocational education? Some believe that they should be fully integrated: the application of knowledge and skills depends after all on the professional context, and should therefore be taught in this context. This approach certainly appears to be effective in language teaching.

3 Education professionals propose developing authentic learning environments in which students learn ‘in practice’ at school. The advantage of this is that students can also work on developing their social skills and professional identity and attitude while at school. There is however little information available on how this type of learning environment should be organised.

4 It is unlikely that students will learn all of the general knowledge and skills that they need in authentic learning environments. General subjects will always be taught, and the pedagogical strategies used in these subjects therefore deserve attention. It appears that many students display very little interest in these subjects, and that too little differentiation takes place. These subjects often make use of teacher-centred instruction alone and aim at the ‘average student’, as a result of which not every student feels that it concerns them.

5 As of 2014, pre-vocational secondary schools and secondary vocational education institutions offer continuous learning progressions. An evaluation of these and other new programmes (such as the beroeps-havo (vocational HAVO)) is needed, to assess the quality of the learning progressions and to improve them where necessary.

6 Secondary vocational education institutions do little to encourage students to read. These students read little, and with considerable reluctance. As in secondary education, the question arises as to how reading motivation can be improved, to halt the decline in reading and reduce the risk of poor language proficiency. A related practical question is where the required teaching time should come from.

Why are young people reading less and how can they be encouraged to read more?
Inclusive education is education that meets the educational needs of and ensures optimum development possibilities for every pupil and student. An inclusive learning environment therefore assumes diversity in the classroom. The objective of inclusive education is that every student can receive education, preferably at a mainstream school, and that no-one is excluded.

In the Netherlands, inclusive education is the next step following the ‘education that fits’ (passend onderwijs) policy. The focus in this theme lies - as in passend onderwijs - on the educational needs of and development possibilities for students with special educational needs. There is no ‘right’ way to organise education for this group of students, as the support provided will depend both on the needs of the student and what the teacher and the school can provide.

More inclusive education, based on the educational needs of the student and provided wherever possible at a mainstream school, is required in every sector: in primary education, secondary education and secondary vocational education. There may however be differences in the way in which the education is organised.
BACKGROUND

The final report of the Evaluatie Passend onderwijs was published in 2020. In the improvement plan published by the Dutch Minister of Education, Culture and Science (OCW) in response to this report, a clear route map was set out towards more inclusive education. Step by step, progress will be made along this route map in the next 15 years, in which each party involved will have its own responsibility: these include partnership groups, governing boards, teachers and lecturers, parents and teacher training programmes. The improvement plan describes several measures to encourage a move towards more inclusive education. For example, a national standard for basic support will be established, partnership groups will be encouraged to do more to provide appropriate education in their region, students will have a right to be heard, and more attention will be paid to professional development and knowledge dissemination.

More inclusive education means that students receive the support that they need in mainstream education (primary, secondary and secondary vocational) wherever possible, but also still in special schools (primary and secondary). In special education, students with special needs follow education separately from students in mainstream education, which would seem to contradict the objective of inclusive education. However, some students who attend special schools do better than they would in mainstream education. They are also less likely to feel that they are different, and therefore feel more welcome. Furthermore, their teachers are more strongly focused on ensuring that these students can take part in society. Is it therefore realistic to dispense with special education altogether?

For students with special needs, the route from ‘full special education’ to ‘full mainstream education’ will take various forms along the way, such as a special needs class in a mainstream school, a mainstream class in combination with a part-time special needs class, and a mainstream class with support from outside the classroom. Various examples of these can already be seen in educational practice, and are often given the name ‘inclusive’. The precise form of these inclusive classes will depend strongly on the particular circumstances, such as the local policy, culture and school systems. In general, schools with a policy of inclusive education rarely refer students to schools for special education. However, they often create an extra class for students with special needs, as they are unable to accommodate these students in the mainstream class for the whole of the week.

GAME CHANGERS

Five game changers can be identified in this theme, as we move towards more inclusive education.
1 **TEACHERS’ KNOWLEDGE, ATTITUDE AND SKILLS**

The knowledge, attitudes and skills of teachers play an important role in more inclusive education. For example, teachers with a more positive attitude towards students with special educational needs are more motivated to adapt their teaching where necessary. However, this is not always easy, and many teachers find it challenging to teach students with mental health and/or behavioural issues. It is also the case that a student with special needs is more likely to be referred to a school for special education if they have a poor relationship with their teacher.

Negative attitudes are frequently the result of a lack of knowledge and skills. Another possible cause is that the teacher has little faith in their competence to support students in the manner required (self-efficacy).

In general, it seems that teachers in mainstream education require more knowledge and skills to be able to implement more inclusive education well. They therefore need to be better equipped and supported to incorporate inclusive education into their teaching in mainstream schools. The high workload does not help, as teachers need to find the time to update their training. Teachers in secondary and secondary vocational education are often highly knowledgeable about their subject, but have had fewer opportunities to work on their pedagogic and didactic skills in their teacher education. More time and attention are however paid to this on teacher training programmes for primary education. Another issue is that different teacher training programmes take different approaches to inclusive education.

2 **TEAM CULTURE AND SCHOOL LEADERSHIP**

Schools that rarely or never refer students to schools for special education work based on a shared vision of more inclusive education. There is a culture of shared responsibility: everyone feels responsible for every student, and teachers can help each other help where necessary. These schools also have a specific vision concerning professional development, which focuses much more on the long term, on learning together and on distributing expertise throughout the school.

Research shows that transformative leadership is required to create this kind of open culture. School managers who display such leadership are not afraid to take decisions and to take the lead, express appreciation for their colleagues, have faith in the development possibilities of their teachers, and encourage their teachers to make use of these. School managers at more inclusive schools encourage teamwork and a problem-solving attitude. They also recognise that the differences between students represent an opportunity to develop as a school. They encourage teachers to put aside preconceptions about students and make sure that teachers receive the support they need.

However, this open culture is not seen in every school. Pedagogical advisors, school managers and care coordinators play a key role in creating an open team culture, as they are in a position to support teachers in this.

---

**Question:** Which processes in regional school alliances contribute effectively to supporting teachers? What is the relationship between these processes and the percentage of students referred to special schools?
3 VISION OF STUDENT DEVELOPMENT

More inclusive education requires a vision of student development that focuses on what students can achieve, rather than their limitations. One point of attention is the impact of labelling (classifying) students with a special educational need. Labels such as ADHD, a disorder on the autistic spectrum and dyslexia are common among this group of students.

The greatest risk of the ‘label culture’ is that development issues are reduced to a feature of the student. This can lead to the Pygmalion effect, which means that teachers adjust their expectations of the student downwards because they think that the problem is caused by the student, and students themselves may also start to behave in a manner appropriate to the label. This can reinforce the conviction that special education is a better place for some of these students. Moreover, labels cause students to be assigned to a certain learning progression too soon, which limits their development opportunities.

It is important to realise that what one teacher may experience as a problem, another may not consider to be a problem at all, which shows how much depends on the teacher. Teachers therefore need to consider their own role: what can they do for students, and what has to change, in the classroom or in the whole of the school? Collaboration with external experts is another important point: this should be based more on a shared vision of a student’s development, rather than on the label.

When does a focus on student needs - instead of on diagnostic labels - lead to inclusive education? How can we measure this?

4 THINKING AND ACTING OUT-OF-THE-BOX

The development of more inclusive education requires flexibility and out-of-the-box thinking. However, this can be difficult in practice. The Dutch school system - which focuses on averages and student performance - is one complicating factor, but the secondary school curriculum is also a problem, as students have to pass certain compulsory subjects, even if they find them particularly difficult, and there are very few options for taking different subjects at different levels. As far as the transition from practical training to pre-vocational secondary education and secondary vocational education and from secondary vocational education to the labour market are concerned, the connection with the workplace is a point of attention. We still talk about ‘people who are distanced from the employment market’, but this does not square with the concept of more inclusive education, and stands in the way of creative solutions.

It is striking that many of the schools that indicate that they are developing more inclusive education make use of many different educational concepts. It is however still unclear whether certain concepts help students with special education needs to achieve more. The Inspectorate of Education has an important role in this game changer, to clarify what is and what is not possible.

What opportunities are there for allowing students in secondary education to follow different subjects at different levels? What changes does this require in legislation?
5 ORGANISATION IN THE CLASSROOM

An important question relating to more inclusive education is what changes it requires in the classroom. How can schools organise their teaching in a way that meets the needs of every student? This means implementing a variety of teaching methods and thinking about which students should be grouped together and why. It is also important to have high expectations of every student. Schools with a relatively high number of students with special educational needs often implement minimum learning objectives for all of their students. Although this may not be achievable for every student, this approach can reduce the gap in learning outcomes.

If there are a lot of students with special educational needs in one class, large groups and a lack of extra support or external professional help can make it difficult to address their needs. However, various approaches encourage teachers to think about how they provide instruction (e.g. the EDI model) or enable teachers to focus on development through interaction with their students (e.g. mediated learning). Schools that claim to work more inclusively use various elements of these approaches. However, research into the relationship between these learning methods and more inclusive education is still in its infancy.

‘It is good to meet people who are passionate about education and want to contribute to improving the Dutch education system. It is also great, and important, that there is a platform such as the Knowledge Agenda, which people involved in education can use to make suggestions.’

Ap van Hinte, lecturer and inclusive education advisor in secondary vocational education
It is impossible to imagine education without technology – it is used in the classroom as well as in the organisation of education, in all its forms. Technology refers to hardware and equipment such as computers or laptops, but also to software such as digital applications or learning environments.

Whether it is in primary education, secondary education or senior secondary vocational education – technology is used universally. However, the circumstances and the applications may differ for each sector.

BACKGROUND

Technology plays an increasingly important role in education, and for good reason. Technology offers opportunities to make education more efficient and effective and can support pupils and students in their learning process, improve their school performance and help teachers improve their teaching practice. This is not only relevant at the level of teaching, but also at the organisational level of education. Technology can also make education more enjoyable, attractive and inclusive.

Educational practice should match the experiential world of students and prepare them for participation in a world in which technology has become universal. But there are also risks associated with using technology in education.
During the COVID-19 pandemic, all education sectors had to turn to online education, which resulted in increased knowledge of and experience with the use of technology in educational practice. At the same time, it also became clear that some education professionals still lack certain knowledge and skills in this area. Moreover, the pandemic has shown that society can and sometimes must be organised differently: working and studying at home have become part of normal life. In terms of educational practice, it is essential that we adapt to the new circumstances and investigate how technology can support or improve education.

GAME CHANGERS

Five game changers can be distinguished in the area of technology in education.

1 DIGITAL LITERACY OF STUDENTS

Students must learn how to use digital technology effectively. In other words: they must develop digital literacy. Digital literacy is a combination of numerous technological, cognitive and self-regulating skills. These skills can be divided into four categories: basic IT skills, information skills, computational thinking and media literacy. The national expertise centre for the curriculum in the Netherlands (SLO) is currently developing learning objectives for digital literacy, which will be finalised in 2024. Schools in the Netherlands are expected to integrate digital literacy into their curriculum.

There are large differences in digital literacy between students, especially between the various levels of education. Many pupils and students in primary and secondary education do not yet have a sufficient level of digital literacy and in secondary vocational education, the level is generally not high either. It is therefore vital to devote attention to technology and digital literacy at school. Students must learn to use technology as a means to acquire other knowledge and skills, but they must also learn to use technology as an end in itself. However, it is still unclear what effective interventions are in place to develop students’ digital literacy in the Netherlands. More knowledge is also needed about how the various domains of digital literacy can be effectively integrated into the curriculum.

What are effective interventions for developing digital literacy in primary education, secondary education and secondary vocational education?
2 TECHNOLOGICAL DEVELOPMENT AND APPLICATION IN PRACTICE

Technology can be used to develop knowledge, i.e. the qualitative function of education. But it can also be used to develop or enhance social and regulatory skills and affective outcomes. A personalised learning process, for example, can increase students’ motivation and interest.\(^8\) Digital applications such as games, simulations, robots, Virtual Reality (VR), Augmented Reality (AR), smart learning and smart technologies are increasingly being used as learning or assessment tools.\(^6\) More knowledge is needed about the effectiveness of these applications.

At the moment, students’ knowledge and skills are the most commonly used data sources to shape personalised learning.\(^10\) There is increasing attention for other factors too, such as self-regulation, emotions and motivation.\(^11\) Collecting this kind of data from students raises ethical questions. For example, is it desirable for schools to collect this data? What happens to the data in the long term? It is, in any case, vital for students and education professionals to be able to learn and teach safely in a trusted environment.\(^13\) The protection of personal data and privacy is a prerequisite for this. It must also be clear who owns the data and whether the data subjects can see how their data is used.\(^13\)

One obstacle in the application of technological developments in education is the degree of autonomy and ownership of teachers. Introducing digital (adaptive) educational resources can give teachers the feeling that they have no say about the subject matter or the students’ learning process.\(^14\) It is therefore vital for the system to be transparent and user-friendly, for schools to ask ethical questions before purchasing the digital material, and for teachers to know how to safeguard their autonomy and have ownership when working with digital educational resources.

Digital Applications in Education

- **Digital educational games** allow for the learning process to be offered as a game, which can boost students’ motivation and engagement.\(^15\)
- **Simulations** – digital imitations of a situation or activity in the real world\(^16\) – can be used to learn or practice activities that are dangerous, difficult or expensive in the real world.
- **Robots** can be used to teach different skills, such as computational thinking and social skills.\(^17\)
- **Virtual Reality** gives the user the sensation of really being in that virtual world.\(^18\) In vocational education, for example, VR can be used to teach practical skills.
- **Augmented Reality** makes it possible to connect digital information to the real world by digitally adding an extra layer of information to reality.
- **Smart learning**, i.e. learning in interactive environments that provide personalised learning, is being used more frequently in education and is supported by technology.\(^19\) This is suitable for both formal and informal learning.\(^20\)
- **Smart technologies** that use artificial intelligence (AI) collect data to make diagnoses and decisions.\(^21\) AI can make use of learning analytics (LA) to collect and analyse data and patterns in data from students and their educational context. The result of the LA, which can be viewed in dashboards, provide teachers with information about pupils’ activities, progress and learning outcomes.\(^22\)
Another concern is that while technology can make education more inclusive, it can also lead to an increase in inequality of opportunity. The question arises, for all developments, whether access to technology is the same for all pupils and students.

Yet another risk associated with the use of algorithms in adaptive learning environments is that they may incorporate certain biases, either explicit or not, that may be disadvantageous to specific groups of learners. These biases of programmers and developers can, for example, affect students' learning process and performance, which is why the design of educational resources must be transparent. Collaboration with educational practitioners in designing educational resources is also essential.

The prerequisites for smooth and successful integration and implementation of technology in education are as follows:

- sufficient budget;
- time and space;
- options for scaling up;
- long-term management and maintenance of technology;
- alignment of vision and integration of technology between governing board, school and class;
- motivation of teachers and school managers to integrate technology;
- the right pedagogic and didactic knowledge and skills to implement and use technology in education.

These preconditions are, at present, not always satisfied. Education professionals lack sufficient knowledge and expertise to implement technology effectively and sustainably, for example, and teachers generally have inadequate didactic skills in the area of IT. Not only teachers, but also school managers and school governors must be competent in the use of IT. After all, it is they who make decisions and formulate the school's vision, including that on technology. This is why it is important for teachers, school managers and school governors to undertake professional development in this area. It is also important that starting teachers develop IT competences during their teacher training. Remarkably, a lot of knowledge is already available but often this does not make its way into educational practice.

Why is the existing academic knowledge about well-considered use of technology in education not integrated into educational practice?
4 ORGANISATION OF EDUCATION

In organising education, all education sectors now use a combination of offline education and digital material in the Netherlands. The COVID-19 pandemic has bolstered this development. Blended learning – a combination of learning with and without technology – can take place in the classroom, where students work with books as well as digital material, for example. But students can also prepare certain parts digitally and remotely, after which there is room for deepening the learning material in the classroom. More knowledge is needed about effective forms of blended learning for specific education sectors.

There is also a need for increased flexibility in education. The secondary vocational education sector (mbo in Dutch) wants to offer more customisation, provide flexible educational resources and facilitate lifelong development.30 Primary and secondary education sectors are also developing and piloting ways to make education more flexible. With flexible education, the educational offer is not fixed. Flexibility may relate to the content of the educational programme, the pace at which the curriculum is completed, the location and times at which learning takes place, or the didactics and support for the learning process.

Another organisational focus area is the use of digital systems. Multiple digital systems are used in education, both for teaching and for organisation and administration. Schools, for example, use learning management systems for data administration and students increasingly use various learning platforms. Developing online learning ecosystems in which platforms are integrated with one another can lead to greater user-friendliness. It would also make it possible to link different data sets.31

One of the obstacles to using technology in education is the acute shortage of teachers and the high workload experienced by teachers in the Netherlands. Technology could reduce the workload in education in the area of administration, but also in tasks such as giving instructions or grading. Technology can also help in organising education differently.

How can technology reduce teachers’ workload and be conducive to organising education differently?

‘By involving people from the professional field in a ‘two-stage rocket’ when drafting the Knowledge Agenda, schools have the opportunity to contribute and to conduct a professional dialogue with colleagues.’

Christel Ermers, departmental director for secondary education
5 Public Governance in the Development of Digital Educational Resources

At present, the development of digital educational resources for education lies largely with the private sector in the Netherlands. This means that education institutions—and therefore also teachers—have to rely on what is offered by private organisations. Public governance is necessary, which in this situation means that it is the education sector that must drive market developments. It is vital that the education sector is involved in the development of digital educational resources—both open (OER) and commercial—because otherwise it will no longer be in control of the content of the education it provides. Moreover, the quality assurance of these educational resources is currently still primarily the responsibility of the private organisations providing them. Public-private cooperation for the development of digital learning material is therefore desirable.

By opting for a mix of existing methods and OER, schools can also ensure greater control of the educational resources. Teachers sometimes make use of OER, particularly in vocational education, because existing methods do not meet the educational needs, because the quality of the method used is insufficient, or because differentiation is easier with OER. It is important, however, that these educational resources are easy to find and use. Teachers indicate that this is not always the case, which—in addition to lack of time—they feel is an obstacle to working with these resources.

How can the public-private partnership be shaped to ensure that the range of digital educational resources meets the needs of the education sector?
There are major differences between students in their learning achievements and educational careers. Not all differences can be explained by differences in talent or motivation. Equal opportunities in education in the Netherlands is about the influence of environmental characteristics on the achievements of pupils and students. These can be characteristics relating to the social, economic or cultural environment of pupils and students – especially the home situation – and characteristics relating to the education environment, such as teachers’ expectations (conscious or unconscious) of students. In promoting equal opportunities, the situation where pupils and students perform worse at school than they would had they been exposed to more favourable environmental characteristics is removed.

To be able to offer equal opportunities, education professionals in the Netherlands need knowledge about the influence of various circumstances on young people’s possibilities for development. What needs to be determined is which circumstances can reduce or reinforce equal opportunities and which interventions are effective – for whom, when and why.

In elaborating this theme, the emphasis lies on general mechanisms that explain inequality of opportunity in education. These mechanisms are the same for the different education sectors. However, the way they are put into practice differs from sector to sector.
BACKGROUND

Equal opportunities in education have been the subject of debate for many years and are still a sensitive and topical issue in Dutch society. Children and young people with equal capacities should be able to achieve the same level of education and have equal opportunities in the Dutch labour market and they need support for this to be possible. Because not all pupils receive the same support from the start, schools sometimes have to offer some pupils more opportunities than others. For example, by taking into account the starting language skills of the pupil, or by removing barriers that prevent pupils from developing their talents. Equal opportunities sometimes require unequal treatment.

Education professionals from primary schools, secondary schools and vocational institutions in the Netherlands share the ambition to ensure that all pupils and students can make the most of their talents. But how best to create equal opportunities in education is a complex and wide-ranging issue on which opinions differ.

WHAT DO WE KNOW ABOUT INEQUALITY OF OPPORTUNITY?

In recent decades, research on equal opportunities has devoted much attention to the socio-economic status and socio-cultural background of pupils. International comparative research shows differences in the development of children from different backgrounds from seven months onwards. These differences can best be tackled at the earliest possible stage; pre-school education appears to be by far the most effective way of narrowing the achievement gap between pupils. If there are still differences at the start of primary education, the gap hardly seems to narrow in primary school.

There is also considerable inequality of opportunity in the transition to secondary education (more information about secondary education in the Netherlands: https://www.nuffic.nl/en/education-systems/netherlands/primary-and-secondary-education). In the Netherlands, children of less educated parents and children with a non-Western migration background more often receive a recommendation below their level compared to other children and vice versa. This inequality in recommendations is added to the inequality of opportunity that had already arisen. In other words: pupils who already had fewer opportunities than other pupils on account of their background will, with the same achievements at the end of primary school, have an even greater chance of receiving a lower recommendation in the Netherlands.

INFLUENCING FACTORS IN EDUCATION

Quality of education is an important factor in achieving equal opportunities. Teachers and, in the case of pre-school education, childcare professionals play a vital role. Especially the expectations they may unconsciously have of pupils can influence learning achievements, both negatively and positively. Pupils — regardless of their abilities — often behave according to the teacher’s expectations: this is the Pygmalion effect. An underestimation of pupils’ learning ability can thus lead to lower achievements and thus to unequal opportunities.

School characteristics also play a role in equal opportunities. Characteristics that, according to research, have a strong influence on equal opportunities are often found to be related to pupils’ school performance. By improving the quality of education, schools can also promote equality of opportunity. Schools where pupils perform well, for example, provide sufficient learning time for pupils to acquire subject-specific knowledge. Managers at these schools respect teachers’ autonomy and support teachers in a task-centred way.

Finally, how the education system is organised also affects the educational opportunities of pupils. Research shows, for example, that there is a correlation between the age at which children start any form of education, the total duration of their education and the age at which selection takes place.
CURRENT STATE OF AFFAIRS
The COVID-19 pandemic has further increased concerns about inequality of opportunity. To eliminate the inequality and disadvantages caused by the pandemic, the Dutch National Programme for Education (NP Onderwijs) has devoted resources to municipalities and primary and secondary schools in the Netherlands. In the current curriculum review for primary education and the first two or three years of secondary education, promoting equal opportunities and reducing inequality of opportunity is one of the spearheads.

EQUAL OPPORTUNITIES AS THE SUM OF RELATED FACTORS
The theme of equal opportunities is comprehensive; multiple factors have an interrelated influence on the equal opportunities of pupils. While inequality may be reduced in one area, it can give rise to new inequalities further along in the system: the waterbed effect. Because of this interrelationship of factors, little is known about the effectiveness of separate measures and interventions. After all, this is not only determined by the intervention itself but also by characteristics of the context and the combination with effects of other interventions. In any case, more measures aimed at equality of opportunity do not automatically lead to increased equality of opportunity.

GAME CHANGERS
The measures and circumstances in the Netherlands that could potentially impact inequality can be broken down into roughly three levels:

a. education system: the conditions created by the government for implementation and quality assurance of education (macro level);

b. school and environment: the connection with pupils’ home situation and socio-cultural environment and parental involvement and cooperation with local facilities in the area of youth and care (at the meso level);

c. classroom and pupil: the implementation of education, including in relation to pupils’ background characteristics (micro level).

Taken together as an integrated system, these three levels influence pupils’ development and equality of opportunity. Game changers with a potentially large impact on inequality can be distinguished for each level.
1 INTERPRETATION OF SYSTEM RESPONSIBILITY (EDUCATION SYSTEM – MACRO LEVEL)

The education system is the entirety of schools, institutions, school types and training programmes, and the legislation and regulations that apply to them. The Dutch central government monitors continuity and quality of the education system in consultation with teachers, parents, pupils and students (and their representatives) but also with educational organisations, municipalities and care facilities. In vocational education, this is also in consultation with the business community. This is a form of metagovernance, where the Dutch government is not the only party to determine how education is shaped but is, at the same time, responsible for ensuring that the education system as a whole functions well. This can lead to friction, as the government depends increasingly on other parties such as school boards, municipalities and institutions.

The question is how the Dutch government, in consultation with other parties, can best fulfil its systemic responsibility with regard to equality of opportunity. Especially the transitional periods between different school types entail specific risks of inequality of opportunity, such as the transition from early childhood education to primary education and the subsequent connections to secondary education, secondary vocational education and the labour market. Research into issues at system level focuses on the educational paths/careers of pre-schoolers to young adults, including preparation for the labour market.

2 NATIONAL HARMONISATION OF CURRICULUM CONTENT, TEACHING AND ASSESSMENT (EDUCATIONAL SYSTEM – MACRO LEVEL)

A large-scale curriculum review for primary and secondary education in the Netherlands is currently underway. It is not yet clear what effects the Dutch national curriculum characteristics have on equality of opportunity, as there is no up-to-date, systematic and accessible overview of this knowledge. Equality of opportunity has also not been explicitly included in the evaluations of curriculum renewal in pre-vocational secondary education and vocational education. It is clear, however, that equality of opportunity benefits from a clear alignment of objectives, assessments, curriculum and educational offer. What needs to be established is which factors hinder or promote this alignment.

The Dutch government expects that the new curriculum will improve the learning achievements and equality of opportunity for pupils and students in three different areas: qualification, socialisation and personal development. Much is known about the influence of curriculum characteristics on qualification. Less is known about the interaction between characteristics that contribute to qualification and the development of socialisation and personal development. It is also still unclear what curriculum components for socialisation and personal development look like, how they can be measured and to what extent they contribute to equality of opportunity.
3 NEW FORMS OF HOME INVOLVEMENT
(SCHOOL AND ENVIRONMENT – MESO LEVEL)

Pupils’ home situation influences their development opportunities and school performance. Unfavourable home circumstances are reflected early on in their school performance. The number of words children know at age three already varies a lot per child since the language children come into contact with at home varies greatly. The earlier children with a language disadvantage are exposed to quality early childhood education, the smaller the disadvantage at the start of their school career.

Parental involvement at home contributes greatly to a child’s development, not only for young children, but for pupils and students of all ages. Home involvement influences both cognitive outcomes of students – their learning achievements – and non-cognitive outcomes, such as their motivation, self-esteem or truancy behaviour. Teachers can encourage parental involvement if they have positive attitudes and give parents concrete and practical advice while respecting the role of parents.27

The COVID-19 pandemic has underlined the importance of home involvement. During school closures, pupils depended mainly on distance learning in the home for their education. Pupils were found to spend more time on school tasks when parents or guardians were more involved in this. It was also found that the way in which schools facilitate parental involvement at home influences the time pupils spend on school tasks. Parents who were more involved at home are more positive about the results of distance learning than parents who spend little time supporting their child.28 Such developments point the way to principles for new and contemporary forms of support that may contribute to equal opportunities.

What conditions must contemporary forms of home involvement satisfy to be of sufficient quality and to contribute to equality of opportunity? What is needed to meet these conditions?
4 SUPPORTING THE TEACHER WITH DIGITAL RESOURCES (CLASSROOM AND PUPIL – MICRO LEVEL)

The chances of a successful career are influenced most strongly by the opportunities schools and teachers offer students to achieve the educational level they can handle. At classroom level, equality of opportunity mainly concerns the didactics of teachers or, in early childhood education, childcare professionals. It is related to how they take into account the child’s characteristics when teaching and building a relationship with the pupil. Well-trained teachers who spend enough time and offer sufficient opportunity for the basic subjects and who use structured didactic methods have a great impact on the pupil’s performance.

Furthermore, teachers’ expectations of pupils affect the educational process in the classroom. These expectations are reflected in teachers’ didactic methods, such as the instruction and feedback pupils receive, and also become visible in assessments and transitions between different types of education. These are key moments where inequality of opportunity can have a major impact on young people’s careers.

Digital tools can support teachers in reducing selective expectations. Adaptive learning systems, assessment and student monitoring systems and intelligent digital tutors in vocational education that provide feedback are examples of this. These are often systems based on AI. Much is still unknown about how these systems work in practice and their impact on equality of opportunity for pupils and students.

To what extent, for whom, for which groups of pupils, when and why does the use of AI applications to detect disadvantages early on contribute to equal opportunities for pupils? Do we see a difference for the educational goals of qualification, socialisation and personal development?
36

**THEME: QUALIFICATIONS OF FUTURE TEACHERS AND THE QUALITY OF THEIR TRAINING**

Good education requires competent teachers. A qualification in education proves that a teacher’s competences meet the requirements the Dutch government has set for the profession. Teachers’ qualifications are laid down in a qualification structure – this represents the entirety of qualifications for education. This qualification structure is the guiding principle in how teacher education is organised in the Netherlands. This theme explores the determining factors when it comes to the competence of teachers, but also how teachers acquire competence and can be educated as effectively as possible.

Although the content of this theme is generally applicable to primary education, secondary education and secondary vocational education, the situation and circumstances may differ per sector.

**BACKGROUND**

**BUILDING BLOCKS FOR QUALIFICATIONS**

Teachers’ competence is a determining factor for the quality of education. Particularly for students from families with a relatively low socio-economic status, the competence of teachers makes a big difference. Not only is the effect strong in terms of learning outcomes, competent teachers also contribute significantly to the development of metacognitive thinking skills and to students’ motivation. They also play a key role in the socialisation and development of students as individuals. The question of what, precisely, is important in what teachers do and when—and why—has occupied researchers for decades. Teachers’ expectations, actions and practical knowledge have often been a topic of research.
Teachers’ expectations of students can have a great deal of influence on students’ school career. It is essential that teachers are aware of these expectations and examine them critically, for example by systematically using data from student monitoring systems and final assessments.

As far as effective teaching behaviour is concerned, it is vital that teachers have insight into what generally works in education. But above all, they must develop the ability to assess what works in specific educational situations in which they perform their tasks and to act accordingly. It is precisely this ability that characterises the teacher as a professional. Making good judgements requires a combination of theoretical and experiential knowledge, also known as working knowledge. It also requires an analytical, inquiring attitude, both during and after a specific action.

Teachers’ working knowledge is partly implicit and therefore difficult to share with colleagues and often difficult to adapt. This adaptability has received a great deal of attention in recent years in the literature on expertise and expertise development. A distinction is made between routine experts and adaptive experts. Routine experts are teachers who have a series of routines they learn to use more and more automatically throughout their professional lives. Adaptive experts, on the other hand, are much more inclined — when changing circumstances, new groups of students or new insights demand this — to adapt their routines and to expand and restructure their expertise. This makes them more flexible than routine experts. The knowledge of adaptive experts is more abstract, and therefore less specific to a particular situation.

BUILDING BLOCKS FOR TEACHER EDUCATION
Different phases can be distinguished in the development of teachers during their professional lives. In each phase, the focus is on the development of one specific aspect of being a teacher. In the first phase as a teacher, the focus is on classroom management and being liked by the students. In the next phase, the teacher focuses on developing routines in instruction and guidance. After that, the focus shifts to the learning and development processes of individual students (differentiation).

The distinction into phases does not mean that developing certain aspects of being a teacher ends after each phase. To reach an expert level as a teacher, it is necessary to keep working on improving and expanding routines for many years.
Teacher education and professional development is about much more than developing effective knowledge and routines in teaching. Teachers must also learn how to recognise and analyse teaching problems in different situations and with different students so that they can act in the most appropriate manner. This requires a continuous connection between theory and practical experience in teacher education and further professional development of teachers, taking into account the student’s or teacher’s development stage. In the Netherlands, this model is increasingly taking shape in training institutes; these are partnerships of schools and teacher training institutes that focus on joint teacher education and professional development.19

**CONTEXT OF CURRENT ISSUES**

The context of current issues regarding the qualifications of teachers and their teacher education programmes is marked by increasing teacher shortages in primary education, secondary education and secondary vocational education (mbo) in the Netherlands. The prospects in this area are dramatic, especially for primary education20  – although recently this has been alleviated somewhat by the large number of lateral entrants to the sector. There are significant shortages of teachers in specific subjects or learning areas in secondary education and vocational education.

One of the reasons for these increasing shortages of teachers in the Netherlands is that the image and status of the teaching profession are under pressure. To remedy these shortages, there is a call for improving the quality of teacher education programmes and for more attention to the professional development of teachers.21  Strengthening the position and status of the teacher as a highly educated professional ties in with the perspective of the teacher with an inquiring attitude who is able to evaluate and analyse educational situations on the basis of practical knowledge and acts accordingly.

**GAME CHANGERS**

Within this theme, six game changers can be distinguished, four of which focus on teachers’ qualifications and two on teacher education.
1 BROAD BASIC QUALIFICATION

In the Netherlands, the requirements set for the competence of teachers are laid down by law. The Dutch Education Council recently identified a number of problems with the existing qualification structure. According to the Council, the description of the qualifications is not sufficiently clear about the required level of competence, there are unnecessary barriers to transfer between education sectors and it is not sufficiently clear how a career in the teaching profession might take shape. The Dutch Education Council therefore argues for a broad basic qualification that should apply to multiple sectors and multiple related subjects, combined with specialisation options and incentives for professional development and career development.22

The national Teaching Qualifications Committee was set up in 2020 to elaborate these proposals, but as it was unable to reach consensus, it returned its mandate in early 2021.23 The committee was unable to agree on the introduction of a single basic qualification for all education sectors. In addition, part of the committee felt that there was too great a risk that the quality of teachers would not be sufficiently guaranteed in a new structure, for example if requirements regarding knowledge of subject matter and didactics were abandoned.24

2 TEAM QUALIFICATIONS

In the literature on expertise, new perspectives on team expertise have been developed in recent years.25 In primary education and secondary education, there is growing attention for working in teams.26 This attention has long focused on vocational education, based on the idea that the expertise needed to educate students in a vocational domain can never come from a single source.27

Research could be directed towards elaborating the professional roles of teachers (in pre-vocational secondary education and vocational education) in teams with a diverse composition. In secondary education, the question arises whether the demarcation between school subjects is always logical and necessary.28 If education could benefit from greater integration of subjects, could education also be provided by teams of teachers with different areas of expertise? In primary education, it would seem there are benefits to be gained from teachers (who are often trained as generalists) specialising even more within teams than is currently the case.

It would be useful to conduct systematic design research into the development and implementation of HR policy that focuses on working in teams. Developing team qualifications may also play a role in this.

To what extent can specific skills developed in a certain sector, domain or subject also be used elsewhere? If so, can a common core of teaching across all sectors and subjects be identified on that basis?

In what way can schools’ HR policy take working in teams into account?
3 QUALIFICATIONS AIMED AT SOCIALISATION AND PERSONAL DEVELOPMENT

Much research on effective teaching behaviour focuses on qualification goals, i.e. goals about the development of students’ knowledge and skills as generally assessed in education. But politics and society also expect education to play a role in preparing students to be active participants in a democratic society. This concerns educational goals that are related to the socialisation and personal development of students. Further research is needed into effective teaching behaviour that is geared precisely to these educational goals, and into translating these into assessable qualification requirements.

What type of teaching behaviour contributes effectively to socialisation and personal development of pupils and students, and how can these practices be incorporated into the qualification structure for the teaching profession?

4 CAREER DEVELOPMENT

The current qualification structure offers little perspective on career development, as only one level of teaching quality is used to define the criteria for qualifications. Further development opportunities in the profession are generally not elaborated, which makes the profession less attractive. In the professional profile of a teacher, various career paths are mentioned that offer teachers and school managers a framework for discussions about career possibilities.

Various teacher roles can be distinguished in professional profiles. The question is whether and how this kind of professional profile can form the basis for a qualification structure that provides incentives for continuous professional development. A subsequent question is whether such an adjustment to the system contributes to making the profession more attractive. After all, it is precisely the primary task of a teacher – to encourage and support the development of students and to teach specific knowledge – that motivates many in this profession to become and remain teachers.

Can continuous professional development be fostered by a qualification structure based on professional profiles that distinguish different teacher roles? Can such a professional profile make the teaching profession more attractive?

*A Knowledge Agenda such as this should never be the exclusive preserve of experts, but must enjoy broad support.*

André Petter, educational adviser and developer
5 LATERAL ENTRANTS

In part, the problem of the increasing shortage of teachers in primary and secondary education can be solved by attracting people from outside the profession who have chosen the teaching profession after a career elsewhere. Relatively little research has been done into lateral entry teachers. It is clear, however, that those entering the profession need appropriate support during their education but also in the subsequent stages.

To serve this group of (prospective) teachers effectively, it is necessary to recognise competencies acquired elsewhere, to provide tailored teacher education programmes and to combine the programme with a job as a teacher as much as possible. This is one of the reasons why the Dutch Ministry of Education, Culture and Science (OCW) and the umbrella organisations of research universities and universities of applied sciences concluded an administrative agreement in 2020, in which agreements were made about making teacher training programmes more flexible. The universities of applied sciences have opted for a model in which specific learning outcomes are assessed irrespective of the teacher education programme.

6 TRAINING IN SCHOOL AND LIFELONG DEVELOPMENT

Teacher training institutes and schools for primary and secondary education in the Netherlands work together to enhance the education of teachers at the school. There is a tendency for research universities and universities of applied sciences to transfer a large part of the teacher education programme to schools. Teachers learn the profession at school by recognising and analysing teaching situations on the basis of developing and acting on practical knowledge.

When designing teacher education programmes, it is not only a question of how an increasingly diverse group of teachers can be trained to a level of basic competence and qualification, but also how teachers’ continuous professional development can be fostered by teacher education institutes. This requires, among other things, research into the optimal connection of the teacher education programme with the strategic HR policy of the schools where the teachers work. As employers or future employers, these schools must pay attention to the professional development of their teachers.

What is a suitable didactic approach for lateral entrants to the teaching profession that supports their development as teachers and is also in keeping with the expertise they have developed earlier in their careers?

How can teacher education institutes stimulate the continuous professional development of teachers?
Schools that function as learning and professional organisations, i.e. schools that systematically innovate and adapt to new developments, are an important precondition for quality teaching. Ideally, these schools also focus continually on enabling the teaching team and the organisation as a whole to learn. The point of departure here is always pupils and students and their learning processes. This means that teachers develop knowledge and skills to improve education, that they cooperate with each other and with their partners and that they make use of the expertise that is available within and outside the organisation. Important elements in this process are self-direction, a sense of ownership and leadership.

Becoming a learning and professional organisation is important in all education sectors, i.e. primary education, secondary education and vocational education. However, different emphases or priorities may be applied for each sector.
BACKGROUND

Society is changing rapidly, which means that the demands placed on education are also changing. Education must contribute to solving complex issues such as equal opportunities, poverty, sustainability, lifelong development, citizenship and staff shortages. In addition, in the case of pre-vocational secondary education and vocational education, courses must be in line with continuous developments in the professional field. Societal changes also affect the options available to schools – rapid technological developments make it possible for them to improve the learning processes of pupils and students in a growing number of ways.

These rapidly changing demands and options make great demands on the flexibility, adaptability and agility of schools. After all, they have to continually adapt their education and their vision on education to the new circumstances. Learning organisations are schools that do this successfully. The development towards a school as a learning organisation requires efforts at all levels – teachers and school managers, school governors, national organisations and the government – and especially harmonisation and cooperation between the various layers. They can strengthen each other’s roles by learning from each other.

The importance of the school as a learning organisation has been made even more obvious by the COVID-19 pandemic, which has highlighted major differences between schools. Learning organisations proved to be at a clear advantage: they learned (or learned more) from the situation and were able to respond more flexibly to the new, complex issues they faced.
Developing the school as a learning organisation is a complex process. Eight interrelated mechanisms can be distinguished that are essential for a learning organisation. These mechanisms can be applied simultaneously and on several levels and while none of the mechanisms is more important than any other, in some cases they cannot exist without each other. It is precisely the interrelationship between the different mechanisms that makes development into a learning organisation possible.11

The starting point is that everyone is aware of the importance of a learning organisation and jointly chooses to work on it. Next, the current state of affairs has to be analysed so as to identify where the biggest gains can be made – this differs per team, per school, per executive board and sometimes even per education sector. The school can then take the necessary steps based on this analysis.
1 DEVELOP A SHARED VISION AND AMBITION

A learning organisation formulates a shared vision and a common ambition. The school's current state of affairs and its ambitions are reflected in this vision, in other words, the development goals the team works on. It is vital that the vision is drawn up jointly and is supported by the whole team. The vision must provide sufficient direction for action and at the same time leave enough room for individual initiatives. The vision is based on underlying values that are important to everyone, such as equality and respect.

In order to work in a cyclical and planned way, the vision and development goals are regularly updated. Such a vision enables teachers and school managers to have a sense of ownership and to take initiatives in their own professional development, the development of the team and the development of the school.

CURRENT STATE OF AFFAIRS

All schools have a vision, but these differ greatly in the extent to which the vision is developed and serves the role described above. If there is no mature vision and no supported development goals, other mechanisms of the learning organisation will be affected. Schools that do recognise the significance of a supported and guiding vision often struggle with how to keep this vision up-to-date and ‘alive’.

2 PROMOTE LEARNING AMONG TEACHING PROFESSIONALS

In a learning organisation, all professionals continually work on their professional development. Learning, in this context, is linked to the organisation’s goals. To foster a good learning culture, professionals must have a sense of ownership of their development, receive good feedback and reflect on their own actions. There should also be a collective awareness of quality and a safe psychological climate in the organisation. A well-balanced mix of formal and informal learning is the most beneficial to these goals.

School managers play an important role in creating a learning culture, for example by expressing high expectations and by setting good examples themselves. Less is known about the learning process of school managers themselves.

CURRENT STATE OF AFFAIRS

There are also big differences between schools when it comes to the learning culture. Being able to find enough time and energy for professional development, and sometimes to get teachers motivated, can be challenging. In many schools, the strategic HR policy has not yet been sufficiently developed to facilitate a learning culture. Moreover, the current shortage of teachers and school managers is a major obstacle.
3 PROMOTE WORKING AND LEARNING IN A TEAM

In a learning organisation, team members work together and learn from each other. This creates a continuous pedagogical and didactic approach to teaching and learning and allows for tasks to be distributed effectively. Teachers can prepare lessons together, for example, but also provide or improve education together. One of the preconditions for this is a positive climate, based on respect, equality, transparency and trust. Team members and school managers also need sufficient support to be able to work together and learn from each other. It is also essential for team members to be motivated, have diverse qualities, be open to different perspectives and pursue a common goal.

There are several ways to promote mutual learning, such as peer review, collegial consultation and image coaching.

CURRENT STATE OF AFFAIRS
The differences between schools are also significant in this area. Often, the quality of working and learning together can be improved, for example by providing more knowledge and foundation, adopting a systematic approach and engaging in reflective dialogue and feedback. Many schools do not meet the conditions for collaborative learning. Finally, only a handful of schools have a strategic HR policy aimed at team learning. A first step could be to shift the focus from individual performance interviews to team performance.

4 PROMOTE FEEDBACK PROCESSES AT ALL LEVELS OF THE ORGANISATION

In learning organisations, learning takes place at all levels by regularly asking for feedback. This is one of the most complex elements of the learning organisation. The emphasis is on asking for feedback and not on giving it, because giving feedback is often experienced as unsolicited advice and as a result, teachers do not have a sense of ownership. Teachers who ask the right person for feedback on time, ask for deeper meaning, derive improvement steps from it and manage their emotions during feedback well are considered ‘feedback literate’. School managers can play an important role in this. Feedback at organisational and managerial level is also valuable for learning organisations.

How can school managers, in cooperation with their team, ensure a climate and organisation that optimally supports working and learning together?

How can a culture of feedback be promoted in teams so that it is self-evident for team members to ask for feedback and experience psychological safety in the feedback process?
5 Cooperating with external partners

Learning organisations cooperate with external partners to learn from each other and to organise systematic feedback from outside. The nature of the cooperation depends on the type of partner. Possible partners include parents (especially in primary education), knowledge organisations, other schools, professional organisations and organisations outside the education sector. For pre-vocational secondary education and vocational education, partners in the field of work – such as work placement companies or organisations in hybrid learning environments – are important cooperation partners. In a successful partnership, there is a common goal and everyone’s interests are clear. The partners trust each other, are open to each other’s perspectives and learn to speak each other’s language.

Current state of affairs

Schools are increasingly participating in multischool networks, projects and learning teams in the Netherlands. The success of these partnerships varies, however, as schools are not always able to make the connection with their own priorities. Moreover, not all members are equally capable of developing and maintaining their knowledge network. In pre-vocational education and secondary vocational education, the learning process of teachers in hybrid learning environments could be strengthened further.

6 Promote a research culture

Learning organisations are characterised by a research culture. This means that teachers have an inquiring attitude, adopt a research-based approach in pursuing educational improvements and make use of existing knowledge. This culture should not be limited to a few teachers but be broadly represented in the school, as this leads to support and ownership by teachers and prevents solutions being chosen that are insufficiently well thought-out and substantiated. It is the task of school managers to foster a research-based approach in all facets of work at the school.

Current state of affairs

Most schools are still in the early stages of a research-based approach and the development of a research culture, although the number of initiatives in this area is growing. Although academic training schools and participants in communities of research and practice in primary and secondary education have a head start, they are still in the process of development. Teachers in primary education and vocational education who have a Master’s degree often take the lead in research-based work. In some schools of vocational education, research-oriented expertise platforms provide a boost to the organisation’s research culture. While many questions remain unanswered, research-based knowledge is increasingly accessible for teachers and school managers.
7 CREATE CONDITIONS FOR DISTRIBUTED LEADERSHIP

In learning organisations, leadership is distributed, which means that different people in the organisation take on leadership roles on the basis of their expertise. Teachers who do this are called teacher leaders. It is important that these teacher leaders develop leadership skills in addition to substantive expertise. In a school where there is distributed leadership, teachers take responsibility, feel ownership for educational improvement and are more inclined to take ownership of the organisation’s goals.

School managers play a crucial role in this as well, as they lay the foundations for a shared ambition and framework, have an eye for the specific talents and qualities of teachers and create opportunities. They also encourage and appreciate teachers who are not afraid to take a stance.

CURRENT STATE OF AFFAIRS

Many school governors and school managers see distributed leadership as an attractive model, but do not realise the pivotal role of school managers in creating the right conditions. Very often, they have little idea of how to foster distributed leadership.

8 CREATING CONDITIONS IN THE ORGANISATIONAL STRUCTURE AND POLICY

A school must meet certain organisational and policy requirements in order to become a learning organisation. Prerequisites at the organisational level are an appropriate decision-making process, transparent communication and a good consultation structure. Likewise, the way students are grouped, the timetable and the nature of the appointments of team members all influence the cooperation and learning processes in the team.

As far as policy is concerned, it is vital that personnel policy, quality policy, education policy and financial policy are all properly coordinated. These policies must also be aimed at creating the conditions for a learning organisation. Again, school managers play a pivotal role in this.

CURRENT STATE OF AFFAIRS

In practice, there is often insufficient coordination between different policy areas. Furthermore, in many cases it is not sufficiently considered how a suitable organisational structure might be put in place. HR policy, in particular, can still be strengthened in many schools. Professional development of and support for school managers is also crucial in this respect, but this is often given insufficient attention. School boards can play an important role in all these areas.

What support do teacher leaders need to be able to assume their role optimally and take the lead, with the focus on team development and educational improvement?

How can school governors and managers ensure an adequate organisational structure that creates the right conditions for a learning organisation?
In the rest of this chapter, we use the term ‘inclusive education’ as this is a more well-known term than ‘inclusive learning environment’.


19 Steenhoven, P. van der, & Veen, D. van (2020). Speciale onderwijsvorming in het curriculum van paalos en de samenwerking met het werkwoord. Amsterdam: NCOJ.


NOTES TO ACCOMPANY THEME: TECHNOLOGY IN EDUCATION


NOTES TO ACCOMPANY THEME: EQUAL OPPORTUNITIES


2 For the leesbaarheid wordt in de rest van de tekst gesproken over leerlingen. Hiermee worden ook mbo-studenten bedoeld [we have approached this differently in the translation].


12 For the sake of readability, we usually talk of teachers in the rest of this chapter. However, this also includes child care workers, who play an important role in early childhood education.


27 Denessen, E.J.P.C. (2017). Verantwoord maajan over verschillen: sociale culturele achtergronden en differentiatie in het onderwijs. Retrieved from scholarlypublications.universiteitleiden.nl/handle/1887/51574?solr_un%5Bpage%5D=0%5Boffset%5D=103%5Bsolr_n%5BsortField%5D=ESB


NOTES TO ACCOMPANY THE THEME: QUALIFICATIONS OF FUTURE TEACHERS AND THE QUALITY OF THEIR TRAINING

1 This is a summary of the article written by Jan van Tartwijk for this theme. Tartwijk, J. van (2022). Kwalificaties voor toekomstige leraren en de kwaliteit van hun opleiding. Themakampanjeproject kennisagenda Onderwijs. The Hague: NRO. https://www.nro.nl/onderzoekprojekten/kennisagenda-kwalificaties-toekomstige-leraren-kwaliteit-opleiding


3 For the sake of readability, we talk of students in the rest of this chapter, although this also includes primary school pupils.


29 Idem.


31 Idem.


36 Idem.


NOTES TO ACCOMPANY THEME: SCHOOL AS A LEARNING AND PROFESSIONAL ORGANISATION

1 This is a summary of the article written by Anje Ros for this theme. Ros, A. (2023). De school als lerende organisatie. Themebeschrijving voor de Kennisagenda voor het onderwijs. The Hague: NRO. https://www.nro.nl/onderzoeksprojecten/kennisagenda-de-school-als-lerende-en-professionele-organisatie


5 For the sake of readability, we use the term ‘learning organisation’ in the rest of this chapter.


ACKNOWLEDGEMENTS

KNOWLEDGE AGENDA FOR EDUCATION

GENERAL TEXT:
• José Mulder, Coordinator of the Knowledge Agenda for Education
• Linda Sontag, Petra Balk, Mireille Dees, Cedric van Drieberge, Ezgi Ergun, Jacobiene Meirink, Sofie Schouwenburg, Netherlands Initiative for Education Research (NRO)

ADVISORY GROUP:
• Tom Hogervorst, VO-raad
• Maud Lourens, Dutch Ministry of Education, Culture and Science
• Hugo Nierstrasz, Netherlands Association of Universities of Applied Sciences
• Annette Thijs, PO-Raad
• Scilla van Cuilenborg, MBO Raad
• Tycho Wassenaar, Universities of The Netherlands

THEME DESCRIPTIONS BASED ON ARTICLES BY:
• Alfons ten Brummelhuis, Serendip Onderzoek & Advies: Equal opportunities
• Joke Kruiter, Sardes: Equal opportunities
• Ard Lazonder, Radboud University: Students' knowledge and skills
• Neely Anne de Ronde, Passend primair onderwijs Hoeksche Waard: Access to a more inclusive learning environment
• Anje Ros, Fontys University of Applied Sciences: School as a learning and professional organisation
• Nadira Saab, Leiden University: Technology in education
• Jan van Tartwijk, Utrecht University: Qualifications of future teachers and the quality of their training

TEXT EDITORS
Antje Visser and Arnaud Bomm, PgUp Tekst

INTERVIEW
Simone van Schip, Siems

CARTOONS
Toon Hezemans

DESIGN
Nieuw+Eken Ontwerp

This work has been published under a CC-BY-NC-SA 4.0 licence. Parts of this publication may be reproduced, providing the source is stated, in the form: Knowledge Agenda for Education (2022). Knowledge Agenda for Education. The Hague: NRO.

MORE INFORMATION
website: nro.nl/kennisagenda
Email: kennisagenda@nro.nl