



Ministry of Education, Culture and
Science

Quality in diversity

Strategic Agenda for Higher Education,
Research and Science

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Foreword

‘To the top together’

The government wishes to equip the Netherlands for a position in the vanguard of the knowledge economies. The triangle of research, education and entrepreneurship is the foundation of our prosperity. It is enterprising top scientists, innovative entrepreneurs with a long-term view and passionate teachers and students who constitute the basis thereof. *Cross-pollination between these groups strengthens the earning capacity and economic growth potential of the Netherlands and helps to resolve the big social issues of today and tomorrow.*

The earning capacity of Dutch society is highly dependent on our international position. That is why the government is striving for a *higher education system with international allure, world-class research that attracts scientific top talent and reinforcement of the international position of the business community* by reinforcing the top sectors and our export position, while providing an excellent climate for innovation and establishing a business.

To provide sufficient room for initiative and creativity, the government is making a number of choices in education, innovation and economic policy. The leitmotif in these choices is that entrepreneurs, researchers, teachers and students are increasingly challenged to excel. They will have more room to make their own choices; they are encouraged to invest in their strengths and have the courage to specialise and thus make a choice. Thus, fewer separate programmes, fewer subsidy arrangements imposed from above, less bureaucratic red tape, fewer administrative burdens and more direct responsibility for the people and organisations that make and shape progress.

In this way, the government wishes to create the conditions in which both entrepreneurship and science can achieve top performances, each with their own dynamics, but more and more together with and nourished by excellent higher education. Trade and industry policy as well as policy for higher education and science is based on this principle, as expressed in the government's response to the advisory report by the Veerman Committee and the Trade & Industry memorandum earlier this year. The government is taking clear steps and making clear choices. They are large steps and often the first steps on the road to a genuinely different way of working. This will occur with the measures in this Strategic Agenda for Higher Education, Research and Science and with those in the Trade & Industry memorandum that will follow before *Prinsjesdag* [the official opening of parliament in September].

This Strategic Agenda for Higher Education, Research and Science particularly concerns the quality of education, profiling and the specialisation of institutions and collaboration in the triangle of education, research and entrepreneurship. Agreements will be made with the institutions in this respect. In this way, they are increasingly held to account for their responsibility regarding socially desirable performances. The following measures in the agenda are the nucleus for this:

- The government is investing an amount increasing to €230 million to boost the quality of higher education. The savings from the study completion delay measure and the implementation of the social lending system in the master's phase will be reinvested for this;
- A fundamental change in direction in the financing of higher education will be implemented. A growing proportion of the funding will be earmarked for 'quality and profiling';

- Collective and individual performance agreements will be made with the universities regarding quality, profiling and valorisation. These must result in a reduction of the number of education programmes on offer, reinforcement of the relevancy of the programmes available for the labour market, the development of focus areas in research and enhancement of the impact of research;
- The bar will be raised in higher education. The legislation and regulations will be modified to effectuate measures to assure degree quality, study success, education quality and intensity, selection, differentiation in the programmes available and funding;
- Higher education, research and science powerfully support the top sectors approach of this government. The valorisation task of the institutions will be better assured.

With these measures, the government has changed direction, reflecting the outlined points of departure. This involves taking steps to make higher education future-proof. Such a change cannot be achieved overnight; it needs time and requires this course to be maintained for many years. This cannot be imposed from above but must grow from within and requires the efforts of all those involved in and around higher education. In order to make rapid progress, my next step will be to conclude outline agreements with the universities of applied sciences and research universities this autumn.

In his Memorandum on Trade and Industry Policy, the Minister of Economic Affairs, Agriculture and Innovation has announced that he will further develop the ideas resulting from the recommendations of the top sectors:

- The promotion of enterprise and innovation through a generic fiscal facility for R&D in corporation tax, simplification of regulatory measures and an SME-plus innovation fund.
- The reinforcement of public-private partnerships in which companies, knowledge institutions and the government on the one hand use collective resources in the framework of knowledge and research programmes, for example in the form of Top Technological Institutions and, on the other hand, collectively promote the alignment of education and the labour market, for example in the form of Centres of Expertise.

Furthermore, in this memorandum, the minister will also provide clarification about the manner in which the remaining financial resources will end up with the best projects and the cross-pollination between fundamental research and innovative entrepreneurship will be reinforced.

Together, these two memos form the basis for the direction in which the government wishes to go: entrepreneurs, researchers, teachers and students will receive more room to make their own choices; they will be challenged and encouraged to invest in their strengths, to have the courage to specialise and thus to choose. This is how we work on excellence.

The State Secretary for Education, Culture and Science,
Halbe Zijlstra

The Minister of Economic Affairs, Agriculture and Innovation,
M.J.M. Verhagen

1.

Introduction

This strategic agenda, *Quality in Diversity*, outlines a long-term perspective for higher education, research and science. Our aim is a future-sustainable higher education system. A system with international allure, in which students are challenged, teachers teach with enthusiasm and researchers contribute to scientific breakthroughs, resolving the big social issues and increasing our economic success.

We need such a higher education system because our ambitions are high. The Netherlands wants to rank among the top knowledge economies. This requires a broad base of high-quality higher education and research and strong research focus areas. The government wants to bring about a strong connection between economic policy for the top sectors and policy for higher education and research. Making choices and focusing on one's own strengths are the key words. The Netherlands will advance if we opt for a focused effort aimed at a limited number of economic (top) sectors and big social challenges. For Dutch higher education and research, focusing is equally important. It increases quality and ensures that higher education and research can play their crucial roles in the further development of the Dutch economy and society.

In its Trade and Industry memorandum, the government outlined its approach to making the Netherlands more innovative, more entrepreneurial and more competitive.¹ The approach to nine top sectors is pivotal in this. In the golden triangle of the business community, knowledge institutions and the government, agendas are being drawn up with actions that are necessary to keep the sectors on the map, also in an international perspective. According to the recommendations of the top sectors², public-private collaboration among the education and research sectors, the government and the business community is crucial in this. The report of the committee on the Future Sustainability of the Dutch Higher Education System (Veerman Committee)³ has persuaded the government and the entire field of higher education that a quality boost is needed in higher education and that comprehensive changes are therefore urgently required. Dutch higher education is generally of good quality but the ambitions of the Netherlands require an increase in quality. Furthermore, the quality of the bachelor's degree in professional higher education is no longer undisputed. Doubt has arisen regarding the quality of the diploma. The government has already presented its proposals on this point.⁴ In this strategic agenda, I further propose a number of changes of direction to make the higher education system future-proof.

¹ House of Representatives 32 637, no. 1

² House of Representatives 32 637, no. 14

³ House of Representatives 31 288, no. 96

⁴ See the policy response to the final report of the Education Inspectorate, 'Alternatieve afstudeertrajecten' [Alternative Graduation Tracks], House of Representatives 31 288, no. 67

Top sectors approach

With the top sectors approach, the government wishes to increase the competitive strength of the sectors of water, agriculture and food, horticulture and source materials, high-tech, life sciences, chemistry, energy, logistics and the creative industry. The sectoral approach makes it possible to implement an integrated government policy for each sector. This provides optimum guarantee that the choices with regard to education and research, for example, together serve the interests of the sector. Companies, knowledge institutions and the government will jointly identify bottlenecks and opportunities for each top sector because these three parties together pre-eminently possess the necessary knowledge. On 17 June 2011, the top teams, comprising a figurehead from the sector, a representative from science, a senior civil servant and an innovative top entrepreneur from the SME sector, presented their agendas. The top teams advocated more cohesion and the development of research focus areas in education, improving the alignment of education and the labour market, with particular attention paid to technology and setting up research and innovation roadmaps for each top sector. Before the day of the queen's speech, the government will respond to the agendas presented by the top teams.



1.1

The higher education system in 2025

As a departure point, I will outline the perspectives for higher education and science in 2025 in this strategic agenda. The government has purposely opted for a perspective that is farther away than the end of the term of office of this government. In this way, it becomes more obvious what changes in policy are needed and to what policy choices this will lead in this government's term of office.

Study climate

In 2025, the study culture at universities of applied sciences and research universities will be characterised by challenge, performance and getting the most out of your studies and your own capabilities. The bar has been raised and students who cannot jump over it will have to adjust their ambitions. This also requires primary and secondary education to raise the bar. Not every child is cut out for higher general secondary education (HAVO) or pre-university education (VWO). Neither can everyone be a top researcher.

We will have been able to raise the bar because the quality of the education provided by universities of applied sciences and research universities will have improved in 2025. The teachers will also be better, both substantively and in terms of didactic skills. Moreover, education will be much more intensive: more face-to-face hours and a better student-teacher ratio. Furthermore, the students will receive much better counselling with regard to their study options and study progress. Graduation within the standard timeframe will be normal.

In such a culture it is also normal that institutions can select students for study programmes. In this way, groups of students can be created who stimulate one another due to their interests and efforts. Ambitious and excellent students are more challenged by a broader range of honours programmes. The number of resits is also reduced to combat delaying behaviour. Students are inspired because, for example, they are involved in (practice-oriented or fundamental) research at their institution or they can take a peek behind the scenes of professional practice during their studies. Other students find it appealing that they can gain

experience abroad, either studying or working. Students are better prepared for a labour market in which international experience is increasingly essential. All this is not new in higher education but by 2025, it will become common practice.

The study completion delay measures, the introduction of a social lending system in the master's phase and the introduction of tuition fee differentiation means that students will pay more for higher education. However, they will receive a better education and an inspiring climate for study in return.

Professional higher education

The strength of the universities of applied sciences lies in their professional orientation. This professional orientation is central to all the bachelor's degree programmes, master's degree programmes and practice-oriented research. Professional higher education graduates contribute to the innovative capacity of the professional practice. For example, they can analyse and optimise labour or production processes. In order to do this, they need research and entrepreneurial skills. Education at a university of applied sciences is therefore inter-related with the practice-oriented research conducted by that university and there is intensive co-operation with the (regional) business community and research universities. This is what makes education at universities of applied sciences into higher education. Professional higher education has a different orientation but is perceived as equivalent to academic higher education.

In 2025 a much more differentiated range of programmes will be available to achieve this high quality level of education. Some students will follow a two-year associate-degree programme as a step towards a better position in the labour market or towards a professional higher education (HBO) bachelor's degree. Other students opt directly for a professional bachelor's degree programme, enrolling in an excellence programme if this is within their capabilities. Furthermore, there is a larger group of students with pre-university education qualifications who opt for a professional orientation and are more at home in professional higher education than in academically-oriented higher education. This group of students with the pre-university education qualification can attain a professional bachelor's level in an intensive three-year programme. An interesting option for this group is that they can subsequently follow a professionally-oriented master's study programme and so obtain a master's title in four years, just as in academic higher education (WO). Graduates with this professional master's title are the potential innovators in professional practice. They have state-of-the-art knowledge and skills in their professional area and are well-grounded in terms of entrepreneurial and analytical skills.

This differentiation in the range of programmes available requires specialisation from the universities of applied sciences. The UAS have therefore made some sharp choices. Some institutions consciously focus on a range of associate degree programmes and bachelor's programmes because their professional field needs graduates with these qualifications. Other UAS have chosen to develop challenging programmes for students entering with pre-university education qualifications and good performers with a senior general secondary education qualification. Their teachers and associate professors can handle this and they have an environment that supports this choice; for example, through intensive collaboration with research universities and on-campus companies and through the development of public-private collaborative ventures, such as Centres of Expertise. Educational specialisation goes hand in hand with profiling on content. The same education will no longer be offered in the same region by different universities of applied sciences. The UAS have made agreements about a substantive division of tasks and curtailment of the range of education programmes.

This process of profiling between universities of applied sciences and substantive specialisation has taken place in consultation with the professional field. This is an absolute pre-condition for the quality of professional higher education. The needs of the labour market in the medium term and collaboration with employers (public and private) are leading for the range of study programmes and practice-oriented research. The universities of applied sciences focus specifically on the needs of the economic top sectors and the important social sectors, such as health care and education.

Finally, the culture at the universities of applied sciences in 2025 will be one of quality. Quality is central in all levels of management and determines the policy options of the institution. The teachers, associate professors and examiners are the people who monitor the quality of education. All teachers have at least a master's title or PhD. Furthermore, the quality of education has been considerably increased and the knowledge base reinforced by curtailing the range of study programmes. The bar will be raised for students through national exams for core subjects.

Academic higher education

Education at a research university is oriented towards academic forming. It challenges students to approach complex issues from different perspectives. Students learn to fathom theories and search for verification or falsification. Some students will be seized by the science and want to develop into researchers, other students will take their academic approach to problems along with them into professional practice. In 2025, all academic bachelor's

and master's degree programmes will be characterised by a strong component of academic moulding and the inter-relation of research and education will be reinforced.

The inter-relation of research and education is important in master's degree programmes but must also be reinforced in bachelor's degree programmes, especially with large-scale programmes. To achieve this, each institution needs to focus on its main strengths. All the research universities and research institutes will develop a much more stringent own profile. Although the institutions have already taken the road of more profiling, an intensive process of focus on research and education will have truly changed the landscape by 2025. Due to the disciplinary specialisation of research universities, not only are research and master's degree programmes reinforced, but the quality of the bachelor's degree programme is also enhanced. Moreover, in academic higher education, the connection between master's degree programmes and the labour market will be improved because of increased collaboration with the professional field. Every university will have more teachers and researchers per student, resulting in a strong community of students, teachers and researchers within each discipline.

Where possible, the university will engage in substantive collaboration in this specialisation, also with the most prominent national research institutes and the organised business community. There is still a difference in breadth among the research universities in the Netherlands, but a process of focusing on research areas has also taken place in the general research universities. Every university is of world class in its field. Collectively, all the disciplines are sufficiently covered. Specialisation is primarily expressed in the research and the subsequent (research) master's degree programme. The research universities have ensured a full range of the larger degree programmes for the bachelor's phase, but the choices they have made in the bachelor's degree programmes chime in with the research focus areas of the institution.

This process of profiling will ensure reinforcement of the image and reputation of the Dutch knowledge system at home and abroad. Every prospective student or researcher at home and abroad knows which Dutch university to attend for which disciplines if he wants to follow the best education or do world-class research. National and international companies – and certainly those in the top sectors – know the reputations of institutions, collaborate intensively with them and can therefore find the graduates that best match their company's needs. And innovative companies and investors know where the best research in their fields is being conducted.

Science

The research landscape in 2025 will have a number of distinct, internationally recognised and competing research focus areas, which are eminently able to acquire European funding because they are well embedded in strong European alliances. These research focus areas will attract (foreign) students and research talent. The development of research focus areas is rooted in the scientific challenges for future knowledge development, in the social challenges of the society of tomorrow and in their contribution to current and future economic top sectors. Fundamental and open research, the basis for future knowledge development and for innovation and renewal, will be given sufficient room.

Scientific quality and impact are the most important criteria for forming these research focus areas. Within the research focus areas there is close collaboration with companies from the Dutch top sectors and with social organisations for the answers to the big challenges of this century. The research focus areas lead to new, innovative activity. Publicly and privately funded research is in good agreement. Such knowledge clusters have arisen around specialisations in areas such as food and flowers, water, energy and healthy aging. The region is therefore an important anchor point, collaboration is after all easier in one another's physical proximity. This type of regional collaboration already exists in various places in the Netherlands, such as the High-Tech Campus in Eindhoven, the Wageningen Research Centre or the Bio-Science Park in Leiden. Collaboration is not limited to the regions, however. National and international collaboration also contributes greatly to research focus areas.

The connections between fundamental research, practice-oriented research, applied research, innovations in companies and social renewal will be much stronger and more firmly embedded in 2025. Alongside scientific quality and the criterion of excellence, economic and social impact are central values in the science system, as is the room for inter- and multi-disciplinary collaboration and developing new fields. Researchers will be more esteemed for their entrepreneurship. Results from scientific research will therefore find their way more easily and quickly into innovative products, processes and services. Scientific research also makes a huge contribution to the resolution of social issues. We resolve them in the Netherlands but also of course in other countries, where people have the same problems. European and international collaboration will be more intensive in 2025.

1.2

The state of the current higher education system

To work towards this long-term perspective, a number of weak spots in the current higher education system will need to be tackled. The quality of higher education is generally good, but must be improved. The Veerman Committee gives a cutting analysis of the shortcomings in the Dutch higher education system in its report: *'The Netherlands' goal is to be among the top-5 most competitive economies in the world. [...] we will not achieve this if we continue in the same way. Dutch higher education has to improve a lot and improve quickly. The drop-out rate is too high, talent is not challenged enough and there is too little flexibility in the system to properly serve the varied needs of students and the labour market.'* Yet, research universities and universities of applied sciences must fight for their position in an increasingly international context that is highly competitive in nature. *'The Committee therefore believes that the current system is not future-proof. The recommendation is: add powerful impetus to improving the quality and diversity of Dutch higher education.'*⁵

The Veerman Committee established that higher education is under pressure due to the growth in student numbers. The expectation is that in 2020 the total enrolment rates will rise by 26% in full-time professional higher education (HBO) and 35% in academic higher education (WO), compared to 2009. In 2020, the number of students enrolled will total more than 800,000.⁶ This increase is necessary on the one hand: all talent counts, in view of the needs of the labour market. Shortages can be expected, especially in the fields of health care, education and science-technology.⁷ At the same time, the growth cannot be properly accommodated without fundamentally adjusting the system.

The most important issue in higher education is that quality must be raised across the board. The system has a number of weak spots, moreover. First of all, the range of education programmes is too fragmented. More stringent choices in

the range of programmes will benefit the quality, effectiveness and transparency of education. The Veerman Committee therefore advocates more profiling by institutions. The prevention of fragmentation and more attention for profiling are two sides of the same coin. The system benefits as a whole if institutions specialise more, focus on their strengths and phase out weak programmes and disciplines. Current fragmentation means that it is more difficult for students to make a choice. One third of students stops with the programme after a year or switches to a different programme.⁸ This is partly because students do not sufficiently look around before they make their choice. In addition, both universities of applied sciences and research universities provide insufficient differentiation in their range of programmes.

A second weakness in the system is that it is insufficiently equipped to deal with the diversity of the student population. Consequently, on the one hand, students are insufficiently challenged and on the other, dropout rates are high. Although at 72% the Netherlands takes a middle position internationally with regard to success rates, it is undesirable that only just under two-thirds of higher education students has a diploma after six to seven years and only 43% after four years.⁹ More differentiation in form and level is needed. There are too few programmes for excellent students; currently, 3.2% of students in academic higher education are enrolled in an excellence programme, versus only 0.17% in professional higher education.¹¹ It is also illustrative that the proportion of students with a pre-university education qualification among those entering professional higher education has declined drastically, from 20% in 1995 to 9% in 2008.¹² Moreover, in comparison with other countries, the Netherlands has few students in short higher education programmes. In 2006, partly in this light, a start was made with associate degree programmes. At this time, over 3000 students are following such a programme. In international terms, the proportion of master's students in the Netherlands (26%) is also limited. The latter is related to the relatively large size of Dutch professional higher education (in which a bachelor's degree is the final qualification).

Greater diversity in the programmes available is not only important to better serve the student population, but also to meet the demands of the labour market. The demand for more highly educated personnel is increasing. Furthermore, the work is becoming more complex and more functional differentiation is arising in various sectors; a good case in

⁵ Veerman Committee, 2010, p. 8

⁶ Source: reference estimate, 2010

⁷ SER, 2011; in their analyses, the so-called 'top teams' also refer to shortages of science technicians in the top sectors.

⁸ Education Inspectorate, 2010

⁹ HIS Eurostat, 2009

¹⁰ 1-figure HE data

¹¹ OCW Monitor, 2011

¹² Education Council, 2009

point is the position of Nurse Practitioner in health care. Such a restructuring of tasks and the necessary educational level is also taking place in legal circles. The demand from the labour market is therefore also subject to change. Furthermore, the labour market is becoming more international in character, especially for higher education graduates. This requires proper harmonisation between educational institutions and the professional field. Currently, this harmonisation differs from sector to sector. This is a good thing because the sectors are different in nature. Harmonisation must, however, become more structural and sustainable in nature.

The Veerman Committee further highlights two structural defects that pose a threat to quality in the higher education system. The first is insufficient inter-relation of education and research. Academic higher education is under pressure from the large influx of students. This applies especially to the arts and social science sectors. In professional higher education, practice-oriented research is as yet insufficient to adequately enrich the programmes and innovation in the business community. In the coming years, practice-oriented research must therefore be expanded. The second defect concerns the level of the teachers in professional higher education. The educational level of these teachers is too low, in the international perspective as well. In academic higher education, the problem is the attention given to teaching in comparison with research, rather than the educational level of the teachers. This is why investment in the didactic qualifications of the staff is also needed in academic higher education.

State of science

With a citation score of 1.33 and fourth place globally, the quality of Dutch research is first class.

Moreover, Dutch publicly financed researchers are also very productive. With 2.5% of global knowledge production, the Netherlands is a relatively sizeable player. Nevertheless, the country is too small to shine at everything and choices will constantly have to be made. The knowledge landscape must develop a more distinct profile to remain internationally visible. The institutions have already gone through a considerable process of making choices and profiling. Nonetheless, there are signals that they have insufficiently succeeded in achieving focus and mass.¹³ Therefore, I want the institutions to better co-ordinate their (profiling) choices with one another. They will also have to expand their mutual collaboration, because the Netherlands can still gain a great many benefits of scale by improved collaboration, both within the public sector and between

the public and private sectors.¹⁴ The development of strategic partnerships in the whole knowledge chain is crucially important: between knowledge institutions, the business community, governments and social organisations. Collaboration within the European Union likewise gives a strong boost to national research and innovation potential. Firm steps will have to be taken here too, to achieve focus, combine strengths, discourage fragmentation and reduce duplication of effort.

Furthermore, the application and impact of research lags behind its excellent quality. Many results of research still fail to find their way, or do not find their way quickly enough, to application, in the business community or health care, security or education. The results of research must lead to innovative products, processes, services and new industry more quickly. This is important to strengthen our competitive position with knowledge, along the knowledge-education-profit line. In the 'pipeline' which runs from fundamental research via applied research to innovation, the Netherlands is doing well 'on the face of it', but less well 'behind the scenes'. Investments from companies in R&D, particularly small and medium-sized enterprises, are lacking, as is the use of risk capital. There is insufficient cohesion between private and public R&D efforts. The top sectors approach of this government is primarily focused on improving this situation, but this problem is also given attention in this strategic agenda.

Finally, the Netherlands has relatively few researchers, doctoral candidates and doctors. The 2010 NOWT report established that the Netherlands has the lowest proportion of researchers and other R&D staff in the labour force in comparison with the reference countries, except for China. And China is engaged in a tremendous catching-up process. There are around 8000 doctoral candidates in the Netherlands. In 2007/2008, over 3200 PhDs were awarded. This means the number of doctors has increased by 25% since 2002/2003. Nevertheless, the Netherlands rank 8th in Europe when it comes to the relative number of doctors (EU-27).¹⁵ As a result, R&D intensive companies have difficulty finding people and that there are very few teachers with a doctor's degree in professional higher education or secondary education, for example. However, in contrast, the proportion of R&D support staff in the Netherlands is significantly higher than in other countries.

¹³ Rathenau Institute, 2010

¹⁴ NOWT, 2010

¹⁵ Source: EUROSTAT

1.3

Changes of direction are needed

A number of radical changes of direction are needed to make the Dutch higher education system future-proof. These apply to the policy of the government as well as that of the institutions. The changes are:

1. A stricter study climate: raise the bar for students, more intensive education, more selection and a larger financial contribution from students; quality of education above quantity of students (chapter 2);
2. Restructuring the range of programmes, more profiling and more differentiation in education: gearing education to the differences in the talent and abilities of students and the needs of the labour market; reduction of the fragmented range of programmes;
3. Collaboration in the knowledge chain of fundamental research, practice-oriented research, applied research and innovation; network organisations with collective, public-private knowledge accumulation instead of each with their own expertise; thus, improving the utilisation of research (chapter 4);
4. Profiling and specialisation of institutions; strengthening the focus of research; rewarding quality and profiling in the funding of research universities and universities of applied sciences (chapter 5).

I will develop these topics in the following chapters. In each chapter I will indicate what the policy objectives are for 2015/2016 and what concrete steps will be taken during this government's term of office. I will pay special attention to the contribution of higher education to the top sectors. In chapter 6, I will give a summary of the main points of the strategic agenda. Chapter 7 is the financial section.

The outlined changes of direction are only possible if all the partners in higher education – research universities, universities of applied sciences, teachers, students and researchers – are involved and commit themselves to the collective future prospect. Employers in the public and private sectors must also play an important role. Strong and autonomous institutions are needed to achieve these ambitions. The great autonomy of our higher-education institutions is the strength of our system. However, such autonomy calls for accountability and taking responsibility. That is why I want to make agreements with the institutions (collectively and individually) about the performances they will have to deliver in the areas of quality and profiling. The government realises that much is being asked of the institutions given their budgetary considerations. Higher education is taking on its tasks expeditiously, however.

With this strategic agenda I am indicating what course higher education, research and science will take in the coming years. I am also doing this on behalf of the Minister of Economic Affairs, Agriculture and Innovation. The agenda contains a concrete elaboration of the recommendations of the Veerman Committee. This agenda therefore continues to build on the previously issued government response to these recommendations.¹⁶

When composing the agenda, I made use of two advisory reports. First of all the report that Prof. Dr R.H. Dijkgraaf, J.F. Sistermans and Prof. Dr A.M.L. van Wieringen (hereafter the Working Group on Profiling and Funding) drafted at my request. This report, entitled *Towards increased profiling in higher education and research: A process approach to profiling and profile-based funding*, has provided me with important building blocks for the realisation of the recommendations of the Veerman Committee. Furthermore, the Social and Economic Council of the Netherlands has recently published a report on this strategic agenda. The Education Council will advise on the strategic agenda this summer. The advice of the Education Council will be submitted to the House of Representatives before parliament deals with the strategic agenda.

2.

Study culture,
study success and
education quality

Society in the 21st century needs young people who are internationally-oriented and can handle complexity. Those who know from experience that it takes time, effort and creativity to sort out how things actually are, that essentials are often hidden in subtle distinctions and that neither the Internet nor politics are above criticism¹⁷ and who can not only practice a profession but also innovate within that profession. To that end, it is necessary that our students, the knowledge workers of tomorrow, are educated at the top level via thorough, intensive, active education inter-related with research. This is not a vision, far away in the future. Randomly selected practical cases below from the bachelor's degree programme illustrate this point. They are examples that make it clear that talent and passion are given significance in different places and that our students will produce magnificent performances if the bar is raised.

So, it is there already: challenging education that gets the best out of students. But it is not enough. The problem analysis in the previous chapter speaks for itself.

In recent years, many institutions have taken some steps towards an ambitious study culture and more study success, but the present quality debate concerning professional higher education, the high dropout rates and the degree of dissatisfaction among graduates with their programmes, shows that a true quality culture is still lacking in many places and therefore, a great deal of potential is lost.

That is why the bar must be raised across the board, both in the programmes themselves and for the students. High examination requirements in general secondary education and secondary vocational education, intake and selection at the gates of higher education, more face-to-face hours and smaller teaching groups, especially in the first years of the bachelor's phase, excellently qualified teachers, excellence in education, strict requirements regarding study progress, fewer resits and rock-solid assurance of the generic quality; these are a bird's eye view of the measures that must bring this about.

'A bachelor's degree student in industrial design at the University of Twente is developing an improved version of the so-called Solar Cooker, an oven powered by solar energy, which is suitable for the African market.'

'Last year, students enrolled in the automotive course at the HAN University of Applied Sciences joined forces with the Burton Car Company, among others, to develop the Burton EVi: a completely electrically-powered sports car.'

'A Trade Management student (focused on Asia) at the Rotterdam university of applied sciences has concluded business deals in China with his own import company Bureto, involving the export of bicycle components manufactured in China to the Dutch market.'

'Two years ago, students at Van Hall Larenstein UAS demonstrated that it is feasible to combine a biogas and an ethanol plant on a farm.'

¹⁷ Cf. 'Onderzoekend onderwijs' [Investigative education], 2006 Annual speech of the President of the Royal Netherlands Academy of Arts and Sciences

2.1

Improving harmonisation within education

Quality of the incoming students

The quality of higher education is largely determined by the quality of the incoming students. In recent years, a lot of attention has been paid to the quality of the exams in general secondary education and secondary vocational education. This will also remain a priority during this government's term of office. As shown in the action plan for secondary vocational education *Focus op vakmanschap 2011 – 2015* [Focus on Craftsmanship 2011 – 2015], the policy for the language and mathematics learning continuity pathways will be continued in secondary vocational education. English will become a mandatory subject for secondary vocational education-level 4. Examination of language and mathematics will take place via central examinations implemented by the Examinations Board. Administrative sanctions will be imposed on programmes with inadequate examination quality. The sector, in collaboration with the business community, is working hard on sectoral examination standards (so-called examination profiles) to improve the exams for vocationally-oriented subjects. Another goal outlined in the said action plan is that in future, secondary vocational education institutions may only use exams that comply with a national seal of approval for the examination of vocationally-oriented subjects. The Minister of Education, Culture and Science has asked the Examinations Board to work out a proposal for this and will decide on that basis when this obligation will come into force.

Reference levels for language and mathematics have also been introduced in secondary education. In addition, the examination requirements have been tightened up (the scores for the central exam must average a satisfactory level and no more than one 5 is allowed for the core subjects). The policy for the coming period, described in the action plan for secondary education *Beter Presteren* [Improved Performance], primarily focuses on making Dutch students perform better in reading proficiency, maths and science by 2015 and on the realisation of an ambitious learning culture. This is mainly manifested in increasing the percentage of students that achieve top performances in

core subjects, increasing the performances of the 20% best achieving students in pre-university education and an increase in the percentage of students taking exams in more subjects than the statutory minimum. Raising the bar in higher education will have a reinforcing effect.

Admission requirements

Currently, educational entry requirements apply for students with a senior general secondary or pre-university education diploma. No such requirements are in place for students with secondary vocational education level 4 qualifications. As a result, these students have access to the whole of professional higher education, even to sectors that do not inter-relate whatsoever with their prior education. Thus, students that have completed an assistant teacher-training programme at a secondary vocational education institution have the right to admission to a professional higher education engineering & technology programme. Research shows that dropout rates are highest among students that opt for a non-related graduate study programme.¹⁸ Conversely, success rates can be regarded as good for related transfers (for example, from secondary vocational education - engineering & technology to professional higher education - engineering & technology). I will make it possible by law that universities of applied sciences can set further educational entry requirements for students with a secondary vocational education background. Self-evidently, these requirements for entrant students must be made known in time. I will further develop this in the legislation in support of the implementation of this strategic agenda, with input from the secondary vocational education field.

Another group of students with a high dropout rate is that of students who embark on academic higher education following the propaedeutic part of professional higher education. They drop out at a much greater rate than students with pre-university education qualifications. The current further educational entry requirements in academic higher education are linked to pre-university education and are inadequate for students who have completed the propaedeutic part of professional higher education (without a pre-university education diploma). Research universities may henceforth set admission requirements for this category of students; these students therefore no longer have a right to admission.

¹⁸ Education Council, 2008

Study options

A wrong choice of study is one of the most important reasons why so many students drop out in the first year. Study career guidance and information are often inadequate. Many incoming students stop in the first year of their studies: in professional higher education, an average of 30% drops out, in academic higher education about 25%.¹⁹ Of the students who transfer from secondary education and prematurely break off their studies, 51% are of the opinion that the wrong choice of study was one of the reasons for their dropping out.²⁰

I propose the following measures to improve the quality of choice of study:

- good extension services based on reliable information and proper career-orientation and study options guidance;
- advancing the registration date and the wide implementation of study options interviews;
- the promotion of broadly-based bachelor's programmes (see 3.2).

Information, career orientation and study options guidance

Prospective students must be better prepared for their choice of study. Research by the Education Council²¹ among others, shows that young people could make much more use of independent study options information, such as the web site funded by the Ministry of Education Culture and Science, *Studiekeuze 123.nl* [study options 123]. This web site can be improved with respect to information about the quality of the programme (such as the number of face-to-face hours, size of the group and relevant quality assessments), the professional profile and labour market prospects of programmes (such as chances of a job at the level of the programme, job search duration and average starting salary). Agreements will be made with the board of the Studiekeuze 123 Foundation, in which both the students and the institutions are represented.

Research has also shown that providing more insight into what students can expect later in professional practice and in their career prospects can considerably improve the choice process. Here, career orientation and study options guidance in general secondary education and secondary vocational education will play a key role. In both sectors of education there is great awareness that the quality of the career orientation and study options guidance (LOB) can and must be increased. Secondary schools and secondary vocational education institutions are working hard to

achieve this goal. The government will continue to support this development in the coming years. Resources have been reserved for general secondary education as well as secondary vocational education.

In this respect, I set great store by bringing about collaboration between the education sectors, i.e., between general secondary education and higher education and between secondary vocational education and professional higher education. The co-ordination of the different information and study options must be improved, also to reinforce each other. This must happen in the regions, i.e., between educational institutions mutually and on a national level, moreover. A good example of national collaboration is the *Samenwerkingsplatform Informatie Onderwijs* [Collaboration Platform for Information on Education] established at the end of last year, in which the sector organisations of primary education, general secondary education, secondary vocational education and agricultural training, the Netherlands Association of Universities of Applied Sciences and the Association of Universities in the Netherlands make agreements about unambiguous transfer data, among other things. Interesting examples at the regional level are the pre-university colleges in Leiden, Eindhoven and the north of the country. These offer extremely motivated students from the upper years of pre-university education the opportunity to follow a curriculum at the university. Completion of the curriculum leads to a diploma or certificate. This diploma may entitle the student to exemptions, depending on the judgement of the examining board of the university at which the student will ultimately study. Such initiatives will also have to be created between senior general secondary education and professional higher education. Pilot projects have been launched to this end. They will primarily focus on reinforcing the vocational orientation of senior general secondary education. The pilot studies will also investigate how collaboration between senior general secondary education and professional higher education can be applied on a wider scale.

¹⁹ 1-figure HE data

²⁰ ROA, 2008

²¹ Education Council, 2008

Another good example of intersectoral collaboration is the *Aansluitingsmodule Algemene Studievaardigheden* [general study skills alignment module]. The module helps students to assess whether academic higher education is the correct choice for them – if it fits in with their interests and competences. In the meantime, the Technical University of Delft and the University of Leiden have developed four modules in collaboration with the secondary education sector in their own region, one for each secondary school subject cluster.

Various universities of applied sciences (HAN, Fontys, Avans, University of Applied Sciences Zuyd, Utrecht University of Applied Sciences and Rotterdam University of Applied Sciences) have combined their strengths in the framework of the National Action Plan for E-learning, to develop a generic competence index for professional higher education. In the meantime, this has resulted in the creation of the *kies actief* [choose actively] module, that prospective students can use to establish whether studying at professional higher education level is right for them.

The university students criticise the quality of the study information offered via the brochures of the institutions.²² In so far as this criticism is justified, the institutions will be held to account; after all, under the Higher Education and Research Act (WHW), they are obliged to provide information to students that give them a good picture of the content and organisation of the education programme. In its education and examination regulations, the institution must make clear what the student may expect. If the institution does not provide what the student could reasonably have expected, it could be accused of attributable non-performance or an unlawful act, which would entitle the student to compensation under common law (Dutch Civil Code/General Administrative Law Act).

Study options interviews and advancing the registration date

A specific agreement will be made with the universities of applied sciences and research universities, in the framework of the performance agreements regarding quality and study success, about bringing down dropout rates in the first year. To this end, research universities and universities of applied sciences have been given the opportunity to widely implement study options interviews. A study options interview is designed to give students more self-understanding. In addition, it provides them with better information about factors that determine the successful

completion of the programme in which they wish to enrol. These interviews have been tried in recent years in eleven pilot studies at research universities and universities of applied sciences. In 2009–2010, over 4,000 study options interviews were held with candidate students in these projects. Students and teachers are highly enthusiastic. In the meantime, the Rotterdam University of Applied Sciences has decided to hold an intake interview with all incoming students. Prospective students who have had a study options interview consider themselves better informed and more aware of their aptitude for the programme and of possible points for improvement in their study behaviour or approach. Yet the interviews also have other effects: it turns out that they promote the feeling of bonding with the programme, according to the evaluation study of the pilots.²³ Another advantage of the interviews is that they enable the programmes to gain a better knowledge of the incoming students.

The University of Utrecht and the Utrecht University of Applied Sciences have jointly set up the *Centrum Studiekeuze* [Study Options Centre]. This office targets students in pre-university education years 5 and 6 and secondary vocational education; it gives customised personal advice on their subsequent education based on interests, motivation and abilities tests. The office also brings prospective students into contact with a teacher and a student from the programme they are interested in. If the student does not find a suitable programme in either institution, the office makes sure that the student receives an appointment with a contact person of another institution.

Institutions need time to plan and execute study options interviews. This is why it is necessary to advance the registration date. Students often register late. Because of the summer holidays, there is no time to conduct study options interviews before the start of the college year. Students who opt for the wrong programme can thus no longer be advised to take a different one.

The law will have to be amended in order to advance the registration date for higher education programmes. The period after registration is intended for choosing a final study option. I will take 1 May as the latest registration date; this is several weeks before the secondary school exams. This date will be the same for all first-year bachelor students in all government-funded higher education institutions. Students, who register too late via *Studielink*, after 1 May, become 'admissible'. That is to say, the institution can

²² LSVb, 2011

²³ Kohnstamm Institute, 2010

determine under what conditions the student will as yet be admitted. These conditions must be clearly established in the Teaching and Examination Regulations of the programme. This will entail submitting a motivation letter, holding a study options interview or comparable conditions directed at advancing the study options process. For programmes with decentralised selection, different rules apply to registration: for programmes with a limited capacity, students must in principle register before 15 January.

Institutions and students will receive the legal right to request a study options interview. Students are obliged to attend a study options interview if the institution invites them to and conversely, institutions are obliged to conduct study options interviews if students request one. The interview, as is now the case in the pilots, is advisory in nature. Naturally, the development of this measure will be properly harmonised with the graduate programme and senior secondary vocational education and its effects will be monitored.

2.2

Raising the bar

Policy is directed towards giving a firm boost to the quality culture in higher education. The measures in this section focus on:

1. Intensive and pro-active education
2. An ambitious study culture
3. Selection on admission
4. Excellent programmes

Intensive and pro-active education

'Raising the bar' first of all means that students may require more from the programme than is now on offer. Students think things could be better, as a satisfaction survey among graduates shows. Around a quarter of professional higher education graduates was dissatisfied with the scope, depth and degree of difficulty of the programme. A third thinks that the level of the programme was insufficiently challenging.²⁴ Moreover, 42% thought that teachers were not strict enough in their assessments and devoted little attention to study progress. In academic higher education, 23–29% of graduates was not satisfied with the scope or depth of the programme.²⁵

Now that the basic student grant in the master's phase has been converted into a loan and students will actually pay more for higher education, they should be able to expect better education. The quality boost in this agenda, which will be funded partly from the revenues of the student grants and loans measure and the study completion delay measure, is directed at achieving this. In the coalition agreement, an amount was reserved increasing from €200 million in 2013 to €230 million in 2015, and €300 million structurally in this government's term of office.

I will make performance agreements with the institutions about spending these resources. These agreements will include ambitious but achievable goals and objectives.

The institutions will be paid on a bonus-malus basis. I will monitor the results based on indicators that provide a picture of the determinative factors concerning quality and study success in context. These agreements will be explained in chapter 5.

As announced in the coalition agreement, these resources will be (primarily) used to increase educational intensity. This should ensure sufficient interactive time between students and teachers and more small-group teaching. Research has shown that the study success of a student increases if he is part of a small group. The student is then 'socially and academically embedded'. This feeling of being at home in a faculty, for which contacts with fellow students and staff are essential, is seen as good protection against premature dropout and study completion delay. Furthermore, small-scale teaching ensures that students are assisted to study regularly, as they are required to engage in critical discussions of what they have acquired via self-instruction. Students in small-scale education also appear to learn more. Curricula that have relatively few dropouts and little study completion delay are usually small-scale in design and employ pro-active forms of education as a departure point (for example, Problem-driven Education at the University of Maastricht).

Indicators for a pro-active curriculum and a small-scale approach are the number of face-to-face hours and the staff/student ratio. For some time, the number of face-to-face hours has been a concern in higher education policy. According to an Education Inspectorate report published in 2007, approx. 30% of all programmes offered an average of fewer than ten face-to-face hours per week in the first year of study (an update will follow this autumn). This is not acceptable for full-time programmes, certainly not in the first year. After all, in this way the students are not activated to learn the material and connect with the programme. I therefore intend to see to it that all programmes are required to provide more than ten face-to-face hours and I will make agreements about this with the research universities and universities of applied sciences. I also want to make agreements with individual institutions about increasing the number of face-to-face hours. Here, I will take into account the insights provided by research into the relationship between face-to-face hours and self-instruction and their effects on success rates.²⁶

²⁴ ROA, 2010

²⁵ www.studiekeuzeinformatie.nl

²⁶ See Mongothers, Van der Drift and Vos (1987) and RISBO/RuG (2010). In these studies face-to-face hours were positioned as a precondition for self-instruction; face-to-face hours should be directed towards eliciting significant self-instruction. The higher the number of hours of self-instruction in a programme per instruction hour, the better the learning achievements.

In these agreements I will also involve the staff/student ratio because this is an indicator of group size. As I have already remarked, being part of a small group is important to the study success of students. Most groups in higher education cannot be called 'small'. The current ratio between staff and students averages 1:20 in research universities and universities of applied sciences. For comparison: in university colleges this is 1:10–15. Their success rate after four years averages 80–90% (the average success rate of academic bachelor's programmes is 41% after four years).

The three technical research universities require special attention. Although these institutions enjoy a high-quality reputation, they have for some time scored low for dropout rates and success rates, also in comparison with the other research universities. This can be explained in view of the weight and degree of difficulty of technical programmes, but from the viewpoint of the need of the labour market for technically trained people and the appropriateness of government resources, it is highly undesirable.

From the block-grant resources of the previous government, a structural €10.9 million extra is available for the three technical research universities, with effect from this year. I want these research universities to use this budget for teaching in the coming years. With the three technical research universities I will make separate performance agreements about using this budget to increase the influx of students and the success rates of the programmes.

The primary education process must be central. For me, this is the point of departure for the performance agreements. With the research universities and universities of applied sciences I will consider where overheads can be reduced without jeopardising the primary process. I will also make agreements about reducing the administrative burden for the institutions (here I am thinking mainly of regulations that have no relationship with the quality of education).

Ambitious study culture

Students may ask more of their education. Yet education may also ask more of the students. An ambitious study culture exists after all by the grace of mutual obligations, an interaction between the efforts of the student and good teaching by the programme. Partly due to the study completion delay measures and the social lending system for the master's phase, I expect that students will pay more attention to their study progress and put more time into their studies. Studying will again receive the highest priority. This is what we aspire to.

In an ambitious study culture, studying within the standard or nominal timeframe must be the rule and not the exception. An interesting initiative was taken by Erasmus University Rotterdam (EUR) 'Nominal = normal'.²⁷

With measures like more focused matching between student and study, small-scale, intensive education and the modernisation of examination arrangements (the latter in the form of pilots), EUR wants to substantially improve the study progress of students enrolled in its programmes. Updating the examination arrangements comes down to:

- restriction of the number of resits for interim examinations;
- the implementation of compensatory examination arrangements (compensation between or within subjects);
- the requirement to complete the first year of a bachelor's programme before embarking on the second year and to complete the second year before embarking on the third (this also requires issuing negative binding recommendations regarding the continuation of studies after the first year, in case of insufficient progress).

In the law programme provided by the EUR in 2012, these measures will be accompanied by a complete review of the curriculum, where the students receive small-scale education in different block groups ('Law firms' or 'Law colleges') according to the tutorial model. In this way, the student is immediately involved in an ambitious study environment, students proceed from year to year as a group, without workload, and wherever possible they graduate collectively, within the standard timeframe or with one year's study completion delay ('class of 2015').

I embrace this pilot and will facilitate the EUR and other institutions that want to start work on this with legislation and regulations (where we are initially particularly thinking of using the experimentation proviso in the Higher Education and Research Act). This concerns experiments whose effects on quality and the counselling of students must be carefully monitored.

The above measures can result in students who do not comply with the increased requirements and therefore drop out of higher education; this is despite the fact that ambitious quality agendas are being implemented in secondary vocational education and general secondary education, as a result of which students are better prepared for higher education. The increased possibilities for the intake and selection of students (see also the following section) could partly discourage this because any deficiencies can be detected in time. Furthermore, more differentiation in education is necessary to ensure that programmes can be geared to the different backgrounds and qualities of the students. We are also working on this (see chapter 3). Nonetheless, I will take account of the risk of extra dropouts due to raising the bar in the performance agreements with the institutions.

²⁷ EUR, 2011

Selection on admission

The growing influx of students into higher education provides an opportunity for institutions to frame differentiation and quality under pressure. This calls for instruments with which institutions can quickly put the right student in the right place. In that context, selection on admission is relevant. Selection on admission furthermore enhances the motivation and efforts of students. Conscious selection and self-selection are thereby encouraged. Selection on admission also has an effect on how prospective students perform in preparatory programmes; they usually achieve higher scores because their chances of admission increase. Selection fosters a more challenging study culture and high-quality education. 'Through selection, student groups often become more homogeneous in composition or motivation, which advances the performance of all students.'²⁸ Finally, as is also emphasised by the Working Group on Profiling and Funding, allowing increased selection gives the institutions more room for profiling.

Because of the positive effects of selection, the Veerman Committee advocates making selection on admission possible for all higher education institutions. In this government's term of office, a number of steps will be taken in the light of that perspective. This first of all involves the Room for Talent bill²⁹, which was adopted earlier this year by the House of Representatives. This bill offers the following possibilities:

- Programmes where the quality of education is under pressure because the groups of students are too large can regulate their capacity on the basis of qualitative selection. The institutions are given this possibility to regulate capacity at the programme level.
- Programmes that can be typified as 'small-scale, residential education', such as the university colleges, may select students on admission.

Furthermore, in this strategic agenda I propose to make selection on admission possible to an even greater extent. My point of departure is that selection must always be directed towards better harmonisation between the level and the profile of the programme on the one hand and the abilities and motivation of the students on the other. Against this background, I propose that programmes with a clear educational or professional profile receive the possibility to set selection requirements. Programmes with a clear professional profile are, for example, the arts programmes and the hotel schools. For programmes with a clear educational profile I am thinking of programmes with a high final level, a strong international orientation or an intensive study climate.

The 'educational profile' on the basis of which selection would be allowed can be related to the education concept, the entry or final level of the programme or its content. The profile need not be unique but should be distinctive, and clear selection criteria must result.

Selection criteria can relate to previous educational achievements (such as the minimum score required for relevant subjects or subjects in which general secondary education or secondary vocational education exams must have been taken) or, for example, abilities or motivation. The method of selection must involve a combination of criteria, as research has shown that study success is influenced by various factors. It is therefore not intended that selection will be exclusively related to, for example, final exam results.

Clear education and/or professional profiles as outlined here, are an exception in the current situation. This will change after the perspective outlined in chapter 1 comes into view and the profiling of institutions and programmes gains ground. This will be a gradual development. I will make agreements with the higher education institutions about the programmes to which selection may be applied (because they already have clear educational or professional profiles). These agreements are part of the performance agreements regarding quality and profiling (further details are provided in chapter 5). The number of programmes to which selection may be applied will be gradually expanded in this manner. The advantage of this approach is also that the effects of selection on quality, study success and profiling remain suitably monitored.

Admission via drawing lots does not tie in with a system in which the harmonisation between student and programme must be reinforced. Drawing lots will consequently be phased out.

Excellent tracks

Various studies, for example those conducted by the Netherlands Bureau for Economic Policy Analysis (CPB)³⁰, show that talented students are insufficiently challenged in the Netherlands. It is exactly this top segment we need so desperately for scientific breakthroughs and innovative activity. Education programmes must offer an appropriate and challenging scope for these top talents. Of course, this needs to start in primary and secondary education, where the policies of this government have contributed to a powerful boost to excellence, especially in pre-university education.

²⁸ Veerman Committee, 2010, p. 38

²⁹ House of Representatives 32 253, no. 1

³⁰ CPB, 2007 en 2011

However, such a boost is also called for in higher education. Considerable gains can be achieved here. In the previous government's term of office, a national proportion of 10% was agreed with the institutions (in 2014), regarding the percentage of students engaged in more than the regular bachelor's programme. Resources were received from the Sirius Programme. Nevertheless, current percentages are still very low, especially in professional higher education (approx. 0.17%, versus 3% in academic higher education). Recent research by ResearchNed³¹ has shown that excellence programmes in professional higher education increase the appeal of professional higher education for pre-university students. Universities of applied sciences have been challenged to make an extra effort in this respect. More collaboration between the different sectors of education to arrive at a suitable supply of excellence will also have a stimulatory effect here.

To further promote excellence, I propose the following measures:

- I will make new performance agreements with the research universities and universities of applied sciences regarding the percentage of students participating in excellent education. I shall start from the current target figure of 10%.
- Institutions may raise the tuition fees for more expensive, excellent, programmes. They then have more opportunity to profile themselves on excellence. Extra resources can be tapped via tuition fee differentiation in addition to the government grant. The extra income can be used for extra facilities to reach and maintain a higher level, such as more teachers, guest lecturers or extra workload. Thus, the costs of these facilities need not be paid from the budget for the regular programmes. Against this background, tuition fee differentiation will be made possible via the '*Ruim baan voor talent*' [Room for talent] bill for programmes involving residential, small-scale and intensive education (such as the university colleges). Furthermore, I propose to also make higher tuition fees possible:
 - for programmes focused on a higher final level. The higher fees would only apply to a track within the programme; the rest of the programme remains accessible for the statutory college fees.
 - for programmes with an excellent assessment from the Accreditation Organisation of the Netherlands and Flanders (NVAO). This by definition concerns programmes with great added value. The link with the NVAO assessment makes it transparent that students are getting extra quality for the higher tuition fees.

³¹ ResearchNed, 2011

2.3

Better-equipped teachers

Teachers are the bearers of educational quality. We only receive the education we need if we have good teachers who know their subjects and can inspire and bind.

Professional higher education teachers must be better trained with regard to subject content and, in view of the dissatisfaction of students on this point, make stricter assessments. To train professional higher education students to be the innovative professionals our knowledge economy needs, it is additionally necessary that professional higher education is more strongly linked to practice-oriented research.

The adequate educational level of the teacher is the spearhead for the universities of applied sciences. All teachers in professional higher education should themselves hold a master's level degree to properly fulfil the role of subject teacher. The goal set in the covenant 'LeerKracht in the Netherlands' and the multi-year agreement with the Netherlands Association of Universities of Applied Sciences for the effectuation of 'Het Hoogste Goed' [The Greatest Good] from 2008, was that 70% of teachers would have a master's degree by 2014 and 10% a PhD in 2017. The current state of affairs is that 55.2% of teachers in professional higher education has a master's degree, and 7.7% has obtained a PhD. It is gratifying to establish that substantial growth can be seen compared to previous years, as shown in the table below.

Table 1: educational level of teachers in professional higher education

	2005	2007	2009
Bachelor's	47,0%	40,3%	35,4%
Master's	45,5%	52,0%	55,2%
PhD	3,6%	4,8%	7,7%

Source: POMO [Staff and Mobility Study] 2006, 2008 and 2010, Ministry of the Interior and Kingdom Relations (BZK).

International comparative research carried out in 2009³² with ten other European countries, however, showed that not only is the percentage of teachers with a PhD in Dutch professional higher education still relatively low, but the percentage of master's and PhD s together is also much higher in other countries (averaging almost 80%). In view of the rising trend in the numbers of master's and PhDs in Dutch professional higher education so far, the current financial resources seem to make it possible (for more details, see the financial overview) to raise the bar here higher than the current 70% ambition. My goal is that 100% of professional higher education teachers will have a master's degree or PhD by 2020. The first step on that road is 80% in 2016. We are also aiming to train teachers whose practical knowledge can enrich education in order to enable them to earn a master's degree.

Teacher quality will be one of the subjects in the performance agreements I will be making with the individual institutions. The research universities have invested more in the teaching skills of their personnel in recent years: to make a career, teaching skills and performances are increasingly decisive, alongside research achievements. This is also necessary. The Veerman Committee states expressly that 'Research universities still tend to derive their prestige mainly from their research results.'³³ and that research universities must 'give more attention to teaching'.³⁴

The research universities have for some time been working with the so-called basic and senior teaching qualification programmes (BKO/SKO) for their teachers. Early 2008, the BKO covenant was implemented, which applies to all research universities. This approach to raising the teaching quality of new and sitting teachers has meanwhile gained wide support.

Another good development is the discipline networks for academic higher education teachers; this is how the research universities have interpreted the so-called Higher Education Academy outlined in the previous strategic agenda.³⁵ These disciplinary innovation centres focus on improving the quality of bachelor's degree programmes through the collaboration of teachers at different research universities. These centres identify good examples and conduct studies into teaching practice. Increasing efficiency has special priority. These innovation centres have recently been started in science and technology education (with co-funding from the ministry of OCW) and will begin shortly for law studies. There is also a budget available for such centres in professional higher education.

³² E. de Weert & M. Soo, 2009

³³ Veerman Committee, 2010, p. 51

³⁴ Veerman Committee, 2010, p. 48

³⁵ 'Het Hoogste Goed' [The Greatest Good], Parliamentary paper 31288, no. 17, page 46

The universities of applied sciences have already been invited to submit a proposal in this regard. I will primarily assess whether the previously mentioned necessity for professional higher education teachers to make improvements in their subject matter knowledge has been adequately addressed, also on the point of examinations.

I consider the introduction of basic and senior teaching qualification programmes for teachers also useful in professional higher education. As indicated in the action plan *Leraar 2020 – een krachtig beroep* [Teacher 2020 - a powerful profession], I intend to have the BKO and SKO approach also implemented in professional higher education by 2016. Initiatives taken by the professional group of teacher trainers in academic higher education and professional higher education (VELON) can serve as an example on this point. I am primarily concerned with professionalisation in testing and examinations (for more details, see 2.5). Teachers in professional higher education must have sufficient professional capacity to fulfil examination tasks besides their teaching tasks and they must be sufficiently equipped in terms of knowledge, level and skills.

Table 2: To better equip teachers, the following resources are available:

	2012	2013	2014	2015
Quality of teachers	11.181	11.181	11.181	11.181
Job mix	27.992	27.992	27.992	27.992
Extra training resources	2.800	2.800		
Training fund (teacher scholarship) drawing rights (estimate)	12.000	12.000	12.000	12.000
National testing and professionalisation	2.000	2.000	2.000	2.000
	55.973	55.973	53.173	53.173

Source: National Budget 2011, Education, Culture and Science, articles 6, 7 and 9.

2.4

International orientation

Internationalisation can give a significant boost to raising the quality of higher education. In the past decade, the collaboration among the European countries in the framework of the Bologna process has been a powerful motor in this. Internationalisation in education is expected to continue in the coming years. Institutions and students are increasingly less deterred by national borders: this is proven by the increasing significance of international league tables and instruments for international transparency and recognisability, such as the Qualifications Framework for the European Higher Education Area (QF-EHEA), the European Qualifications Framework for Lifelong Learning (EQF-LLL) and U-map. Institutions practise internationalisation by offering international classrooms and joint-degree programmes with foreign partners, designing an international curriculum and benchmarking the quality of the programme with programmes from foreign institutions, among other things. The NVAO has developed a 'distinctive (quality) feature' for internationalisation and in addition an 'internationalisation certificate', which will also be adopted by the European Consortium for Accreditation. This has handed the institutions substantial tools for profiling themselves nationally and internationally on the issue of internationalisation. For internationally-oriented students it is also important that we now have these tools.

Teachers play a leading part in designing internationally-oriented education. The international orientation of professional higher education teachers is, however, still limited: the Social and Economic Council of the Netherlands (SER) and NVAO have both asked for attention to be paid to this. The result could be that small and medium-sized enterprises, where the majority of professional higher education graduates end up, are insufficiently prepared for the global knowledge economy and miss out on opportunities.³⁶ Actualisation of the international knowledge and experience of teachers benefits from relationships with colleagues, companies and

institutions elsewhere in the world. In many cases, these relationships will demand international mobility from teachers.

A good command of English is also very important in internationally-oriented education. Accreditations and student surveys have shown that the English language skills of teachers in higher education are satisfactory. Most institutions have a policy to improve teachers' knowledge of English.³⁷

It remains no less important that students are internationally mobile during their education. In this way, they learn to look across the borders and as graduates, they gain in appeal to an internationally-oriented labour market. Last year, it was agreed in the framework of the Bologna process that 20% of students in European higher education in 2020 will follow (part of) their studies abroad (for the Netherlands this percentage is currently approx. 17%; the goal for the Netherlands is to increase this percentage to 25% by 2013³⁸). It was also agreed that opportunities for student mobility would be created in the curricula; this will result in students not having to incur study completion delays because they will follow part of their studies abroad. The possibility of offering joint degrees with institutions abroad is very useful in this respect.

³⁶ Transfer, 2011

³⁷ See the report 'Engelstalig onderwijs in het ho' [English-language teaching in higher education], Parliamentary paper 31288, no. 79

³⁸ See the internationalisation agenda for higher education, 'Het Grenzeloze Goed' [The Boundless Good], Parliamentary paper 31 288, no. 44

2.5

Quality assurance is central

The value of a higher education diploma may absolutely not be open to question. Some doubts have, unfortunately, arisen in professional higher education. The Education Inspectorate³⁹ and the NVAO⁴⁰ have conducted research into signals about alternative graduation tracks and the conclusions from these studies are frankly alarming for a number of programmes. This concerns programmes that have recently been accredited. The findings of the inspectorate and the NVAO also show that the existing internal and external quality assurance mechanisms are not sufficient to detect and tackle problems in time. Quality problems are not brought to light quickly enough.

The system has therefore not worked as it should. If quality problems are not promptly brought to light, students could wrongly receive a certificate.

As I indicated in the policy response to the final reports on alternative graduation tracks, my policy on this point is directed towards three goals⁴¹:

- increasing the number of supervisory instruments (i.e., accreditation as well as supervision by the Education Inspectorate), so that quality problems can come to light promptly.
- external validation of testing and examinations, so there is no reason to doubt the value of the diploma.
- good governance. Higher education institutions possess a high degree of autonomy. This is also the strength of our system. With the great autonomy offered by the law to institutions, however, also come responsibility, accountability for quality and abiding by the regulations in the area of level monitoring. The institutions must live up to this.

Reinforcing supervision

The accreditation system will be adapted:

- The universities of applied sciences must subject their programmes to (comparative) external review in a national cluster. Research universities do this already.
- External review panels will no longer be composed by the institutions but appointed by the NVAO.
- External review panels will henceforth have to attend lectures or other educational activities to obtain a concrete picture of the didactic model of a programme.
- Together, the achieved final level and method of examination are currently one assessment criterion. In view of the weighty importance of each of the topics, I will introduce a clear distinction between these two aspects. This makes it clear that a programme must be satisfactory both in terms of examination methods and achieved final level before it can be accredited. Herewith, I am adopting the advice of the inspectorate. This will ensure that it can no longer be the case that any doubts about the achieved final level in the assessment will remain without consequences. To this end, I will amend the Higher Education and Research Act (WHW).
- With a view to assessment of the quality of final projects, it must be guaranteed that the assessment panel can independently select the project to be assessed. The assessment panel will make a selection from a full list drawn up by the institution. The accreditation framework will be tightened up so that the random sample must be representative of the whole programme and contain a substantial number of 'sixes' (meaning just passed).
- An initial accreditation is based on (paper) plans and not on proven results. Uncertainty could arise about the realisation of the plans. The validity of an initial accreditation is therefore limited. The maximum term of six years is only awarded if confidence has been earned in the quality assurance of the institution concerned.

Furthermore, the role of the inspectorate will be expanded. The new supervisory role of the inspectorate will be risk-oriented and proportional, based on factors that pose a risk to the quality of education and awarding degrees in the period between two accreditations. If risks are established, further research at the institution will be arranged. This research is related to the legal assurances on the quality of the education and the diplomas, such as the teaching and examination regulations, the examining boards, the internal quality assurance and the operation of participation in decision-making. Signals from students can also be motivation for further research.

³⁹ Education Inspectorate, 2011

⁴⁰ NVAO, 2011

⁴¹ The measures mentioned in this section apply to both universities of applied sciences and research universities, unless otherwise stated.

Consequences of the inspection visits (the results of which will be made public) could be:

- The visit produces questions for the next accreditation round.
- The visit encourages the institution to make improvements; if there are serious doubts, the institution must report its measures for improvement to the inspectorate.
- If necessary, the institution can be reported to the minister with a view to starting the procedure for withdrawing accreditation, initial accreditation or the institutional quality assurance test.
- Failure to comply with legislation and regulations can result in funding cuts.

This new form of supervision is pro-active, risk-oriented and proportional in nature.

External validation

In view of the Education Inspectorate report on the assurance of diploma quality in professional higher education, better guarantees must be provided regarding the external legitimisation of diplomas and testing practices must be reinforced. To that end, professional higher education-programmes need to reinforce their knowledge bases using a sectoral approach. It goes without saying that employers must be closely involved.

My point of departure is that at the end of this government's term of office, every professional higher education programme has made sure that their knowledge base has been reinforced and that testing and examinations are externally validated. To that end, each programme will have to make use of national testing on one or more core subjects⁴² or, if national testing is not feasible, deploy external examiners. I am aware that the concrete interpretation of external validation cannot be the same for every programme. It will not be possible to work with time- and place-independent testing for all programmes, as is now taking shape in teacher-training programmes. This approach places very high demands on the testing instruments, such as a national register of established test items. I also want to provide room for other approaches to national and collective testing. In the agreement on the outlines of policy goals (see chapter 5) I will agree with the Netherlands Association of Universities of Applied Sciences on the manner in which external validation and reinforcement of the knowledge bases will take definitive

shape. I will also agree on the steps to be taken in the coming years to accomplish application across the entire professional higher education sector and on the fields of study that will be given priority.

I will make resources available to facilitate networks of examiners, who will act as external experts for other institutions. At the same time, I wish to encourage initiatives in the field of national testing. I will make a total of €8 million available for this in the period from 2011–2015. This step has already been taken for the teacher-training programmes.

I consider it important that academic higher education also make more use of national (progress) testing. As it happens, the medical faculties have produced good examples of testing that reinforces the learning capacity of students as well as teachers, while underlining the added value of the programme. Other than in professional higher education, however, I see no reason for its large-scale roll-out. In principle, inter-relation with research and the educational level of the teachers at research universities is sufficient guarantee of the level of academic higher education diplomas.

Five medical faculties have collectively drawn up a progress test which is administered four times a year. The progress made by each student and institution can be monitored and mutually compared. This offers the institutions the opportunity to measure the added value of the education they provide during the academic year. Thus, they have an instrument with which they can improve the quality of their own education.

I will arrange that every examining board has an external member. Managers with a financial responsibility cannot be included on an examining board. The Management Enforcement Legislative Act indicates that this is the desired situation. I now wish to regulate this clearly. The external member could bring in expertise on subject content or, for example, testing expertise. It could be someone from the professional field or a colleague from another faculty or institution (at home or abroad). I will consider how this can be achieved in actual practice during the elaboration of this legislative amendment. I will factor in the principle of cost-effectiveness.

For the time being, I shall assume that the external examiners and national testing of core subjects provide sufficient guarantee for the external validation of diplomas.

⁴² National testing distinguishes itself from central written exams (central examinations) because the national testing only focuses on the core subjects, there is no prescribed format, the test can be taken at the end as well as during a programme and the tests are jointly developed by the institutions.

Reinforcing governance

The final report by the Education Inspectorate on the Inholland University of Applied Sciences shows that internal supervision has been inadequate at various levels, due to which the established shortcomings were not detected in time. Currently, a number of instruments is available increasing in scope. They range from a discussion with the board, via various steps including naming and shaming, to legislation being enforced through funding sanctions.

The government lacks any means of focused intervention at the level of the board of an institution. In my opinion, the government should have such an ultimate authority. If none of the interventions has worked, the minister should have the authority to issue a designation order as a last resort. The primary and secondary education sectors offer a comparable possibility. I would like to incorporate the authority to issue a designation order in the Higher Education and Research Act (WHW), with the following core elements:

- a. The authority to issue a designation order is directed at the supervisory board. The minister must be able to issue an order if he finds serious shortcomings in relation to the implementation of legal rules.
- b. Shortcomings are considered serious if it is established that they have had negative consequences at the system level (detrimental effects for, negative impact on the system).
- c. Serious shortcomings involve maladministration, including:
 - financial mismanagement;
 - unjustified enrichment;
 - wrongful acts.

Proper participation in decision-making is an important component of the checks and balances in the system. I expect the professional higher education institutions to enter into discussions with their present students about the quality of the programmes they are investigating because of the reports by the inspectorate. Robust internal quality control is brought about by, among other things, critical participation in decision-making. Students, teachers and institutions must agree to make participation in decision-making into a tool for quality.

In the past year, the functioning of participation in decision-making at the system level has also been the subject of consultations with institutions and student organisations. In those consultations, impediments and solutions were inventoried. The inspectorate has also conducted research into the functioning of study programme committees. On that basis, I want the study programme committees to put more emphasis on the task of advancing the quality of the programme. In my opinion, a balanced structure for participation in decision-making

has been created with the Management Enforcement Legislative Act, which came into force on 1 September 2010. The functioning of participation in decision-making is crucial in practice, however. Institutions must invest in improving their culture; the formal position is in order since the institution of the Management Enforcement Legislative Act.

2.6

What are we going to do?

Improvement of harmonisation in education

- The examination requirements in secondary vocational education and general secondary education are becoming stricter. Secondary education is aiming towards a more ambitious learning culture by enhancing the achievements of the top 20% best performing pre-university education students, among other things.
- The information given via Studiekeuze123.nl will pay explicit attention to the quality of the education provided and prospects on the labour market, in order to allow students to make a more conscious study choice.
- Performance agreements are being made with the universities of applied sciences and the research universities with regard to lowering dropout rates in the first year.
- The government supports the development of better career orientation and study options guidance (LOB) in general secondary education and secondary vocational education.
- Study options interviews will be widely implemented. The registration date for students will be advanced to 1 May to make this possible.

Raising the bar

- Performance agreements will be made with the institutions concerning the intensification of curricula. Education must have sufficient time for interactivity between students and teachers through more face-to-face hours or by working in small groups. In the coalition agreement, a sum of €200 million in 2013 increasing to €230 million in 2015 and ultimately €300 million structurally has been reserved in addition to the existing resources for study success (approx. €80 million). Institutions are funded (on a bonus-malus basis) based on indicators that provide a view of quality and study success.
- Nominal study duration will become the rule instead of the exception. Pilots will start at higher education institutions to experiment with, among other things, a year group system (including compensation between subjects and a binding recommendation regarding the next step in the person's education after the second year).

- Research universities and universities of applied sciences may select students on admission, if selection is justified on the grounds of the profile of the programme or results from the professional requirements of the programme.
- To promote the development of more excellent educational tracks, the scope for tuition fee differentiation will be expanded.

Better-equipped teachers

- The educational level of professional higher education-teachers is very low compared with other European countries. By 2020, 100% of teachers in professional higher education must have a master's or PhD degree (average percentage in other countries is 80%). An interim step is 2016: the percentage must then be 80%. We will also strive to train to master's level teachers who can enrich education because of their practical knowledge.
- The basic and senior teaching qualification programmes for teachers, which have already been implemented in academic higher education, will also be introduced in professional higher education.

Quality assurance

- The inspectorate will play a greater role and will switch to a new form of risk-oriented supervision in the period between two accreditations.
- The accreditation system will be reinforced: universities of applied sciences will have to allow their programmes to be reviewed in a national cluster and a separate judgement of 'achieved exit qualifications' will be leading as to whether accreditation may be granted.
- External experts must participate in every examining board. Managers with financial responsibilities may not be members of examining boards.
- All professional higher education programmes reinforce the knowledge base and ensure that testing and examination is externally validated. This takes place by making use of national testing on one or more core subjects for each programme or making use of external examiners if national testing is not feasible.
- The authority to issue a designation order, which is directed at the board of supervision, will be included in the Higher Education and Research Act. The minister must be able to issue such an order if serious shortcomings are established in the implementation of legal rules.

3.

A more profiled and differentiated range of programmes

The previous chapter makes it clear that the government wants to make significant headway with regard to improving the quality of higher education. To that end, the range of courses on offer must be adjusted. It also calls for restructuring the range of programmes, a reduction in the number of programmes, differentiation in the types of programme and the introduction of more profile into the programmes.

One of the key messages from the Veerman Committee was that if we wish to develop the talents of Dutch students to the maximum – and we do – we must differentiate the range of programmes on offer to a far greater extent. The student population is very diverse in terms of prior education, interest, level, age, etc. To do justice to this diversity, a much more differentiated range of programmes must become available. Not every learning track suits every student. With the policy choices in this chapter, I want to give institutions the opportunity to better serve their students. Institutions that want to profile themselves and specialise, will definitely receive the room to do so. Employers also attach value to more differentiation in the programmes. In its recommendations for the strategic agenda, the Social and Economic Council of the Netherlands (SER) has emphasised that more differentiation in terms of level is particularly important for the labour market. This is why the SER, for example, advocates the associate degree and excellence programmes. Furthermore, more flexibility is needed in education for those who are working, to promote lifelong learning.

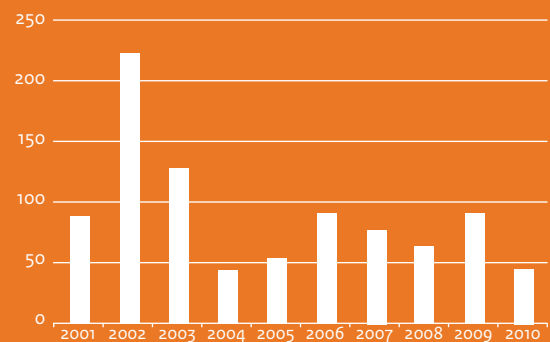
In order to achieve the quality improvement pursued by the government, the range of programmes must also be compacted, with more broad-based bachelor's programmes in professional as well as academic higher education. Professional higher education currently has over 220 unique bachelor's programmes, academic higher education around 200. For the master's phase there are 65 unique master's degree programmes in professional higher education and 660 in academic higher education. Most of the programmes are offered at several locations, moreover. The total range therefore includes around 1500 bachelor and 250 master degree programmes in professional higher education and 450 bachelor and 1060 master degree programmes in academic higher education.⁴³

Restructuring of the programmes on offer could first of all increase their transparency. Employers indicate that with the current wide range of programmes on offer, they find it difficult to determine the value of individual programmes. A more compact offer also enables employers to work on the quality of the programmes together with the institutions.

Development in new programmes

Every year, educational institutions submit requests for new programmes. Before starting a new programme, institutions must first go through a macro-efficiency check, followed by initial accreditation by the NVAO. The number of applications for new programmes reflects the growth of the programmes on offer in the Netherlands. Below is a figure showing the number of approved macro-efficiency applications for new programmes, new locations or branches in academic higher education and professional higher education together in recent years. In 2002 and 2003 an experiment was carried out that involved leaving out the macro-efficiency checking. This explains the sudden increase in the number of new programmes in those years.

Graphic 1 Nb: Figures from 2001/2002/2003 apply to professional higher education only



⁴³ Croho, 2011

Students also advocate bringing down the number of programmes because the large quantity of courses makes their study choice unnecessarily difficult.⁴⁴

With the proposals regarding profiling in this strategic agenda, I want to facilitate institutions in making conscious choices, also for their programmes on offer. This will therefore have to mean: discontinuing programmes, phasing out programmes or transferring programmes to other institutions. It also means being restrained in starting new programmes. The government will expedite the latter by only accepting applications for new programmes that match the profile of the institution. In the strategic plan (see chapter 5), a balanced proposal is made for the future range of programmes on offer, in which new proposals go hand in hand with a limitation of the existing range. It also involves seeking collaboration, organising joint (national) master's degree programmes and periodically holding the national range of programmes on offer up to the light, sector by sector. In sectors of education where this is relevant, for example, because of functional differentiation on the labour market, the programmes on offer in professional higher education and academic higher education will also be considered in their interconnection. Steps like this will increase the quality of the courses on offer.

I will elaborate the changes intended by the government in the programmes on offer for professional and academic higher education separately in the sections hereafter. I will subsequently go into flexibility in higher education for those who are working.

The facilitation of more conscious choices by institutions also requires that the current legislation around new programme offers, such as the macro-efficiency policy, should be reviewed. Amending this legislation is the necessary guarantee that new programmes will match the profile of the institutions, the restructuring of the programmes offered and the priorities in this strategic agenda. I am thinking of:

- periodic sectoral analyses of the existing programmes on offer for efficiency and answering the needs of students and the labour market;
- a more significant role for the needs of the labour market with new programmes, especially the associate degree programmes and professional master's (see section 3.1.2);
- room for broad-based bachelor's degrees (see section 3.2);
- room for part-time higher education (see section 3.3).

The proposed adjustments in the framework of the programmes on offer will be submitted to the House of Representatives in the summer of 2012 at latest. Furthermore, we will work on obtaining better labour-market information to support the efficiency agenda and for the benefit of students' study options. A feasibility study will be conducted into labour market indicators for the benefit of the new funding system.

⁴⁴ ISO, 2011

3.1

Professional higher education: reorganisation of the range of programmes on offer and more differentiation

In professional higher education, restructuring of the programmes on offer is important to strengthen the knowledge bases of the programmes. This is easier if the range of programmes on offer is more compact. As I will explain in chapter 5, I want to conclude an outline agreement with the universities of applied sciences in which they collectively and individually commit to agreements on the development of knowledge bases, reduction of the programmes on offer and differentiation in professional higher education.

3.1.1

Restructuring the programmes on offer in professional higher education

Restructuring the programmes on offer in professional higher education must result in fewer programmes. That is to say: fewer new programmes and rationalisation of the existing ones. In addition, it is important to have more broad-based programmes. In the context of professional higher education, however, broad-based bachelor's degrees have a different connotation than in academic higher education (see section 3.2). In professional higher education it mainly involves not having too many sub-variations of programmes. The economy sector currently has around 50 different programmes and the technical sector has more than 60 unique programme names. Many of them are more or less the same programmes but registered under a slightly different name in the Central Register of Higher Education Study Programmes (CROHO). I want the naming of programmes to be more unambiguous. Within the name of a broad-based programme, the institution can of course include its own substantive profile. The programmes on offer must match the profile and regional function of the university of applied sciences.

Reduction of the number of locations at which a certain programme can be offered would contribute to the rationalisation of the programmes on offer. In professional higher education, programmes are offered in many locations. This is also more important in professional higher education than in academic higher education, in view of the regional function of a university of applied sciences. Nevertheless, more regional specialisation and co-ordination is necessary and possible in professional higher education. Periodic sectoral analyses of the programmes on offer by the Committee for Efficiency in Higher Education (CDHO) could be useful in this respect. The institutions can include these analyses in the profiling of their programmes; they would thereby contribute towards making appropriate agreements with the institutions about reduction of their range of programmes, in terms of both labels and locations. I will challenge professional higher education to limit the number of programmes on offer via performance agreements. This will also be part of the outline agreement I shall conclude with the universities of applied sciences.

Harmonisation with the labour market when working on a programme offer is naturally essential. Employers must be expressly involved in the restructuring of the range of courses. The labour market relevance of higher education must increase. Labour market demand will be leading in new offers of associate degree programmes and professional master's (see section 3.1.2). The professional field will also be involved in the development of knowledge bases in professional higher education. Furthermore, gearing to the professional field will be made a condition for acceptance of profiling proposals in professional higher education (see chapter 5). With respect to the top sectors and the proposals of the top teams, demand will play a part in making education relate to professional practice. These recommendations will be borne in mind with applications for new programmes, the restructuring of the existing range of courses and in determining the necessity for sector plans. This requires action from higher education but also from the employers themselves. It is up to sector organisations to clearly articulate their demand for higher education graduates and their education needs to higher education. The business community could also indicate in which way they can contribute by offering internships, scholarships for students and secondment of subject teachers. More systematic collaboration in the regions or within the sectors will benefit the quality of education.

A good example of an initiative is the Engineering & Technology sector plan for professional higher education, which is currently under development. This plan was initiated by the Regiegroep Chemie, a steering group for the chemical sector in which the universities of applied sciences and employers in the chemical industry are represented. Its goal is to introduce more focus and mass into the programmes on offer within the chemistry and life sciences sectors in professional higher education. To this end, the universities of applied sciences and employers are jointly investigating the labour market needs for higher education graduates in these disciplines, how the programme offer can tie in with these needs and how the intake of students for the programmes can be increased. The Engineering & Technology sector plan for professional higher education will be ready in 2011.

3.1.2

Differentiation in professional higher education

The government will give professional higher education the room it requires for a far-reaching differentiation of the range of programmes. The quality issues in professional higher education are partly connected with the fact that professional higher education has a particularly diverse student population. I regard more streaming of students in professional higher education, thus making more use of different educational tracks for different groups, as an absolute pre-condition to achieving the sustainable increase in quality that is needed. This does not mean that all the efforts of the universities of applied sciences must in the short term be focused on the creation of, for example, new, short tracks for students with pre-university education qualifications, professional master's degree programmes or associate degree programmes. However, it is such differentiation that must determine the image of professional higher education in the future. For that reason, the government explicitly wants the universities of applied sciences that already deliver high-quality education to engage in the differentiation of education.

Associate degrees

Pilot projects with associate degree programmes have made it clear that the associate degree (Ad) fulfils a need of employers. The Ad offers students the opportunity to make a substantial step in their career. For some professional higher education students – often students who have transferred from secondary vocational education or people

who are working – the two-year Ad programme also seems to better relate to their interests and possibilities than a four-year professional higher education bachelor's programme. The government wants more associate degree programmes to be made available for this group of students. In its response to the Veerman Committee report, the government indicated that the Ad will definitely be implemented to this end. That is in line with what employers want.

With the positioning of the Ad, the government has opted for the verification of the professional higher education character of the Ad as its point of departure. Proper collaboration between secondary vocational education and professional higher education is essential, but to guarantee the professional higher education level of the Ad and offer students a professional higher education environment, the Ad remains part of the professional higher education bachelor's phase. This furthermore guarantees the transfer possibility of the Ad to a bachelor's exit level. The consultations that I held with the relevant parties, based on the motion by De Rouwe and Van der Ham,⁴⁵ support the government's choice. The Netherlands Association of Vocational Education Colleges (MBO Raad), the Confederation of Netherlands Industry and Employers (VNO-NCW), the entrepreneurs organisation MKB Nederland and the Netherlands Association for Training and Education (NRTO) all emphasise that the appeal of the Ad largely lies in the fact that the Ad is part of professional higher education. The NRTO further states that positioning within secondary vocational education will have the effect of lowering the level and will make the step to the bachelor's degree (unnecessarily) larger. The MBO Raad also specifically sees the Ad as a higher education degree. I therefore see no reason to allow the Ad to be given independently by vocational training and adult education institutions. I will make it possible for part of Ad programmes to be provided in a vocational training and adult education location (under the integral responsibility of the university of applied sciences), just as happened in sub-round 4B of the Ad pilots. This involves at most the first half of the Ad.

The Ad will thus remain part of the professional higher education bachelor's degree but will receive more independent profiling within that degree programme. Instead of Ad holders automatically qualifying for a transfer to the subsequent phase in the bachelor's degree, a system of admissibility will be introduced.

⁴⁵ Motion submitted by De Rouwe and Van der Ham, the possibility to investigate whether to allow secondary vocational education establishments to independently offer associate degrees, House of Representatives 32 253, no. 19.

This will offer the universities of applied sciences the room to properly develop the labour-market qualifying function of the Ad. New (subsidised) Ad programmes will exclusively be instituted if their relevance to the professional field has been demonstrated with a macro-efficiency check. The existing availability of company training schemes will also be scrutinised. It is not the intention that universities of applied sciences should offer such programmes in the future under the banner of an Ad.

The Ad will not take shape across the board in professional higher education. In view of the extent of this type of offer in other countries, a realistic expectation is that the Ad could grow to a 15% share of the total bachelor's intake in professional higher education by 2020. Particularly non-subsidised education potentially still has plenty of room for expanding the range of Ad programmes. The associate degree committee has assessed the Ad pilot applications in recent years. A pre-condition for a positive assessment by this committee was a positive verdict by the NVAO on the quality of the requested Ad programme. I shall ask the associate degree committee, in consultation with the NVAO, the Netherlands Association of Universities of Applied Sciences, the NRTO, the MBO Raad and the employers organisations, to draw up a plan of approach for the expansion of the (subsidised and non-subsidised) associate degree offer. To stimulate sufficient Ad provision, I will include an independent diploma payment for the Ad in the subsidy system. Furthermore, I will also ensure that new Ad programmes may also be started in the period before the entry into force of the amended Ad legislation. To that end we will organise an extra pilot round. Ad programmes that started in the previous pilot rounds will lose their pilot status with the change in the law and, in anticipation of this, will have the opportunity to register new students in the academic years 2011–2012 and 2012–2013.

Making professional higher education more appealing to pre-university educated students

Currently, pre-university educated students who are interested in a high-level professionally-oriented education often opt for a programme in academic higher education rather than a professional higher education programme. This must change. Pre-university educated students seeking a vocationally-oriented programme must be able to choose from a good range of programmes. If more pre-university educated students enter professional higher education, this will in addition alleviate the pressure on academic higher education and give the research universities more room to strengthen the academic nature of academic higher education. The quality of professional higher education must be increased across the board to make professional higher education more appealing to pre-university educated students.

A study performed by ResearchNed⁴⁶ at my request has shown that a major factor in the choice of pre-university students for academic higher education is that pre-university educated students (and their environment) have the impression that professional higher education represents a lower level than academic higher education. The recent media attention around professional higher education will only reinforce this impression in the short term. Besides investing in the broad quality of professional higher education, more challenging learning tracks must be created for pre-university educated students in professional higher education. To this end, in this government's term of office I will ensure that alongside the excellence tracks mentioned in the previous chapter, the UAS will be able to offer short, three-year professional higher education bachelor's degree tracks for pre-university educated students and more professional master's degree programmes. The academic titles will also be adapted (see below).

I will make it legally possible for universities of applied sciences to offer three-year bachelor's tracks to pre-university educated students. Pre-university educated students enter professional higher education with more mental baggage, can do more work in less time and can thus attain the bachelor's exit level more quickly. To adequately challenge these students, it is good to demand more from them. In the above-mentioned study by ResearchNed, students in the sixth (final) year of pre-university education and first-year university students were asked how professional higher education could be made more appealing to pre-university educated students. Short tracks and tracks focused on a higher exit level were at the top of their wish list. For that matter, a three-year track is not possible with all programmes. For arts programmes, for example, pre-university education inadequately prepares students for the intended exit level of the programme.

Professional master's degree programmes

For the labour market it is important to have more professional master's degree programmes. The Netherlands has relatively few programmes at the master's level. A number of professions for which a professional bachelor's exit level used to be sufficient, have developed such that there is now a need for graduates at master's level. This applies to the teaching profession for example, but also to nursing, where in recent years Nurse Practitioners and Physician Assistants have been successfully introduced. Employers want to be able to train their employees up to master's level. In recent years, the number of professional master's degree programmes in the education and health care sectors has already expanded substantially. The government wishes to expand this number in other sectors.

⁴⁶ ResearchNed, 2011

An increase in the number of professional master's degree programmes on offer could encourage pre-university educated students to opt for professional higher education. Pre-university educated students faced with their programme options know that in many cases, transferring to a research university is the only way for them to earn a master's degree.

In view of the limited financial resources for master's degree programmes, the government has opted for a phased roll-out of subsidised professional master's degree programmes. The government is initially aiming at an expansion of the number of professional master's degree programmes in the top economic sectors. The requirements for professional master's degree programmes are that:

- they arise from a clear labour market demand (which, for example, is identified in the top teams' sectoral action agendas);
- they are inter-related with practice-oriented research that is being done at a university of applied sciences;
- they match the profile of the university of applied sciences and the focus areas in education and research chosen by the university;
- they do not result in suppressing existing private programme offers;
- they are complementary to the academic higher education master's offer in the sector and have a clear vocationally-oriented focus.

The present criteria for professional higher education master's programmes in the macro-efficiency policy regulations will be adapted in line with these requirements. With effect from 2013, the expansion of professional master's degree programmes in the top sectors will be funded from the residual budget of the closed down subsidy scheme for post-graduate professional higher education master's degree programmes. The following phase of the roll-out of professional master's can take place when the universities of applied sciences have instituted three-year tracks for pre-university educated students. The universities of applied sciences can institute these three-year tracks from the four-year funding that they receive for their pre-university educated students, then use part of it for the expansion of their range of professional master's degree programmes. I will make focused performance agreements with the universities of applied sciences about this (see chapter 5).

Academic titles

With the ideas in this and the previous chapter, we are working hard on the quality and image of professional higher education in the Netherlands. The international position of professional higher education students and graduates and the appeal of professional higher education to foreign students also require that we change the academic titles. Of the foreign students in the Netherlands,

55% are enrolled in professional higher education. Furthermore, over 21% of professional higher education graduates engaged in some form of international mobility during their studies.⁴⁷ The academic titles must be geared to international standards. In line with the recommendation of the Veerman Committee, the current legal distinction in academic titles between professional and academic higher education will be abolished. The affixes 'of Arts' and 'of Science' will no longer be exclusively reserved for academic higher education programmes; they may also be used by graduates of professional higher education programmes for which these affixes are customary in the international perspective. This could also increase the appeal of professional higher education to pre-university educated students.

In the future however, by no means all professional higher education programmes will qualify for the affixes 'of Arts' and 'of Science' with the degree. The institution must select an affix such that it fits in with the type of programme. In the accreditation/initial accreditation procedure, the NVAO will check the academic titles proposed by the institution for suitability in the international context. The academic titles may only be employed after the NVAO has found them to be suitable. A reference list of internationally recognisable programme-specific degrees for each sector will serve as a guide for the checking of these affixes by the NVAO and as a guideline to the universities of applied sciences. Nuffic has in the meantime drawn up a draft version of the reference list.

By changing the academic titles, the government does not have the express intention of abandoning our binary system. With the Veerman Committee, the government recognises the importance of the distinction between professional higher education and academic higher education. The government however shares the notion of the Veerman Committee that *'debates on binarity have wrongly intervened in debates on appropriate titles.'*⁴⁸ This is why we have opted to change the academic titles in the near future. The distinction between universities of applied sciences and research universities will remain internationally visible on the diplomas and in the diploma supplements; universities of applied sciences may not call themselves 'universities', but 'universities of applied sciences'. The government will see to it that institutions properly conform to their legal obligation to issue a diploma supplement.

⁴⁷ Nuffic, 2010

⁴⁸ Veerman Committee, 2010, p. 45

Two examples from the Nuffic draft reference list

Higher art education comprises about 15 bachelor's programmes. There are three programme-specific degrees: the Bachelor of Music (BMus), the Bachelor of Education (BEd) and the Bachelor of Fine Arts (BFA). The music programmes are concluded with a BMus degree, the teacher-training programmes with a BEd. Programmes that are focused on the visual arts (and do not belong in the teacher-training sub-sector), can be concluded with a BFA degree. The remaining programmes qualify for the Bachelor-of-Arts degree (BA).

Higher Economic Education includes about 80 bachelor's programmes. Most of the programmes, about three-quarters, can be concluded with a BA. There are two programme-specific degrees in this sector: Bachelor of Business Administration (BBA) and LLB (Bachelor of Laws). Programmes that can be concluded with a BBA degree are business administration, technical business administration and business administration and management. Programmes that qualify for the LLB degree are the professional higher education law and higher law programmes. The programmes that largely focus on accountancy, finance, informatics and communication systems, qualify for the Bachelor-of-Science degree (BSc).

3.2

Academic higher education: more profile in the range of programmes

In academic higher education, various steps have already been taken in recent years to achieve a restructuring of the programmes on offer. A good case in point is the humanities, where the range of master's programmes has been reduced from 250 to 21 broad-based ones. The Veerman Committee report has also emphatically been seized upon by the research universities to collectively continue to work on rationalisation and selective renewal of the range of programmes. The research universities are aiming to provide each region with coverage of all the major bachelor's programmes. Mutual harmonisation among the research universities should in addition increase the efficiency of the programmes on offer (among other things: fewer small programmes). For the master's phase, the research universities want to tie in with the research focus areas and the demands of the labour market. As I shall explain in chapter 5, I intend to conclude an outline agreement with the research universities in which I will give them the room to achieve further profiling and reduction of the range of programmes. This room is not open-ended, however. The research universities will have to account for the results they achieve. In addition, institutions that make sharp choices in their programme offer or are able to further reinforce their profile will be rewarded.

In the outline agreement, I will make agreements with the research universities about the desired developments in the range of academic programmes. This involves reduction of the range but also broader-based bachelor's programmes, a more profiled academic master's range and more diversity in the research programmes. I will explain this below.

Broad-based bachelor's programmes in academic higher education

In academic higher education it is also important to have more broad-based bachelor's programmes. For many students, the study choice is problematic because they either do not yet know what profession they want later or which studies chime best with their professional interests. Starting with a broad-based programme and increasingly specialising within that programme can help these students

and reduces the risk of their dropping out. This is why it is also good to increase the range of broad-based bachelor's programmes available in academic higher education. In academic higher education, broad-based bachelor's programmes can furthermore contribute towards a more solid academic education. Different variations of broad-based bachelor's programmes are conceivable: programmes with only a broad-based first year, but also programmes that only specialise at a later stage. There are already good examples of broad-based programmes in academic higher education. Liberal Arts Colleges have been established at various research universities, of which the university colleges are successful examples. However, these are residential, small-scale and intensive in nature and therefore reach only a very small proportion of the student population. For that reason, the government believes that broad-based bachelor's programmes of a supra-disciplinary nature must be organised, rather than programmes that are based on a residential or liberal arts concept.

An interesting example is the University of Twente. This university is carrying out a comprehensive restructuring of its range of programmes. Starting from 2013, in addition to a yet to be constructed university college and the already existing Technical Medicine programme, it will offer nine broad-based bachelor's programmes (instead of the present twenty-two smaller ones). Within the nine broad-based programmes, students can further specialise via majors.

It is crucial that students doing a broad-based bachelor's degree have access to a sufficiently wide range of master's degree programmes. Within the broad-based bachelor's therefore, the student must have sufficient room to specialise for the master's. The range of broad-based bachelor's degrees must furthermore be developed in cohesion with the range of master's degrees, preferably via a sectoral approach.

In the macro-efficiency rule, suitable criteria will be included to stimulate the range of broad-based bachelor's programmes. In addition, the institutions will have the opportunity to introduce broadened programmes for three years. During this period they will not lose the right to offer the 'parent programmes' of the broad-based bachelor's (again). This is in case it turns out that a specialisation, for example, would be more efficient as an independent programme.

More profile in academic higher education master's degrees

Academic higher education master's degree programmes in the Netherlands, viewed both nationally and within the individual research universities, need more profile and a more independent position with regard to academic higher education bachelor's programmes. Differentiation has increased with the introduction of research master's degrees. Nonetheless, it is wise, more than ten years after the introduction of bachelor's-master's system, to closely examine the range of programmes once again. Many master's degree programmes are defined by the learning outcomes of the bachelor's programme rather than by harmonising with the labour market. Students also indicate that the academic higher education master's degree does not always properly prepare them for the labour market, while the professional perspective is an important argument for choosing a master's degree programme. The research universities must therefore invest more in gearing their master's programmes to the needs of the labour market.

For institutions, larger units such as graduate schools or professional schools (law, medical or business schools) provide opportunities for profiling; they are more visible and give the institutions programming latitude. By amending the regulations, the government wishes to facilitate larger units within and between institutions, though naturally not at the cost of small-scale education. Collaboration between research universities can raise their profile and, at the same time, increase the efficiency of the master's programmes on offer. Such collaboration is already occurring more and more. The research universities in the Randstad conurbation, for example, work closely together to provide a number of small master's degree programmes for modern languages. Some research universities, the technical research universities, for example, have jointly organised national master's degree programmes. There is also collaboration with foreign institutions (also in the form of joint degree programmes). These are excellent developments.

Moreover, it is important that institutions gear their master's degree programmes to the profile of the university, primarily its research profile. Master's degrees must be more in line with the research focus areas of the institution. This applies to the research master's as well as the other master's degree programmes. Academic master's degrees that are more focused on the labour market gain in strength through having an optimum connection with the research conducted by the institution.

But that is not all. Profiling the master's programmes also means looking at the overall (i.e., including education) profile of the institution and making choices in the range of master's degrees in that light. The government wishes to

Theses of Dutch research master's are at the top level

Theses by research master's students score better in the same disciplines than the theses of students enrolled in regular master's degree programmes. The theses of regular master's degree programmes are assessed as 'very satisfactory' to 'good', but the quality of the research master's theses is assessed as 'good' to 'excellent'. Students in such programmes rank among the international top, according to assessments by panels of international experts at the behest of the Accreditation Organisation of the Netherlands and Flanders (NVAO), in the framework of the International Thesis Assessment Study. The expert panels assessed 74 theses in total, 37 from research master's and 37 from regular master's within the same subject areas.

Source: www.nvao.net

give institutions the choice of no longer offering follow-on master's degree programmes. Exactly because of the focus that follow-on master's degree programmes have on connecting with the bachelor's, these programmes generally have little profile. In this way, the academic higher education master's will receive more exposure as an independent programme. Abolishing the mandatory follow-on master's also expedites a more conscious choice of study by students. This is also important for that reason. The law will be amended on this point. The point of departure for the government is that even if the mandatory follow-on master's is abolished, there are always possibilities for bachelor's graduates to follow a master's degree programme.

Abolishing the mandatory follow-on master's will also mean that there must be clear admission requirements and that master's degree programmes must be accessible to a wide range of bachelor's programmes. Bachelor's graduates must always have opportunities to follow a master's degree programme. With some (professional or academic) bachelor's degrees, graduates will still need to follow a transfer programme or pre-master's programme before they can embark on the master's of their choice, for example, because several subjects that are essential to the master's programme are lacking in the bachelor's programme. More collaboration between related programmes of research universities and universities of applied sciences can limit the necessity for transfer programmes. I have noticed that in the previous period a lack of clarity has arisen about the costs that research university can charge students for eliminating their deficiencies. Clarity on this point is necessary. I shall therefore amend the law. Transfer programmes to my mind are programmes that take at most six months (30 ECTS).

It must be possible, in a maximum of six months, for institutions to provide students with sufficient baggage to join the master's degree programme. I also want to avoid unnecessary amounts of time being scheduled for transfer programmes. If certain bachelor's graduates really do need more than a 30-ECTS programme to do a master's degree, this in my eyes no longer involves a 'transfer' between bachelor's and master's; in such cases, the university may charge higher tuition fees. I will legally arrange that students can follow transfer programmes of a maximum of six months (30 ECTS) for the statutory tuition fees. For programmes taking longer than six months (more than 30 ECTS), institutional tuition fees apply. The law will be amended to this end.

More variation in research training

The government also wants more diversity in research training. In international terms, the Netherlands has relatively few researchers⁴⁹, although we definitely need them: first of all for science and for research positions in companies, but also in the public sectors, such as education (particularly in secondary education and professional higher education) more PhDs are needed to meet the higher demands of professional practice. The current budgetary framework sets limits on the number of researchers that can be trained annually. More differentiation in the doctoral system can help to increase this number. I will therefore make it legally possible for research universities to introduce doctoral candidates with a student status (scholarship students). A distinction is thus made between appointed doctoral candidates providing education and scholarship students (with student status) following (extra) education. The choice for one of the two positions must be substantive and cannot be based solely on the labour-market situation applicable to the different sectors. Research universities can choose their own profile.

Scholarship students are cheaper for institutions than doctoral candidates with employee status because no taxes have to be paid for scholarship students. I expect that the use of scholarship students will leave the research universities with an additional sum of around €10 million to spend on the education of PhD candidates. Thus, they can make approximately 350–400 more positions available per year than without making use of scholarship students.⁵⁰ A pre-condition for making more use of scholarship students is that there is no meddling with the high quality of Dutch doctoral theses: all doctoral theses remain subject to the (existing) high requirements set by doctorate boards.

This adjustment of the system through which a PhD is earned is also more in line with what is customary internationally and in Europe. This will make it easier for foreign PhD candidates to switch to Dutch research universities and increase the appeal of the Netherlands.

⁴⁹ EUA, 2007

⁵⁰ Based on RUG, 2009

3.3

Flexibility in higher education for the workforce

Working people are still not satisfactorily served in Dutch higher education, even though more updating, retraining and further training is needed. The labour market is after all becoming more mobile, even for higher education graduates. The Social and Economic Council (SER) explicitly states this in its advisory report on the strategic agenda: *'Once in the labour market it remains necessary to continue to learn and develop to remain employable over the long term.'* The SER therefore advocates *'further prioritisation of lifelong learning [as] an important condition for a long-term employable labour-market population.'*⁵¹ In view of the need for higher education graduates, there must furthermore be sufficient opportunities for those who work to follow higher education. In the Netherlands, the facilities provided for lifelong learning have not yet been fully developed. They mainly lack the flexibility that is especially necessary for employed people. This is illustrated by the decline in the range of and enrolment in part-time study programmes in higher education.

The government sees it as its responsibility to encourage the availability – also at higher education level – of high-quality programmes for the workforce. This is why I have opted for the definite introduction of the associate degree and expansion of the number of professional master's degrees. The introduction of the national qualification framework (NLQF) is also relevant to those who work. It increases the transparency of the non-formal range of programmes and provides insight into the level of the qualifications that can be attained within these programmes.

To achieve flexible and high-quality education for those who work, I will remove impediments in legislation and regulations. I shall further inform the House of Representatives about this at the end of 2011. I first of all want to provide room for more part-time programmes in sectors where this is needed. Currently, the macro-efficiency policy provides no room for new part-time programmes in disciplines that already comprise a great many full-time

programmes. I want to change this. I will investigate whether making different arrangements for part-time education in the Higher Education and Research Act (WHW) is advisable. The WHW investigation will be part of a wider inquiry into the match between the supply and demand of part-time education. Private providers of higher education will also be expressly involved.

Secondly, I am currently exploring a possible liberalisation of student grants and loans as an incentive for lifelong learning. The question is whether students other than those currently entitled to student grants or loans should also have the possibility to apply for a grant. This concerns students thirty years old and over in higher education and secondary vocational education, part-time students and students following a second higher education study programme. In addition, the government is investigating the possibility to put into effect the advice of the SER, to expand the fiscal facilities for schooling and education. Decision-making on this will take place in the context of the memorandum *Duurzame inzetbaarheid* [Long-term Employability], which will be submitted to the House of Representatives shortly.

I shall facilitate institutions that wish to expressly focus on the target group of working people. They will receive (on the basis of the innovation article in the WHW) the room to experiment with forms of education that match the needs and attributes of people who work. This could be, for example, combinations of learning and working or the organisation of flexible learning routes. This will enable us to create new programmes for those who are working and identify any unnecessary legal impediments. In the experiments, the institutions can continue to build on the experiences gained in the meantime, with the pilot projects for lifelong learning in professional higher education.

A number of private providers of higher education have expressed the desire to offer (only) parts of certain higher education programmes; this usually concerns the last two years. This is now legally impossible; they must offer the whole bachelor's programme. However, such a flexible programme track could be interesting for certain groups of working people, for example, those entering teaching from another career background or students who have already finished a study programme and wish to broaden it by following a 'top-up course'. For this reason, I will investigate whether the WHW can be amended on this point for private providers, without jeopardising the quality of the diploma. In any case, it is conditional that the quality of the procedure for admitting students remains undisputed. In its recommendations regarding the strategic agenda, the SER pointed out the importance of further advancement and utilisation of recognition of prior experiential learning (RPL). RPL could shorten the study duration for people with work experience and thereby lower the threshold for

⁵¹ SER, 2011 p.32

employees to go back to school. Shorter studies furthermore lower the cost of a programme for the employee (or his employer). The government regards better assurance of the quality of RPL as crucial to encourage its use. At the end of 2012, I will therefore submit an RPL bill to the House of Representatives. This bill covers RPL across the board and therefore involves standards for secondary vocational education, higher education and recognised non-formal (trade) programmes. Furthermore, in a parallel track, the government will make agreements with the trade unions about further encouraging the use of RPL. I am assuming that the higher education institutions will also do their bit by collectively providing adequate RPL procedures.

The Open University (OU) has recently been considering its future position and profile in the lifelong learning market and in Dutch higher education. This has resulted in a draft strategic plan for 2011–2015. The Ministry of Education, Culture and Science (OCW) and the OU have in the meantime jointly asked an international review panel, under the Chairmanship of Prof. Dr M.C. van der Wende, to assess this plan. On that basis, I will make agreements with the OU and the other providers of distance learning about the position of the OU in the future higher education system. I will do this partly in the light of the range of distance learning provided by the other (public and private) higher education institutions. The future positioning of the OU must not lead to the unnecessary displacement of private offers. The House of Representatives will be informed about the results of the consultations this autumn.

3.4

What are we going to do?

The importance of making sharp choices in the range of courses on offer and more differentiated higher education have been the central issues in this chapter. The government is aiming for:

A more efficient and more profiled range of programmes:

- The government is encouraging the educational institutions to substantially restructure their range of programmes, by making agreements with them to this end (outline agreements) and holding the institutions to account. The outcomes of the analyses by the top teams of the top sectors will, where relevant, be involved in this restructuring.
- Furthermore, the Committee for Efficiency in Higher Education (CDHO) will periodically analyse the existing range of programmes in sectors where this is necessary. The institutions may involve these analyses in the profiling of their range of programmes. The analyses foster appropriate agreements with the institutions on the reduction of their range of programmes.
- The macro-efficiency policy will be redesigned to match our ambition for a more compact range of programmes and more profiling. A new policy regulation will provide for:
 - more room for broad-based bachelor's and professional master's degrees.
 - independent testing of the associate degree programmes.
 - a new criterion for profiling in the macro-efficiency check: applications for new programmes must in future match the profile of the institution.
 - an explicit criterion in the macro-efficiency check with regard to the needs of the labour market, especially with the Ad and the professional master's degree.

Greater labour market relevance of higher education:

- The government is working on enhanced labour market information for the efficiency agenda and student's study options. In the information material about the range of programmes on offer to students (Studiekeuze 123), information will be included about the professional profile and the labour market prospects of the programme (such as chances of a job at the level of the programme, job search duration and average starting salary).

- The government is conducting sectoral labour market analyses.
- Labour market relevance will become a weightier criterion in the funding of new programmes;
- The range of professional programmes will be restructured and knowledge bases will be developed in professional higher education in cohesion with the professional field;
- Employers will also make a more active contribution to higher education through, on the one hand, better articulating their needs for higher education graduates and their educational needs to the educational institutions and on the other hand, by creating internships and scholarships for students and by seconding subject teachers.
- Programmes and practice-oriented research that match the needs of the professional field will be stimulated in a focused manner. Examples include the Ad programmes, the professional master's and the Centres of Expertise.
- Sector plans are supported in sectors struggling with labour market shortages, for example the Physics and Chemistry sector plan, the 3TUs sector plan and the Engineering & Technology sector plan for professional higher education.
- The government is launching a feasibility study into labour market indicators for the benefit of the new funding system.

More differentiation in professional higher education:

- The associate degree will definitely be instituted.
- Three-year tracks in professional higher education will be made possible for pre-university educated students.
- The academic titles for professional higher education will be geared to the customary international academic titles.
- There will be more room for professional master's and broad-based bachelor's degrees in the efficiency policy.

More differentiation in academic higher education:

- There will be more room in the efficiency policy for broad-based bachelor's degrees
- The mandatory follow-on master's will be abolished.
- Larger units (such as graduate or professional schools) will be facilitated when need be.
- Institutions will have the opportunity to deploy scholarship students.

Flexibility in higher education for the workforce:

- Unnecessary legal impediments will be removed.
- More room will be created for part-time programmes in sectors where this is needed.
- Institutions will receive room for experimentation.
- The law will be reviewed on the points of part-time education, tuition fees loans and the provision of 'top programmes' by private providers.
- Legislation will be developed to guarantee the quality of RPL.

4.

Research: more
profile, more impact

The research landscape of the future has a larger number of specialist knowledge clusters. In these clusters, research universities, universities of applied sciences, research institutes, companies, civil society organisations and the government work together intensively in fields of research within top sectors and regarding social themes, such as security and healthy aging. The scientific research is of top quality and has a great impact on innovation, economic activity and society. Practice-oriented research contributes substantially to knowledge valorisation and is firmly embedded in the universities of applied sciences. New knowledge finds its way more quickly and easily into new products and services. Top talent from home and abroad finds its way more easily to the research focus areas of the knowledge institutions, because the research landscape is more highly profiled. This landscape will not develop spontaneously but will require considerable effort from all parties concerned. It also requires even sharper choices of institutions regarding what they will do and especially what they will not do any more. The Netherlands, with 2.5%⁵² of global knowledge production, is a sizeable player but we are also a relatively small country. We cannot shine at everything and we must make optimum use of our scientific strengths. The institutions are expected to take solid steps in a continuous process of (further) developing research focus areas. The institutions are also expected to enter into more intensive collaborations. All this requires an open window on the knowledge society of the 21st century.

Above all, profiling contributes towards further reinforcement of the science and economy sectors that constitute the strengths of the Netherlands, so that our country can compete internationally. This requires focus on the top economic sectors. To a significant extent, the programming of research in the Netherlands will focus on the themes brought in from the agendas for the top sectors. Key elements are demand-driven education and public-private collaboration.

Outside the top economic sectors, focus and mass are also needed to excel internationally. To this end, there must be sufficient room for fundamental, free and unfettered research in the Dutch scientific community. The curiosity of scientists is the basis for breakthroughs in scientific research. This requires optimum deployment and utilisation of instruments. This also applies to research in disciplines other than those that are relevant to the top sectors or social challenges. Excellent, curiosity-driven research is the basis for many innovations and social renewal. It is the 'goose that lays the golden eggs', which must not be slaughtered. Scientists can obtain inspiration from the *Nederlandse Wetenschapsagenda* [Dutch Science Agenda]⁵³, which was recently published by the Royal Netherlands Academy of Arts and Sciences (see the box).

⁵² NOWT, 2010

⁵³ KNAW, May 2011

Forty-nine questions for science

Besides identifying the great social and innovation themes, pioneering, curiosity-driven research, requires an inspirational long-term vision. The recently published Dutch Science Agenda is the first to have been compiled by scientists themselves. In the agenda, the 49 most important research questions are arranged by themes like 'culture and identity', 'health and nutrition' and 'from elementary particles to the cosmos'. Thus, the agenda links scientific, economic and social challenges and shows how they are inter-related.

In addition to high-quality research facilities and intensive interaction with the stakeholders, our system needs passionate scientists. Well-educated people constitute the most important output of the system. This means that our scientific talent must be given room and that the institutions must pay attention to talent policy and HRM policy. Talent is an important production factor after all. I therefore expect the institutions to regard talent policy as an important policy instrument. I am thinking of tenure track systems and profiling by concentrating top talent. The talent programmes of the Netherlands Organisation for Scientific Research (NWO) ensure room for research talent. Allocating funds to these programmes on a competitive basis ensures that the funds end up with the best researchers. I have asked the NWO to integrate the different talent lines.⁵⁴

The top economic sectors have an interest in high-quality science, but also in a greater impact of scientific research and increased utilisation of the knowledge developed. Profiling can make a significant contribution to this. NWO will give more priority to valorisation, among other ways by employing impact as a full criterion in the acceptance of research proposals. Science is of essential value for our economic success. The top economic sectors approach constitutes an extra challenge for science. No longer 'business as usual', the assignment is to optimise the use of science as the fuel in the pipeline from knowledge to learning to cash register. In the top sectors approach, the business community, government and scientists compile knowledge agendas for the innovative sectors in which the Netherlands is already strong and in which we wish to remain strong. If we focus our efforts and gear the profile of the research landscape to this goal, our country can develop into a society that can manage international competition by using its brains. It is good to see that our national science priorities (IT, nano-technology and genomics) are from now on guaranteed in the top sectors.

The agendas of the NWO and KNAW will be aligned with the integral agendas for the top sectors as much as possible. The NWO and KNAW will deploy €350 million from their research resources on the basis of the knowledge agendas for the top sectors and the commitment of the business community (NWO top sectors funds). The research that NWO finances from this budget ties in with the priorities of the top sectors. The NWO and KNAW will deploy their resources on the basis of scientific quality and impact. It must be borne in mind that, for example, the institutes of the KNAW largely operate within the social sciences and

the humanities. The expansion of methods for public-private collaboration, demand-driven programmes and more focus on valorisation are significant factors. Public-private collaboration is high on the agenda of many top teams, not only with regard to research but education as well, for example in the Centres of Expertise and the Centres for Innovative Craftsmanship. The education provided by research universities and universities of applied sciences must also align with the top sectors, in order to prepare our knowledge workers for the future.

Public-private collaborative ventures bring companies, knowledge institutions and the government closer together. They constitute the foundation of the trade and industry policy of the government. The government regards public-private collaboration as a promising route in various fields. In recent years, various successful collaborative ventures have been built up. The technological top institutions (TTIs) are a good case in point. If companies within the collaboration indicate where they invest in R&D, then the rest of the chain (from fundamental to applied research and education) can capitalise on this. The result must be greater active commitment from companies; the ultimate goal is more innovation. Public investment is leverage for private effort. To guarantee the innovative climate, the standard bearers have proposed the introduction of a generic fiscal facility for R&D. This proposal has been positively received by the government. Therefore, in the coming months, when such an arrangement is integrated into the Fiscal Agenda, attention will be paid to its effectiveness, European law and budgetary aspects and implementation costs.

Further profiling of the research landscape is also needed with an eye to an even greater contribution from science to our society and the issues it is faced with. The grand challenges in Europe are an increasingly important basis for the definition of large-scale research and innovation programmes.⁵⁵ It is important for the Dutch knowledge world to capitalise on this and make the most of the (financial) opportunities that Europe offers. This requires profiling on research domains that are essential for social challenges, such as energy and water shortages, food supply, the aging society, public health, pandemics, food safety and global warming. This involves not only the science and technical disciplines; the social sciences and the humanities are also expected to make a solid contribution. The top economic sectors, for that matter, also make a significant contribution to these social themes. The grand challenges are also opportunities for the top economic sectors to make

⁵⁴ See the policy response to the strategic plans of the NWO and KNAW, House of Representatives 29 338, no. 104

⁵⁵ See memorandum EL&I/OCW; 'EU proposal: green book on a socially strategic framework for EU –funding of research and innovation COM(2011) 48', Parliamentary paper 32 744, no. 1

money. Social challenges are not always in line with the top sectors approach. That is why in their profiling process the knowledge institutions must also pay attention to (often multidisciplinary) research that is needed to overcome these social challenges.

To increase the impact of research and optimise the utilisation of its results, it is essential to strengthen the integral knowledge chain, the 'pipeline' from fundamental to applied to practice-oriented research and innovation. Furthermore, collaboration between employers and knowledge institutions must be strengthened, as must the efforts directed at the valorisation of knowledge and stimulating entrepreneurship among students and researchers. It is important for universities of applied sciences to strengthen practice-oriented research, so that they receive a more self-evident place in the innovation system.

The green knowledge chain

The green knowledge system connects academic higher education, professional higher education, secondary vocational education and pre-vocational secondary education not only to one another, but also to research. From this connection, knowledge is quickly disseminated to education. In its role of a knowledge centre, it customises knowledge for stakeholders, via the educational institutions or via arrangements, in order to enable them to apply this knowledge in practice. Professional practice and knowledge gained from experience is brought into the school through interaction with these stakeholders.

This system does not operate alone, but also works with education and research players from other fields of knowledge on cross-sectoral themes. This results in up-to-date programmes and the use of current knowledge. Higher agricultural education (HAO) plays an important linking role in the knowledge chain. Together with Wageningen UR, the HAO institutions are working on further profiling and the transition to a knowledge centre, on the basis of the HAO sector plan (from the philosophy 'science for impact'). The green knowledge co-operation facilitates the dissemination of knowledge by operating joint facilities for the whole green knowledge system.

Finally: in a flourishing knowledge economy, science and an inquisitive attitude are firmly embedded in society. Citizens have confidence in scientific results and expertise, for example, in debates about vaccination or climate change. They put scientific findings above the opinions of non-qualified experts. For scientists and their institutions, this means they must make an active and co-ordinated contribution to knowledge communication and education, but also give citizens access to the latest state of scientific insight. To this end, the proper provision of scientific information, if possible on the basis of open access, is very important. In a knowledge society, the data and results of publicly funded research must be easy to find and accessible to all. The knowledge institutions are therefore expected to optimise accessibility.

In the following sections, I will set out the measures with regard to:

- profiling research in academic higher education and harmonising with the top sectors agendas and the European research and innovation agenda, including the quality assurance of research;
- impact and utilisation of research; valorisation, technological and technical scientific research, private capital for research, entrepreneurship, scientific communication and access to scientific information;
- practice-oriented research in professional higher education, including the RAAK programme and public-private joint ventures, such as Centres of Expertise.

4.1

Profiling research in academic higher education

The government wants to use its term of office to achieve further profiling of our research landscape, together with the institutions. Below I describe what I expect of the institutions. Sharp choices by institutions must ensure further profiling of our national research landscape. This is needed to remain among the top in the world in several fields. I also expect the institutions to opt for a solid, substantive research profile. But the institutions will also have to collaborate and so emphasise their profile more strongly. With one another, with research institutions and with companies.

All the research universities will have to strengthen their scientific profile through the development of research focus areas and by collaboration in alliances. The aspiration is that every university will belong to the world's top in some fields at least. It is also my intention that the research universities should visibly contribute to the top economic sectors and grand challenges. In the coming period, the research universities are therefore requested to carefully and collectively examine their research and compile a list of their individual strengths. In 2012, the Association of Universities in the Netherlands (VSNU) will use this to make proposals for farther-reaching profiling in research, which will be implemented in 2015 at the latest. These proposals must demonstrate how the research universities collaborate with other knowledge institutions (national research institutes) and with companies in the top sectors and how they are capitalising on social challenges. Chapter 5 indicates how the process around (research) profiling will be implemented.

There must be a good balance between education-related research, research that is driven solely by scientific curiosity and research that is driven by economic and social issues. This also applies to the contingent flows of money. Sufficient room must be created for fundamental research outside the top sectors. Profiling in research must therefore in any case involve choices in the range of PhD and research master's programmes.

The programmes on offer at the (top) research schools should closely match their research focus areas.

The institutes of the Netherlands Organisation for Scientific Research (NWO) and KNAW will also have to play an active part in the process of profiling the scientific knowledge landscape.⁵⁶ They will need to form strategic alliances with those research universities whose profile matches the national mission of these institutes. The on-campus accommodation of the institutes contributes to clustering and profiling, as we see in Utrecht around the Hubrecht laboratory or in Eindhoven around the energy research by the NWO Institute for Fundamental Research on Matter (FOM). Annual agreements are made about the formation of alliances between the para-university institutes in the administrative co-ordination with NWO and KNAW. Not only the science and technical institutes will be involved, but also institutes that focus on the humanities and social sciences. At the same time, I expect the research universities to give collaboration and the formation of alliances with the institutes a firm place on their profiling agenda.

Finally: the process of profiling that I envisage must comprise adequate checks and balances. Profiling must not take on such a powerful form that smaller subject areas, important to our country, fall by the wayside. The process of profiling may not result in the occurrence of blank spots. The KNAW will have to play a role in monitoring this with continuous critical reflection on the functioning of the (national) cohesion of the system as a whole.

4.1.1

Financial boosts for profiling

The coalition agreement states that the sum of €90 million will be allocated for research resources during this government's term of office. For this purpose, the sum of €70 million will be cut back from the publicly funded research universities and universities of applied sciences on the basis of their proportion of research. The second flow of funds will be cut by €20 million. The resources released by this cut are earmarked for further profiling of the research landscape in relation to the top sectors: a total of €58 million. A clear relationship must be established with the agendas of the top sectors in the outlay of these resources.

To reinforce the impact and valorisation of research, €10 million is earmarked for the Technology Foundation STW (see section 4.3) and another €2 million for practice-

⁵⁶ See the policy response to the strategic plans of the NWO and KNAW, Parliamentary paper 29 338, no. 104

oriented research in professional higher education (see section 4.4). Furthermore, I will continue the impetus of the previous government of €20 million for the physics and chemistry sector plan.

Allocation of the €90 million

Large-scale research facilities, including IT research infrastructure	36 million euros (15 million euros)
Reinforcement of sectors:	
• Arts and social sciences	17 million euros
• The humanities	€ 5 million
Top research schools	€ 20 million
STW	€ 10 million
Practice-oriented research in prof. higher education	2 million euros

Because the above sums can only be spent once, sharp priorities have been set and we have investigated what extra investment would have the greatest effect on the further profiling of the research landscape, on the quality of the research and on the top sectors. My first priority is investment in large-scale research facilities because they provide intense research focus areas and have good opportunities for collaboration with the business community and civil society organisations. The NWO budget for this purpose will be doubled. Additional investment is also needed in the arts and social sciences, with an eye to improving the inter-relationship between education and research but certainly also with an eye to their contributions to social challenges. More will also be invested in the ‘Sustainable Humanities’ sector plan. Expansion of the in-depth strategy for top research schools should ensure that new top research schools, which are able to make a sizeable contribution to the top sectors approach and the grand challenges, will appear on the basis of national competition.

Large-scale research facilities, including the IT research infrastructure

Investment in large-scale research facilities ensures the concentration of top researchers. They must be able to work with world-class facilities. Large research facilities are also a significant catalyst in the profiling process. Investing in this type of facility creates hot-spots of economic activity and talent. Investment in large research facilities is therefore an important priority in the profiling policy of this government. The existing NWO budget of €20 million for large research infrastructure will therefore be increased by €36 million per annum. In the meantime, the NWO has already been asked to update the national roadmap⁵⁷

for large research facilities. The increased amount may be immediately included in this procedure, as may the knowledge agendas from the top sectors policy, which were drawn up as a result of the Trade & Industry Memorandum.

If this investment is to pay off, then good IT research infrastructure is essential. The science of the early 21st century is characterised by a passion for data and data overload. This applies even more to research facilities, which will simply generate more digital data. All scientific (and applied) research, every knowledge institution and every facility is highly dependent on the quality of the national IT infrastructure and on IT research. Up to now, the Netherlands has had a leading role in IT infrastructure, partly thanks to Surf. This position must be retained. For that reason, the increased budget for the large research facilities will have to be used to reinforce the national IT research infrastructure, with an amount increasing to €15 million per annum. A plan has been drawn up under the direction of NWO for the various basic components of the IT research infrastructure: networks, high-performance computing, visualisation, grids, advanced data storage and facilities for e-science. The resources will be used, via the NWO, to realise this plan.

Reinforcement of sectors

Extra resources will be earmarked to strengthen a number of science sectors. In the arts and social sciences, the inter-relationship between education and research must be enhanced. Their contribution to the big social challenges must also be strengthened. Additional resources are needed for the humanities sector plan, to tackle fragmentation and smallness of scale. Research in physics and chemistry must also be reinforced. This concerns the basic sciences as well as the importance of physics and chemistry for the business community.

The problems occurring in the **arts and social sciences** arise from the highly variable student numbers, fragmentation into relatively small research teams and little opportunity to attract third-flow funds. The previous government made a start with the reinforcement of these areas. €17 million will be made available for research in these fields. This sum, in accordance with the allocation formula agreed in the Canada Agreement, will be used to resolve the problems in these domains and to strengthen the position of the younger research universities. I expect the institutions to use these resources to strengthen the inter-relationship of education and research and give a significant boost to research focused on resolving social challenges such as security and social cohesion, the financial crisis or pension security. I also expect the institutions to use these additional resources to enhance the inter-relationship of education and research.

⁵⁷ House of Representatives 27 406, nr. 145

Thus, I am also implementing the Lucas motion of 9 December 2010⁵⁸, to discuss a more balanced distribution of research funding among the research universities with the Association of Universities in the Netherlands.

A sum of €5 million has been earmarked for the **humanities**. These resources are intended for the further elaboration of the ‘Sustainable Humanities’ sector plan by the regional body. These resources must be used to combat fragmentation and detrimental smallness of scale in a number of the fields of study in the humanities, among other things, by increased specialisation among the humanities faculties.

The goal of the **Physics and Chemistry** sector plan is to strengthen university education and research in physics and chemistry. This is important for the business community but also to strengthen the basic sciences, increase the intake of students in the programmes and boost their success rates. A structural sum of €20 million per year will be made available from existing resources, with effect from 2011, of which €14 million will be allocated via the ten faculties of physics and chemistry. The remaining €6 million will be divided among researchers by the NWO/CW (Area Council for Chemical Science) and FOM (in competition) or spent on the purchase of large equipment.

Top research schools in the top sectors

A bigger budget will be available for top research schools in line with the so-called depth strategy. This will boost the connection between the top research schools and the grand challenges outlined in the EU Framework Programme, but also their connection with the top economic sectors. Top research schools started in 1997 after strict selection on quality and have been evaluated (very) positively several times since, because of their contribution to the national co-ordination of excellent research. Based on these positive evaluations, the selected top research schools have always been continued. During the last evaluation in 2010, two of the top six research schools (NOVA and Zernike) received the predicate ‘exemplary’ and four the predicate ‘excellent’. In 2009, the impending rigidity in the top research schools instrument induced then Minister Plasterk to ask the KNAW to advise on obtaining greater dynamics in the instrument.⁵⁹ The KNAW advised doubling the budget and proposed assessing the plans for top research schools in three ‘chambers’, with the object of broadening their spread across the developing scientific fields. I am broadly adopting the advice of the KNAW, but would like a different

distribution between the ‘chambers’, namely one chamber for exact and technical sciences, one chamber for biomedical sciences and life sciences and one chamber for arts/social sciences. I will earmark a sum of €20 million for this, on top of the existing €26 million that was already available. This additional budget must result in the profiling of university top research that contributes to the top sectors or to research in the field of the grand challenges in the EU Framework Programme. I will ask the NWO to develop an assessment procedure that does justice to the KNAW recommendations as well as the top sectors policy of this government, and which allows us to tie in with the European research agenda. The two schools qualified as ‘exemplary’ will continue to be funded from the depth strategy, as long as they still qualify as such. The four other top research schools can compete again in the procedure to be developed by the NWO.

4.1.2

Quality assurance of research

Alongside financial incentives, supporting sharp profiling choices calls for an adjustment of the quality evaluation of research. On a number of points, this requires adjustment of the present working methods of the knowledge institutions and the Standard Evaluation Protocol. First of all, the national comparability of similar research teams must be improved. This is needed for the overview of national strengths that the institutions must collectively produce. For an objective assessment of this overview, we need to be able to establish what our strengths are, based on factual information. At this time however, a national comparison is not really possible. It is further insufficiently clear how the institutions implement the recommendations of evaluation committees. In addition, many of the evaluations do insufficient justice to the specific characteristics of a number of fields of science, such as the technical and constructional sciences and the humanities. Finally, insufficient concern is shown for the valorisation of scientific knowledge (see below). I will discuss these objections regarding the quality assurance of the research and in the protocol with the institutions involved (Association of Universities in the Netherlands, NWO and KNAW). The strategic plans of the individual institutions will have to indicate more clearly how they follow up on the recommendations of evaluation committees.

⁵⁸ Lucas motion concerning a balanced distribution of research funding among research universities, House of Representatives 32 500 VIII, no. 84

⁵⁹ House of Representatives 27 406, no. 185

4.1.3

European research agenda

The profiling in the Dutch research landscape must properly connect with developments in European research policy, so that European research and innovation resources have an optimal catalysing effect on our national efforts. European investment is needed for projects that exceed the national level, to prevent fragmentation and duplication of effort and boost cross-border collaboration.

The proper cohesion of national research policy with European policy is also important with an eye to achieving a good return on our EU contribution. Dutch researchers have already been able to obtain a high return out of the Framework Programme for research and technological development. 6.7% of the budget for the first half of the 7th Framework Programme went to Dutch researchers, against a reasonably expected percentage of 5%. I therefore think it is crucial that institutions are and remain able to match the European contributions. Against the background of declining government resources, this will require sharp choices by the institutions.

The government is advocating a frugal EU-budget,⁶⁰ but within this tighter budgetary framework, sufficient resources must be released to invest more in research and innovation. Increased efforts must be expended on themes with a big social and/or economic impact, with more attention paid to demonstration activities and the development of prototypes. In addition, extra budget resources must be allocated to the European Research Council (ERC), for free and unfettered research and for capital market instruments focused on risk capital as well as loans.

In short, national and European priorities must be properly aligned and our national ambitions for higher education, science and innovation will have to tie in closely with the European agenda.

Proper consultation with parties involved from science, higher education and the business community should ensure sufficient Dutch influence on the European agenda. On the other hand, European developments will have to find a proper place in national policy. This is why the government has asked to include the European agenda in the further development of the top economic sectors when drawing up the agendas for each top sector.

The profiling plans of the institutions will also be viewed expressly in the light of the European agenda for research and innovation.

The universities of applied sciences also participate in the competition for European research funding. Although practice-oriented research is still in development in comparison with scientific research, embedding research is an important goal in professional higher education too. Practice-oriented research contributes to a higher quality of education and to collaboration between universities of applied sciences and the business community. In the European context, the Netherlands will also draw attention to the importance of investment in practice-oriented research, particularly for the innovative power of small and medium-sized enterprises.

⁶⁰ See EL&I/OCW memorandum, 'EU-voorstel: Groenboek over een gemeenschappelijk strategisch kader voor EU financiering van onderzoek en innovatie COM(2011) 48', [EU proposal: green book on a collective strategic framework for EU financing of research and innovation COM(2011)48], parliamentary paper 32744, no. 1

4.2

Utilisation and impact of research

The impact of research must increase and new knowledge must be converted into innovation sooner. It may no longer take seventeen years for an improvement in health care to become visible. Establishing a start-up business by an entrepreneurial researcher may no longer be regarded as inappropriate. The connections between companies, governments, civil society organisations and knowledge institutions must become much stronger. Only through strong collective operation can these players in the Netherlands overcome the international competition with other knowledge economies.

Results from scientific research must find their way more easily into innovative products, processes and services. Collaboration in the Golden Triangle (government, knowledge institutions and the business community) via the top sectors approach is the appropriate route. Our research must also make a greater contribution to the social challenges.

This requires far-reaching public-private collaboration between knowledge institutions, companies and social institutions. In recent years, various successful collaborative projects have been set up. The technological top institutes are a good case in point. It is exactly these collaborative projects between companies, knowledge institutions and the government that bring the players closer together and ensure the international profiling of strong knowledge clusters. A more structural embedding in the knowledge landscape of this type of public-private collaboration is desired.

The development of research focus areas in academic higher education and professional higher education must contribute to reinforcing the connections between research, education and (regional) employers. This gives rise to more natural inter-relationships between the partners in the knowledge chain. The latter is visible in science parks like the Bioscience Park in Leiden and the High-Tech Campus in Eindhoven, for example.

In addition, making better use of fundamental and practice-oriented research requires a strengthening of the whole knowledge chain. Environments in which education, research and application come together induce students to develop their various talents to the full and to test which career suits them best: researcher, knowledge worker, professional or independent entrepreneur. Their environment must challenge them. For researchers it is also desirable that they commit to social challenges and immerse themselves in the possibilities of the application of new knowledge. This increases support for research and the chances of attracting private capital.

Ensuring that the results of research find their way to innovation more readily calls for an active valorisation policy. Entrepreneurship and an entrepreneurial attitude must be actively encouraged in higher education. On the part of the business community, more courageous investment in knowledge development could be considered.

Valorisation

The utilisation of knowledge must be optimised. Research universities must become entrepreneurial institutions. Researchers must also become more entrepreneurial. We will initiate actions in several areas to strengthen valorisation – the utilisation of knowledge – and embed it in the Dutch structure. The government is supporting the development of a professional entrepreneurial pipeline, from entrepreneurship education and fundamental research up to and including the incubation of new companies. This will take place both in and outside research universities and universities of applied sciences, by initiating new economic activity within the existing business community.

Firstly, valorisation will play a more prominent role in the knowledge institutions, both the economic and social utilisation of knowledge. It involves the utilisation of knowledge from all domains, i.e., the medical and technical domains, for example, but also the arts and social sciences domain and the fine arts. Valorisation must assume a solid position in knowledge institutions and high-quality implementation. In 2008, the government, knowledge institutions and employers agreed how to tackle this in the valorisation agenda *Kennis moet circuleren* [Knowledge must circulate]. At the end of 2010, the Ministries of Economic Affairs, Agriculture and Innovation (EL&I) and Education, Culture and Science (OCW) launched a valorisation programme and made €80 million available (2010–12) as a once-only impetus to facilitate the embedding of entrepreneurship education, screening and scouting of possibly valorisable knowledge, the protection of knowledge in order to communicate it, the support of spin-off companies and the formation of networks of companies and knowledge institutions, among other things.

The goal is for the knowledge institutions to embed the facilities for valorisation in a structural and self-supporting manner. In the meantime, the universities of Delft, Twente, Tilburg, Utrecht and Wageningen, as lead agencies of their respective consortia, in which companies and universities of applied sciences also participate, have together received around €25 million for these valorisation activities.

Immediately after taking office, this government launched a programme to ensure that we convert more knowledge into new products and services.⁶¹ The aspiration is that from 2016 or as much earlier as possible, 2.5% or more of public research resources will be used for the benefit of converting knowledge into innovations. In the outline agreement with the research universities, I shall make agreements about the output goals to be achieved, in line with the valorisation agenda 'Knowledge must circulate'.

Furthermore, valorisation will definitely be included as an evaluation criterion in the quality control for research. Indicators will be formulated in order to monitor the efforts expended for valorisation, such as the number of patents and rights that have been marketed, numbers of start-ups, contribution to employment opportunities and the amount of private investment.

I will further ask the knowledge institutions to pursue an active policy of stimulating and rewarding scientists and researchers for their valorisation efforts. This can be done by adaptations in HRM policy, such as hiring policy, introducing flexible hours – wherever necessary, comeback guarantees and including valorisation in performance interviews.

Other options are incentives in the remuneration system, such as taking account of companies started up by employees and other valorisation activities, the division of income from spin-offs and setting up joint doctoral tracks with companies. In the outline agreement with the research universities I shall also make agreements about HRM policy directed at valorisation.

Finally, it is high time that technology transfer policy in the Netherlands was professionalised. This means a uniform policy for intellectual property and a 'technology transfer office' that has a mandate to do business on behalf of the university. Valorisation professionals are also needed.

This is why we are working on job profiles for valorisation staff and reinforcing the quality of these personnel.

The government will ask the National Valorisation Committee, which monitors the implementation of the valorisation agenda, for advice on what more is needed to realise the 2.5% goal.

Private capital for research and innovation

In his response to the reports of the top teams⁶² the minister of Economic Affairs, Agriculture and Innovation remarked that companies in the top economic sectors have difficulty obtaining capital for risky innovative activities. The government has therefore decided to earmark the sum of €500 million in this government's term of office for an 'Innovation fund for small and medium-sized enterprises-plus (MKB+)'. With the fund, the government wishes to assist innovative entrepreneurs in finding funding for innovative projects that cannot be completely financed through the market. The point of departure is that this risk capital will be paid back from successful innovations, so that the available resources can be used for other innovative projects. In the coming years, the innovation fund will be completed in steps. In 2012 it will amount to almost €100 million, by 2015 it will have grown to €500 million. This means a doubling of the current resources for innovation loans for small and medium-sized enterprises. This is also a big opportunity for the knowledge institutions. They can work together with private initiatives on research projects.

Besides the innovation fund announced above, the government intends to ensure that more risk capital becomes available in the coming term of office. To this end, the government will explore how rules and other impediments can be tackled in order to create opportunities for a wider use of venture capital in research and innovation. The government will also ensure that more knowledge about research and innovation is communicated to capital providers. This can be done by increasing transparency or by establishing an expertise centre, for example.

⁶¹ See EL&I memorandum, *hoofdlijnen van het nieuwe bedrijfslevenbeleid 'Naar de Top'* [outlines of the new business community policy 'To the Top'], Parliamentary paper 32637, no. 1

⁶² House of Representatives 32 637, no. 14

Venture capital

A venture capital provider with a clear Dutch structure could have a huge positive effect on innovation in the Netherlands. This is the missing 'C', as it were, for capital in the chain of knowledge-learning-(capital)-cash register. Pension funds can play a part in this and are doing so more and more often. Both the ABP [National Civil Pension Fund] and the PGGM [Pension Fund for Employees in Health, Welfare and Social Institutions] are involved. Financing risky knowledge and innovation tracks does not at first sight seem to be an obvious option for pension funds. Nevertheless, capital from pension funds often ends up in the financing of Dutch research or Dutch technology development indirectly. In those cases, the capital runs via venture capitalists, often from abroad, which in turn sometimes finance Dutch research.

More intensive and sustainable collaboration between knowledge institutions and companies, for example, in the campus concept, can contribute to more fortitude and willingness to invest private capital in research. Research universities and universities of applied sciences could be more entrepreneurial in this area and pay more attention to obtaining private funding for scientific and applied research. This provides opportunities above all for research with a clear innovative impact.

Finally, the utilisation of philanthropic contributions (private individuals, companies, funds) to research can also be improved. An active and entrepreneurial attitude is expected from institutions on this point. The government will support this development by making successful formulae visible. Here, a link with the grand social issues is obvious.

Entrepreneurship

For the innovation, application and marketing of knowledge, an entrepreneurial attitude is needed in students and researchers. Especially starting, young companies and entrepreneurial employees turn out to have a positive influence on economic growth and innovative strength. The previous government therefore made over €30 million available to support entrepreneurship and free enterprise in educational institutions, from primary education up to and including higher education (professional higher education and academic higher education). The evaluation report⁶³ received by the House of Representatives shows that positive steps have been taken in recent years to stimulate entrepreneurship in educational institutions.

In higher education, for example, more and more students wish to become entrepreneurs: in 2010 23% of students, versus 13% in 2007. The Accreditation Organisation of the Netherlands and Flanders (NVAO) is developing a 'distinctive feature' for entrepreneurship for higher education programmes at the request of the government. Institutions can use this to support their profiling. In the near future, the House of Representatives will receive a policy document on (the promotion of) Young Entrepreneurship, which will also outline the state of affairs with regard to entrepreneurship education.

Technological and technical-scientific research

Successful valorisation calls for stimulating scientific research with concrete applications in practice. The approach used by the Technology Foundation STW is generally viewed as best practice. Besides the criterion of excellence, STW employs the criterion of utilisation and they always have a supervisory committee in which the business community (or other users) participate. Experience with this has shown that only high-quality research results in high-quality valorisation. STW has been able to provide this high quality and at the same time ensure that research is converted into concrete applications. The STW budget will be increased by €10 million to strengthen the valorisation of technological and technical-scientific research. I will ask STW to develop a procedure based on an increase in the budget for valorisation subsidies and in line with the top sectors approach. NWO will also expand its activities for valorisation via STW and the valorisation grant. NWO will furthermore include utilisation as a full criterion in the assessment and acceptance of research proposals. In this way, valorisation is already guaranteed up front.

Science communication and access to scientific information

The high impact of research requires not only something of the researcher, but also from the user of new knowledge. In a knowledge society at the level aspired to by the government, the average citizen has a high degree of general knowledge and an inquisitive attitude. Citizens have confidence in scientific expertise and can distinguish it from 'regular' opinions, for example in debates about vaccination or climate change. This confidence begins with familiarity with science and thus with scientists.

For this reason, the social importance of science must be highlighted and confidence in science must be reinforced. I therefore expect the institutions to take an active stance in communication about science and seeking more mutual collaboration. Science communication will be nationally supported with a subsidy to the Dutch Centre for Science and Technology Communication (NCWT).

⁶³ House of Representatives 31288, no. 107

This is intended for the Nemo science centre, for other regional science centres and for activities like October Knowledge Month. Together with OCW, Nemo is working on a different design for the knowledge month. More co-ordination is desired to obtain a greater impact for the different science and technology communication activities.

Confidence in science and its integrity is simultaneously a pre-condition for public support for (investing in) science. I will ask the KNAW for advice on the question of how the integrity of and confidence in science can be advanced by policy measures.

Free and sustainable access to scientific information is likewise of great importance to promote confidence in science. This offers citizens the opportunity to become familiar with research results, not only interested citizens, but also professionals outside the knowledge institutions, such as medical practitioners and entrepreneurs in the SME sector. Thus, improving the accessibility of the results of scientific research will make a significant contribution to valorisation. An increasingly better educated population can also handle a greater degree of information. The Netherlands has a leading position in making scientific knowledge accessible. We must take advantage of this lead. The institutions involved (KNAW, Association of Universities in the Netherlands, MBO-Raad, NWO, the Royal Library and the university libraries, VNO-NCW and the scientific publishers) are working intensively together on optimising the accessibility of the results of publicly funded research. I underwrite the initiatives in the field for open access to the results of publicly funded research. This also applies to European initiatives for open access to research results under the 8th Framework Programme.⁶⁴ I applaud the initiatives of scientists who publish the results of their research in open-access journals. Mutually making available research data between researchers is an important element. Re-using research data and results can constitute the basis for new research and contributes in an efficient way to the further progress of science.

⁶⁴ See EL&I/OCW memorandum; 'EU-voorstel: Groenboek over een gemeenschappelijk strategisch kader voor EU financiering van onderzoek en innovatie COM(2011)48' [EU proposal: green book on a common strategic framework for EU funding of research and innovation COM(2011)48], Parliamentary paper 32744, no. 1

4.3

Practice-oriented research in professional higher education

Practice-oriented research in professional higher education fulfils a double function. On the one hand, it increases the quality of education by enhancing the intertwining of research and education. On the other hand, it contributes to the utilisation of knowledge, innovation and the collaboration of universities of applied sciences with companies. Research at universities of applied sciences is still in the development phase compared to research at the research universities. The government is striving to better embed practice-oriented research in professional higher education. With regard to practice-oriented research, universities of applied sciences must also make sharper choices regarding their use of resources and associate professors, which match the profile choice of their university of applied sciences and the collaborative projects with research universities and companies. The Innovation Alliance Foundation (SIA)⁶⁵ has carried out an analysis of the contribution of practice-oriented research to the top sectors. This analysis, entitled *Kennis roept om toepassing* [Knowledge calls for application], can help universities of applied sciences to make the right choices.

The effects of research on the quality of education in professional higher education can be reinforced. This is also the subject of the audits performed by the Validation Committee for Quality Control Research (VKO) since 2009. The VKO was installed by the supervisory board of the Association of Universities of Applied Sciences. The VKO is an independent committee that validates the quality assurance systems for practice-oriented research in universities of applied sciences. Since the foundation of the VKO, more than sixty research units (in many cases lectureships) have been subjected to external review. The assessments focus not just on the quality of the research, but also on the significance of the research for education and professional practice. The validation reports show that proper embedding of associate professors and research is

⁶⁵ Represented in the Innovation Alliance Association (founded in November 2003) are VNO-NCW, MKB-Nederland, the Netherlands Association of Universities of Applied Sciences, TNO, Novay and Syntens.

Practice-oriented research contributes to the top economic sectors. A number of examples to illustrate:

Agro-food top sector

In the network organisation Fhealinc, HAS Den Bosch, Avans university of applied sciences, ZLTO, the municipality of Den Bosch and Jeroen Bosch Hospital, among others, are working together on the problems surrounding animal diseases (zoonoses) and public health. The north-east Brabant region is deeply involved in these issues and this research because of the large amount of intensive cattle farming.

Energy top sector

With the sustainable energy experimental garden on one of the roofs of Utrecht UAS, knowledge about sustainable energy technologies is generated through practice-oriented research. In the experimental garden, installers, advisors, policy-makers, housing co-operatives, students, teachers and researchers can become acquainted with various forms of sustainable energy on roofs. Utrecht UAS applies the technologies set up in its education and uses the garden to conduct scientific research, in collaboration with the University of Utrecht.

Chemistry top sector

In the Zuydlab of Zuyd UAS, practice-oriented research is carried out in collaboration with and for various partners like DSM, TNO and the Maastricht academic hospital. Students take an active part in this research. The research ranges from DNA and materials research to the substitution of antibiotics in fish food.

determinative for a quality impact on education. The recommendations of the VKO also make clear, however, that research and quality assurance are still under development. According to the VKO, improvements can be achieved in a number of universities of applied sciences by working with concrete indicators for quality and performance. This must receive more attention in professional higher education.

The practice-oriented research carried out at universities of applied sciences connects education and employers (small and medium-sized enterprises and the (semi-) public sector) and stimulates innovation in professional practice. Practice-oriented research also plays an important role within the top sectors. It frequently fulfils a linking role between fundamental scientific research and the business community. An important instrument for practice-oriented research is the RAAK [Regional Action and Attention for

Knowledge Circulation] programme. Public-private collaborative projects, such as the Centres of Expertise also contribute to this.

The RAAK programme

The RAAK programme is a competitive flow of funds for practice-oriented research at universities of applied sciences and it is administered by the SIA [Innovation Alliance Foundation]. According to recent counts, over 480 associate professors are working at universities of applied sciences, 600 researchers have obtained a PhD and over 8,300 students, 2,300 teachers and 4,500 organisations⁶⁶, small and medium-sized enterprises as well as public organisations, have participated in a RAAK project. The involvement of a number of small and medium-sized enterprises and the public sector is very extensive. Reinforcing the innovative strength of small and medium-sized enterprises is advocated in various reports and recommendations on innovation and its importance for the competitive strength of the Netherlands. Reinforcing the innovative strength of small and medium-sized enterprises and the public sector is therefore high on the national and European agendas. And practice-oriented research is an important link in this; for many small and medium-sized enterprises it is often the only link. Participants from small and medium-sized enterprises in RAAK projects indicate that they have found the knowledge partner they have never had in the universities of applied sciences. The involvement of the business community is also reflected in the co-financing a RAAK project requires. Companies are prepared to bear the costs and the risks of practice-oriented research.

The substantive development of practice-oriented research is expressed by, among other things, the start of RAAK-PRO in 2008, in which a full research programme is expected of the schools. At this time, the RAAK programme represents a separate flow of funds for practice-oriented research by universities of applied sciences. The RAAK programme will receive a structural position in the existing knowledge system in this government's term of office.

Centres of Expertise for the top sectors and social priorities

Universities of applied sciences play a pivotal role in the Centres of Expertise launched by the government at the beginning of 2011 in the top sectors of water, chemistry and the automotive industry. These centres, created with the co-financing of private enterprise, focus on top education, top research and innovations in the business community. The top sectors AgroFood and Horticulture have set up the Centres for a Bio-based Economy and Greenports.

Depending on the needs of the top sectors, the government will review whether one or more Centres of Expertise should be created for other sectors in the coming years or whether there is a need for other forms of public-private collaboration.

The universities of applied sciences HAN, Fontys and the Dutch Automotive business community intend to have their Automotive Centre of Expertise (ACE) develop into a knowledge centre for practice-oriented research and specialised education in the field of High-Tech Mobility within a period of five years. To that end, the ACE is aiming to increase the in- and outflow of students in the automotive programmes by approx. 50%, improve success rates from 57% to 67% and realise a growth in the number of starters. More than 30 public and private partners are involved in ACE.

Such knowledge centres are desirable for the public sector too. Proper collaboration among education, research and professional practice is not just important in the top economic sectors after all, but can also reinforce the quality and innovative strength of the public sectors. In view of the social issues and expected shortages on the labour market, attention will first of all be directed at the health care and education sectors. A centre of expertise for the education sector focuses mainly on issues arising in teaching practice. As far as the health care sector is concerned, such a centre will be set up in collaboration with the Ministry of Health, Welfare and Sport. In its advisory report *Gezondheidsonderzoek aan hogescholen* [Health research at universities of applied sciences]⁶⁷, the Council Committee for Health Research underlined the significance of practice-oriented research for the health care sector.

⁶⁶ SIA, 2009

⁶⁷ RGO, 2010

4.4

What are we going to do?

The key elements in the policy aimed at reinforcing the profiling of research and science are outlined below.

Profiling of research and science:

- Administrative agreements with the research universities regarding the focus areas in their scientific research, on the basis of an examination of the current focus areas and future profiling plans of the institutions. An essential requirement is cohesion with the top sectors and the grand challenges from the 8th Framework Programme.
- Administrative agreements with NWO and KNAW regarding their alliances and institutional policy in relation to the profiling plans of the research universities. Here too, cohesion with the top sectors and grand challenges is essential.
- Improving the national comparability of the research quality of research universities and institutes and a greater appreciation of valorisation activities, in consultation with Association of Universities in the Netherlands, KNAW and NWO, with the aid of the quality evaluation system that is in place.
- Increasing the budget for large-scale research infrastructure (including the IT research infrastructure), which has been accommodated at NWO with €36 million per annum.
- Reinforcement of arts/social sciences research by €17 million per annum.
- Prevention of detrimental smallness of scale in the humanities, by increasing the budget of the Humanities Initiative by €5 million per annum.
- Increasing the budget for the top research schools focused on top sectors and the grand challenges by €20 million per annum.
- Asking the KNAW to fulfil a monitoring role to prevent blank spots being created in (fundamental) research.

Increasing the impact and utilisation of research:

- Embedding valorisation as a task for knowledge institutions via, among other things, the Valorisation Programme, more attention paid to HRM policy for valorisation and the professionalisation of valorisation staff.
- Enhancing the demand-driven approach and anchoring public-private collaboration in research, as in TTIs, inclusion of valorisation as a full criterion in the assessment of research proposals.
- Memorandum on Young Entrepreneurship for the benefit of education in entrepreneurship.
- Analysis of rules and other impediments to wider use of venture capital for research and the institution of Centres of Expertise for transparency with regard to research and innovation, for the benefit of capital providers.
- Increasing the STW budget by €10 million, expanding the STW method and valorisation grants
- Making agreements on valorisation with the umbrella organisations about output goals to be achieved and HRM policy directed at valorisation.
- Optimising open access to scientific information and improving science and technology communication through the co-ordination of the players in the field: KNAW, Association of Universities in the Netherlands, Netherlands Association of Universities of Applied Sciences, NWO, KB, the (university) libraries, VNO-NCW and the scientific publishers.
- Asking the KNAW for advice on the policy to be pursued with regard to the integrity of and confidence in science

Embedding practice-oriented research in professional higher education:

- Focusing more attention on the quality monitoring of practice-oriented research at universities of applied sciences.
- A more structural position for the RAAK programme in the existing knowledge system.
- Depending on the needs of the top sectors, considering whether one or more Centres of Expertise should be set up in other sectors, in addition to the centres set up in the public sectors of education and health care.

5.

Funding: rewarding quality and profile

5.1

New dynamics in the steering of higher education

Less focus on student numbers in the funding of higher education and more rewarding of quality and profile: that is one of the key recommendations of the Veerman Committee. Unidirectional concentration on quantity has been at the expense of quality. Sharp profile choices by research universities and universities of applied sciences are needed to achieve higher quality and greater recognisability for students and employers. Profiling requires more room for selection and tuition fee differentiation, as indicated previously. This chapter focuses on the design of the profiling process and the necessary changes in the funding model. It has already been more than a year since the Veerman Committee's report was presented. The report has received broad support. This must now be transformed into an irreversible movement in the desired direction.

The recommendations of Prof. Dr R.H. Dijkgraaf, J.F. Sistermans and Prof. Dr A.M.L. van Wieringen (the working group on Profiling and Funding) provide an elaboration of this theme from the report of the Veerman Committee. The working group on Profiling and Funding rightly argues for a combination of bottom-up and top-down initiatives in the profiling process. The institutions have the first move but the government must 'assess whether the desired system gains have been realised in terms of quality improvement and efficiency'.⁶⁸ To this end, the working group has made proposals for adjustments in the funding and a process surrounding sectoral and strategic plans steered by a process director. I will adopt significant elements from this recommendation but some components I find too massive and in risk of unnecessary bureaucracy. I emphasise clear responsibility for the results achieved via performance agreements.

⁶⁸ Working Group on Profiling and Funding, 2011, p. 7.

5.2

Points of departure for the profiling process

Among the research universities, the Veerman Committee report has resulted in concrete intentions to develop research and education focus areas via regional alliances. Professional higher education is also taking profiling initiatives, for example, with the sector plans for the northern Netherlands, for fine and performing arts programmes and for higher education in agriculture. I will build on these initiatives and conclude outline agreements with the Association of Universities in the Netherlands (VSNU) and the Netherlands Association of Universities of Applied Sciences (HBO-raad) in which research universities and universities of applied sciences commit to goals and performances to be achieved (such as reducing the number of programmes and linking master's degree programmes to research focus areas). The Dutch system is already characterised by a significant amount of profiling. In academic higher education, profiling has developed primarily as a result of the dynamics in research, but each university's historical origin has also made an impression on the content and nature of the research and study programmes available. Professional higher education also features high-quality profiled institutions, but at the same time, the current problems in professional higher education show that a broad improvement in quality is needed.

The Veerman Committee and the working group on Profiling and Funding use convincing – and broadly shared – arguments for the acceleration and deepening of the profiling process. Profiling leads to specialisation, to choices for subjects that people are good at, which is very important, also for the reinforcement of an institution's generic quality. In addition, profiling contributes to differentiation in education and reducing fragmentation of the range of programmes on offer. The development of focus areas in research and education leads to combining strengths, which makes it possible to overcome the increasing international competition. Profiling is also necessary to gear the education provided to the top sectors and social challenges. I employ the following points of departure to increase the pace of the profiling process.

Institutions choose their own profile and tie in with the government spearheads

Research universities and universities of applied sciences must not wait for one other or the government, but commence discussions themselves. This was also the call of the Veerman Committee. What is the profile of my institution? What type of students do I have and how can I best guide them? With which institutions do I wish to benchmark my ambitions and achievements? What strategy is necessary? What priorities should I choose and which programmes and research lines will I drop? The U-map classification gives an initial overview of the existing profiles of institutions. The classification can help institutions to search for comparable institutions with which they can mirror themselves. The government expects the strategic plans drawn up by the universities of applied science and research universities to tie in with the long-term perspective for higher education and research outlined in this strategic agenda.

Sector plans are an important link in the profiling process

Sector plans are a proven, effective means of combining strengths, restructuring the range of programmes and developing research focus areas at the national level. It is also a good way to involve peers and stakeholders. New-style sector plans, as advised by the working group on Profiling and Funding, therefore constitute an important link in the profiling process.

Quality and profile will become significant elements in funding

Quality and profiling will be rewarded in the funding of higher education. Firstly, performance agreements will be made with all the institutions on quality, study success, profile-related aims and objectives and valorisation. Secondly, I want to selectively allocate extra resources to incentivise the development of (supra-institutional) research focus areas and profiling. For these two elements, there will be a 'quality and profile' portion in the funding model amounting to about 7% of the education budget in this government's term of office. After further elaboration, from 2016 this portion could increase to around 20% of the education budget. A number of other countries are also considering increasing the performance-related share of education funding. The Netherlands is at the forefront however, with our choice to link a substantial part of the funding to quality. Sweden has recently introduced a modest form of generic quality funding: 1.5% of the budget is shared among the institutions on the basis of the highest scores in the quality evaluation. In 2012, an initial evaluation of this funding model will become available.

5.3

Strategic choices for the long term

The profiling process is aimed at a comprehensive reorientation of the higher education system. This requires a process that takes years of consistently and logically keeping to the chosen path. Initially, I want to give the research universities and universities of applied sciences the opportunity to manage this process and get it off the ground as much as possible. However, it also requires an independent assessment of the pace and returns, with the long-term goals in mind and at some distance from the actual political administrative discussion (section 5.6). Should the assessment give cause, a more active manner of steering the process will be applied.

5.3.1

Quality and profiling in academic higher education and research

The research universities have indicated that they will collectively and individually commit to an outline agreement on the desired developments in academic higher education and research. Such an outline agreement gives the sector itself the lead in the collective process of research focus development and a more efficient organisation of the range of study programmes on offer. This is in line with the on-going initiatives of research universities to achieve strategic alliances. It is also in line with the autonomy and good performances produced by the research universities – especially in research. But the agreements are not open-ended and they demand clear accountability. The government will in turn discuss the necessary pre-conditions with the research universities. The intention is to conclude an outline agreement at the beginning of this autumn. Preparations for this will take place during the summer.

Aims and objectives

The outline agreement with the research universities will focus on four main topics, along with their appurtenant national aims and objectives:

- enhancing quality and study success: higher educational

- intensity, higher success rates, lower dropout rates (especially in the first year), reduction of the overhead when this contributes to the primary process;
- reduction in the range of programmes on offer, developing focus areas and specialisation of institutions in the field of education in context with research, the introduction of broad-based bachelor's degrees and more collective (national) master's degrees;
- developing research focus areas: specialisation of institutions in the areas of research focus, tying in with top sectors and social challenges, the grand challenges of the EU and the development of sector plans;
- enhancing the utilisation and impact of research; stimulating and rewarding institutions, scientists and researchers for valorisation efforts (among other things, modification of HRM policy and joint doctoral tracks).

Pre-conditions

The outline agreement will also comprise pre-conditions for which the government will assume responsibility to facilitate the process. These are, for example:

- legislation and regulations concerning selection, registration date (for the benefit of study options interviews), abolishing the mandatory follow-on master's, tuition fee differentiation and the reduction of administrative burdens;
- latitude in macro-efficiency assessments if institutions in consultation arrive at reallocation and hiving off programmes or the development of broader-based bachelor's degrees;
- reduction of administrative burdens in the management of research and education (such as elements in the funding regulations, subsidies, control and accountability);
- for a number of large-scale majors in the arts and science sector, the research universities want to regulate the incoming students in order to increase the quality and efficiency of the education. The possibilities for qualitative selection will be expanded in this government's term of office. For the following period, we shall have to review whether further agreements are necessary with regard to the method of funding.

Accountability

I hereby delegate the responsibility for progress, co-ordination and mutual harmonisation of the process to the collective research universities. This creates obligations. Before the summer of 2012, I will receive a report from the Association of Universities in the Netherlands on progress in reducing the range of programmes on offer and the development of focus in research; this report will also present concrete goals to be achieved by 2015.

Via this outline agreement, the research universities are committed to common goals and results to be achieved for

the entire academic higher education sector. In addition, rules and indicators will be established for the performance agreements with individual institutions. Subsequently, agreements will be made with each university about concrete performances and accountability at the institutional level. The institutions will give account regarding their performance by way of the statutory strategic plans and annual reports.

5.3.2

Quality and profiling in professional higher education

The universities of applied sciences have also announced that they wish to arrive at an outline agreement in which they collectively and individually commit to performance agreements with regard to quality and profiling. The emphasis is placed on securing and increasing generic quality, more so than the research universities. The collective efforts of the universities of applied sciences will primarily be focused on the external legitimisation of diplomas, strengthening the knowledge bases of programmes and reinforcing testing practice. Testing and examinations must be externally validated for each programme by making use of national testing of one or more core subjects or by using external examiners if national testing is not feasible. The knowledge bases will be strengthened via a sectoral approach. Naturally, employers will be closely involved. These developments must be combined with a reduction in the range of programmes on offer. I realise that the more vocationally-oriented character of professional higher education makes different demands on the diversity in the range of programmes than academic higher education. For the universities of applied sciences this is a huge challenge, which goes largely beyond the individual institutions. It is therefore necessary for the professional higher education sector to join forces.

Another reason why an outline agreement with the universities of applied sciences is opportune concerns differentiation in professional higher education. This is necessary in order to cope with the highly diverse student population. Concrete implementation of differentiation means further agreements about the national roll-out of the associate degree programmes, honours programme's and three-year tracks for pre-university educated students, Centres of Expertise and professional master's degree programmes. This is what profiling in professional higher education should be specifically focused on.

The discussions concerning an outline agreement with the universities of applied sciences are more recent than those with the research universities. For that reason, the outline agreement with the universities of applied sciences may

require a little more preparation time. In any case, I want to make agreements this autumn in an outline agreement with the universities of applied sciences with regard to the following aims and objectives:

- increasing the quality of education; upgrading the level of teachers (more master's graduates and PhDs); external validation of testing and examinations and strengthening the knowledge bases of programmes. (How will this take shape concretely? Via which approaches to national and collective testing? What steps will be taken to achieve broad implementation across the entire professional higher education-sector? Which fields of study will have priority?);
- reduction of the number of programmes; development of sector plans;
- increasing quality and study success: higher educational intensity, higher success rates, lower dropout rates (especially in the first year), reduction of overhead where this contributes to the primary process; further entry requirements in connection with the transfer of students from secondary vocational education, more attention devoted to research skills in the curriculum.
- profiling on three-year and honours tracks for pre-university educated students, associate degree programmes, Centres of Expertise and professional master's degrees.

Accountability

I hereby delegate the responsibility for the progress, co-ordination and mutual harmonisation of the progress to the collective universities of applied sciences. Before the summer of 2012, I will also receive a progress report from the Netherlands Association of Universities of Applied Sciences. This will focus on the progress made with regard to: reinforcing the knowledge base, the national or collective testing of core subjects, the differentiation of the range of programmes and the reduction of the total number of programmes (broader-based bachelor's). The report will also propose concrete goals to be achieved by 2015.

The universities of applied sciences are committed via this outline agreement to common goals and results to be achieved for the entire professional higher education sector. In addition, rules and indicators will be established for the performance agreements with individual institutions. Subsequently, agreements will be made with each university of applied sciences regarding concrete performances and accountability at the institutional level. The institutions will give account regarding their performance by way of the statutory strategic plans and annual reports.

The changes in the funding model are a powerful incentive for universities of applied sciences to pay more attention to quality and profile. Improving quality can thus be rewarded. Before institutions qualify for extra money, the generic

quality must be in order (section 5.4). The sector plans in professional higher education will also play a significant role (section 5.5).

Private providers

This strategic agenda is for the most part related to government-funded higher education. However, privately funded education providers also play a significant role. Currently, around 77,000 students are enrolled in an accredited higher education programme at one of the private universities of applied sciences that are affiliated to the umbrella organisation NRTO. This mainly concerns part-time education for people who are working. I will make agreements with the NRTO about the contribution private providers can make to the aims and objectives in this strategic agenda. Striving for more quality and increasing the flexibility of education for working people also concerns the private providers. For them, the lifelong learning market is of primary interest. The private providers handle a substantial portion of the demand for education among the workforce. As elaborated in section 3.3, an exploratory study will be conducted into part-time education. Based on this study, further agreements can be made about ways in which the private players can contribute to the necessary growth of lifelong learning in the Netherlands. In turn, I will consider where the government can play a supporting role.

5.4

Quality and profile in funding

Modification of the funding system is necessary in order to facilitate sharp choices in profiling and reward institutions that produce high quality. The first priority is improving the quality and study success in education (focusing on bachelor's programmes). Performances in research are good and the competition for research funding is already huge, so the necessity to modify the funding system for research is less pressing. Furthermore, €90 million of research funding will be reallocated in this government's term of office to support the profiling process. This is why we have opted to concentrate the modifications in funding on the education budget. Nonetheless, I will provide incentives to increase the utilisation and impact of research, where there is progress still to be made.

In this government's term of office, a 'quality and profile' component will be introduced in the funding model, amounting to around 7% of education funding. To this end, the resources will be deployed in the context of current collective multi-year agreements (approx. €80 million) plus the reinvestment of resources from the coalition agreement, which increase from €200 million in 2013 to €230 million in 2015. In total, this involves €310 million in 2015. As a result, the student-dependent portion of the funding will become relatively smaller.

I will distribute the largest part of the 'quality and profile' resources on the basis of performance agreements with individual research universities and universities of applied sciences focused on quality and study success. In addition, I will also allocate a portion selectively (€50 million on an annual basis in the period from 2013 to 2016 inclusive). Thus, I intend to stimulate the development of focus areas and profiling in education.

After an evaluation and further elaboration, the proportion for quality and profile in the funding (7% in 2015) could increase to 20% of the education budget over time. This is possible if the evaluation in 2015 shows that modification of the funding system has clearly had a positive effect on the quality and profiling of education. This run-up to 20%, especially intended to further expand profiling, is partly

dependent on the availability of additional resources. From 2016, the run-up of the intensification resources from €230 to €300 million will be implemented anyhow. On the basis of experience to be gained in the coming years, we shall consider whether these resources will be deployed via competition or as part of the performance agreements, with a bonus/malus system. Furthermore, in the evaluation of the performance agreements, I will consider if and how indicators for valorisation can be further involved in the funding of research and education.

Performance funding

In line with the outline agreements, I will conclude new, multi-year agreements with the individual institutions by June 2012 at latest. Experiences in recent years with the collective agreements on quality and study success at branch level show that the subjects mentioned were indeed high on the agenda in many institutions, yet collective agreements do insufficient justice to the differences in effort and performance between institutions. In addition, individual agreements have the advantage that account can be taken of the context, the student population and the ambitions of each institution.

Goals in the performance agreements

The new agreements focus on concrete goals in relation to the following subjects:

- dropout, especially in the first year (as indicated in chapter 2, I will take account of the risk of increased dropout when the bar is raised);
- study duration / success rates;
- quality assessments from the accreditation process;
- education intensity (face-to-face hours, staff/student ratio);
- teacher quality;
- reduction of overhead, where this contributes to the primary process.

The goals are based on a limited number of indicators. Institutions may also choose additional indicators that are of interest from the viewpoint of their own strategy.

I will also make agreements with each institution about performances in the area of profiling in mid-2012, in which I will take the experiences gained with the performance agreements regarding quality and study success into consideration. The concrete goals presented by the Association of Universities in the Netherlands and the Netherlands Association of Universities of Applied Sciences in the progress report on the outline agreements will serve as a starting point. Furthermore, I will make performance

agreements on selection and valorisation with individual institutions. With the latter, the Valorisation Agenda is leading.

The efforts and performances of the institutions will be assessed in 2015. Subsequently, in 2016, a redistribution of resources will take place via a bonus/malus system. The assessment is based on the scores with regard to the indicators in combination with an audit of the efforts the institutions have produced. All aspects together constitute a balanced scorecard and lead to a considered judgement. In 2015, the assessment of the results achieved will determine the amount of bonus/malus in 2016. I will develop this approach via adjustment of the funding model.

Encouraging the development of focus areas and profiling

All the universities of applied sciences and research universities must in the coming years indicate in their strategic plans what choices they are making for sharpening their profile in education and research. Each institution will do this based on its own mission and strategy, so that the approach is in line with the type of institution they want to be and the type of students the institution has and wants to attract. Both the Veerman Committee report and the recommendations of the working group on Profiling and Funding point out that such a process requires some effort. Therefore, I will give institutions the opportunity to acquire extra funding, via selective allocation, for the development of national focus areas and profiling. It is obvious that they should harmonise their efforts with the goals formulated in the outline agreements. Positive experiences have been gained with such an approach in the Sirius Programme and in the Centres of Expertise in professional higher education.

For professional higher education, this will in any case involve the selective allocation of resources for:

- public-private collaborative projects, such as the Centres of Expertise, which are primarily related to the top sectors and are embedded in strong regional clusters with the business community and other knowledge institutions;
- professional master's (likewise initially focused on the top sectors);
- stimulation of the broad development of associate degree programmes as well as honours tracks and three-year programmes for pre-university educated students.

For academic higher education it in any case involves:

- support for alliances between research universities directed at developing focus areas and international excellence;

- strengthening excellence by learning from the success factors of the Sirius Programme.

The intentions for these subjects will be included in the strategic plans and must be part of an institution-wide (and preferably supra-institutional) strategy. The strategic plans must comply with the criteria in the advisory report of the working group on Profiling and Funding, as shown below and supplemented on several points.

Criteria for strategic plans

1. The plan designates the profile of the institution on the basis of proven strengths in education, research and valorisation, long-term aims and objectives and the subsequent progress to be made up to and including 2016.
2. The plan indicates how it contributes to the desired development perspective for Dutch higher education and research, as outlined in this Strategic Agenda for Higher Education, Research and Science and the agendas of the top sectors.
3. Each plan contains proposals for differentiation in education according to (type of) offer and level, in any case in the bachelor's phase.
4. The plans show where efficiency gains are (or have been) achieved that increase the quality and (international) appeal of education and research by:
 - Harmonising with the conclusions of available sector plans;
 - making supra-sectoral decisions at institutional level: setting clear priorities but where necessary, phasing out parts of education and research or accommodating them elsewhere, in consultation with other institutions.

Collaboration between the institutions and in dialogue with the environment (the business community and social organisations) is preferred because it facilitates specialisation and the development of focus areas.

Proposals (possibly from collaborating institutions) that comply with the above criteria and best tie in with the stated desired developments, qualify for extra funding (see section 5.6 for the role of the review committee in this). This is paid out annually as part of the lump sum in the period from 2013–2016. Continuation (lowering or raising) in the period from 2017–2020 depends on the results achieved by each institution. As I remarked earlier, I will earmark a sum of €50 million for this extra funding on an annual basis from 2013 to 2016 inclusive.

Further steps

In 2015 I will evaluate the modifications to the funding and consider how further steps can be taken towards a stronger link between funding and performance. This mainly concerns:

- the issue of how further-reaching quality incentives can be introduced in the funding system; the results of the feasibility study into labour market indicators for the benefit of the new funding system will be taken into consideration in this;
- the expansion of the 'quality and profile' portion of the funding to 20% of the education budget.

5.5

Sector plans

Sector plans are an indispensable addition to the approach described above. Firstly, because in many cases, focus areas and specialisations will have to be developed at regional, national and European levels. Secondly, sector plans pre-eminently offer the chance for subject experts to deliver their contribution – (more) distanced from institutional interests: researchers, teachers and professors/associate professors. And finally, the sector approach allows stakeholders to be closely involved: the professional field, the business community and civil society organisations.

Dozens of sector plans have been drawn up in recent years (Humanities, the De Boer committee sector investment plan (Centres of Expertise), physics and chemistry), which have also been successfully implemented. But I agree with the conclusions of the working group on Profiling and Funding that a thorough problem analysis and a broader approach is necessary for new sector plans. I will adopt the strict(er) requirements for new-style sector plans proposed by the working group.

Requirements for sector plans

- Precise intentions regarding specialisation and concentration of existing or future facilities;
- Focus on the long term and based on empirical evidence, independent and expert assessment and international benchmarking;
- Deal with education and research (and the utilisation thereof) cohesively and where relevant, with academic and professional higher education and public and private education;
- Reasoned from outside to inside; aligned with the needs of society and professional field;
- Tie in with developments in the European Higher Education Area and the European Research Area;
- As far as the research universities are concerned: seek connections with extra-university institutes, in any case where educational consequences (PhD/master's) are involved.

A sector plan approach requires a great deal of effort from all concerned. This is why in this government's term of office I have opted for a selective approach, where in any case the following priorities will apply:

- do the reports regarding the top sectors provide motivation to adjust on-going or launch new sector plans?
- existing sector plans and on-going initiatives (such as fine and performing arts programmes, the collaborating universities of applied sciences in the northern Netherlands, education/education science⁶⁹, green education and the teacher-training programmes) will be continued.

In addition, the decision to make new sector plans will only be taken on the basis of a thorough problem analysis. The government and the sectors can both take the initiative to develop new sector plans. The progress reports from the Association of Universities in the Netherlands and the Netherlands Association of Universities of Applied Sciences could also provide motivation for new sector plans.

I shall make resources available in this government's term of office to strengthen education and research in the following sectors:

- arts/sciences and humanities at the research universities;
- technical research universities and STW;
- top sectors: large infrastructure, sector plans, Centres of Expertise, master's in professional higher education, top research schools at the research universities.

⁶⁹ See the advisory report 'National Plan for Education/Education Sciences' from the Committee for the National Plan for Future Education Sciences and the policy response to this, House of Representatives 31 288, no. 151

5.6

Independent review committee

Both the Veerman Committee and the working group on Profiling and Funding underline the need for some form of independent direction of the profiling process. The Veerman Committee pointed out the government's system responsibility and invites it to take up that responsibility more vigorously. The working group on Profiling and Funding states that it is inevitable that the steering relationship between government and institutions will become less generic in nature. More emphasis will be placed on arrangements between the government and (groups of) individual institutions.

The government has set out a clear course in this strategic agenda. I want to first give the research universities and universities of applied sciences the opportunity to design the process, but I will closely monitor that the necessary pace and the desired system gains are achieved. I will appoint a review committee with an independent chairman to this end. Within the framework of the strategic agenda – and always under the political ultimate responsibility of the minister – it will fulfil the following tasks:

- Monitoring the profiling process through annual reports to the minister.
- Advising the minister on the selective allocation of resources for profiling (section 5.4). This also includes guidance and support of the profiling process in institutions.
- Assessment of the progress reports of the Association of Universities in the Netherlands and Netherlands Association of Universities of Applied Sciences in 2012. Do the reports provide sufficient perspective on achieving the gains of the profiling process, as envisaged by the Veerman Committee and the working group on Profiling and Funding? Have the sector plans been sufficiently utilised?
- Evaluation of the profiling process and advice in 2015 on the manner in which it should be continued.

This review committee will be composed of national – and where necessary, international – experts and a representative from the business community. The committee will be appointed before 1 January 2012.

5.7

What are we going to do?

Reinforcement of quality and profile will be tackled in a combination of bottom-up and top-down elements. Wherever possible, we will tie in with initiatives of the institutions themselves. The funding system will be adjusted to foster the process.

Profiling and quality of institutions

- In their strategic plans, institutions make strategic choices focused on profiling and quality improvement. These are harmonised with the development perspectives for higher education and research outlined in this strategic agenda.
- An outline agreement will be concluded with the Association of Universities in the Netherlands and the Netherlands Association of Universities of Applied Sciences. Initially, the sectors will take responsibility for achieving the established goals. In academic higher education this involves study success, developing focus areas and reduction of the range of programmes on offer. In professional higher education it concerns quality improvement and reinforcing the knowledge base, study success, differentiation and rationalisation of the range of programmes on offer. Before the summer of 2012, concrete goals will be established which must be achieved within this government's term of office.
- I will make agreements with the NRTO about the contribution private education providers can make, particularly with regard to higher education programmes for the workforce.
- An independent review committee will see to it that the profiling process proceeds at the necessary pace and that the desired system gains are realised.
- Where necessary, sector plans will be drawn up. These will have to comply with new, strict requirements.

Funding of quality and profile

- An increasing proportion of the funding will be allocated to 'quality and profile'. In this government's term of office we will start with around 7% of the education budget. This will be distributed on the basis of performance agreements with institutions on quality and study success (bonus/malus). Part of the budget is intended for speeding up the profiling process.

6.

Key points of this
strategic agenda

This strategic agenda outlines a long-term perspective for higher education, research and science. Our aim is a future-proof higher education system. A system with international allure, in which students are challenged, teachers are enthusiastic and researchers contribute to scientific breakthroughs, the resolution of grand social issues and increasing our economic success. The triangle of research, education and entrepreneurship is the foundation of our prosperity. Collaboration within this triangle strengthens the earning capacity and capacity for economic growth in the Netherlands.

6.1

Changes of direction

The report of the 'Committee on the Future Sustainability of the Dutch Higher Education System' (Veerman Committee)⁷⁰ has persuaded the government and the whole field of higher education that comprehensive changes of direction are needed to increase quality across the board in higher education. The Veerman Committee states that we will not achieve the ambition of ranking among the top five most competitive economies in the world if we continue on the same footing. *'Dutch higher education has to improve a lot and improve quickly. The drop-out rate is too high, talent is not challenged enough and there is too little flexibility in the system to properly serve the varied needs of students and the labour market.'* And yet, research universities and universities of applied sciences are having to fight for their positions in an increasingly international context that is highly competitive in nature. The advice from the Veerman Committee is: *'add powerful impetus to improving the quality and diversity of Dutch higher education.'*⁷¹ Moreover, the quality of professional bachelor's degrees is no longer undisputed. Doubts have arisen about the quality of the diploma. This government has already presented its proposals on this point.⁷²

Dutch research is good to very good but the utilisation of research must be radically improved. A demand-driven approach will bring research and entrepreneurship closer together. Valorisation will be much more explicitly on the higher education agenda than before. In the Trade & Industry memorandum, the government has outlined its approach to making the Netherlands more innovative, more entrepreneurial and more competitive. Its nine top sectors approach is central to this. The government wishes to reinforce the competitive strength of the sectors of water, agro and food, horticulture and source materials, high-tech, life sciences, chemistry, energy, logistics and the creative industry. In the golden triangle of the business community, knowledge institutions and government, agendas have been drawn up with actions that are needed to keep the sectors on the international map. The agendas were presented on 17 June 2011.⁷³ According to the recommendations of the top sectors, public-private collaboration between education, research and government on the one hand and the business community on the other, is vitally important. This strategic agenda contains powerful support for the top sectors approach. In the Trade & Industry memorandum to be issued in September, the government will indicate how the top sectors approach will be translated into the programming and organisation of the knowledge system.

⁷⁰ Veerman Committee, 2010

⁷¹ Veerman Committee, 2010, p. 8

⁷² See the policy response to the final report 'Alternative Graduation Tracks', Parliamentary paper 31288, no. 67

⁷³ House of Representatives 32 637, no. 14

6.2

Goals for the present government's term of office

It is crucial that irreversible steps are taken now. This government is focusing on the following aims and objectives:

1.

The bar will be raised

Education will become more intensive. More will be demanded from students. The goal is a more ambitious study culture. Agreements will be made with each institution about student-staff ratios, number of face-to-face hours (programmes with fewer than ten face-to-face hours per week will belong to the past) and the percentage of students participating in excellent education (the target is 10% by 2014). To get the right students in the right places, the possibility for selection on admission will be expanded. Selection furthermore increases the motivation and efforts of students. Thus, selection contributes to better performances and a more challenging study culture. Tuition fee differentiation will be made possible for more expensive, excellent tracks.

Teachers are the standard bearers of education quality. Particularly in professional higher education, better equipped teachers are badly needed: the goal is that 80% will have a master's or PhD by 2016, with a final goal of 100% by 2020. The bar can only be raised in professional higher education once the basics are in order. This is by no means the case everywhere. The value of a diploma may never be open to discussion. Supervision will be reinforced to guarantee the quality of diplomas. In addition, all professional higher education programmes will reinforce their knowledge bases and ensure that testing and examinations are externally validated. To this end, each programme will have to make use of national testing on one or more core subjects or, if national testing is not feasible, deploy external examiners.

2.

Dropout rates will be reduced and success rates will be increased

Graduating within the standard timeframe must become the rule and not the exception. The foundation for this will be provided by improving the interface between secondary and higher education. Reinforcement of the quality of the exams in general secondary education and secondary vocational education – also a priority in this government's term of office – and more attention for better performing students in secondary education will improve the quality of the students entering higher education. Furthermore, a good match between student and study programme is essential. To this end, the government is committed to improving the information provision, career orientation and study options guidance (Studiekeuze 123 will be expanded with more information about quality, professional profile and labour market perspectives), the broad implementation of study options interviews and advancing registration dates. Finally, of course, the above-mentioned measures concerning the intensification of education and an ambitious study culture are crucial.

3.

Profiling, reinforcing labour market relevance, more differentiation

Specialisation results in higher quality and greater recognisability for students and employers. Institutions will have to focus more on their strengths and phase out weak programmes and research disciplines. Such profiling will also result in efficiency gains and reinforcing our international competitive position. More broad programmes will be developed and the number of programmes will be severely reduced. Employers will play a greater role, which means a more recognisable professional profile for study programmes and more attention for shortfall sectors.

The quality problems in professional higher education are partly caused by the very diverse group of students that must be served simultaneously. This is why a clearer distinction will be made in the programmes on offer for different target groups in professional higher education: the development of associate degree programmes, appealing tracks for pre-university students and professional master's degrees. In academic higher education, this primarily entails broadening the bachelor's programmes and more profiling in the master's degrees on offer. Across the board in higher education, more flexible tracks are needed for working people.

4.

Development of research focus areas

Sharp choices are also needed with regard to research to achieve further profiling of our national research landscape. The research universities will have to vigorously continue the process of research focus development. Scientific quality and impact are the most important criteria for the development of these focus areas. They will have to tie in with the top sectors, the grand challenges in the 8th Framework Programme and the institutions' own scientific strengths. Research universities will have to join forces: with one another, with research institutions and with companies. The aim is that every university will belong to the world's top at least in some fields. The development of focus areas will have an effect on the range of research master's and PhD programmes. The NWO and KNAW institutions will be involved in this profiling process, with an eye to the desired clustering.

5.

The impact of research on the economy and society will increase; collaboration in the knowledge chain, particularly in the top sectors.

New knowledge must lead to innovation sooner. Science is the fuel in the knowledge-learning-cash register pipeline. Collaboration in the golden triangle (knowledge institutions, the business community and government) via the top sectors approach is the appropriate route. Public-private collaboration is high on the agenda of many top teams. Collaboration in the knowledge chain of fundamental research, practice-oriented research, applied research and innovation will be stimulated. The government moreover wishes to consider how rules and other impediments can be tackled to allow wider use of venture capital. Valorisation must be structurally embedded in policy and internalised by institutions and researchers. The position of practice-oriented research at universities of applied sciences will be consolidated in the knowledge system.

6.3

What are we going to do?

This strategic agenda contains a large number of measures to be implemented in this government's term of office to achieve these goals:

A.

A funding boost

The government is investing an amount increasing to €230 million for the intended quality boost in this period. To this end, the savings produced by the study completion delay measure and the introduction of the loan system in the master's phase will be reinvested in higher education. Performance agreements will be made in 2012 about the use of these resources with individual research universities and universities of applied sciences with regard to quality, study success and profiling.

Also from 2012, the sum of €90 million will be reallocated and used to advance profiling in research. Large-scale research facilities are an important catalyst in the process of profiling. The assessment procedure for top research schools will be geared to both the top sectors policy and the European research agenda. The STW budget will be increased for enhancement of the valorisation of technological and technical-scientific research. Furthermore, the arts/social sciences sectors and humanities will be reinforced.

B.

Rewarding performances with respect to quality, profile and valorisation

A fundamental change in the financing of higher education will be implemented, entirely in line with the Veerman Committee report. Instead of the current unidirectional focus on student numbers, research universities and universities of applied sciences will be increasingly funded on the basis of performance. This in any case concerns the quality of the education supplied. Good performances will be rewarded and lagging performances will also have budgetary consequences.

In addition, profiling and valorisation will become significant elements. Profiling is badly needed, both to achieve the restructuring of the study programme range and for enhancing the development of focus areas with regard to the top sectors. Another €50 million will be selectively allocated for fostering profiling and excellence.

With €260 million for performance agreements and €50 million for selective allocation, the 'quality and profile' component amounts to 7% of the regular education budget in this government's term of office.

A number of other countries are also considering enlarging the performance-related share of funding. The Netherlands is at the forefront however, with our choice to link such a substantial portion of education funding to quality. Sweden has recently introduced a modest form of generic quality funding: 1.5% of the budget is shared among the institutions based on the highest scores in the quality evaluation.

The experiences in this government's term of office will be utilised to make the criteria and indicators more robust, so that the quality and profiling share can quickly increase if extra resources become available in a subsequent period. The profiling and quality component is intended to grow to 20% of the education budget.

C.

Outline agreement and performance agreements with individual institutions

I intend to sign an outline agreement with the Association of Universities in the Netherlands and the Netherlands Association of Universities of Applied Sciences this autumn, in which the higher education sector commits to performance agreements with regard to quality and profiling (chapter 5). It has been agreed that I will receive a report from the Association of Universities in the Netherlands as well as the Netherlands Association of Universities of Applied Sciences before the summer of 2012 on progress in reducing the range of programmes, the development of research focus areas, reinforcing the knowledge base and the development of national and collective testing in professional higher education. These reports will also contain proposals for concrete aims and objectives to be achieved by 2015.

These collective agreements to which the individual institutions commit themselves lead to better performances and accountability at the institutional level. With regard to quality, study success and profiling, performance agreements will be made with individual institutions in mid-2012. In 2015, the efforts and performances will be assessed; subsequently, the resources will be reallocated via a bonus/malus system. This gives the research universities and universities of applied

sciences the opportunity to first manage the process themselves. However, I will expressly see to it that the necessary pace and the desired system gains are achieved. To this end, a review committee with an independent chairman will assess the reports of the Association of Universities in the Netherlands and Netherlands Association of Universities of Applied Sciences in 2012 and advise me on them. If necessary, I will tighten the government's steering role in the process.

D.

Programmes will be geared to the labour market

Higher education will be more responsive to the needs of the labour market. To this end, the government is working on better labour market information for the benefit of the efficiency agenda and the study choice of students. In the information material on the range of programmes on offer to students (Studiekeuze 123), information is included about the professional profile and labour market perspectives of the programmes (such as chances of a job at the level of the programme, job search duration and average starting salary). Furthermore, labour market relevance will be a weightier criterion in the funding of new programmes and the government is carrying out sectoral labour market analyses. Restructuring of the range of programmes and the development of knowledge bases in professional higher education will take place in harmonisation with the professional field. New programmes on offer, such as the AD programmes and the professional master's degree, will match the needs of the labour market. With the reinforcement of practice-oriented research via the Centres of Expertise, the business community, teachers and students are brought together. Sector plans will anticipate labour market shortages: examples include the physics and chemistry sector plan, the 3TUs sector plan and the engineering & technology sector plan for professional higher education. Finally, the government is conducting a feasibility study into labour market indicators for the benefit of the new funding system. Employers are also making a more active contribution to higher education, on the one hand by better articulating their demand for higher education graduates and their educational needs to the educational institutions, and on the other hand, by creating practical training positions and scholarships for students and seconding subject teachers.

E.

Support for the top sectors approach and reinforcing valorisation

The policy outlined in this strategic agenda for higher

education, research and science leads to powerful support for the top sectors approach of this government:

- The agendas for the top sectors must be taken into consideration in the profiles of knowledge institutions. This will be verified in the assessment of strategic and sector plans.
- NWO and KNAW will bring their plans as far as possible in line with the integral agendas of the top teams; €350 million of their research resources will be deployed on the basis of the knowledge agendas for the top sectors and the commitment of the business community.
- A significant part of the €90 million reallocated from the research budget will benefit the top sectors (€10 million STW, plus a considerable portion of the €36 million for large infrastructure and €20 million for the top research schools).
- The focus areas in the RAAK programme tie in with the top sectors.
- Depending on their needs, Centres of Expertise will be instituted for each of the top sectors in professional higher education.
- €7 million is available for professional master's degree programmes in the top sectors.

Valorisation will be embedded in the knowledge institutions by striving to deploy 2.5% of public research funding (from the first flow of funds) to convert knowledge into innovations, from 2016 and as much earlier as possible: from knowledge to learning to cash register. Performance agreements will be made with the research universities and universities of applied sciences about the goals to be achieved.

F.

Amendment of legislation and regulations

Legislation for the study completion delay measure and the social lending system in the master's phase has already been taken up. In addition, two larger legislation tracks emanate from this strategic agenda:

1. The first track is focused on effectuating measures to assure diploma quality. The act is intended to enter into force in September 2012. This means discussion in the House of Representatives in the spring of 2012.
2. The second track is focused on effectuating the measures in this strategic agenda regarding study success, study quality, differentiation in the range of programmes on offer and funding. The act is intended to enter into force in September 2013.

In addition, the regulatory measures concerning macro-efficiency will be amended. This relates not only to the start of new programmes; the existing range of programmes for each sector will also be periodically analysed.

6.4

Steps after the present government's term of office

To achieve the future perspectives for 2025, the road taken by this government must be continued after 2015. As I said, profiling, improvement in study culture, quality improvement, differentiation of programmes on offer and adjusting the funding requires a long-term approach. In 2015, the government will draw up an interim report on the changes of direction we have taken.

In 2015, the review committee will be asked for advice on the manner in which the process should be continued. Attention will in any case be paid to the extent to which the goals in the reports of the Association of Universities in the Netherlands and Netherlands Association of Universities of Applied Sciences have been achieved in 2012 and to the results of the performance agreements with regard to quality and profile. Experience will then also have been gained with the suitability of quality indicators and their stimulatory effects. At the same time, the effects of the resources used for advancing profiling and development of focus areas will be reviewed. Based on this evaluation, in 2015 we shall determine whether the share of quality and profile in the education budget will increase from 7 to 20%.

With the change of direction that this government has taken, the foundation has been laid for a different type of steering and funding of higher education and research. Good performances in the fields of quality and profiling can be rewarded. If there is extra money available for knowledge in the future, then we have a mechanism in place to further expand quality and profiling in higher education and research. Thus, we have set the quality improvement across the entire spectrum of higher education as advocated by the Veerman Committee in motion, we have laid the foundation for a better international competitive position for Dutch research universities and universities of applied sciences and we have provided a basis for reinforcing the Dutch knowledge economy.

7.

Financial section

The survey below reflects the resources for the policy priorities in the years from 2012 to 2015 inclusive. A distinction has been made between ‘higher education’

and ‘research’. Resources from previous governments have been included as well as resources made available by this government.

Higher education		amounts x € 1.000			
Professional higher education (OCW and EL&I green education)		2012	2013	2014	2015
1. Intensifying study culture, study success and education quality					
1.1	Educational intensity (resources from the Rutte government)	20.655	62.652	85.602	95.011
1.2	Reallocation of resources for educational intensity	-20.655	16.524	4.131	
1.3	Old multi-year agreements (resources from previous governments)	52.818	52.818	52.818	52.818
1.4	Study info for higher education (resources from previous governments)	1.600	1.600	1.600	1.600
		54.418	133.594	144.150	149.429
2. Teachers					
2.1	Quality of teachers (resources from previous governments)	20.424	20.424	17.624	17.624
2.2	Job mix (resources from previous governments)	27.992	27.992	27.992	27.992
2.3	National testing and professionalisation (resources from previous governments) ¹	2.000	2.000	2.000	2.000
		50.416	50.416	47.616	47.616
3. Intensification in competition					
3.1	Profiling (resources from Rutte government)	5.737	21.802	25.244	26.392
3.2	Reallocation of resources for profiling	-5.737	4.590	1.147	
3.3	Professional higher education master's (resources from previous governments)		7.000	7.000	7.000
3.4	Centres of Expertise				
3.4.1	Centres of Expertise: top sectors (resources from previous governments)			2.000	4.000
3.4.2	Centres of Expertise: top sectors/public (resources from Rutte government)	2.000	2.000	2.000	2.000
		2.000	35.392	37.392	39.392
4. Valorisation					
4.1	Entrepreneurship (resources from previous governments) ²	6.200	600		
Total for professional higher education		113.034	220.002	229.158	236.437
Academic higher education (OCW and EL&I green education)		2012	2013	2014	2015
5. Intensification of study culture, study success and education quality					
5.1	Educational intensity (resources from Rutte government)	18.476	56.044	76.573	84.989
5.2	Reallocation of resources for educational intensity	-18.476	14.780	3.696	
5.3	Old multi-year agreements (resources from previous governments)	27.182	27.182	27.182	27.182
5.4	Study options information for higher education (resources from previous governments)	800	800	800	800
5.5	3TU's collaboration, incl. part research (resources from previous governments, incl. FES-res.)	16.990	14.492	12.492	10.992
		44.972	113.298	120.742	123.963
6. Quality of teachers					
		5.557	5.557	5.557	5.557
7. Intensification in competition					
7.1	Profiling (resources from Rutte government)	5.132	19.502	22.581	23.608
7.2	Reallocation of profiling resources	-5.132	4.106	1.026	
7.3	Sirius Programme (resources from previous governments) ³	11.543	10.302	7.954	2.407
		11.543	33.910	31.562	26.015
Subtotal Total for academic higher education		62.072	152.765	157.861	155.535
Total for professional higher education + academic higher education		175.106	372.767	387.019	391.972

Research		amounts x € 1.000			
Professional higher education (OCW and EL&I green education)		2012	2013	2014	2015
8. Practice-related research					
8.1	Practice-related research, RAAK (resources from previous governments)	20.267	19.967	19.300	16.899
8.2	Practice-related research, associate professors (resources from previous governments)	69.097	69.105	69.113	69.113
Total for professional higher education		89.364	89.072	88.413	86.012
Academic higher education (green education)		2012	2013	2014	2015
9. Large infrastructure					
9.1	Large infrastructure (resources from Rutte government)	36.000	36.000	36.000	36.000
9.2	Large infrastructure (resources from previous governments)	20.000	20.000	20.000	20.000
		56.000	56.000	56.000	56.000
10. Technology Association STW (resources from Rutte government)					
		10.000	10.000	10.000	10.000
11. Top research schools for top sectors or grand challenges (resources from Rutte government)					
		20.000	20.000	20.000	20.000
12. Sector plans					
12.1	Arts/social sciences research (resources from Rutte government)	17.000	17.000	17.000	17.000
12.2	Arts/social sciences (resources from previous governments)	27.724	27.733	27.733	27.733
12.3	Humanities (resources from Rutte government) ⁴	5.000	5.000	5.000	5.000
12.4	Humanities (resources from previous governments) ⁴	10.660	10.663	10.663	10.663
12.5	Physics and chemistry (resources from previous governments) ⁴	14.000	14.000	14.000	14.000
12.6	Physics and chemistry; part NWO (resources from previous governments)	6.000	6.000	6.000	6.000
		80.384	80.396	80.396	80.396
13. Valorisation programme, incl. centres of entrepreneurship (resources of previous governments) ⁵					
		25.000			
Total for Academic higher education		191.384	166.396	166.396	166.396
Total for professional higher education + academic higher education		280.748	255.468	254.809	252.408

¹ assuming a reallocation of €2 million from 2011 to 2012.

² resources are not only for higher education but across the board in education.

³ resources (incl. the approx. €4 million for excellent education; see section 2.2) are likewise intended for professional higher education.

⁴ including education component.

⁵ this involves a total of €22.5 million EL&I obligations budget and €2.5 million OCW spending budget.

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Abbreviations

Ad	Associate degree
EL&I	Ministry of Economic Affairs, Agriculture and Innovation
HBO-raad	Netherlands Association of Universities of Applied Sciences
ISO	Intercampus Students' Association
KB	Royal Library
KNAW	Royal Netherlands Academy of Arts and Sciences
LSVb	National Union of Students
MBO Raad	Netherlands Association of Vocational Education Colleges
NOWT	Netherlands Observatory of Science and Technology
NRTO	Netherlands Association for Training and Education
Nuffic	Netherlands Organisation for International Cooperation in Higher Education
NVAO	Accreditation Organisation of the Netherlands and Flanders
NWO	Netherlands Organisation for Scientific Research
OCW	Ministry of Education, Culture and Science
RAAK	Regional Action and Attention for Knowledge Circulation
RPL	recognition of prior experiential learning
SER	Social and Economic Council of the Netherlands
SIA	Innovation Alliance Foundation
SME	Small and Medium-sized Enterprises
STW	Technology Foundation
UAS	University of Applied Sciences
VKO	Committee for Quality Control Research
VNO-NCW	Confederation of Netherlands Industry and Employers
VSNU	Association of Universities in the Netherlands
WHW	Higher Education and Research Act

