The digital student

How ICT and innovation are **really** experienced

Workspace365

The prelude to personal and digital education

Where students used to walk through the schools packed with bags and books, now they only have a laptop with them or they study digitally. Today's student generation has grown up with the idea that apps can be accessed anytime, anywhere. Not surprisingly, they also expect such tools at school. At the same time, the educational institutions themselves place high demands on archiving, security and the manageability of the infrastructure.

It is clear that education is feeling the hot breath of renewal, innovation and digitisation at its neck, which makes educational institutions facing a major challenge.

The challenges experienced with ICT in education have an impact on students' progress. Within schools, ICT often has the aim of fully supporting students and teachers. In practice, this does not appear to be so easy. Due to the proliferation of applications, students are overwhelmed and new developments such as cloud-based working and the use of their own device (laptop/tablet/ smartphone) have a lot of potential, but are often not yet optimally supported. How can the ICT department respond to this and ensure that the ICT facilities are ready for the future, with the education also being smart and efficient through the eyes of the (digital) student?

The answer: the digital workspace. In other words, a modern, personal workspace that allows employees and students to work (together) easily and effectively anywhere, anytime. The research in front of you focuses on the ICT facilities in education and the future-oriented trends that education is facing.

The report concludes with the prospects for the future according to the digital student. They give their opinion on trends such as digitisation, lifelong learning, flexible learning and personal analytics.

We wish you lots of reading pleasure!

The team of Workspace 365

Inhoud

1. Who is the respondent?

With this research Workspace 365 wants to sketch an image of the digital student in the Netherlands. It also informs the education market about how they can offer future-ready education. That is why in February 2017 research firm Panelclix was commissioned to carry out online fieldwork among Dutch students. They were asked about the experiences and expectations of ICT in education. Below is a sketch of who the respondents are and where they come from.

1.039 Students

237 MBO'ers

487 HBO'ers

315 WO'ers

150 Educational institutions

Note on the Dutch Educational system

- MBO (middle-level applied education) is comparable to a junior college education.
- HBO (higher professional education) is comparable to a college education.
- WO (scientific education) is comparable to a university level education.

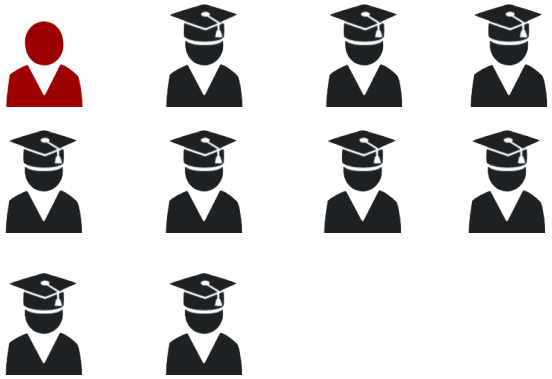
2. Today's ICT assessed by students

In order to prepare for the future, we must first look at where we are today. We asked the students what they thought of the current ICT facilities and applications in education. A quarter of the students give the ICT facilities and applications in education a meagre 'sufficient' (6 or lower). In addition, as many as 40% of students do not make optimal use of all the educational applications on offer. One of the reasons is that, due to the jumble of applications, students have no idea what is available (25%) and where to find it (7%).

1/3 students sometimes miss a lesson because of their school's IT environment

1/4 students give IT a 6 or lower.

1/10 students has poor understanding of study progress through their school's IT environment



Find out more about these results in Chapter 4

1/2
MBO-students uses only 2 or 3 education applications

3. On to the 22nd century: how ICT has kept up in education

ICT is inextricably linked to the design and organisation of education. The introduction and emergence of ICT applications can be described as an evolution that has turned into a revolution. Below, we briefly outline the timeline of ICT over the years in this sector. Where do we come from? Where do we stand now? And what challenges can we respond to in advance?

From analogue learning to digital learning
At the end of the 1980s, the Committee on Higher Education Informatics Plan (CHIP) was one of the first committees to write about what education should do with the rapidly emerging information technology. It is now hard to imagine that young people had to learn how to use computers in their education. The content of curricula was adapted to this, because ICT was becoming more and more common in professional practice. The emergence of ICT and its use in education also raised issues. Think of the question of how many computers had to be used. In the early years, fat client architectures were mainly used. One of the challenges with this was that all applications were located locally, which resulted in a high management burden. Due to the fact that e-learning and electronic learning environments were on the rise, it was no longer wise to stick to local management. This is why a thin client architecture was adopted, with more virtualisation and more flexibility in the management of applications.

At the beginning of the 21st century, educational systems were first opened up digitally, such as student information systems, electronic learning environments and units, such as timetables. This made it already possible to work from home. For ICT it therefore became necessary to design a virtual desktop, in which content was accessed via an intranet. The emergence of digital learning environments was not only a challenge, but also an advancement that we still benefit from today. Information provision and user-friendliness were improved over the years, but remain an issue we are still dealing with today.

From hundreds of separate applications to a single digital workspace
Secure information provision and user-friendliness are central to both the management and the ICT department. However, educational institutions often have an ICT landscape with hundreds of applications to manage. The issue facing the ICT department today is not only the choice between the old and the new world, but also the transition between them. The old world is formed by Windows applications, file servers and many managed devices. With the rise of Blended Learning (a combination of online learning and contact education) there is a trend towards browser based applications on the new side, such as Office 365, Dropbox, BlackBoard and Magister. In addition, the Flipped Classroom, in which students often work together from different locations, makes it increasingly important to offer a single clear environment that supports these new forms of working. But how can all document locations, information and applications come together in one

secure workspace? And more importantly: how can the old and new systems run side by side and merge into each other without inconveniencing students and lecturers?

In short, there is no bridge to go from old to new. In the new world there is more and more access via the web browser, so that working with applications is no longer dependent on an operating system. This way, educational institutions can offer a managed workspace to everyone who has access to the Internet. As a result, educational institutions can save costs by, for example, making a remote desktop environment superfluous. In addition, the management of managed and own devices will be standardised and students will always have the same recognisable workspace anywhere. This ensures that students have better access and insight into information about their studies, resulting in fewer study drop-outs.

“The bridge to get from old to new is missing”.

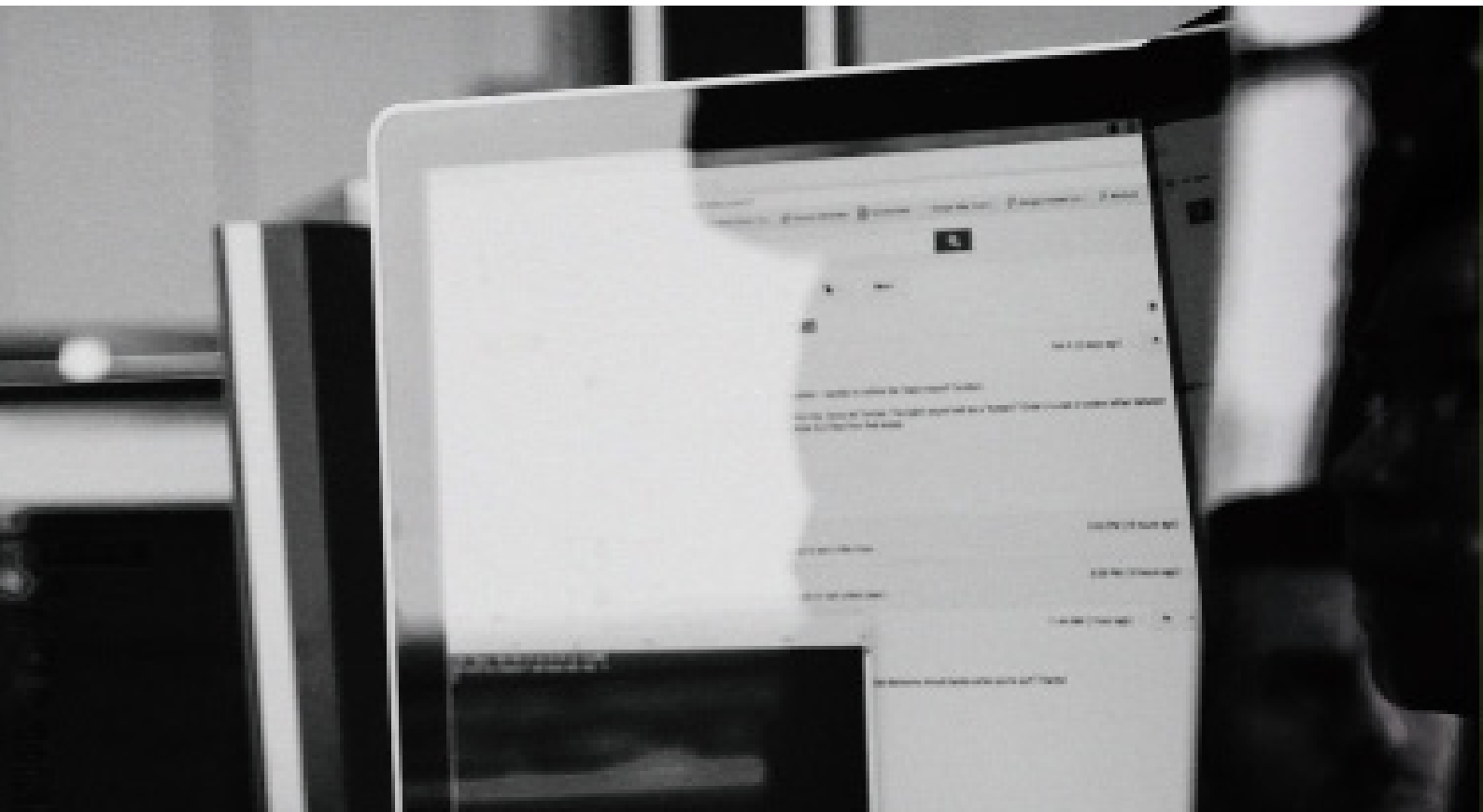
From the 21st century to the 22nd century

The role of digitalisation in education
"The digitalisation of education is already under way and will remain uninhibited over the years", says Gartner. Educational institutions are looking for new digital architectures and components that meet the development in and changing needs of education. Thus, the need for personal and flexible education can no longer be denied. This is a development that is already happening today and will only become more important in the years to come. In order to be able to offer personal education, education and institution-wide learning will increase in the coming years. Students will therefore have the opportunity to put together personalised learning paths. ICT departments must ensure that students can work together smoothly and find their way around the various education portals quickly and easily.

"The digitalization of education is gaining momentum and moving into execution mode."
Gartner's Hype Cycle for Education

A digital workspace, in which the various educational portals come together, which can adequately support flexibility and which meets the changing demands of education, will become necessary. Moreover, this digital workspace must meet the personal and, above all, different wishes of both students and lecturers. In the short term, there will also be a growing supply of digital teaching materials and learning methods, which may differ per educational institution and even per study. This means that the digital workspace must be continuously adaptable. This poses new challenges for educational institutions, because how do you shape such a digital workspace into a single flexible and personal learning environment that optimally supports the educational process? How do you guarantee students and instructors maximum flexibility, quality and freedom of choice, without compromising on the manageability and reliability of the learning environment? In short, the answer is: by guaranteeing flexibility and shaping data exchange between applications as simply and uniformly as possible, you ensure that the organisation remains future-proof.

Finally, developments such as big data, Internet of Things, artificial intelligence, virtual and augmented reality will play an even greater role in the future. In addition, many institutions are working on how to deal with the rise and integration of MOOCs. These Massive Open Online Courses are accessible to everyone and are gaining increasing recognition. With the disappearance of student grants and discussions about the public funding of students, the question is whether, in five years' time, the positions of educational institutions will still be so highly regarded or whether the education market will be overturned by a disruptive innovator with certified programmes via MOOCs.

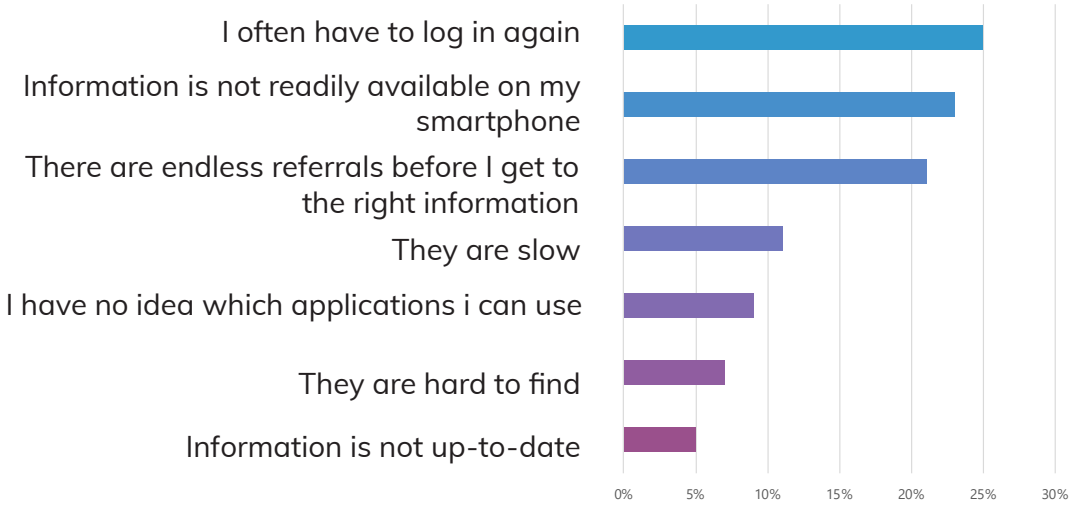


4. Student speaking: ICT in education today

As shown in chapter 2, the student judges the ICT facilities strictly. In this chapter, we will not only go into more detail about the motivation behind the mediocre grade, but also what the consequences are of the ICT facilities and what the student actually expects from ICT.

The research shows that students experience several frustrations when it comes to the applications offered at educational institutions. The greatest frustrations are the frequent log-ins (25%), information that is not readily available on the move (23%) and the endless referrals before the student finds the right information (21%).

The biggest frustrations with educational applications among students



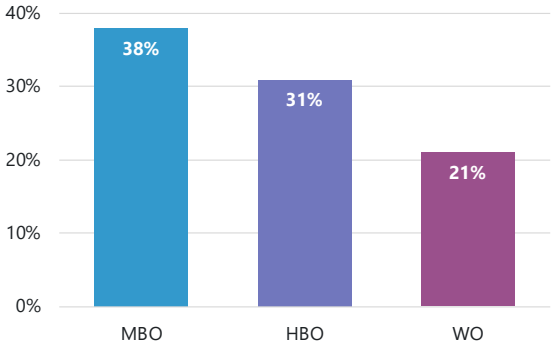
"Study progress is hampered by poor access to educational applications".
1 out of 10 students

"I often have to log in again"
Student's greatest frustration with the educational applications

Study progress or study delay?
In addition to the frustrations, there are also some major consequences associated with the lack of correct information in the educational portal. For example, students are unable to prepare for lessons (47%), they miss lessons (31%) and misunderstandings have arisen about study progress (31%).

The majority of students (61%) indicate that they perform better when they have insight into their study progress, and more than a quarter of students (28%) consider it important to be able to compare study performance with that of other students. However, the frustrations about the educational portal indicate that gaining insight is not as easy as it seems. This can be seen from the fact that 13% of students are hindered in their study progress by poor access to educational applications.

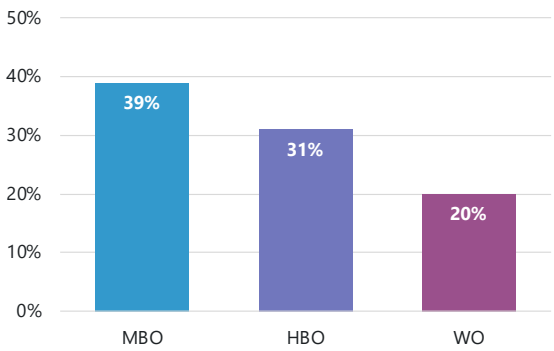
I sometimes missed a lesson through the educational portal



1/3 students sometimes miss a lesson due to missing the right information in the education portal

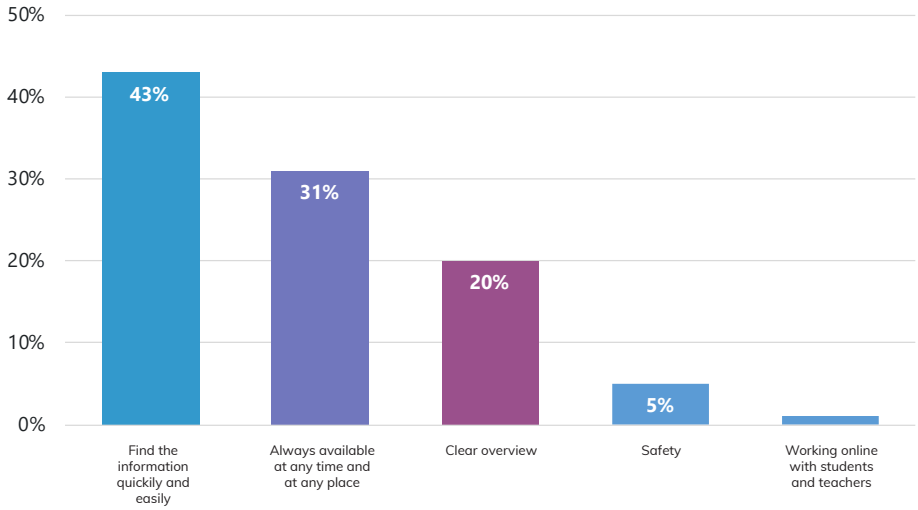
Due to a lack of correct information in the education portal, 1/3 students have mis-understandings about their study progress.

Through the educational portal I sometimes have misunderstandings about my study progress.



What do students expect from an educational portal?
The frustrations and consequences of the educational portal have been mapped out. Now the question is: what do students expect from the Education Portal? And, more importantly, how will the consequences be eliminated? The majority of students want to be able to find the right information quickly (43%). This means that no more time is lost on searching for assignments, information and applications. In addition, students want the education portal to be available anytime and anywhere (31%) and to be clear (20%). Incidentally, an educational portal does not appear to be a hard requirement for the choice of school. Only 7% of students consider the presence of an education portal in their choice of school.

The requirements for the education portal



MBO students under the microscope

In addition to the large survey, 437 MBO students were interviewed. See here the most important findings.

42% missed an important message due to the ICT environment

1/3 students find it difficult to find all the functionalities in the educational portal

59% believes that a good education portal helps to study better and more easily


M T W T F S S
10AM HW HW
11 AM skype skype
12 AM Test Test Zira
MY Sketch Book

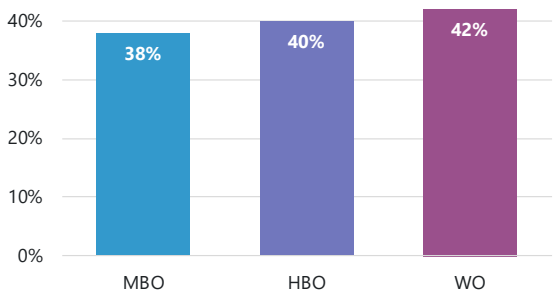
5. Future of education according to the digital student

Where in the previous chapter we looked at expectations, we are now going a step further into the future. We have challenged digital students to look at the trends that will turn education on its head in the future.

The digital student about digitalisation
The labour market of the 21st century demands a new and innovative educational program that meets the wishes and needs of the digital student. This means that specific competences such as collaboration, problem solving and good communication skills in particular will play an increasingly important role. The opinion of the digital student? In the future, they would prefer to develop personal skills instead of vocational skills (40%). The (digital) teaching material and lessons must be designed in such a way that the digital student has the opportunity to learn the 21st century skills optimally and efficiently.

We asked the digital students what they thought about only taking digital lessons in the future. 16% of the students would agree to it. Also, almost a third (30%) indicate that when courses are offered using gaming, virtual reality and video streaming, they are more motivated. Blended learning will therefore continue to be a hot topic in the coming years, which the educational institutions absolutely must take into account. In order to achieve the integration of the digital workspace and the various technologies, such as virutal reality and gaming, ICT must ensure that these digital technologies are given a place in the future ICT landscape.

21st century skills will be more important than professionally oriented skills in the future



16%

Of the students think they will only take digital lessons in the future.

From traditional teaching material to e-learning

Digital learning materials and teaching methods are no longer new, but are far from being fully implemented in education. Digital educational materials have great advantages over paper materials.

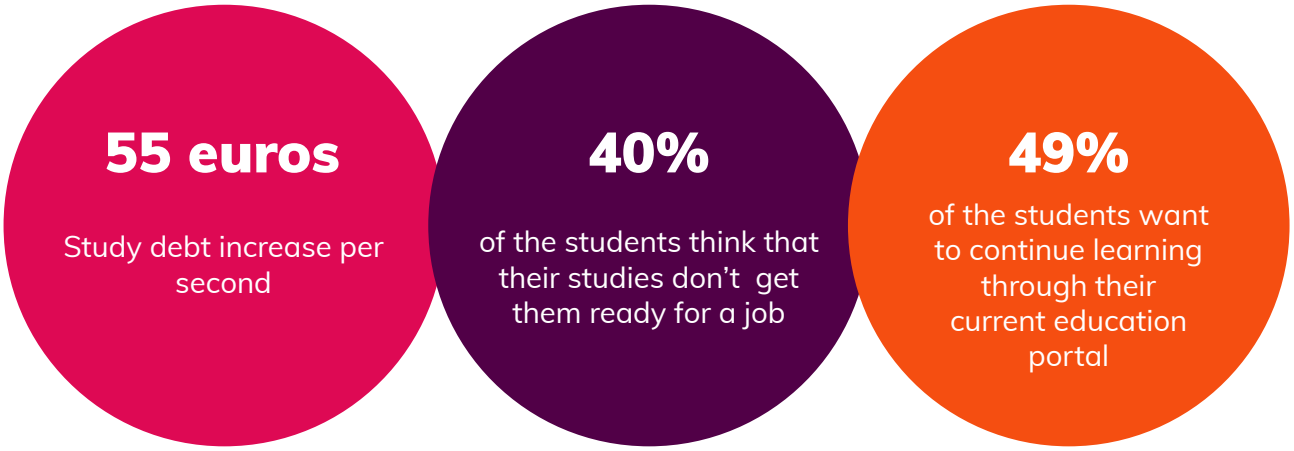
They replace the old-fashioned static content with 'liquid content'. In an era in which information is changing rapidly, it must be ensured that study materials can also be incorporated quickly. The advent of digital curricula and books makes it easier to offer up-to-date information.

From paper tests to digital exams

However, it is not just about the books. More and more educational institutions are preparing solutions to replace paper tests with digital ones on a larger scale. This refers to the application of digital technologies to create, administer, report and manage examinations.

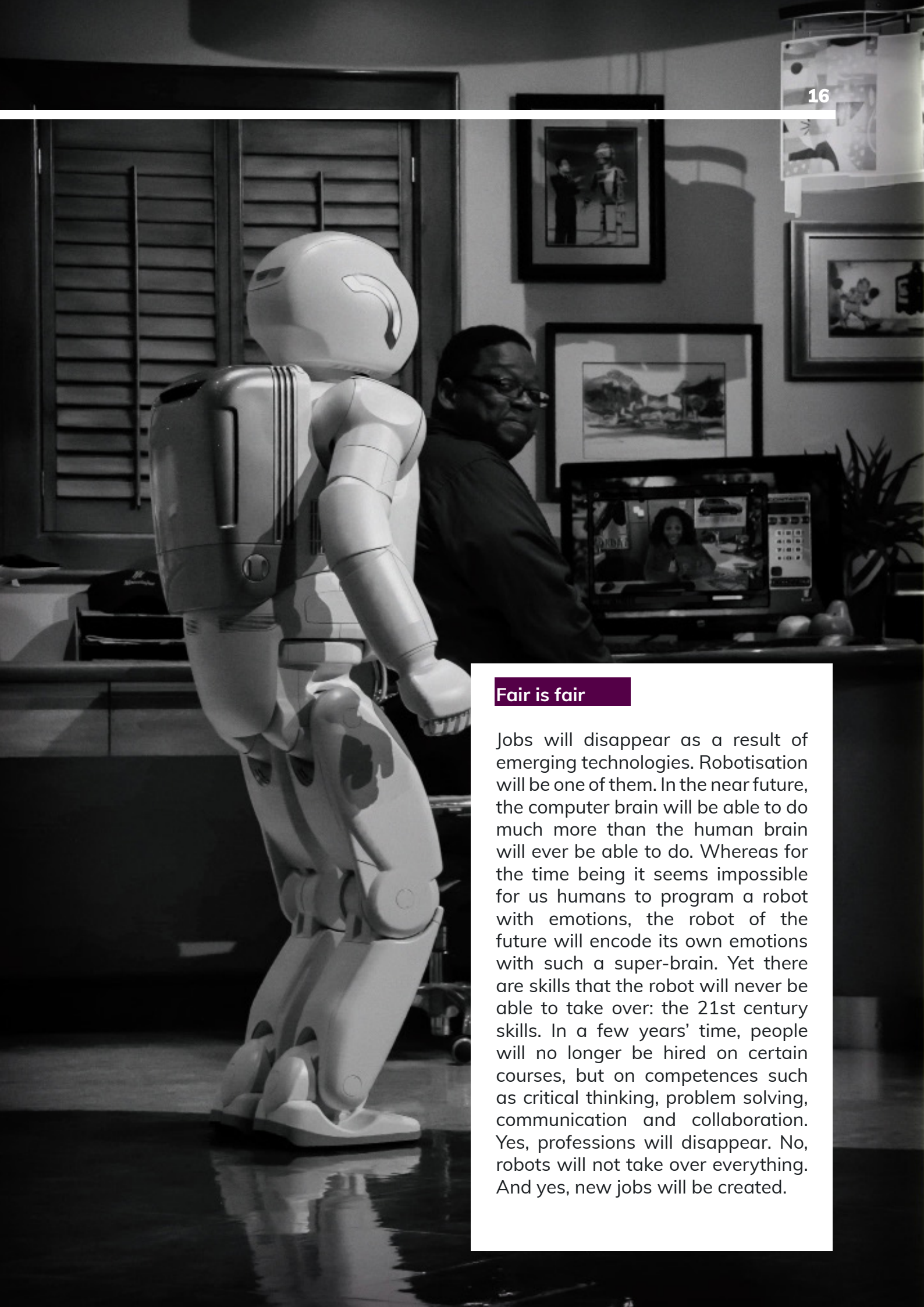
This will not only involve the digitalisation of existing tests, but perhaps also a new way of doing things that is being encouraged by the growth of online education and new technological possibilities, such as tests that make use of virtual reality and gaming.

The digital student on lifelong learning
The pace of change in the labour market is increasing rapid. Globalisation, robotisation and technological developments are constantly making new and high demands on the skills of workers. In order to be prepared for a future in which a person can perform multiple jobs on the labour market, students must continue to develop their knowledge and skills. We asked the digital student about the phenomenon of lifelong learning. Almost half (49%) feel that we are never out of school and want to be able to continue to follow subjects via an educational portal or central digital workspace after their studies. A worrying fact is that as many as 40% of students doubt whether the current study will prepare them for the jobs of the future.



Student debt is growing with 55 euros per second
40% of students say that their current studies do not prepare them for the jobs of the future. Meanwhile, students are building up a huge debt, totalling as much as 17.6 billion euros. National student debt is expected to increase with 55 euros every second, according to DUO figures. It is worrying that students are being saddled with a debt that they may not even be able to repay, because their education does not match the jobs of the future.

The Dutch government is in favour of lifelong learning and is encouraging this by introducing a new measure. From September 2017, anyone up to the age of 55 can borrow money for an MBO, HBO or university education. This underlines the importance of an electronic learning file. ICT must ensure that the digital learning environment can transform this, so that an online workspace is created that moves with the student throughout his or her life. Think of the Electronic Patient Record, but then for students.



Fair is fair

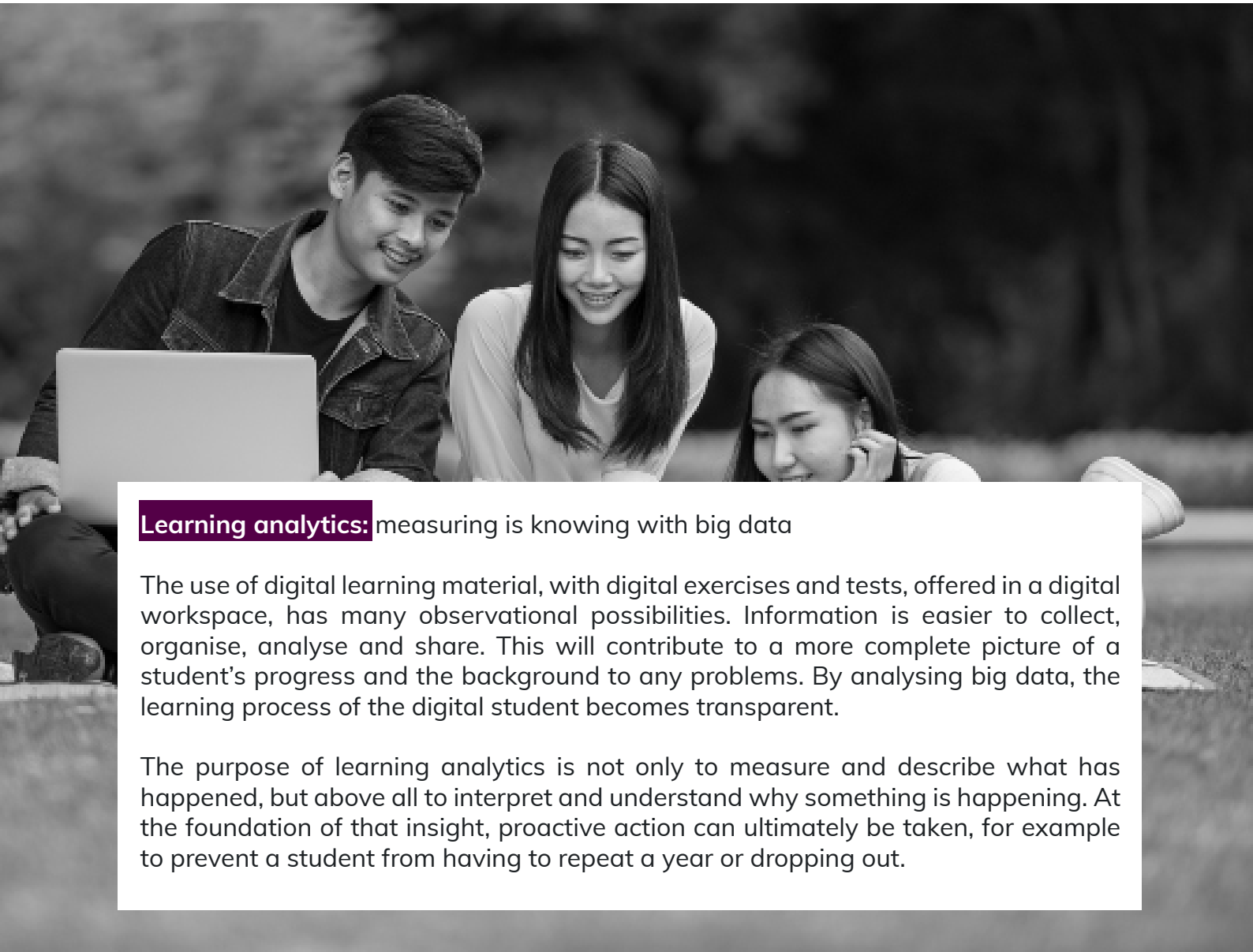
Jobs will disappear as a result of emerging technologies. Robotisation will be one of them. In the near future, the computer brain will be able to do much more than the human brain will ever be able to do. Whereas for the time being it seems impossible for us humans to program a robot with emotions, the robot of the future will encode its own emotions with such a super-brain. Yet there are skills that the robot will never be able to take over: the 21st century skills. In a few years' time, people will no longer be hired on certain courses, but on competences such as critical thinking, problem solving, communication and collaboration. Yes, professions will disappear. No, robots will not take over everything. And yes, new jobs will be created.

The digital student about flexible learning
Flexibilisation and personalisation are important trends in education. In personalised and flexible education, the personal learning questions and choices of the student in question are often the starting point and not a fixed educational program. At many institutions, within certain frameworks, students are increasingly influencing the content, work format, teaching materials, testing, time, place and pace of learning.

We have asked the students what they think about flexible learning and whether the educational system is ready for this. The survey shows that as many as one in ten students (11%) is not satisfied with the range of subjects offered by their current study. Institution-wide learning offers a possible solution here. In fact, 50% of students indicate that they want to make use of all lessons at all educational institutions. In addition, 40% of students say that they are less likely to drop out if the curriculum can easily be enriched with the courses offered by other educational institutions.

The digital student on personal analytics

This research shows that in the future, the digital student wants studies to be more personalised (60%). In addition, chapter 4 has already shown that the digital student performs better when there is insight into the study progress and the study performance can be compared with that of fellow students. Personal analytics will therefore be important in the coming years. Students want to be able to collect and analyse (educational) data themselves. In personal analytics, the emphasis is on students, the learning environment and improving study success.



Learning analytics: measuring is knowing with big data

The use of digital learning material, with digital exercises and tests, offered in a digital workspace, has many observational possibilities. Information is easier to collect, organise, analyse and share. This will contribute to a more complete picture of a student's progress and the background to any problems. By analysing big data, the learning process of the digital student becomes transparent.

The purpose of learning analytics is not only to measure and describe what has happened, but above all to interpret and understand why something is happening. At the foundation of that insight, proactive action can ultimately be taken, for example to prevent a student from having to repeat a year or dropping out.

About Workspace 365

Since 2010 we have been developing a single adaptive workspace in which you can find everything you need to work or study. Our goal is to ensure that people get the information they need to achieve their goals and make choices without clicking.

Look for more information:
https://workspace365.net/en/workspace-365-for-education/

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