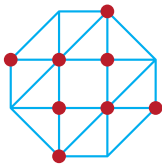
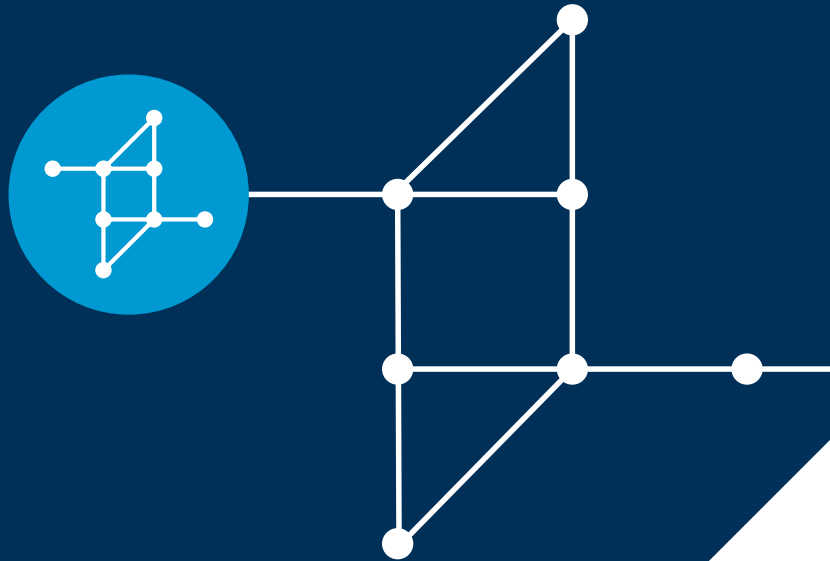


Getting to grips with digitalisation

Digitalisation as a catalyst for the desired transition in higher education



Acceleration plan
Educational innovation
with ICT



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Introduction

The COVID-19 pandemic has accelerated the process of digitalisation in higher education. Online and blended learning have, by necessity, become intrinsic to education. We are, of course, keen to get back in front of the classroom to provide on-campus education. But there has also been a receptiveness, in multiple contexts and areas, to structural adjustments in the system which had previously been difficult or even considered impossible. This generates momentum for the innovation programme which the Acceleration Plan for Educational Innovation with IT has been working on for almost three years now.

At the same time, the COVID-19 pandemic has made us look at this issue in a new light. We have come up against the limitations of digital learning. Incidents such as those involving online proctoring and social isolation have sparked lively discussions about the future and direction of digitalisation in higher education. These discussions give shape and substance to fundamental questions about the transition for the longer term.

These trends and discussions require us to recalibrate the current actions in the Acceleration Plan. At the same time, they fuel the need to look beyond two-year horizons and to develop a shared vision of post pandemic higher education and the role of digitalisation in the new landscape. By looking at the long-term picture, room is created for evaluation and reassessment of ambitions. Are we still doing the right things? Can we better adapt to the changing context in the wake of the COVID-19 pandemic? Can we use the lessons learned to anticipate and prepare for the future of higher education in the coming years? By taking a step back to reflect on the current situation, we can get a grip on the direction of this transition for higher education.

A transition process always starts from reflection and reconsideration – what context are we operating in, how did we get here, and what forces are behind need for transition? For higher education, we wanted specifically to look beyond digitalisation and take the broader dynamics of higher education and the associated changes as a starting point. That is why we are proposing a vision for enhanced quality of higher education. If digitalisation is to be a solution, it is indeed essential to have a broadly supported and clearly defined picture of the problem that digitalisation aims to solve.

This report originated from a transition arena; a participatory approach facilitated by the Dutch Research Institute For Transition (DRIFT) in which we arrived at new insights, transition perspectives and strategies in collaboration with a variety of innovators and forward-thinkers in the field. This academic approach merges transition analysis, vision formation and back-



casting with the identification of transition experiments and reinforcement of actions that have already been initiated. It is a process that has led to the shared transition vision before you now, in which we explicitly cast the Acceleration Plan in a broader context of fundamental societal changes currently taking place.

As part of this process, we undertook a literature review and held interviews which we translated into an initial memo for the first arena session. Based on the interviews and our network, we selected participants who would take part in the process. Each of them is intrinsically motivated and involved in the transition of higher education and each has their own expertise or perspective which they wish to contribute to the process in a constructive manner. The arena sessions themselves were aimed at reflection, critical dialogue, substantive deepening and creative exploration of the issues. Over the span of four sessions, we enriched the analysis, formulated perspectives using guiding principles and transition paths, and finally identified breakthrough actions to help accelerate and guide the desired transition.

This document is the synthesis and summary of our discussions and follows the themes of the arena sessions. Chapter 1 contains our analysis of the perspective of transition in higher education and the persistent problems in the higher education system. We describe the current higher education system from a historical perspective, including the imperfections – or problems – that have arisen in this system and the role digitalisation plays in this. Chapter 2 outlines the desired direction of the transition on the basis of six guiding principles and target scenarios. In Chapter 3, we look at the actions needed to achieve that desired future and outline promising initiatives and projects we are already witnessing today and which have the potential to bring about greater change or serve as examples of that change. In the final chapter, we pose the question of how to move forward from here. What are the next steps we have to take? And what do we need to take those steps? By doing so, we hope to give the reader tools and inspiration to accelerate the transition in higher education along the right lines.

Signed by the transition team,

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CHAPTER 1 | HIGHER EDUCATION FROM A TRANSITION PERSPECTIVE

1.1 The transition perspective

In this chapter, we describe higher education from a transition perspective. In this 'complex adaptive systems approach', a coherent set of societal practices, structures and cultures around specific societal functions (energy, mobility, care or, in this case, education) are considered in context. In this systems approach, it is not possible to indicate specific boundaries or to give a technical or quantitative description of 'the system'; instead, the starting point is that a representation of the shared context can be constructed with stakeholders (a temporary consensus).

To give structure to this, we start from a central concept in transition science, the so-called societal regime. This refers to the dominant culture, structure and working methods that evolved historically within a societal system. This allows us to contemplate how such a regime came into being, how it is structured and how it functions. Organisations operate within this context and are limited/directed by this context, but also perpetuate this context through their behaviour. Because of this, societal regimes provide both stability and certainty, but are also restrictive when it comes to effecting bigger changes or responding flexibly and quickly to disruptions in the environment (Loorbach, 2010).

Transition researchers identify two additional levels to gain a clear picture of a societal regime. First there is the external environment of the regime – the 'landscape'. This encompasses technological, political, economic, or other societal developments that are broader than the specific regime but have an impact on it. Parties within a regime usually manage to adapt to this by making incremental changes. This can lead to increasing tensions in the longer term, especially if gradual improvements make it progressively more difficult for parties to adopt entirely different practices.

The third discernible level is that of 'niches' – ideas, structures and practices that depart fundamentally from the regime. These can often respond more effectively to landscape trends, as they are not locked into regime structures. At the same time, they are vulnerable, immature, or too alternative, which prevents them from breaking through.

A transition is defined as a structural change of a societal regime. It is a process that takes decades and is the outcome of an interaction between the three levels. The different levels are depicted in the figure beside.

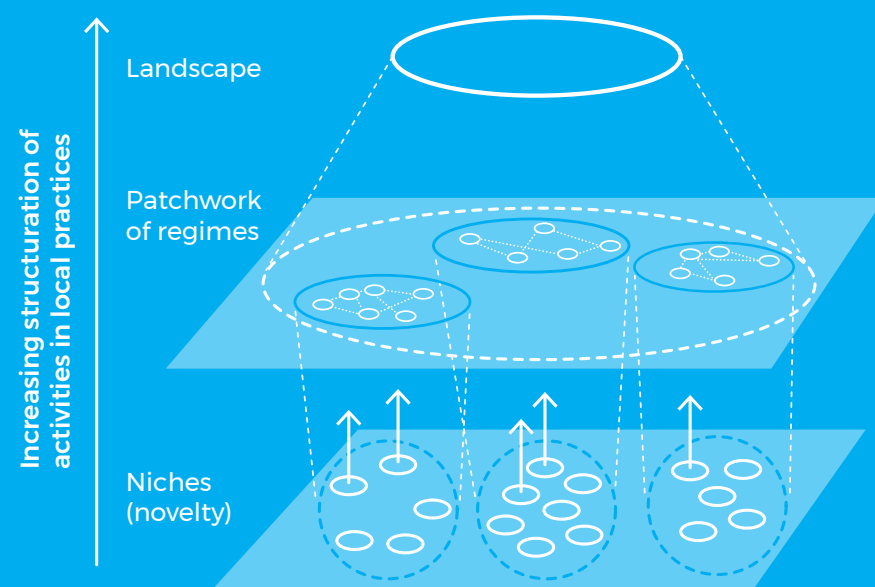


Figure 1 The Multilevel Perspective of Loorbach et al. 2017

1.2 Historical analysis

Four major trends in the post-WWII period laid the foundation for higher education in the Netherlands as we know it today. These trends are the growth of higher education, internationalisation, differentiation in educational offer within the existing system and the rise of New Public Management.

1.2.1 From elitism to egalitarianism

The most striking development in higher education we have seen in the post-war period is the growth it has undergone. The number of students, institutes and courses increased as the Netherlands continued to develop as a knowledge economy (Onderwijsraad, 2019). This knowledge economy is characterised by an economic shift in which instead of goods, raw materials and labour, the provision of services becomes the main economic driver and knowledge and knowledge sharing the main form of capital.

Higher education is instrumental in this development by educating many students and by generating and disseminating knowledge. Where the group of students used to be relatively homogeneous – mainly men from higher socioeconomic classes – in the post-war period, higher education began serving an increasingly diverse group of students and higher education institutions acquired an important role in the emancipation of women, lower socioeconomic classes, people with a migrant background, and so on (Leune & De Koning, 2001).

1.2.2 Movement towards greater pluralism

Along with the aforementioned growth in higher education, the heterogeneity of the student population also increased. Higher education institutions responded to this by differentiating within the existing binary system, which since the 1980s has made a legal distinction between universities of applied sciences and research universities. In 2010, the Veerman Commission published a report in which higher education institutions were encouraged to differentiate at three levels, namely at system level, institutional level and level of educational offer (Veerman et al., 2010).

Successful initiatives within and between programme providers, faculties, and universities, but also incentive policies, have led to a differentiation in the content, design and level of education, allowing higher education institutions to raise their profile and provide a broad educational offer. This can be seen, for example, in the emergence of programmes such as the broad Bachelor's programme at university colleges, English-language programmes, honours programmes and post-higher-education programmes (Onderwijsraad, 2019).

1.2.3 Internationalisation and globalisation

Globalisation leads to international intertwining of economic, social, political, environmental, and cultural relations, to greater significance of processes at the global level, to increased complexity of events, and to increasingly vital international cooperation. In higher education, globalisation has led to an international accreditation system in 2002 as well as an increase in international student numbers and study programmes. Globalisation also has an effect on the content of education. The complexity of education and research topics is increasing and knowledge, ideas and skills are characterised by rapid international circulation (Stromquist, 2002).

1.2.4 The rise of New Public Management

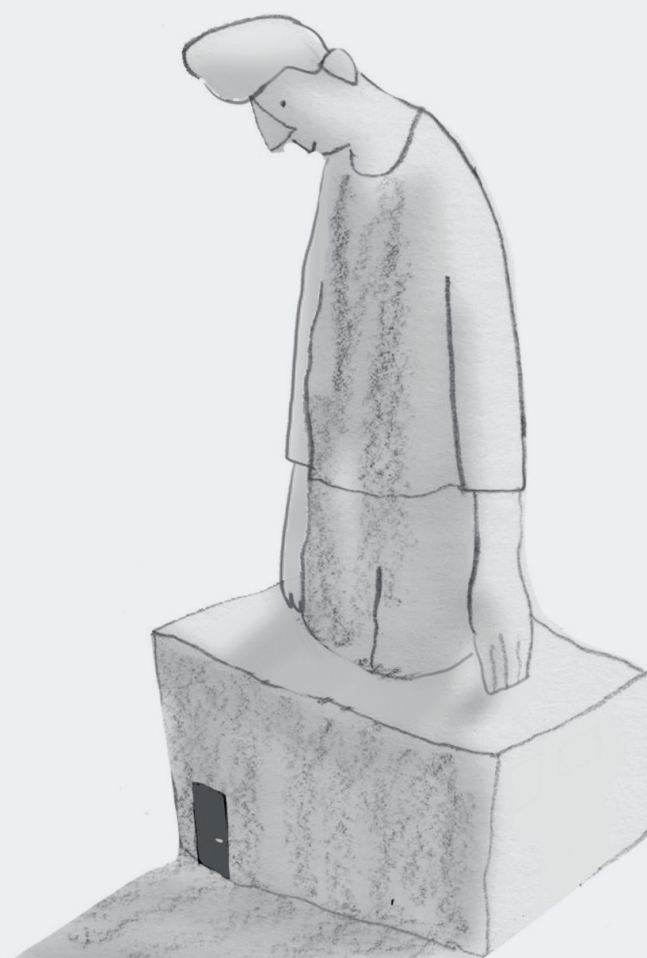
In the 1980s, there were many students exceeding the specified programme duration and the government had insufficient insight into the return on public investment in higher education. Societal pressure (*'Why should the butcher pay for the lawyer's son?'*) and a heightened focus on market forces within the government led to a change in how the public system was governed. Higher education, too, was to be governed more along the principles of New Public Management. The idea was to get a better grip on the costs and quality of higher education by focusing on cost efficiency, accountability and transparency (Salomons, 2021).

Student-centred funding, for example, was intended to ensure healthy competition between educational institutions and faculties, and thus to be a driving force for improvement of higher education and differentiation in the educational offer of the various institutions. Much emphasis has been placed on pursuing efficiency gains in the graduation of students, cost savings and a focus on growth in student numbers (Enders & Westerheijden, 2017; European University Association, 2021).

1.3 Higher education today

1.3.1 Dominant ways of thinking, organising, and acting in higher education

Higher education today is required to offer continuing education programmes that are societally relevant and accessible to more than 50% of young Dutch people coming out of secondary school. Society values qualifications from higher education institutions more highly than those obtained through practical education and sees these qualifications as a gateway to the knowledge economy. As a result, the public debate on the role of higher education focuses mainly on qualification and less on socialisation and personal development of students (Biesta, 2016; ScienceGuide, 2021).



There is a clearly identifiable constellation of actors within higher education, and although the boundaries are permeable, we can discern different categories, each appealing to different target groups. There are the publicly funded institutions – the research universities and universities of applied sciences – and non-publicly funded education offered by parties such as NCOI. Within the institutions, a clear distinction can be made between research and education; research is held in higher esteem in the research universities, while education is given greater prominence in the universities of applied sciences. A clear distinction can also be made between student education and adult education (Onderwijsraad, 2019).

Although there is an extensive bureaucratic structure to guarantee quality by means of rules, accreditation, controls and inspections, the government sometimes also provides room for experimentation (Enders & Westerheijden, 2017). The Dutch Higher Education and Research Act (WHW) establishes the principal preconditions and frameworks, such as student-centred funding, the location principle and administration per defined programme. These are examples of frameworks that limit the possibilities for remote teaching, exchanges between institutions and faculty collaborations. Future plans for higher education will also be made within these existing frameworks, which means that the current laws and regulations will continue to be decisive (Wild et al., 2020).

This leads to a practice where, after secondary school, students can choose from a wide range of programmes of a similar level but with limited scope for choice within these programmes. Higher education institutions offer students classroom-based, assessable education that is scalable and ensures that the majority of students graduate and receive a degree that gives them the qualifications they need for the knowledge-intensive labour market. Both government and the institutions are committed to quality, accessibility and efficiency (Westhoek, 2019).

1.3.2 Veranderende maatschappij

A number of societal trends at the level of the landscape¹ have an unmistakable influence on higher education.

One of these influences is the changing demand from society and the labour market. Instead of a linear life path where school is followed by study, a job and finally retirement, today's labour market demands continuous development of knowledge and competences, including digital skills. This also changes the type of higher education in demand as well as the target group the institutions are able to serve. In addition, the demand for knowledge

¹ See page 3: *Figure 1 The Multilevel Perspective of Loorbach et al. 2017.*

and competences is changing. Complex societal challenges such as global warming require interdisciplinary and transdisciplinary knowledge and global cooperation (Deleye et al., 2018).

The increasing socioeconomic inequality in society creates a gap in opportunities between different layers of society. Higher education is a way of emancipating a large group in society, but it also contributes to widening the gap between those who have access to education and those who do not (Onderwijsinspectie, 2016).

1.3.3 Digitalisation as a disruptor

Digitalisation is another such landscape development, as it affects how we live, communicate and work throughout society. Digitalisation has gradually made its way into higher education. Initially, it consisted mainly of support for administrative and logistical processes (ING Economisch Bureau, 2020). Only in the last ten years have there been experiments with digital forms of education geared more to supporting learning processes. Digitalisation is taking place in many forms in higher education. It has thus, on the one hand, become part of the regime. On the other hand, the system appears insufficiently adapted to it; the unmistakable power of digitalisation is putting pressure on multiple established cultures, structures, and ways of working and is forcing transitions.

Because digitalisation is mainly used to optimise existing structures and processes, a frequently heard criticism is that digitalisation is limited to technological gimmicks without actually changing the underlying structure, culture or working methods of higher education; consider, for instance, making class lectures available digitally versus personalised gamification of the curriculum. An oft-heard warning in response to the limited application of digital possibilities is disruption by new parties that are able – or willing – to implement digitalisation in a much more radical way, for instance Coursera, edX and FutureLearn. Through their digital platforms, these organisations provide educational institutions with new modules and even complete curricula and offer a total package – from production, enrolment and testing to marketing (Fikkers & Kamalski, 2020).

Modern States Education Alliance hires teachers from Ivy League universities to provide online, fully accredited education. So far, 210,000 students have enrolled. It is a new industry, characterised by high profits and even higher investments, which has not escaped the attention of Big Tech companies like Amazon, Facebook and Alphabet (Google). These changes in a previously clear constellation of actors are causing unrest in higher education. This opens up novel questions about quality assurance and workload, but also wider societal issues, such as a growing dependence on private companies and issues surrounding data, privacy and cybersecurity.

1.4 Persistent problems

Higher education will have to adapt under the pressure of landscape trends and niches. This is challenging for a regime that has developed over time into a robust and solidified entity that is not easy to steer in a new direction. The combination of societal changes and accumulation of inertia in the higher education regime leads to a number of persistent problems for which the various solutions deployed seem to help only to a limited extent. From our perspective of transition, this is the prescription for precipitous and structural change: if we do not proactively and vigorously pursue it, transition will ‘befall’ the higher education sector, with all the negative consequences that entails. Our analysis and discussions reveal three central problems that indicate the need to collectively bring about the necessary transition:

- (1) Inability to adapt to the changing demands of society and the labour market;
- (2) The growing gap between highly educated and less educated people;
- (3) The increasing workload and study stress of students, lecturers, and education support staff.

1.4.1 Inability to adapt to society and the labour market

Despite the increasing diversity of student demographics mentioned above, public higher education is still strongly focused on 18-25-year-olds who, after having completed secondary general education, or pre-university education, move on to a three-year to six-year full-time study programme at a university of applied sciences or a research university. However, the changing labour market requires flexible education in terms of pace, time, place, content, and level, with people in employment seeking access to higher education for continuing education or retraining. Furthermore, complex societal issues increasingly demand unique interdisciplinary student paths that can be rapidly adapted to existing needs in society (Toekomst van ons onderwijs, 2020).

Despite this growing need, the publicly funded higher education system seems ill-equipped to adapt to it. This is partly due to the location principle in the Dutch Education and Research Act, which means that there is hardly any scope for remote teaching or teaching at several faculties/institutes. Moreover, this act requires an administration that focuses on clearly defined and complete programmes, and smaller educational units – such as micro-credentials – are not yet recognised (Wild et al., 2020). Rigid educational quality assurance and the associated red tape from the government and higher education institutions also stand in the way of innovation. In addition, the academic culture in which disciplines and qualification are highly valued perpetuates the status quo.



While publicly funded higher education institutions find it nearly impossible to offer more flexible forms of education, private providers such as Schoevers and Coursera are enjoying growth. These private institutions often have a more advanced level of digitalisation than the public higher education institutions and offer flexible education that mainly attracts target groups that do not fall into the age group of 18-25 mentioned above. What is at issue is the extent to which these parties' interests are a match for the public interest of education. The risk here is insufficient attention to subjects that may not be that commercially attractive to them, but which do fulfil a societal need. Examples include specific, less popular humanities, or relatively expensive specialist technical or medical vocational training. Publicly funded higher education is faced with the question of how much it is willing to accommodate these new target groups by making them more flexible; whether it will lose its relevance if it does not; and whether it will be able to cope with the commercial offer. (Van der Zwaan, 2021)

Within higher education, there is a growing movement towards working in a more student-centred way instead of in a programme-centred way, and thus towards offering more flexibility. Nonetheless, these initiatives are limited by bureaucracy and funding structures that are still focused on narrowly defined study programmes and the associated quality assurance, and on getting students to graduate as quickly as possible. Similarly, digitalisation is mainly in support of these (limited) forms of education, whereas the idea that digitalisation can support flexible education is widely supported. Digital education can be taken remotely and at one's own pace and allows for educational programmes to be adapted to the needs of the student. This also makes it easier to facilitate collaboration between institutions and faculties, for instance through microcredentials (European University Association, 2021).

However, digitalisation can also lead to hyper-flexibilisation, where higher education becomes even more of a check-box exercise for ticking off the right competences and qualifications, or 'skillification' of higher education, as it is sometimes referred to. This raises concerns, as it could lead to an emphasis on qualification, even more so than now, at the

expense of the other goals of education: socialisation and personal development. The classical ideal of *Bildung* should also have a place in the digitised higher education institutions of the future (Biesta, 2016).



1.4.2 Gap between highly educated and less educated people

An almost paradoxical development is taking place in society; just when the accessibility of higher education has increased as never before (more than 50% of young people are enrolled in higher education institutions), a new dividing line has started to emerge. Mark Bovens, author of the book 'Diploma democracy', describes a new social divide: that between highly educated and less educated people. This manifests itself in different ways – from social networks, political ideas, places of residence, income levels to health and wellbeing (Bovens, 2012).

This divide stems in part from well before a person starts higher education. Children from families with highly educated parents are more likely to enrol in higher education than children with the same talents but with less educated parents. This is partly due to early selection by level in compulsory education and the emergence of different forms of 'shadow' education. But higher education has also become part of this problem. Research Master's programmes, university colleges and programmes with selection at the gate – some of which require additional tuition fees – are mainly pursued by children with academically educated parents. Through these English-language studies, international exchange programmes and honours courses, children from academic backgrounds are able to build on their head start. The increase in shadow education in higher education, which was recently highlighted by the Dutch Education Inspectorate, is also a worrying development from this perspective (Onderwijsraad, 2019).

This gap has the potential to become a fault line that keeps widening and deepening. This is because highly educated people have many advantages in today's society: they earn the most, live the longest, live in the best neighbourhoods with the best schools, and so on. This can lead to a vicious circle, according to Bovens: "*Academics marry other*

academics, thus pooling not only their genetic material but also their intellectual and economic capital. Their children are simply able to run much faster once the starting gun has sounded. Children from less educated backgrounds can never catch up with them." (Bovens, 2016).

It is questionable to what extent this is an educational problem and not a broader societal problem. The issue lies in perception, in other words, the status and reward that 'higher' education enjoys in society. As long as we consider higher education as better (status) or more valuable (reward), the gap will only grow, as not everyone in society can, should or want to pursue higher education. We do see some changes in the social debate, such as whether we should still be referring to 'higher' and 'lower education'. A distinction between 'theoretical' and 'practical' is thought to be more appropriate. (Kleinjan, 2018). Furthermore, it is not that strange an idea given that in the future, a lot of academic work (lawyers, accountants) could become partially redundant, while manual work (installers, plumbers, construction workers) will still be in high demand.

But this problem also calls for an adequate response from higher education itself. Accessibility will thus become a relevant topic again, where the focus will have to be on making higher education accessible to specific groups that have difficulty finding their way to higher education. Another factor to consider is reining in an excessively meritocratic performance culture, in which students primarily look for ways to distinguish themselves from the rest through CV building and students with a head start unwittingly but effectively widen the gap (Bovens & Wille, 2014).

According to many, digitalisation has the potential to narrow the gap by making higher education accessible to groups that would otherwise not be able to readily find their way to a higher education institution. A public MOOC could be a way to easily connect a Harvard University professor with a student taking classes remotely from anywhere in the world, at any time. But for the time being, this would appear to be a pipe dream. The reality of open online education is that it provides as many offerings as possible from which everyone can choose. The idea that a parcel deliverer with a flexible contract will be able to pursue further training on their own in the evening and thus close the gap between highly educated and less educated is naïve. But research has also shown that most students in higher education do not have the necessary skills to find their way around the range of offerings. Open online education is therefore only a prerequisite for wider accessibility; on its own, it is not enough. Compare it to open access – making software, data and articles available does not equate to everyone being able to find the right information and understand it (Admiraal, 2020; Rathenau Instituut, 2019). Similarly, the digitalisation of higher education will not automatically result in a narrowing of the gap.



1.4.3 Workload and study stress

Higher education continuously faces financial deficits. The slow economic recovery after the financial crisis and economic recession of 2008 - 2012 is being felt in education through budget cuts that lead to these deficits. Despite decreasing funding per student, institutions still rely mainly on enrolment, which leads to increasing competition both within and between higher education institutions. Theoretically, this competition can be a driving force for the improvement of higher education and a differentiation in the offerings of the different institutions. In practice, however, competition goes hand in hand not only with efficiency and cost cutting but also with a lack of cooperation within and between institutions (European University Association, 2021). As long as quantitative objectives are paramount and the main focus is on efficient graduation (in terms of time and costs) of large numbers of students, there will be pressure on lecturers, students and the quality of education (Kandiko, 2010).

This is mainly reflected in the increased workload of both students and lecturers (RIVM et al., 2019; VSNU, 2020). For lecturers, the focus is on qualifications for as many students as possible. As a result, lecturers have little scope to develop teaching practice and to further develop their teaching competencies, including learning new digital teaching methods. Lecturers are expected to take on ever more responsibilities because there are fewer and fewer support staff (administrative and otherwise) at the institutions and because of the high demands placed on their ability to conduct research as well as teach in the academic world. It leads to an increased workload, as they have to perform well in both areas and this is sometimes difficult to combine in practice. (VSNU, 2020).

For students, the focus on qualification means that there is high pressure for nominative study and few opportunities to develop a broader set of skills and to pursue personal interests (Dopmeijer, 2018; ScienceGuide, 2021). The government's emphasis on profitability since the 1980s has also had its effect on students (Van Belzen & Vroegindeweij, 2018). This focus on qualification creates pressure to perform among students, who are more likely

to choose to move on, to stack courses of different levels and feel pressure to undertake extra-curricular activities. They also experience stress because they are afraid to make a choice that excludes other study paths. Such pressure to excel is reinforced by a so-called 'inflation of excellence', which leads to the devaluation of diplomas and an ever increasing need to excel (Levi, 2016). Workload and performance pressure are especially high among students with a smaller social and financial safety net, especially now that the basic grant has been discontinued.

For a long time, digitalisation has been used to support existing teaching tasks, with the idea of using digitalisation to increase efficiency in higher education and thus relieve the burden on lecturers so that they can devote more personal attention to their students, for example. But digitalisation extends well beyond support tasks and also requires different teaching or assessment methods. Developing online education takes time and in recent years has mainly resulted in an increased workload rather than the frequently cited reduction in workload it is supposed to provide (Van Baalen et al., 2021). Lecturers also miss being 'in front of the class' and having human contact with students. Students, for their part, experience some of the benefits of digitalisation, but also note that too much online education has a negative impact on their mental wellbeing. Especially since the COVID-19 pandemic, they miss physical contact with teachers and peer students and there is an increase in mental complaints (De Jager, 2020).

It should be noted, however, that the debate on the pros and cons of online education is now dominated by the experiences of emergency remote teaching during the COVID-19 pandemic. Although the past year has been a major test case for a variety of techniques and practices, it is not the same as sound and well thought-out use of digitalisation (ScienceGuide, 2020).



1.5 Synthesis: 'having to' dominates the education system

System analysis provides insight into how the current higher education regime came about over time. It enabled the democratisation of higher education and made an important contribution to the shift from an industrial economy to a knowledge-based economy. But the analysis also makes clear that in recent decades, this movement has started to come up against its limits. Successful growth led to cutbacks and system changes that coincided with increases in scale – more emphasis on efficiency, turnaround, production, and standardisation.

This has led to a higher education system in which a sense of 'having to' prevails for both students and teachers. There is unremitting performance pressure and learning has become a process to be conducted as efficiently as possible. The parties involved do everything in their power to deal with the symptoms inherent in this system, but often get no further than small-scale changes and improvements to what already exists.

At the same time, a multitude of societal challenges are presenting themselves: a changing labour market, major global complex challenges such as the climate crisis, increasing socioeconomic inequality and the ongoing impact of digitalisation of our society. In view of these developments, it is likely that the pressure on the higher education system will increase and lead to further problems and crises if a more structural approach is not found.

We will focus on that future in the next chapter. A serious transition agenda calls for abandoning small scale adjustments and improvements to what already exists; these are optimisations that may work in the short term but will not solve the persistent problems facing higher education in the long term. It calls for a shared vision of the desired transition that puts a clear marker on the horizon from which direction can be given to the various innovation forces and existing dynamics of change within and outside higher education. We will focus on the role that digitalisation plays or can play in this, but always from a broader perspective of the desired transition of higher education as a whole.

CHAPTER 2 | FUTURE-PROOF HIGHER EDUCATION

2.1 Introduction

In the previous chapter, we illustrated that higher education is confronted with a number of major problems, such as the inability to adapt to changes in supply and demand from the labour market and society, a social divide between higher and lower education, and increasing workload and study stress. These are persistent problems that, if not addressed, will put increasing pressure on the current regime. This is not sustainable in the long run and will lead to shock-like and structural change – until the transition is achieved.

In this chapter, we seek to offer a vision of the desired future of higher education. This vision of the future and the associated guiding principles provide us with tools to give direction to the transition. The challenge that lies before us is to develop an approach in which digitalisation contributes to the desired transition, transition-centred digitalisation. This calls for a clear vision that does not consider digitalisation as a way to improve the current higher education system but seeks fundamental and structural changes in the way we think, act and organise. Luckily, we are seeing various alternative practices emerge at a rapid pace in many places and on a small scale. If we look more closely at these practices, we can discern a desired transition direction.

At the heart of our vision is a return to the original purpose and basis of higher education: to arouse curiosity, to encourage academic and societal education and, above all, to provide access to all the knowledge in the world. It should once again be about being able to and being allowed to learn – to have the time to pursue an education and lay the foundations to give back to society.

In this way, a rich and diverse landscape is created in which learning is not bound to fixed structures, such as a particular stage of life, or specific courses or institutions. Learning materials are developed as ‘open source’ and are available to everyone. Lecturers work in teams, both within and between institutions. Digitalisation opens up learning to all who want it and provides many new opportunities – be it for on campus, online or blended forms. Similarly, solidified boundaries between education and the labour market will again become permeable. Learners forge their own paths, guided by curiosity, gratification, and the desire to learn, which results in continuous and collective learning between society, the labour market, learners and teachers.



Six guiding principles underpin this outlook and are the starting points for a future-proof higher education. We start by identifying the six principles and then outline the comprehensive future perspective these principles provide.

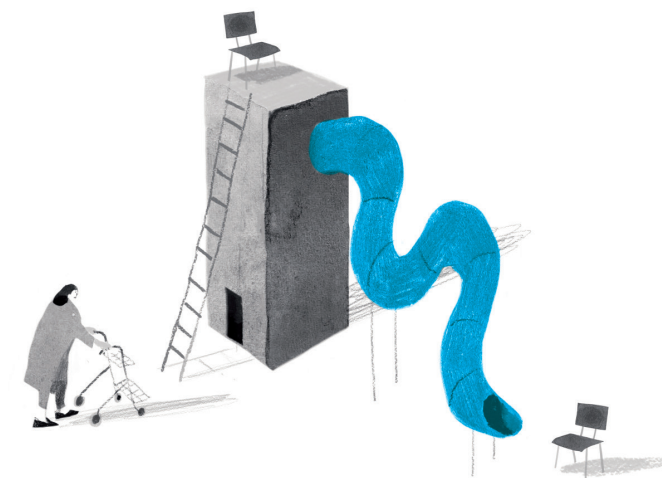
2.2 Learners shape their own learning path

Taking a course of study is not only for young people. Everyone who is willing and able can continue to learn throughout **their entire life**. We therefore no longer use the term 'student' but 'learner'. Everyone has easy access to education throughout their lives based on their learning needs, abilities, and preferences. There is no **culture of ascending or descending, but of 'inflow' and 'outflow'**. The path taken may be different for everyone. Learners, motivated by curiosity, forge their own learning path and are given room to follow their interests and specific needs, which may differ in each stage of life. Everyone can find a suitable solution with the help of personalised guidance.

The fact that education is not only accessible through a single 'main entrance' and numerous '**side entrances**' are opening up eliminates the pressure to jump through the right hoop at a young age or to have to look for ever better qualifications and more opportunities for distinction during a course of study. In short, a culture of 'having to' makes way for a culture of 'wanting and being able to'.

Recognising and recording **microcredentials** and the modular structure of the curriculum is a pivotal link in this system (European Commission, 2021). These credentials facilitate institution-independent recognition and recording of completed courses of study. This will also **facilitate continuous inflow and outflow in higher education**, thus increasing accessibility (side entrances) and facilitating lifelong learning. In time, the sharp distinction between initial and post-initial education will disappear.

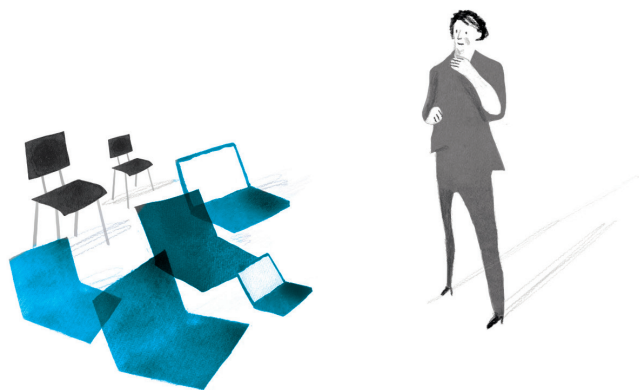
And finally, this requires a different approach to assessment; there should be **more formative** assessment instead of predominantly summative assessment. Assessments with a summative purpose are used to decide whether a student has acquired the learning objectives to a sufficient degree. Assessments with a formative purpose are intended to provide the student (and the lecturer) with insight into the student's progress and to guide further development (Radboud Universiteit, no date). It is a crucial element for an education system that gives students more control over their own learning process and where the main focus of institutions and lecturers is to support that process.



2.3 Learning takes place on campus, online, and in blended forms

Digitalisation of higher education extends beyond support for administrative and logistical processes and increasingly focuses on the learning processes themselves: online lectures and work formats, digital testing, gamification, and so on. The COVID-19 pandemic has accelerated the process of digitalisation in higher education. Online learning has by necessity penetrated to the heart of education and although this was mainly emergency remote teaching, as there is still a lot to learn and improve, sitting with more than 300 students in an auditorium or exam room now seems hopelessly old fashioned (Bakker, 2021). At the same time, the COVID-19 era has led to a revaluation of small scale classroom interaction and the importance of seeing each other in person. Given that the advantages and disadvantages of the two models have become abundantly clear, it is evident that the development direction is a combination of on-campus learning and online learning, i.e., blended. It leads to the emergence of multiple new possibilities where evidence-informed innovations, such as flipped classrooms, contribute to the quality and accessibility of higher education.

In the search for the right form of education for each context, we still have a lot to learn. There will be a lot of experimentation in the coming years on how to do this, and this will require investments in both technology and competencies (facilities and capacities). Examples include support for the digitalisation of teaching materials and sharing knowledge on how to do this most effectively (long lectures versus short knowledge clips for instance). **Fully digital education** is part of the mix, but not the final destination. On-campus learning will always be an important feature and the search is for the **right contextual balance between on-campus, online and blended** forms.



All this will take place against the backdrop of the growing influence of EdTech and, by extension, the power of Big Tech companies. **Cross-institutional cooperation** will make it possible to counter the growing power of EdTech companies and to incorporate the many new possibilities subject to public values and conditions.

2.4 Higher education institutions as ‘home base’

At first glance, the role of the campus would appear to be in decline in the vision outlined for the future. Students no longer take a course of study at a single institution; instead, they have access to a broad network of institutions and what these institutions have to offer (often in digital form as well).

Yet it is precisely in this kind of environment that **a home base becomes important**. For although learners may have access to learning throughout their lives, many of them will meet those needs during adolescence. Alongside academic qualifications, values such as personal development and socialisation are also important for these learners. *Bildung* is thus an important aspect of higher education (Biesta, 2016). A physical home base, where the learner is connected to one educational institution for a longer period of time, is an important prerequisite for this.

Such a home base plays an important role in individual tutoring and coaching to shape the learning path together with the learner. In this way, the student knows what the possibilities are, while the institution ensures a logical connection between the modules and that the right qualifications are obtained. The home base also helps to monitor the learner's progress, achievements, and individual learning goals. In this educational model, young learners can choose from a **broad foundational basis**; they only specialise at a later stage.

The campus of the future will be different. It will still be a physical locus of education – but for **peer learning** and **encounters**, not for large-scale lectures. This calls for a redesign of the physical campus (buildings, lecture rooms, auditoriums, and so on). In its new form, the campus will also be less closed or ‘exclusive’, more connected to its surroundings. It will be an open and inviting campus for learners, teachers, and employers – even if this is not their home base. In short, the campus of the future is a diverse and appealing place that offers room for connecting with social partners and partners in the professional field and with anyone who wants to use or continue to use higher education later in life.



2.5 A common infrastructure

Boundaries between courses, faculties and institutions have become permeable, giving learners lifelong access to a more diverse and specialised range of learning offerings across institutional boundaries, including **access to international offerings**. This includes a common infrastructure between institutions, lecturers collaborating to design subjects, and jointly created educational materials.

There is, for example, a wide selection of basic subjects that have been developed at the national and sometimes European level (macroeconomics, public law, organic chemistry, and so on). These subjects and teaching materials are accessible online and as open source on a common platform. Just as researchers have access to their research resources from the institution, students have access to their educational materials. Facilities, such as purchasing of teaching materials and libraries, are logically merged wherever possible and public institutions determine the framework conditions for this.

Based on an **overarching catalogue** and comparable offerings, driven by a smart data system that introduces logic and coherence into curricula, students have insight into and

control over the wide range of available subjects and learning modules. This overarching catalogue is part of a European administration and portfolio system that ensures that learners have access from their home base to courses and modules of the national but also European partner institutions – both basic subjects and specialisations. Standardisation of timetabling, for example, and the provision of both on-campus and online education make it easy for the learner to learn at different institutions. A growing body of knowledge, learning materials and education data is becoming available through this cataloguing and administration, which produces a wealth of evidence for evidence-informed design and development of education.

Besides offering the general basic subjects, higher education institutions distinguish themselves through additional modules and content specialisations (e.g. neo-Marxist perspectives on macroeconomics, public law in the age of climate change, and so on). Competition between institutions is on content and focuses on complementarity, so not on price or student numbers. Instead, there is room for diversity in supply, from different profiles.



2.6 Lecturers work together in teams and from a diversity of roles

Within institutions, the subjects are taught by teams of lecturers with complementary skills, thus ensuring the quality of the subjects in terms of content as well as teaching methods (on-campus and online), digital teaching materials and personal tutoring. Different facets of the profession, such as research, teaching, coaching and tutoring, are valued and rewarded equally. Assessment of the lecturers takes place both at an individual and a team level.

Communities of Practice which arise both within and between institutions provide lecturers with the opportunity for continued development and give them prospects to gain ex-

perience or teach at other institutions in addition to their home institution. National and international networks of teachers and specialists will have been set up so that they can develop and share professional knowledge. These networks contribute to further development of the generic basic subjects and fine-tuning of the specialist subjects at the institutions. Greater recognition and valuation mean that priority – and scope – can be given to the further development of education and didactics. Exchange takes place in both vertical (within the institution) and horizontal networks (between institutions). Exchanges within the institutions are complemented with reflection, thus keeping developments in the subject domains and lecturer teams connected to the institution and the curricula.



Lecturers are autonomous and can make their own choices in terms of areas of specialisation. It is also easier for a lecturer to work elsewhere on a part-time basis. The combination of lecturer-practitioner has become as common as the combination of lecturer-researcher.

2.7 Institutions are oriented towards and connected with society

In the future, learning also means being open to and connected with society. Even more than is currently the case, connections will be established in many different ways. We illustrated earlier that in our vision of the future, teachers move more easily between education and practice, for example through part-time positions. Consequently, the curriculum is not only linked to new relevant research but also to the dynamics of society. This leads to more demand-driven education: continually gauging the needs of society, the professional field, and the job market, and figuring out how education can continue to adapt to them.

Moreover, as a consequence of lifelong development, learners come from all age groups. A mix of young and old is therefore created in some cases, with older learners bringing in practical experience and younger ones providing fresh perspectives.

The campus of the future offers space for social partners and partners in the professional field. Thus, the concept of a networked educational institution slowly takes shape, in which knowledge and education are created through structural cooperation between researchers and professionals, entrepreneurs, artists, users and others. The campus serves as an inspiring setting for these encounters (Van de Mheen, 2019).



2.8 Synthesis: shaping new frontiers together

The guiding principles outlined above should not be seen as a uniform vision for the higher education system of the future. In essence, they are a collection of ideas and visions that act as a compass rather than a blueprint. Together, they provide the direction from which we can shape the transition path – that from the current situation to the desired future. The picture that emerges is much more varied than the current higher education system, be it in diversity of learners, in choices or in collaborations between and across institutions. Accommodating the demands of society, centred on curiosity and gratification, and fulfilling the desire to learn.

Concealed within that variation, however, are a number of apparent contradictions. An intimately connected ecosystem, yet a great deal of autonomy for learner and lecturer; connected across institutional boundaries yet also a physical home base; working in diverse teams but connected to specialist peers. As in the current system, the challenge is to find the right balance, and there will always be trade-offs and choices to be made. It is important to keep this in mind when developing these guiding principles and to acknowledge that this tension exists. It also means that we should not focus on one specific principle while letting the other principles fall by the wayside. Translating these guiding principles into practical actions will reveal many such dilemmas. We hope that we have found, in these principles, the right foundation to make a well-considered decision and to strike a good balance.

The fundamental question is as follows. Which balance is currently appropriate for a system of higher education that no longer fuels the persistent problems we have outlined above? Personalised learning paths, for example, make it possible to respond flexibly to changes in supply and demand. But they can also lead to increased stress of choice, mutual competition, and a culture of ticking off boxes. It is only in combination with diverse teams of lecturers – where there is also time and space for tutoring – and an ‘own’ institution as a solid home base, that a culture of being ‘willing and able to’ rather than ‘having to’ can arise. Moreover, the principle of flexible learning paths, which can be easily entered and exited throughout one’s life, can reduce the gap between the highly educated and the less educated. In that case, however, initial access to this system should function as a stepping-stone rather than barrier which forces selection at an early age. We also need side entrances for this.

A new balance will require new frontiers. Sometimes this means pushing back the boundaries – where higher education used to be aimed primarily at young people, the age limit has now been raised. Sometimes this means removing boundaries – for example between courses, institutions and even countries. And it often means setting new boundaries, for example on privacy, control, and ownership. Shaping these new frontiers would appear to be at the heart of this transition and is a quest that will keep us occupied for many years to come.

CHAPTER 3 | TRANSITION PATHS AND BREAKTHROUGHS

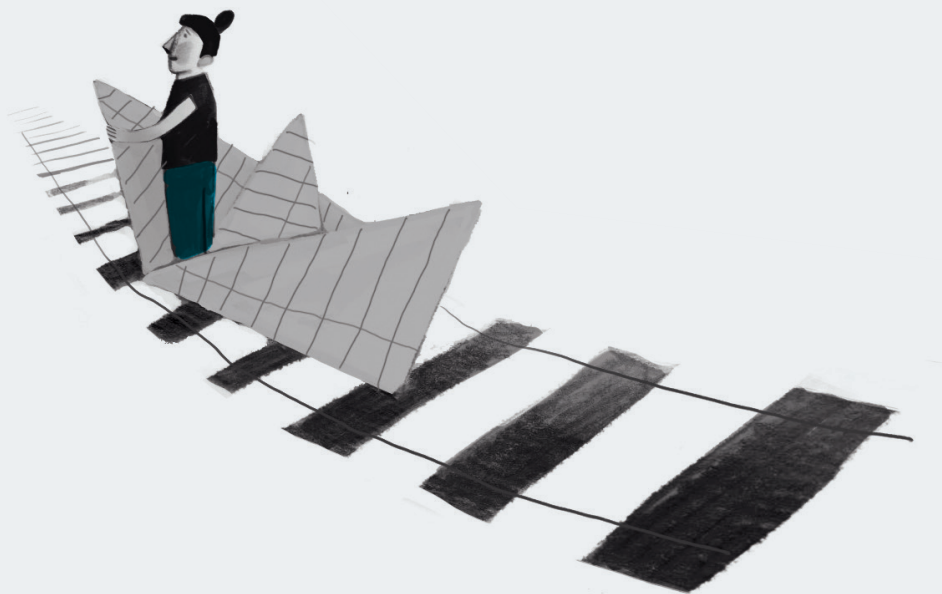
3.1 Introduction

'An exemplary and comprehensive overview, but we have been saying this for years.'
 'Is this the radical vision of the future we are all working towards?'
 'There is already so much happening in this area.'

These are just some of the typical responses that people who are engaged in transitions encounter. It is our conviction, however, that the combination of guiding principles that underpin the vision outlined here, with the regulated role of digitalisation in it, not only provides a concrete perspective for action in the long term but also facilitates the right choices in the present. For we have to make the right choices when it comes to seeding, sustaining and shaping new initiatives and investments and acknowledging aspects that are already on the right transition track but are only present at the margins on a limited and small scale (niches).

It is a sentiment that prevails in the transition arena that gave rise to this report. This group of change agents has already embraced the transition and is very much involved in it in their daily work. They are highly motivated and eager to teach and make educational policy in a higher education system such as that outlined in the previous chapter. This group has waited long enough and strongly feels the need for a perspective and strategy to guide them in the coming years. Our quest was therefore not so much for a completely new or radical vision, but rather for a direction of transition that would provide real action perspectives for the pivotal choices to be made in the coming years. Indeed, we want to free higher education from the bind it is in and digitise learning in a way that inspires confidence and offers personalisation to the learner as well as access to the world and all its knowledge. This is all the more achievable now that the transition in higher education is discernibly entering a phase of structural shifts.

In this chapter, we provide an insight into where we currently stand in the transition of higher education. We also identify transition paths and use a number of existing model projects to illustrate how these can provide direction to and accelerate the transition.



3.2 Current state of transition

Like all transitions, this one has gone through a long pre-development process that started some time ago. The Open University (OU), for example, is a prime example of an organisation that offers flexibility in time, place, and programme. The OU's experiences, including their teething problems, can be instructive for future developments.

At the other institutions, too, not all students follow an unambiguous and strictly defined programme. Some switch from a university of applied sciences to a research university or vice versa. Minors offer a wide range of choices for personal specialisation, and after the Bachelor's phase there is still a lot of freedom to choose another direction. Honours programmes offer many opportunities for distinction and concepts such as university colleges and increasing numbers of interfaculty Bachelor's and Master's programmes afford even more choices. Post-higher education and post-academic programmes offer professionals the opportunity to develop further or specialise in their field (Onderwijsraad, 2019).

However, it is too soon to speak of a new dominant practice. There are more choices now, but only within the current structures of a student pursuing a higher education degree path after compulsory school attendance. The situation where learners can follow their own talents throughout life and receive educational support at different stages is still far from reality – despite all the time and attention paid to the idea of lifelong learning. In short, it is true that this direction has been crystallising for some time now and that many initiatives and experiments are taking place, but the real turning point has not yet been reached.

A comparable analysis can be made about the other transition paths. Digitalisation has been making its way into the classroom for some time now and, in many places, has already progressed beyond a supportive digital environment such as Blackboard and Canvas – and this has only been accelerated by the COVID-19 pandemic. But we are also caught up in a chaotic search for what the new normal should be and which teaching methods are best suited to which contexts. It will be some time before a conclusive opinion can be rendered on this (Bakker, 2021).

The idea of studying at multiple institutions is also beginning to gain a foothold. See for example the 'Student Mobility Pilot' featuring the partnerships between Utrecht University, Wageningen University & Research and Eindhoven University of Technology and those between Delft University, Leiden University and Erasmus University Rotterdam. And following in the footsteps of the open science movement, the open education movement is also gaining traction. In the Netherlands, the idea of the lecturer alone determining the content and structure of lessons feels hopelessly old fashioned, and the discussion about inward-looking institutions ('ivory towers') has also been around for decades (Cronin, 2019).

3.3 Transition management is about the speed and direction of the transition

But what about the breakthroughs? Why, despite all the good intentions and initiatives, is it seemingly so difficult to bring about real systemic change? And what is needed to take the required action in the coming years? Because when you look at all the innovations in higher education, you sometimes have to ask yourself whether this is a real transition or whether it is about further optimisation of the system within the current framework.

Many digitalisation projects seem, after all, to be focused mainly on optimisation. Consider the improvement of student services by providing easier access to study progress, availability of workstations on campus, registering for exams and courses, or finding internships or graduation projects. (ING Economisch Bureau, 2020).

Or, for instance, one-to-one digitalisation of current teaching practices, such as making a book available digitally (instead of in print), but it is the same book, with the same static content, whose copyright is still owned by the publisher. Another example is filming or pre-recording lectures to make them available to students taking the same course in the same academic year. Or summative assessments, but in digital form – whereas in our desired vision of the future there should be a major shift towards formative assessments.

Each of these initiatives is valuable, for they help to improve (or at least remove some of the shortcomings of) higher education. But they do not seem to rid us of the persistent problems higher education has been and is still experiencing. Moreover, this approach comes with the risk that digitalisation of education will always be viewed as an efficiency operation in disguise.

To achieve breakthroughs, strong impulses in a new direction are therefore needed. The examples mentioned above are not radical enough. Although they are attempts to accelerate existing developments, they do not sufficiently presuppose a fundamentally different way of thinking, organising, and acting. In other words, they are not sufficiently explicit about the direction of the transition.

And that is not without risk, because in the digitalisation of higher education, the focus seems to be increasingly less on whether the transition will take place but how. And for now, transition seems to be a trend originating largely from outside the higher education sector. Big Tech companies are investing billions in their own private higher education and appear determined in their ambition to roll out online and flexible education worldwide. In the current situation, it is difficult enough for the public education system to guarantee

public values such as accessibility. In a system that is slowly being dominated by private and commercial interests, this will only become harder (Fikkers & Kamalski, 2020). This means that the doomsday scenario we referred to earlier would appear to be a real risk. Will we still be relevant in the future when the innovations come from outside, from commercial parties? And if we throw the gates wide open, will we still be in control of the technology? Before we even realise it, the transition will engulf us as we stand by and watch all manner of private and commercial interests flood higher education and continue to erode it, despite the fact that our intentions were so good.

3.4 Lines of action and breakthrough projects

To get the direction of the transition into sharp focus, we use the guiding principles as a marker on the horizon. Within these guiding principles, we have set out lines of action to draw a more accurate picture of practice in the current system towards the desired practice in the future. These lines of action, which are detailed in the annex provide a more tangible picture of the future of higher education.

We need action to get to that projected future, but with incremental action on each of the lines the desired transition will take decades. This is why we have started to look for breakthrough projects. This type of intervention focuses on pioneering short-term initiatives that are in line with an ambitious long-term perspective – in other words, in line with the guiding principles we have formulated above. This is a way of rendering the impossible or unthinkable possible and tangible. Such initiatives explore new practices and provide understanding and knowledge about new ways of working, and often intersect with several lines of action. An explicit aim of these activities is to ‘clash’ with existing practice and challenge current frameworks. This is also conducive to identifying and addressing current structural barriers, which means that the initiatives get people thinking and thus foster a cultural shift (Roorda & Bosman, 2014).

The breakthrough projects we discuss below serve as inspiration for the type of interventions we can initiate or support as a group of committed change agents to catalyse the transition. Specific attention is devoted to determining the extent to which these interventions help us move away from the persistent problems facing higher education – the gap between the highly educated and the less educated, workload and study stress, and the inability to adapt to changes in supply and demand from the labour market and society. The reason we would emphasise special attention here is that a one sided focus on partial solutions can also lead to a further exacerbation of underlying persistent problems.

3.4.1 Experiments with learning outcomes and voucher financing (vraagfinanciering) in higher professional education

In 2016, two interrelated experiments were conducted in part-time and dual higher professional education, namely an experiment with learning outcomes and an experiment with voucher financing. In the experiment with learning outcomes, the provision that the Teaching and Examination Regulations (OER) must contain a clearly defined range of educational units, with a substantiated link between numbers of credits and numbers of study hours, was abandoned. From now on, instead of this specific learning route, the learning outcomes are decisive.

In the voucher financing experiment, students who do not yet hold a Bachelor’s degree can use vouchers of €1,250 when registering for modules of 30 credits that are part of an accredited programme. Modules can be stacked to form a whole that results in a diploma. Students enrol for individual modules and not the programme as a whole.

A recent evaluation by ResearchNed commissioned by the Dutch Ministry of Education, Culture and Science shows that both institutions and students are predominantly satisfied with the experiments (ResearchNed, 2021). All universities of applied sciences recognise the potential of the experiments for improving the quality of programmes and their connection to professional practice. None of those interviewed wishes to return to the situation before the experiments, and they see the experiments as part of an irreversible process that will in any case continue within the institution. According to the institutions, the experiments do require structural adjustments to the legal frameworks, such as the binding study advice, the cost structure and focus on diplomas in the current system.

3.4.2 Keeping side entrances open with MicroMasters from Wageningen UR

Wageningen University & Research offers **MicroMasters** – four interconnected online courses. The purpose of these MicroMasters is to support people who wish to study part-time throughout their professional life and to offer them the opportunity to complete a Master’s degree, of which the MicroMaster is a part (Wageningen UR, no date). The project thus ties in with the vision of the future in *Learners shape their own learning path* (see 2.2) and *Learning takes place on campus, online, and in blended forms* (see 2.3). The project supports action on lifelong learning, the flexible creation of learning paths and offering subjects entirely online.

3.4.3 Experimenting with lifelong development in the Microcredentials Pilot

In October 2021, a ‘**Microcredentials in higher education**’ pilot was launched as part of the Acceleration Plan for Educational Innovation with IT. Microcredentials are certificates for sub-units. They are small in scope and have recognised and accredited value. The aim of

the pilot is to give the lifelong development (LLD) offerings of the institutions a clear value in the system, as is already the case for Bachelor's and Master's degrees, for example. A total of 23 institutions are participating in the pilot. It is up to the institutions to decide how many educational units they wish to offer within the pilot. The pilot will run for two years (until the end of 2023) and should ultimately lead to a recommendation to the VSNU and VH as to whether, and if so how, microcredentials can be included (Versnellingsplan, no date). Through experimentation, and by mobilising institutions, the pilot contributes to lifelong development and to flexible composition of learning paths. In doing so, it contributes to the *Learners shape their own learning path* vision of the future.

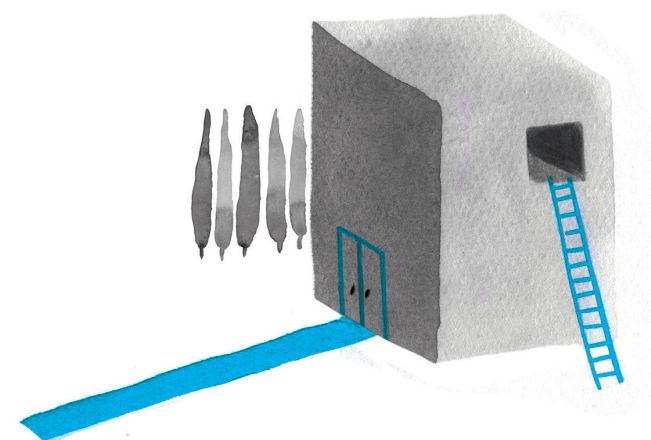
3.4.4 Setting personal learning objectives at Fontys

Ill-considered flexible education can lead to choice stress, mutual competition, performance pressure and a culture of box-ticking, since everyone feels pushed to stand out from others. Flexible education therefore also calls for coaching and an 'own' institution as a solid home base. In this way, a culture of being 'willing and able to' rather than 'having to' can truly be created. Fontys provides a good example of this in its HBO-ICT programme (IT programme at higher professional education level) as part of the 'Open Innovation' learning route. This learning route is designed on the basis of the open learning model, in which students put together their own curriculum. Students put together their own personal competencies profile, form multidisciplinary teams, work on their own project with an actual client and even decide what criteria they will be assessed on. Students who follow the 'Open Innovation' specialisation route within the programme first get an intake and two awareness sessions. Students indicate what they would like to develop in a personal competencies profile. The competencies model is complemented by criteria and learning objectives on the basis of which the students demonstrate what they have learned. The competencies are taken from the HBO-i Competencies Model, a national profile that covers all existing 'flavours' of IT. (SURF, 2016). Consequently, this breakthrough project sets an example not only for the *Learners shape their own learning path* vision of the future but also for that of *Higher education institutions as home base* (see section 2.4), in which there is sufficient coaching and tutoring to help with the process of making education more flexible.

3.4.5 Promoting mobility between institutions in the Student Mobility Pilot

Not only is flexible education about lifelong learning and more freedom in designing learning paths, it is also about greater flexibility in the location where you study and the institution at which you study. One example of this is the **pilot Studentmobiliteit** of the Acceleration Plan. Students of Wageningen University & Research, TU Eindhoven and Utrecht University can enrol for subjects which these universities offer jointly. This is also the case for students at TU Delft, Leiden University and Erasmus University Rotterdam (Wild, 2021). As a pilot, this project makes an important contribution to exploring and addressing the

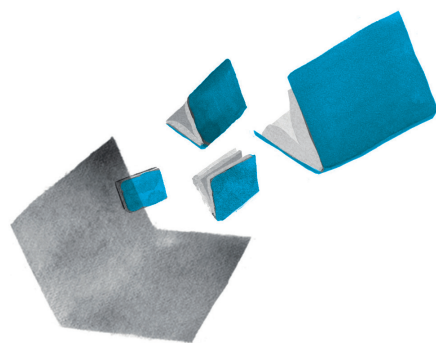
institutional barriers we face in the future visions of *Learners shape their own learning path*, *Higher education institutions as home base*, and *A common infrastructure* (see 2.5).



3.4.6 Taking the lead on rules, new agreements with Google and data reference framework

We rely heavily on large tech companies for most of our digital education tools. These companies are making their mark on how the education of the future is designed. It is of course convenient that the development and continuous innovation of these digital tools lies with these companies. But we also see that these companies do not respect public values. To be able to decide for ourselves whether, how and when to digitise, higher education needs to take the lead, and we are slowly gaining a better grip on this. One example is the arrangement in July 2021 between [Google's Workspace for Education en o.a. SURE](#), on behalf of Dutch education institutions. In brief, this arrangement means that Google will take measures to comply with the General Data Protection Regulation. Until now, this had not been the case. Had Google not agreed to the arrangement, however, the educational institutions would no longer use Google's services (SIVON, 2021). This case shows that institutions can cooperate in taking the lead and it opens the door to bringing back public values in the digitalisation of higher education.

In addition to respecting public values in the services used by educational institutions, this also applies to the data of the educational institutions themselves. The 'Frame of reference for privacy and ethics in relation to education data' of the Acceleration Plan provides the framework for this. Frameworks like this can contribute to the desired approach to education data, where institutions and learners themselves are in charge of their data. This project thus makes an important contribution to the creation of *A common infrastructure* (see 2.5).



3.4.7 Opening up learning resources: an administrative challenge

Opening up education and learning resources increases the accessibility of education, can help learners design their own learning pathways and increases the diversity and quality of the learning resources themselves. Making educational resources available in an open and digital format is primarily an administrative challenge, as can be seen in the **'Control over learning resources'** track. Technically, it is easy to make learning materials openly accessible, as the software for suitable platforms is available. But this also has to be possible administratively and organisationally (Klein et al., 2020). The 'Control over learning materials' track of the Acceleration Plan is working towards a statement by VSNU, VH and SURF that will help to make learning materials available and is an important step towards improved cooperation between the institutions in this area. This is a prerequisite for the creation of a joint infrastructure (see 2.5).

3.4.8 The campus of the future

The campus should facilitate alternation between online and on-campus and new and flexible forms of learning as well as foster connection with other parties in society. Here, too, we already see some promising developments, such as the **Strijp-T terrein in Eindhoven**. Companies as well as research and educational institutions can rent accommodation at Strijp-T, which plays a role in the 'make-create-innovate' chain. Cooperation and co-creation between the organisations located on the site is facilitated by the infrastructure and layout of the buildings and by the requirements the site places on tenants (Strijp-T, no date). Several educational institutions are also opening up their buildings to start-ups and partner organisations, for example at the new Rachelsmolen 10 of Fontys University of Applied Sciences (Theeuwes, 2020). This project thus contributes to a future in which *learning takes place on campus, online and in blended forms* (see 2.3), with the *higher education institution as home base* (see 2.4).

3.4.9 Techniques of Futuring symbolises the change in higher education

There are numerous examples where research and other assignments within courses have been done for or in collaboration with an organisation outside the institution. But we see, increasingly, this going a step further. Take, for instance, modules in which the curriculum

is designed in co-creation with societal parties, such as **Techniques of Futuring** by Urban Future Studio, an institute of Utrecht University. In this course, the mixed classroom is the central focus. Students at the university and policymakers learn from and with each other. The course is innovative in many ways – it contributes to lifelong learning, the content is shaped by the participants, assessment is formative, and so on. (Geuze, 2021; Utrecht Universiteit, no date). Because of its innovative character, this module is a symbolic representation of what the future of education might look like and contributes to *Institutions are oriented towards and connected with society* (see 2.7)

3.4.10 ComeniusNetwerk – a Community of Practice

Lecturers and other educational innovators already come together in the **ComeniusNetwerk** to work on and exchange knowledge about competencies development and renewal of teaching materials and methods. It is a community where lecturers get appreciation, time and space to develop their teaching competences and teaching materials (Comenius-Netwerk, no date). The Comenius Network plays an important role in putting the need for appreciation and time for development of lecturers on the agenda in addition to fostering that development. In doing so, it makes an important contribution to the development of the teaching profession and the vision of the future in which lecturers work together in teams from a diversity of roles (see 2.6).

3.5 Synthesis: do these breakthrough projects help us in achieving the desired transition?

In section 3.2, we identified the 'state of transition': there is a lot of activity, but it is difficult to move beyond optimisation of the existing system in higher education. The eleven examples of breakthrough projects only give an impression of the kinds of innovation taking place in higher education. Above all, they serve as examples of ways to take experimental, exploratory and agenda setting action to innovate education. The breakthrough projects are successful initiatives. The Techniques of Futuring course, for example, is consistently well attended and has been nominated for the Dutch Higher Education Award 2021, and many institutions want to participate in the Microcredentials pilot.

Despite the success of some of these and similar breakthrough projects, the initiatives tend to remain fragmented. The projects cannot always count on support and structural funding and are often hampered by institutional barriers. To get to a 'new normal', a systems approach is needed, breakthrough projects must be given more space and we must start using digitalisation as a catalyst for the desired transition. In the next chapter, we give more direction to these necessary steps.

CHAPTER 4 | HOW TO PROCEED?

4.1 Introduction

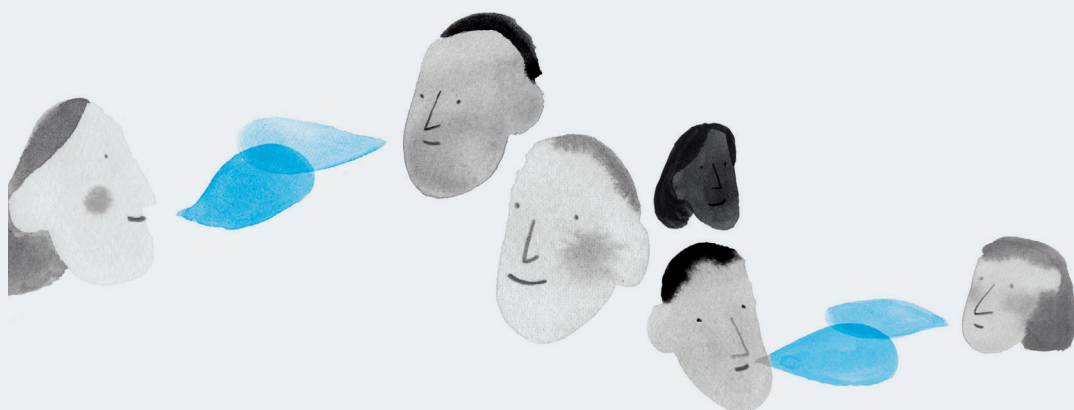
Much has been said and written about digitalisation in higher education in recent years. It is clear that the digitalisation of society has not gone unnoticed in higher education – from logistics to learning, new technological possibilities are emerging everywhere. The parties involved will continuously have to weigh up whether, what and how they intend to change.

With this publication, we have sought to add an important perspective to this. We have contended that the digitalisation of higher education should not be viewed in isolation from the broader context in which higher education currently finds itself. After all, higher education is showing several signs of being unsustainable. The system lacks agility and flexibility, while a rapidly changing labour market calls for easy access to lifelong development and the major societal challenges of our time call for new ways of producing knowledge. In addition, learning has become a process that has to be conducted as efficiently as possible. This leads to performance pressure for students and lecturers alike, and a sense of ‘having to’ prevails. Finally, a social divide is emerging between the highly educated and the less educated, which could potentially become wider and deeper. These are persistent problems that, if not addressed, will put increasing pressure on the current regime. In the long run, this is unsustainable and will lead to shock-like and structural change – until the transition is achieved.

4.2 Digitalisation as a catalyst for the desired transition

From our perspective, digitalisation offers a way for higher education to embark on the desired transition and thus to address the underlying problems facing higher education. But this is not a matter of course – digitalisation without clear guidance and beacons will rapidly become part of the problem rather than part of the solution. It will lead to increased workload and study stress, to hyperflexibility, to an even greater emphasis on qualifications and will widen the gap between the highly educated and the less educated. Digitalisation becomes a means of maintaining the current regime (which, incidentally, could do with more efficiency) instead of being a vehicle for targeted efforts towards the desired transition.

With a view to digitising transition-oriented learning, we have drawn a picture of the *desired* transition – a future reality where learning is accessible to all, regardless of pace, time, place, content and level. Where lecturers can develop in many ways and are given



the opportunity to do so. Where higher education institutions have joined forces so that they – and not EdTech companies – determine if, how and when to digitise. A future where education is developed in co-creation with society, where ‘open’ is also the norm in education and where despite (or thanks to) digitalisation, the physical campus has become more relevant.

The image harks back to the original purpose and fundamentals of higher education, namely, to arouse curiosity, inspire a deepening of perspective and intellectual development and, above all, to provide access to all the knowledge in the world. It should once again be about being able and allowed to learn – to have the time to pursue an education and lay the foundations to give back to society. The image is also rooted in a positive perspective on people, in which autonomy, control and confidence are entrusted to the lecturer and the learner. Institutions and policies exist to empower them rather than to continually monitor and check them.

If you look closely, you can see that the desired transition is slowly but surely materialising. In the previous chapter, we discussed at length the various alternatives that are being pursued in various contexts in higher education. Increasingly, these initiatives are finding ways to connect, which in turn leads to new collaborations that make the transition visible and tangible.

4.3 We need new frontiers

We have designated these initiatives as breakthrough projects – short-term initiatives term that are in keeping with an ambitious long-term perspective. Their purpose is to render the impossible or unimaginable feasible and tangible, thus inspiring a new way of thinking and acting. Each initiative is disruptive to existing practice and calls the existing frameworks into question.

That would seem to be the essence of this transition – seeking new frameworks and establishing new frontiers. Sometimes this means pushing limits – while at first higher education was mainly aimed at young people, now the age limit has been raised. Sometimes it means breaking down barriers – for example between faculties, institutions and even countries. And often it means setting new boundaries too, such as on privacy, control and ownership, or placing limits on flexible education to ensure qualification but also wellbeing.

4.4 Call to the reader

The many new initiatives emerging in higher education inspire confidence in the transition. We may be able to get to the envisaged higher education for the future much smarter and faster than we often believe possible. But to successfully shape the desired transition, a number of conditions that lie beyond the direct influence of these innovators will first have to be met. So in concluding this publication, we turn to you, the reader, with some concrete requests:

- **Appreciate that higher education is undergoing a transition and discuss the transition perspective we have outlined.** Trends and developments in higher education exhibit all the characteristics of transition: the world changes, alternatives present themselves and it becomes evident that the existing frameworks of higher education are inadequate to deal with the changed landscape. It is only by recognising and discussing these issues that we can get a better grasp of the dynamics of transition. This allows us to define our own position, develop strategies to respond proactively to the trends and developments and to shape the desired transitions in partnership.
- **View digitalisation as a catalyst to the desired transition.** Continued digitalisation is inevitable, but at present the discussion all too often straddles between ‘doom scenario’ and ‘dream scenario’: either digitalisation leads to uncontrollable and undesirable developments, or it is the solution to all our problems. Our discussion shows that there is an alternative narrative. We should not view digitalisation as a phenomenon that either improves or worsens current higher education, but rather as a catalyst to the desired transition. Digitalisation affords an opportunity to solve the persistent problems in higher education, but to make this work, a purposeful use of digitalisation is required. That is not an easy undertaking, because we have to learn how to digitise, assume control over digitalisation, and invest in it.

Building on this broad vision of the role of digitalisation in higher education, the next step is to make tangible progress with this transition. This can be done in various ways, depending on one’s own role and position in the process. We would, in any case, call on:

Students, lecturers, and other staff of institutions:

- Please join us on this journey! The beginnings of change are already visible everywhere. Look around you to see where change is already happening – and who is initiating it – and join in.
- Start a conversation with other students and colleagues about the desired transition and explore each other’s role in this process. Make the movement contagious!

Administrators of institutions:

- **Create the necessary room for fundamental change.** In short, match words with deeds. There are many ways you can do this – directly, by allocating money or time to develop or incorporate new practices. Or indirectly by providing legitimacy or trust to grassroots innovators in education.
- **Adapt – and where necessary remove – existing institutional frameworks that impede transformative change.** Review the dominance of quantitative performance targets that provide insufficient scope for developing new practices.
- **Explore new frontiers of institutional autonomy.** Students and lecturers are asking for more autonomy, sometimes even across faculty or institution boundaries. This means that in some cases, programme providers and institutions will have to relinquish some of their autonomy, for example when it comes to full control over the selection of students, the scheduling of courses and the content of study programmes. A first step could be to create a common and integrated catalogue of educational offerings.

National networks and organisations such as VSNU and VH (Associations of Research Universities and Universities of Applied Sciences in the Netherlands), SURF and the Acceleration Plan:

- **Focus on broadening the current movement.** The beginnings of change are already visible everywhere. Besides the need for support on individual projects, there is also a need for systematic evaluation and dissemination of learning insights.
- **Continue to build on existing structures such as SURF, Acceleration Plan, and Comenius-Netwerk,** but also make sure these structures also become more transition oriented. Do this by using a clear vision of the future to link existing activities, gather learning insights and translate them into a logical next step towards the desired transition.

Dutch Ministry of Education, Culture and Science:

- **Embed the learning insights into existing structures as a matter of priority.** Learning insights are currently being gained and disseminated universally, but unless they are embedded into the system, they remain a type of occupational therapy for innovators. The Ministry has a crucial role in embedding these insights in standards, rules, and legislation. We believe it is therefore time to review and amend the WHW where necessary.

Many of the developments we have described in this paper were inconceivable in the early 1990s, the time when the current WHW was drafted. We therefore endorse earlier calls to review this legislation in a number of places (Wild et al., 2020). What the amended legislation should look like is beyond the scope of this discussion paper. In any case, the following issues were frequently raised during our discussions:

- How can we give shape to funding for higher education that is no longer (or no longer entirely) student-centred and thus provides the institution with more certainty and opportunities for flexible study programmes?
- Is the principle of location still in line with the ambition of being able to study from anywhere? This principle is more likely to create competition than the desired substantive collaboration between institutions.
- Abandon rigid concepts such as academic years, programmes, full-time, part-time, dual, initial and post-initial, these stand in the way of innovation and flexible education.
- How can we achieve an updated accreditation system that recognises partial diplomas and microcredentials so that it is easy to get a personalised education from various institutions of higher education, even when you are older?

4.5 Closing words

We hope that this report has inspired you to play a role, through ideas and actions you can undertake, in helping to shape the transition in higher education that is currently taking place. We hope that you have taken on board our – by whom we mean the authors of this report, but certainly also the participants in this arena project – sense of urgency, combined with our enthusiasm for the many opportunities that are currently presenting themselves to shape the higher education of the future together. And we hope that we have been able to give you a new perspective on the role that digitalisation could play in this as well as a scope for action to transform higher education and use digitalisation to this end. We are on the brink of a transition in higher education and all of us have a part to play in it.

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Interviews with experts

Interviewee	Position	Date	Held by
Barend van der Meulen	Professor Universiteit Twente	6 April 2021	Gijs Diercks and Mara de Pater
Inger Dagrun Langseth	Professor NTNU	8 April 2021	Mara de Pater
Jet de Ranitz	CEO SURF	8 April 2021	Mara de Pater
Sharon Flynn	IUA project manager	9 April 2021	Gijs Diercks
Paul Feldman	CEO Jisc	12 April 2021	Mara de Pater
Oliver Janoschka	Managing Director <i>Hochschulforum Digitalisierung</i>	13 April 2021	Gijs Diercks
Hester Bijl	Vice chancellor of Leiden University	15 April 2021	Mara de Pater
Hans Nederlof	Executive Board of Fontys	15 April 2021	Gijs Diercks
Arthur Mol	Vice chancellor of Wageningen University & Research	16 April 2021	Mara de Pater

The input of participants during the four transition arena sessions

Name	Institution/organisation	Position	Role in Acceleration Plan
Annette Peet	SURF	SURF project leader	Secretary, Remote Assessment Working Group
Dries van den Enden	Fontys	Lecturer	Key player in hybrid learning environments
Eline van Hove	Hiemstra and De Vries	Organisation consultant	Former member of Acceleration Plan Steering Committee, (Dutch National Student Association, ISO)
Farshida Zafar	EUR	Director ErasmusX	
Hans Beldhuis	University of Groningen	Team leader, Educational Innovation and Research	Member of Learning Materials Zone
Haye Jukema	Hanze University of Applied Sciences	Education consultant	Member of Evidence-informed Zone
Ilja Boor	University of Amsterdam	Senior inter-disciplinary curriculum developer trainer and project leader	
Jasmijn Jacobs-Wijn	SURF	SURF programme manager	Liaison officer, EdTech Zone
Kim Schildkamp	University of Twente	Full professor Behavioural Sciences	Leader, Professional Development of Lecturers Zone
Koen Janmaat	Morgens	Partner	Liaison officer, Human Capital Zone

Name	Institution/organisation	Position	Role in Acceleration Plan
Manon Geven	Kennisnet	Programme Manager, <i>Doorpakken Digitalisering MBO</i> (programme to boost digitalisation in senior secondary vocational education)	
Marian Kat - de Jong	Avans	Senior Policy Advisor Education and IT	Liaison, Professional Development of Lecturers Zone
Mariska Kleemans	Radboud University Nijmegen	Associate professor and driving force behind educational innovation at Teaching Lab	
Menno Scheers	VU Amsterdam	Enterprise architect	
Nico Boot	University of Applied Sciences Leiden	Advisor, Digitalisation	Team leader, Evidence-informed Zone
Risheet Lal	InHolland University of Applied Sciences	Student	
Roos van Leeuwen	SURF	Project manager, Educational Innovation and Public Values SURF and Student Applied Ethics, Utrecht University	Former member of Acceleration Plan Steering Group, (Dutch Student Union, <i>LSVb</i>)

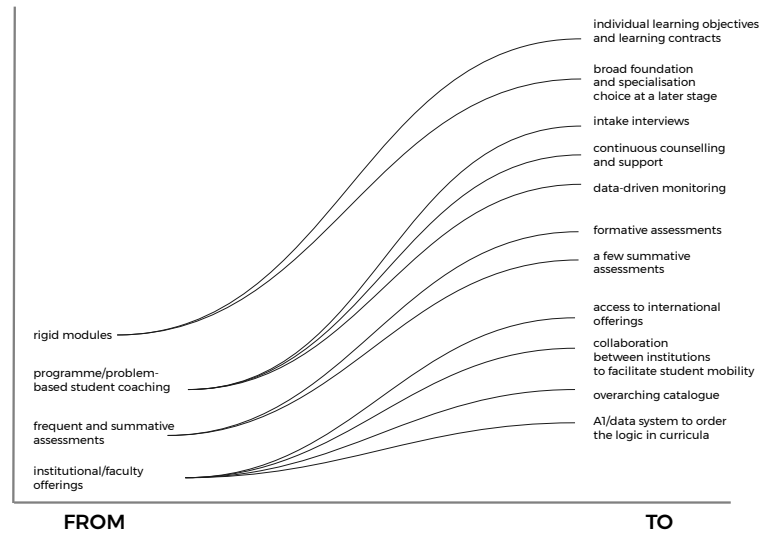
Name	Institution/organisation	Position	Role in Acceleration Plan
Rutger Kappe	InHolland University of Applied Sciences	Lector	
Stijn Bos	Amsterdam UMC	Associate professor in medicine	Project leader, Working Group on Online Teaching of Practical Skills
Tariq Sewbarasingh	D66	Senior policy officer Higher Education, Science and Innovation	
Ulrike Wild	Wageningen University & Research	Director, Educational Innovation	Team leader, Flexible Education Zone
Wilco te Winkel	Erasmus University Rotterdam	Information manager	Member, Education Data Zone and Flexible Education Zone
Wilma van Wezenbeek	VU Amsterdam	Head of Education and Student Affairs	

Johanna de Groot (SURF), Josephine Verstappen (VSNU), Elsbeth Vonkeman (VH) and Yvonne Florissen (SURF) of the transition team took part in the sessions. Derk Loorbach, Cijls Diercks, Mara de Pater, Femke Coops and Maria Fraaije (all with DRIFT) facilitated these sessions.

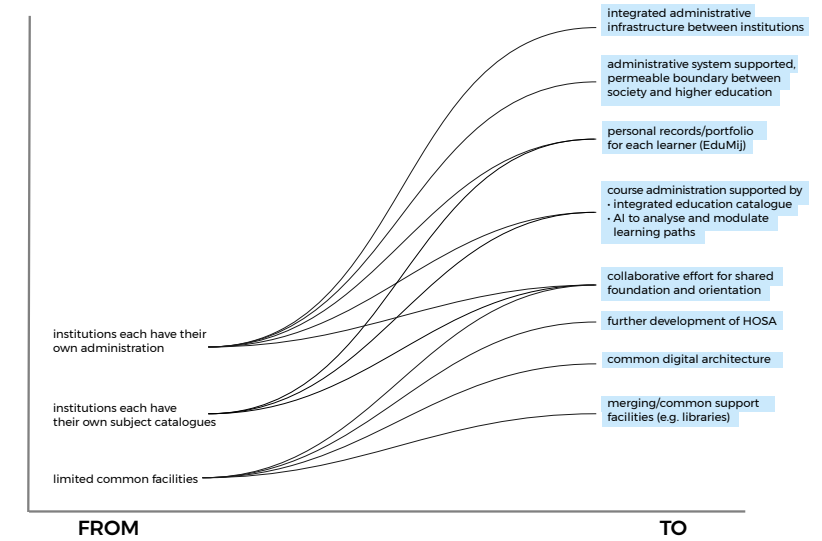
Please note that these participants took part in a personal capacity. They have been an important source of information and have guided the outcomes of the arena project and this report through their discussions. This does not necessarily mean, however, that they fully endorse all the contents of this report.

Action lines

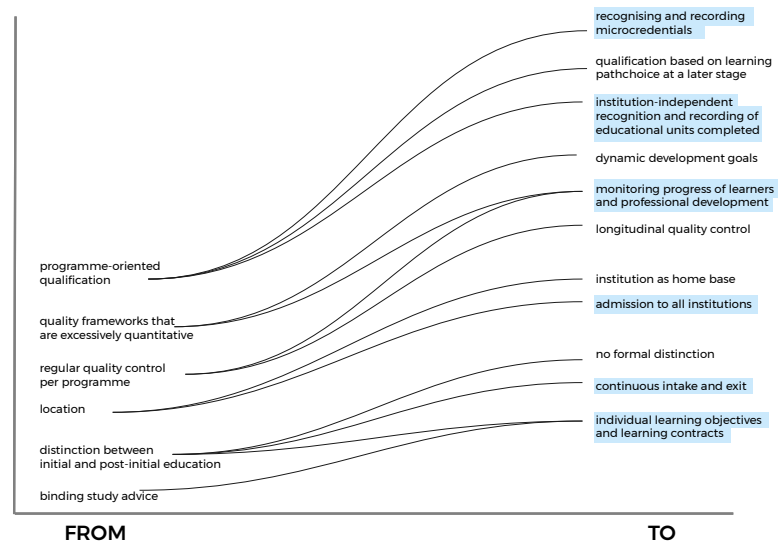
Flexible learning paths, student counselling and assessment



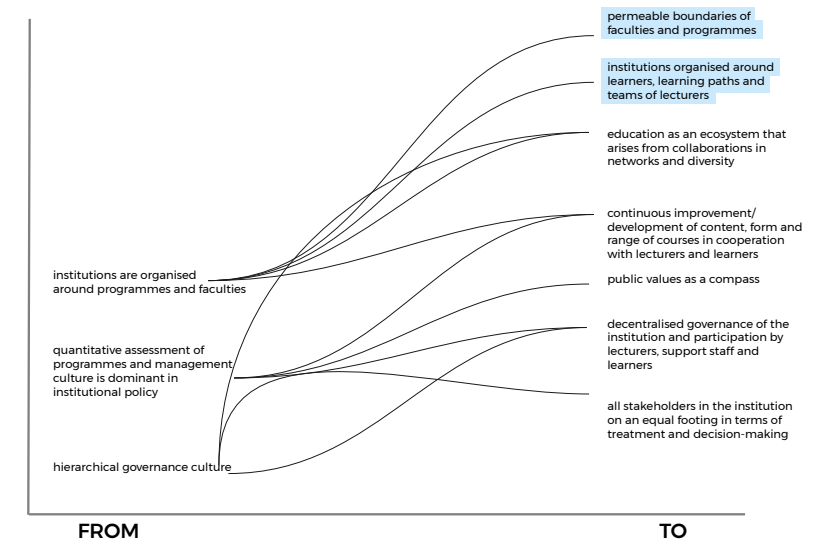
Common infrastructure and digital architecture



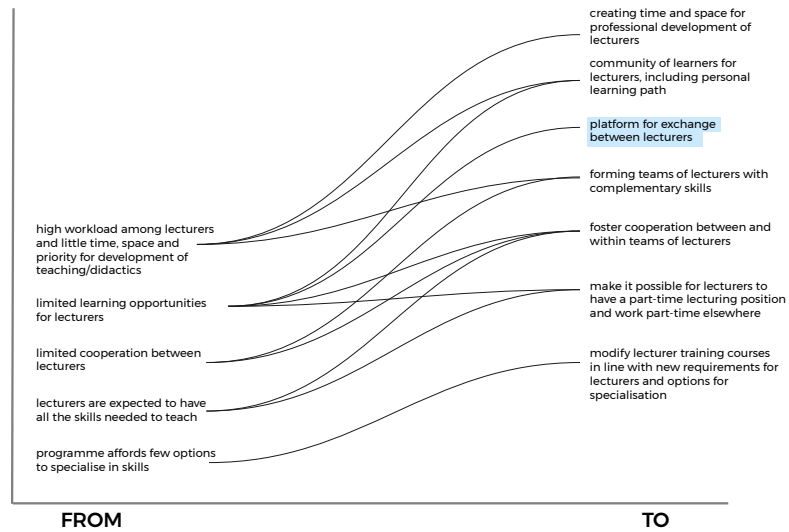
Accreditation, efficiency and quality assurance



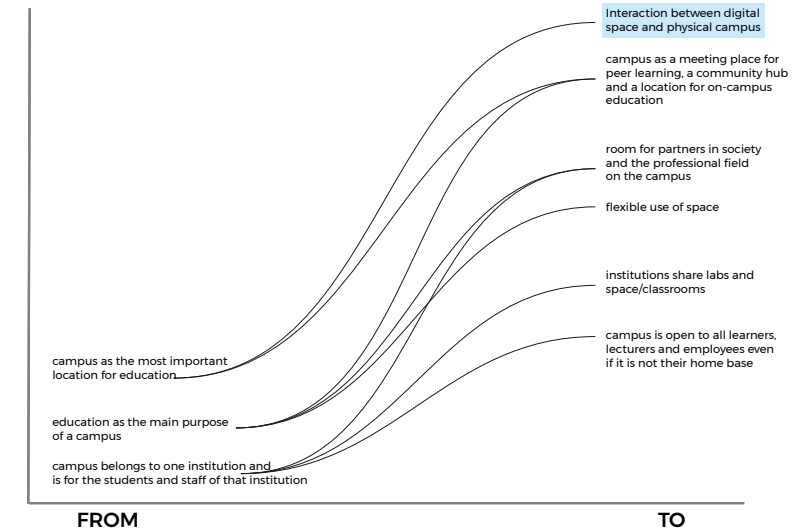
Managing and organising higher education as an ecosystem



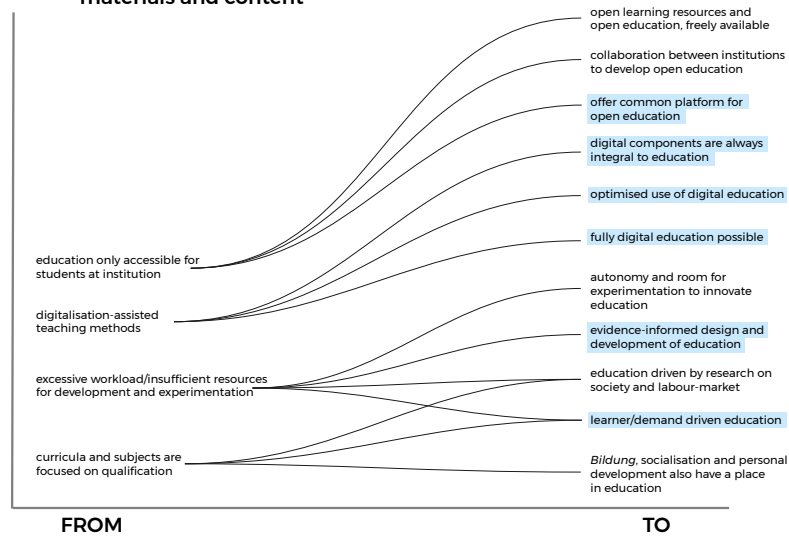
Development of lecturers, competencies, and teams



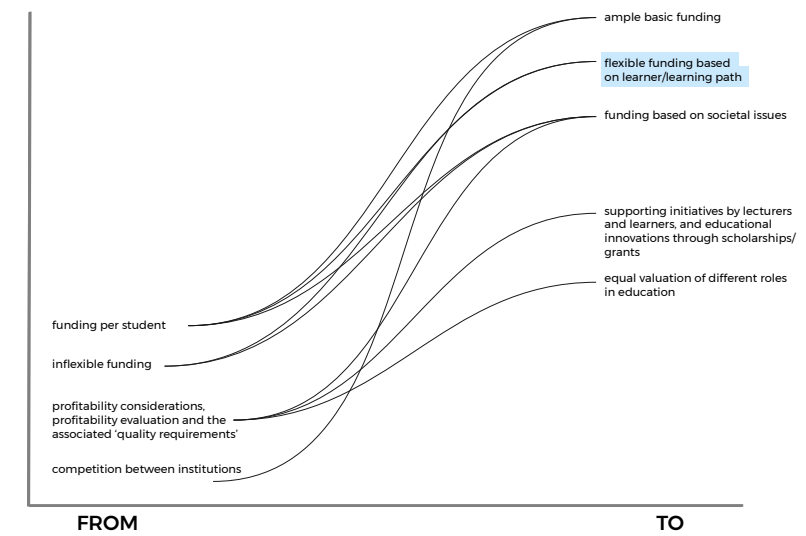
Campus as lab and integrated learning environment



Developing and expanding teaching methods, materials and content



Funding, financing and valuation



39 Dutch research universities and universities of applied sciences are working on the opportunities digitalisation offers higher education in The Netherlands. Members work in team teams within their own institution and in collaboration with other universities (of applied sciences). The Acceleration Plan is a national four-year programme running from 2019 to 2022 and is a cooperation between the Universities of the Netherlands, The Netherlands Association of Universities of Applied Sciences, and SURF.



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