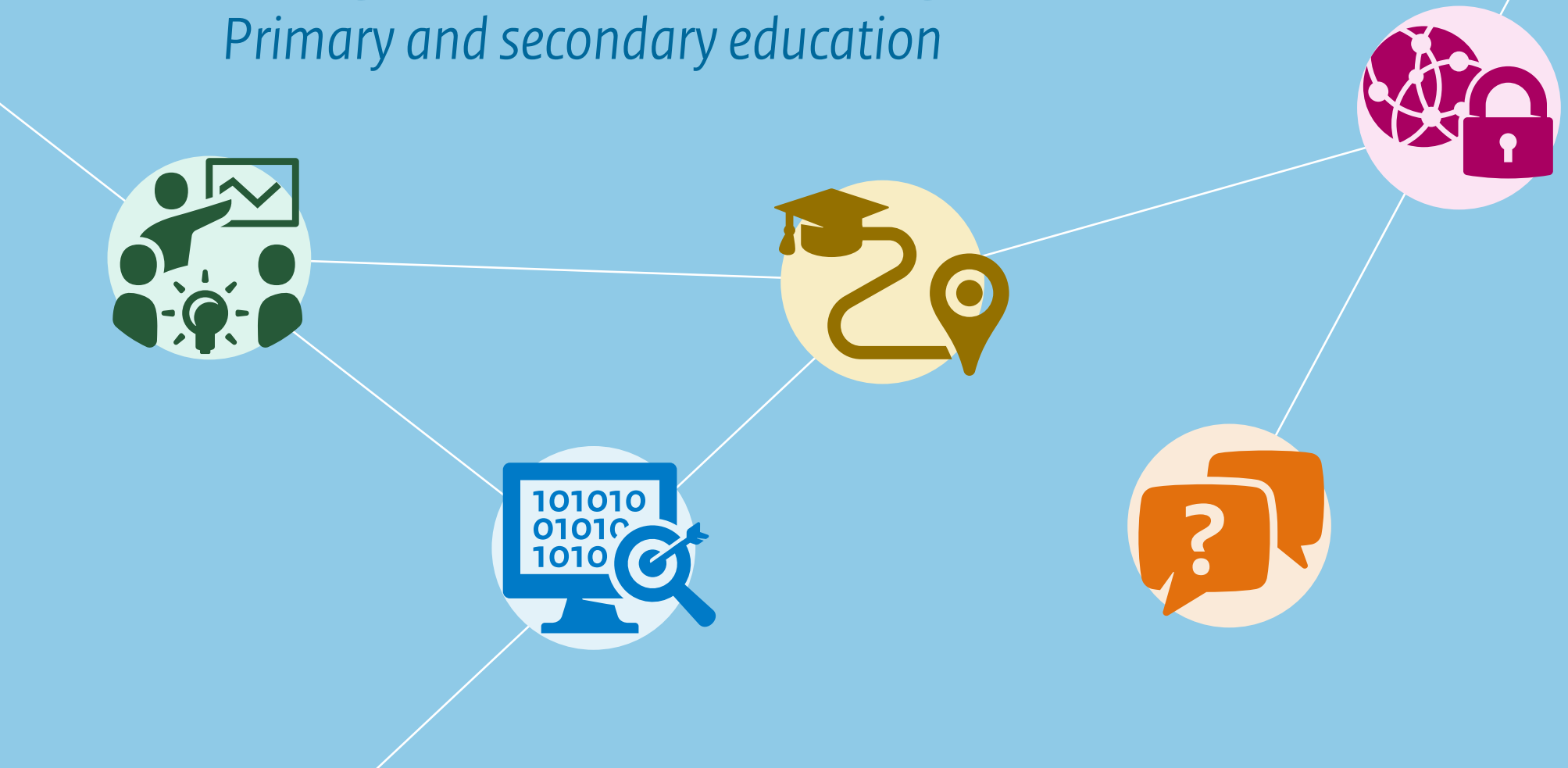
Digitization agenda

Primary and secondary education



Teachers, school principals and administrators **innovate** by **learning together and with others**

Pupils and **teachers** are **digitally literate**

Sustained focus on the ethics of **digitization** in **education**

Infrastructure is **secure, reliable** and **future-proof**

Digital learning resources work for the user

Introduction

Less than a century ago, few people had direct access to information. In those days, the classroom was set up for the efficient dissemination of information: one person in front of a class, teaching at a level appropriate to the age of the pupils. Today, that same classroom has a whole world of information within reach. With one mouse click, swipe or voice command, today's children can find answers to questions that used to require countless trips to the library. Digitization has radically transformed access to information.

In years to come, digitization will bring about even greater transformations in learning as technology becomes more sensitive to differences in how individual pupils learn. Digitization not only offers opportunities for improving education, but at the same time calls on education to work towards developing the digital literacy of pupils.

Increasingly, schools are linking their ambitions to the use of digital resources in their organization. Teachers are incorporating more digital learning materials, tests and applications into their lessons. This provides greater options for varying teaching materials and results in customized education for pupils. Heavy workloads and teacher shortages are generating a growing need to create time and space in education. If deployed effectively, digitization can help achieve this, for example by automating aspects such as correction.

In the digital age, pupils are also expected to develop up-to-date knowledge and skills. Digital literacy[1] is one of the fundamentals a pupil needs in order to function in today's society. The education system needs teachers and schools capable of preparing pupils for the digital future.

This digitization agenda contains the key points, ambitions and activities for digitization in primary and secondary education. It is an initiative of the Ministry of Education, Culture and Science, the Ministry of Economic Affairs and Climate Policy, the Primary Education Council, the Secondary Education Council and Kennisnet, enjoys widespread support and has been announced as part of the Netherlands Digitization Strategy.

The agenda marks the start of a new dialogue on education and digitization. Everyone is welcome to use it as means to contribute to this vital development. The agenda's ambition is to promote effective cooperation within the education sector and between the sector and other parties, not least the business community.

Key points of the digitization agenda

Through this agenda we aim to set the course of digitization in education. In the coming years, we will concentrate on the following five key statements:

- teachers, school principals and administrators innovate by learning together and with others;
- pupils and teachers are digitally literate;
- digital learning resources work for the user;
- infrastructure is secure, reliable and future-proof;
- there is a sustained focus on the ethics of digitization in education.

For a thorough, well-balanced approach to digitization in education, it is essential that these key points are tackled in conjunction. The background, the shared ambitions and the activities associated with each statement are explained on the following pages.

1 This covers basic IT skills, media literacy, information skills and computational thinking.

Teachers, school principals and administrators innovate by learning together and with others

In education, innovation comes about when teachers, school principals and administrators utilize new opportunities to improve the education they provide. Digitization offers opportunities, for example through the effective use of adaptive learning resources which better meet the pupil's own learning needs and style of learning.

At the same time, digitization can take care of a teacher's more repetitive tasks, giving them more room to focus on the core of their profession: providing pupils with a good education.

Innovations are successful when the opportunities offered by new technologies are put into practice. Administrators, school principals, teachers and other professionals who are open to these new opportunities can then use them to optimize their own development. They can fully engage their pupils and utilize their potential and their talents in the application of modern resources.

There are already many good examples of innovation in the field of didactics, teaching methods and context-rich learning environments. And there is so much more to come. The challenge is to turn good examples into everyday practice throughout the education system. Effective use of digital educational resources demands new skills from teachers. The data generated by such resources offers them important insights into how their pupils learn, enabling them to respond better. Data of this kind is an important source for the development of new and innovative applications which can help teachers achieve this aim.

AMBITIONS

- **Teachers, school principals and administrators innovate at their own pace**
  Innovation in education develops step-by-step and involves the widespread sharing of experiences that benefit pupils. This requires the right perspective, the decisiveness to get started, an awareness of the scope for renewal within the legislation, and the courage to make use of it.

- **An open innovation climate in education**
  To improve education, teachers and principals need to learn from one another, both from good practices and from mistakes. Sharing knowledge and experiences is crucial to taking this step forward.

- **Better cooperation between education and business**
  In the field of digitization in education, we are working to improve cooperation between the education sector and the business community across all five key points of this agenda. This entails working on a relevant and coherent range of support activities and materials on which the education sector can rely.

ACTIVITIES

- **Supporting teachers, school principals and administrators with innovation questions**
  Teachers, school principals and administrators receive support through various programmes to address their own innovation questions.

- **Stimulating collaboration and knowledge sharing between schools and education professionals**
  Education professionals are being encouraged to share their knowledge and exchange insights with each other. This process involves launching a broad dialogue on digitization in education between administrators, school principals, teachers and policy makers.

- **Stimulating cooperation between education and business**
  The education sector and the business community work together to achieve the ambitions of this agenda, thereby stimulating and accelerating the process of innovation. Unnecessary obstacles will be removed by updating the sponsor convenant for primary and secondary education.

- **Developing a long-term data strategy for new, innovative applications**
  Data on learning is a vital raw material for developing new, innovative applications that further the aims of education. To provide guidance and scope for opportunities, a long-term data strategy is being developed, covering aspects such as data ownership, transparency and safety for schools, parents and pupils.

“Experimenting, researching, applying, learning and adjusting: this is the best way to use new technology effectively to support education.”

Frank Tigges (Board member of Stichting Klasse)

Pupils and **teachers** are **digitally literate**

Pupils need knowledge and skills that enable them to earn their place in a digitizing society. They must be equipped to give substance to their own digital citizenship in a responsible manner. Pupils vary widely in terms of their digital skills.

Education has an important task in offering all boys and girls equal digital opportunities, regardless of their origin or background. This requires teachers who work with their pupils to prepare them for the digital future. Working on the digital literacy of pupils requires digitally literate teachers: an important and urgent task in which teacher training and teacher training programmes have a vital role to play.

At the same time, digitization is transforming the didactic possibilities open to teachers. Innovative educational resources are helping teachers achieve a better quality of education for pupils. Time can also be saved by outsourcing routine tasks such as correction to digital educational resources, giving teachers more room to evaluate assignments with their pupils and work more effectively on their development. To achieve such gains, teachers must be skilled in working with these resources and willing to master new digital skills where necessary.
School boards can make a substantial contribution to this process by devising an adequate response through their HRM policy.

AMBITIONS

- **All pupils are equipped to live, learn and work in the digital world**
  Education is devoting structural attention to digital literacy, which comprises basic IT skills, media literacy, information skills and computational thinking. Equal digital opportunities for every child form the starting point.

- **Teachers are digitally literate**
  Teachers are digitally literate, curriculum aware and able to impart these skills to pupils. They have the skills to utilize the full didactic potential of ICT resources to benefit the learning process.

ACTIVITIES

- **Digital literacy of pupils becomes part of the curriculum**
  Digital literacy will become part of the formal curriculum for primary and secondary education. Gaining practical experience of the new curriculum in its intended form will be part of this update. This will provide insight into the support required, stimulate curriculum development in schools and fuel the impact beyond the individual school, for example in the form of school curricula and teaching materials.

- **The education sector and the business community work together to produce digitally literate teachers**
  The education sector and the business community will reach agreements at sector and industry level on how to make teachers more digitally literate. The initiatives that result from this will serve to reinforce the curriculum update.

"The greatest challenge we face is striking a balance in cognitive learning with ICT and social skills within the group."

Jos Berens (school principal/administrator 't Blokhuus)

Digital learning resources will work for the user

Digitization has transformed the educational resources market in recent years, a trend that is set to continue in years to come. Traditional roles are blurring and new technologies will alter the rules of the market, which is already becoming increasingly international. On the demand side, there is a desire to exert greater influence on market developments through cooperation.

Thanks to digitization, educational resources and assessments can be used more flexibly. Electronic learning environments enable teachers to monitor pupil progress and to see where challenges lie for their pupils. Based on their didactic insight, teachers can tailor the learning route to the individual, working with the pupil to achieve learning objectives. Schools and teachers do not always make the best possible use of these options. The curriculum review is an important opportunity for schools to shape the curriculum in relation to new learning objectives.

Flexibility requires healthy market forces that focus on users and facilitate them as much as possible. The focus in the coming years will therefore be twofold: organizing agreement across all layers of education and achieving greater flexibility on the supply side of the market in response to better demand. On the supply side, there must be room for new entrants who can provide new products and services to help education achieve its ambitions. The educational resources available in the open domain also have a substantial contribution to make in this regard. The aim is to stimulate effective use of open access educational resources.

AMBITIONS

- **A school's educational resources policy stems from its educational vision**
  To deploy educational resources effectively, it is important that the relevant policy is in line with the school's educational vision.

- **The school administration facilitates a professional choice of educational resources**
  Part of an effective policy by the school or school board is a well-considered approach to selecting educational resources: school teams need time and space to choose the most suitable resources on the basis of learning objectives.

- **Schools have an understanding and an overview of available educational resources**
  An essential precondition for making a sound choice of educational resources is awareness and transparency with regard to the resources available, open access and otherwise.

- **Teachers can use flexible educational resources to work towards learning objectives**
  To facilitate a range of learning routes, a more modular structure of educational resources is required in many cases. This will allow teachers to vary and configure the resources they use. A modular structure also offers points of departure for gaining a better insight into pupil development at learning-objective level.

- **Strengthen demand**
  To ensure that the education sector is better equipped to participate in the educational resources market, it is vital that school boards work together to formulate conditions and desired functionality when purchasing educational resources.

ACTIVITIES

- **Supporting the selection process**
  Cooperating with schools on educational resources generates practical examples that lead to a policy and selection process in line with a school's educational vision.

- **Developing public-private partnerships that put the user first**
  Publishers, distributors and software providers will work with the education sector in a public-private partnership to build a vision of the educational resources chain in 2023. This vision will centre on the education sector as a user; the educational resources chain will facilitate teachers in their work. The aim of the public-private partnership is to achieve this ambition.

- **School boards collaborating in the educational resources market**
  School boards, united in the SIVON cooperative, are jointly committed to achieving a better match between supply and demand on the educational resources market. Success in this area will enable them to share tender documents, explore the market together and make joint purchases.

- **Understanding developments on the supply side of the educational resources market**
  An open and accessible educational resources market is key to ensuring healthy market forces. The market is in flux: internationalization and new entrants are changing the dynamic. These developments will be mapped and monitored with a view to gaining a better understanding of the forces at work.

- **Making open-access educational resources available, usable and relevant**
  A great deal of open-access learning material is being developed inside and outside the education sector. However, this material is often not used to full effect. It is important to improve coordination between supply and the demand from schools, so that supply will have a lasting impact on education.

"Our greatest challenge is to create a rich learning environment that offers pupils tailor-made education, and challenges them to engage in creative, entrepreneurial and cooperative learning."

Sybrand Dijkstra (Policy Officer for Educational Technology and Development at Ambion)

Infrastructure is **secure, reliable** and **future-proof**

Schools need a secure, reliable and future-proof infrastructure if they are to use modern digital learning tools and assessments on a larger scale. In some cases, the capacity and reliability of internet connections falls short of a school's ambitions.

The equipment available does not always meet teachers' needs in terms of supporting their lessons digitally. To make the necessary changes, the sector needs to make use of specialist knowledge and expertise that is scarce and hard to come by. Schools therefore have to make smart purchases to ensure that their infrastructure is capable of delivering their ambitions.

AMBITIONS

- **Every school has a secure, reliable and future-proof infrastructure**
  The infrastructure will be up to date in every school. In other words, it will reflect the school's own educational objectives and the digital resources devoted to achieving them. This will guarantee the continuity of education and the operations of the school as a whole.

ACTIVITIES

- **School boards collaborate on a secure, reliable and future-proof infrastructure**
  SIVON was established to centralize the necessary expertise and bring about a favourable price-quality ratio for education. It is a cooperative association of school boards in primary and secondary education. By concentrating its members' wishes into centralized demands, SIVON can give schools access to high-quality facilities – more specifically IT facilities – under favourable conditions. School boards that have yet to make a decision on installing sufficiently fast internet can make use the future-proof internet regulation for primary and secondary education.

"Schools can no longer operate without the guarantee of a secure IT infrastructure. It has become a prerequisite for good education. By joining forces in SIVON, we are making this possible for all schools in the Netherlands."

Ingrid de Bonth (Director of Lucas Onderwijs)

Sustained focus on the ethics of **digitization** in **education**

Public values, such as self-determination, privacy, inclusiveness and equal digital opportunities have to be properly safeguarded, especially in education. As a result, ethical issues will represent a more frequent challenge for schools.

What happens to the data collected on pupils? As technology monitors pupils ever more closely, will they still be able to make their own choices? In a world where artificial intelligence is becoming more deeply embedded in the learning process, where does the responsibility for didactic choices lie?

Professional use of IT in education is not possible without making choices that have been thought through from an ethical point of view. Should we embrace everything that technology is capable of delivering? And if so, should that apply to every pupil, or do some pupils benefit from a less technological approach? It is crucial that these issues are discussed in different settings: in schools and among board members, with parents and pupils, and as part of the wider social debate.

AMBITIONS

- **Pupils develop freely and safely in a reliable digital world, as individuals and with each other**
  Pupils and their parents must be able to trust that pupil learning, development and interactions take place in a digital safe space. Digital aspects of a pupil's school life must never be allowed to adversely affect their future.

- **Schools address the ethical questions raised by new technology**
  Education formulates a shared framework of public values to position itself responsibly in relation to technological developments. The sector holds discussions about digitization in education, makes conscious choices in this area and is involved in the design process of digital educational resources. We develop a framework of shared public values as the basis for the choices to be made about digitization in education.

ACTIVITIES

- **A public dialogue on the ethical aspects of digitization in education**
  To encourage thinking about the ethical aspects of digitization, we are facilitating a public dialogue on this issue. A group of scientists and progressive thinkers will be invited to fuel this exchange of ideas with relevant recommendations.

- **Tools to help school boards and schools engage in the ethical discussion**
  In the form of tools and guidelines, schools are given support in conducting discussions about educational values in relation to digitization. This conversation takes place both within the school and between the school and developers of digital products and services. This will result in a clear focus on the values of education in the design of new products and services.

- **Protecting pupil privacy to the full**
  When data is exchanged and used for a range of purposes, we ensure that pupil privacy is protected. This involves school boards and schools making sound agreements with providers on this matter.

"In an accelerating and ever more complex world, we must continue to work towards a society in which everyone has the chance to fulfil their promise, now and in the future."

Bram van Welie (school administrator at OSG Hugo de Groot)

Publishing details

The digitization agenda for primary and secondary education is an initiative of the Ministry of Education, Culture and Science, the Ministry of Economic Affairs and Climate Policy, the Primary Education Council, the Secondary Education Council and Kennisnet.

Ministry of Economic Affairs and Climate Policy

Ministry of Education, Culture and Science

PO RAAD VO RAAD Kennisnet

To find out more:
www.minocw.nl
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The digitization agenda for primary and secondary education is supported by the following organizations:

SIVON curriculum.nu VS

LAKS landelijk aktie komitee scholieren

NVS NETWERK VAN SCHOOLLEIDERS

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Nederland Digitaal

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