

# Vision for Education

Wageningen University & Research, the next step | 2017



**WAGENINGEN**  
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# 1 | Introduction

Education at Wageningen University & Research (WUR) is changing. Some of the forces driving these changes are the rapid growth in student numbers, the digitalisation of education, increasing globalisation and internationalisation, changing demands of the labour market for 21<sup>st</sup> century skills, the growing need for and interest in lifelong learning, new financial arrangements for students (student loans), and decreasing governmental budgets for education. These factors have inspired us to rethink the role we want to play in higher education, the way we teach our students and the way we organise our education.

The education at Wageningen University & Research is highly valued by students, staff and experts. We want to maintain the important characteristics contributing to our success, including the small scale of our education, the accessibility of our staff, our international and multidisciplinary character, our cutting-edge research facilities and our focus on sustainable solutions for complex problems. In this new vision for education, we act on new developments and challenges while simultaneously safeguarding our current educational strengths.

Our vision for education at Wageningen University & Research combines new insights and developments with recent policy documents, continuous reflections and long-standing educational practices. This document serves as our guideline for policies and practices in education for the coming years, as part of our ongoing process of improving, adapting and organising education. This vision is also an important input for processes such as the institutional accreditation and the designing of the strategic plan. Reality and future developments will inevitably force us to adjust our daily policies and practices, or even revise the ideal outcomes; however, we can use our overarching vision to test these modifications and determine whether we are still on the right track.

We have developed our vision for our many different education elements, including degree programmes at the bachelor's or master's level, PhD programmes, minors, specialisations, courses and training for professionals, our Executive MBA in Food & Agribusiness, non-degree courses, on-campus and distance education, massive open online courses (MOOCs), and post-graduate study programmes. The next step is to work with staff and students to further operationalise this vision to fit specific parts of our education, such as particular study programmes, courses, or defined target groups.

Our vision for education has been developed following an elaborate round of consultation within the faculty and with external stakeholders. A draft version was discussed with Examining Boards, departments, the Board of Directors, the Programme Board, Programme Committees, the Teachers' Lounge and representatives

of related professional fields. It is important for us that our vision is jointly developed and widely supported among and outside our academic community, and we received many valuable contributions that further enhanced it. In the consultation meetings, concerns were also voiced about the implications of implementing the vision on the priorities and workload of the faculty. We are committed to addressing these concerns by developing action plans that prioritise and appropriately phase initiatives.

### Building on earlier documents and reflections

This document builds on many recent policy documents and decisions, the most important of which are:

- Towards 2020: Building an Innovative Learning Ecosystem (2014) and *De Ontwikkeling van het WUR Education Ecosystem* (2015);
- Advisory Report: International Bachelors (2016) and International Bachelors: the pioneers (2017)
- Accommodating the Growth (2014);
- The Renewal of the Wageningen Approach for Education (2014) and *Eindrapportage en Plan van Aanpak Werkgroep Onderwijsfilosofie* (2015); and
- Towards a Balanced Mix of Nationalities in the International Classroom (2014).

A reflection on the 2011 Vision on Education and the developments that have taken place during the last six years can be found in the 2017 "Self-Evaluation" document, which was written as an input for the institutional audit.

### Structure of the document

In Chapter 2, we describe our mission for our education, our three basic education principles and our Education Ecosystem. Chapter 3 is an elaboration of the principles and aspects of our education, while Chapter 4 describes the next steps in the realisation of our vision. ■



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# 2 | Who we are and where we want to go

Basic principles of our education

Wageningen University & Research is a leading international university in the domain of life sciences. Students choose Wageningen because of the world-class education provided in our multidisciplinary study programmes, which focus on contributing to sustainable solutions for complex societal challenges. Our education is of high academic quality, and personal contact between students and lecturers is one of our core strengths. Graduates benefit from the scientific, practical, engineering and design skills and the international orientation and experiences they have acquired. Our active learners and staff are highly engaged with the programmes.

The quality of education and research at Wageningen University & Research is reflected in the prominent position we occupy in international rankings. The appreciation of students and experts has resulted in us being the highest ranked of all Dutch universities in the “Keuzegids Hoger Onderwijs” for the past 12 consecutive years. We want to continue to strengthen both our research and education through continuous innovation.

Wageningen University & Research (WUR) is the only university in the Netherlands with a focus on the “healthy food and living environment” domain. As an international university, we contribute to urgent global challenges such as climate change and food security by combining scientific disciplines in our research and education. Our close relationships with society and the professionals in our domain (via the external advisory committees, the work of our lecturers and students in the field and our connection with Wageningen Research) enable us to meet societal needs.

We focus on *science for impact*. Our students are educated to become “T-shaped” academic professionals, with in-depth knowledge and skills in their study area and the ability to integrate that with other disciplines. They can analyse and tackle problems using various methodologies and approaches, at different scales and levels, and in various international contexts. They contribute to addressing challenges in our domain, “healthy food and living environment”, through their up-to-date scientific qualifications, multidisciplinary approach, international

and multicultural orientation, and skill sets. In addition, we encourage our students to actively participate in critical debate and dialogue, and stimulate them to be ambitious in developing their talents and skills.

Our target groups for education are full-time on-campus students for degree programmes, part-time learners, guest/exchange students, PhD students, professionals, and other lifelong learners.

In our vision for education we aim to further develop all of the strengths of WUR described above, while anticipating and planning for potential challenges we might face. One of the challenges we are experiencing is the substantial increase in student numbers over the last decade. Our aim is to accommodate this growth without making concessions to the quality of our education. It is our social responsibility to educate qualified students who want to study at Wageningen University & Research, so we invest in matching activities that help aspiring students to choose the right programme. Solutions are being sought for the accommodation of larger numbers of students, and we are continuously developing and implementing creative ideas to optimise our available space and facilities. Despite the growth in student numbers, we aim to preserve our personal and small-scaled approach, for instance by dividing large cohorts into smaller groups and by facilitating social coherence in the student community. Our staff has put continuous effort and hard work into delivering a high-quality education to the growing student population.

In the annual Education Innovation rounds, emphasis is put on developing projects to activate students, blend learning and teach large groups while maintaining a personal approach. An alternative course schedule, digitalisation and facilitating staff arrangements that reduce the pressure on lecturers are among the plans in place to accommodate growth. In some programmes, we limit the inflow of students (*numerus fixus*). The implementation of our vision for education itself should not lead to a further increase of staff workload.

In this chapter, we describe the basic principles of our education: what do we want to achieve and how?



## Our education mission

The mission of WUR is “to explore the potential of nature to improve the quality of life”, through education, research and value creation. We focus on the “healthy food and living environment” domain, with three strongly interlinked focal areas: Society and wellbeing; Food, feed and biobased production; and Natural resources and the living environment. Our education mission is derived from this;

*We educate students to become academic professionals, who can contribute to sustainable solutions for existing and future complex issues in the domain of “healthy food and living environment” all over the world, and who take their social, personal and ethical responsibilities seriously.*

Graduates will need a range of competencies to be successful in our changing world, including academic, engineering/design, sustainability, social/societal and personal development skills. Their academic quality consists of mastering relevant, state-of-the-art

### Our domain: healthy food and living environment



scientific knowledge and their capacity to further develop that body of scientific knowledge. They are trained to acquire high-level academic and 21<sup>st</sup> century skills, such as critical and creative thinking, external awareness, political and market sensitivity, flexibility, analysis, reflection, literacy, intercultural collaboration, writing, debating and argumentation. Their engineering and design competences help them to combine their knowledge with practical and technical skills in the design of solutions for real-life problems, and to become innovative entrepreneurs. Their sustainability competencies enable them to analyse and balance the impact of these solutions on people, the planet and economic prosperity. Their social and societal qualities are needed when applying knowledge and skills in interdisciplinary/transdisciplinary settings and in international and multicultural environments.

We teach our students to have a critical and investigative attitude and awareness for societal developments. Wageningen University & Research stimulates students to develop personal leadership skills, as many of them will play a pivotal role in shaping the future. We stimulate our graduates to become lifelong learners, striving for excellence in relation to their professional and personal ambitions.

To reach the general learning outcomes (academic, engineering/design, sustainability, social/societal and personal competencies) needed in the 21<sup>st</sup> century, we believe that all our education, whether initial or post-initial<sup>1</sup>, should offer:

- High-quality scientific knowledge (*content*),
- Rich learning environments (*organisation of learning processes*) and
- Flexible and personal learning paths (*flexibility and support*).

These are the three basic principles of our vision for education. In the following section, we further elaborate on these properties.

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<sup>1</sup> Initial: bachelor's and master's degrees subsidised by the government. Post-initial: Programmes or courses for lifelong learners, which are not subsidised by the government as initial education.

## Basic principles of our education

### High-quality scientific knowledge

We are one of the top universities in the world in our domain. We focus on education, research and value creation to contribute to sustainable solutions for complex issues. Through our courses, our students gain a solid basis of state-of-the-art knowledge in at least one scientific discipline and basic knowledge of several other disciplines. Academic training is provided by outstanding researchers, and participation in high-quality research enables students to develop research competencies. We consider the relationship between education and research to be one of our main principles, teaching our students to understand, use, evaluate critically and analytically, and contribute new scientific knowledge.

We stimulate all scientific staff, including full professors, to teach at all levels; BSc, MSc and PhD programmes. We create a balance between research and education through the provision of transparent internal funding for education and a tenure-track system that emphasises the importance of combining research with education.

### Rich learning environment, combining knowledge, skills and attitude

We encourage our students to become academic professionals and responsible citizens, actively and critically engaged in society, while studying at Wageningen University & Research. Our students take their social, ethical and personal responsibility very seriously, developing, applying and sharing their knowledge and academic skills throughout their studies in co-operation with various stakeholders to create societal and economical value. We want students to develop and achieve their ambitions and have a realistic perspective of the professional field. Active students, who take their learning process into their own hands, will become the norm at Wageningen University & Research.

Methods of activating learning stimulate that independent learning attitude and encourage personal

development and *Bildung*<sup>2</sup>. We take the diversity and backgrounds of the (international) students into account when developing and implementing these teaching methods. Some courses already make use of these activating-learning approaches, and it is our ambition to broaden their implementation to all curricula. Conventional teaching methods remain valuable, and will be enriched with the active-learning methods.

We value learning in real-life, authentic situations where students can learn to apply scientific and practical knowledge to tackle complex and interdisciplinary issues. Learning within real-world cases is instrumental for developing a critical and responsible attitude, multi/interdisciplinary cooperation and the ability to deal with diverse societal stakeholders and influences. In these rich learning environments, students develop the academic, engineering/designing, sustainability, social/societal and personal competencies they need to be successful in international settings in the 21st century. For many years we have applied these real-world settings in our Academic Consultancy Training course, and we now seek to extend this approach to other courses.

Our graduates operate all over the world. We train them to work in international and intercultural environments and believe that an international classroom is one of the best ways to prepare them for their future careers. Students become accustomed to working and learning with classmates from a variety of backgrounds, and we explicitly train them in intercultural skills. English is the language of instruction in all our master's programmes and a large number of courses offered in the bachelor's programme. We encourage all students to have an international experience before they graduate, either through their minors, internships or undertaking thesis work abroad, and we foster exchange and collaboration with strong international partners. We welcome international students and staff, facilitating and encouraging them to become part of the international WUR community.

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<sup>2</sup> *Bildung* refers to the formation or cultivation, in education or otherwise, of human moral virtues and other capacities.

## Flexible and personalised learning paths

Our student population is extending from the more conventional full-time campus students for BSc, MSc and PhD degree programmes to incorporate part-time learners, guest/exchange students, professionals and other lifelong learners. We believe that each student performs best and more fully develops themselves when they have the opportunity to follow their own learning path, one which fits their talents, interests and abilities. We want to offer this freedom of choice, along with the guidance, feedback and support students need to make informed choices. Our flexibility can be seen in the variety of subjects we offer and the levels of course available for them, but also in the way we offer our education, with options for full time or part time, on campus or/and online, full degrees or short programmes, initial or lifelong learners, and being based at Wageningen or at other (foreign) universities.

The flexibility of our degree programmes increases during the course of the curriculum. At the start of each bachelor programme, students focus on attaining the basic body of knowledge required in the relevant discipline(s) and problem area. The further students progress through the study programme, the more choices they are offered in their learning path, with options for selecting a major, a minor and courses to build their own profile, such as generalist or specialist, multi- or interdisciplinary, or focused on specific professions (researcher, policymaker, teacher, entrepreneur, consultant). We actively promote the combination of our courses with courses from other universities, especially when the student seeks expertise we do not have. We encourage students to study at other universities, in the Netherlands or abroad.

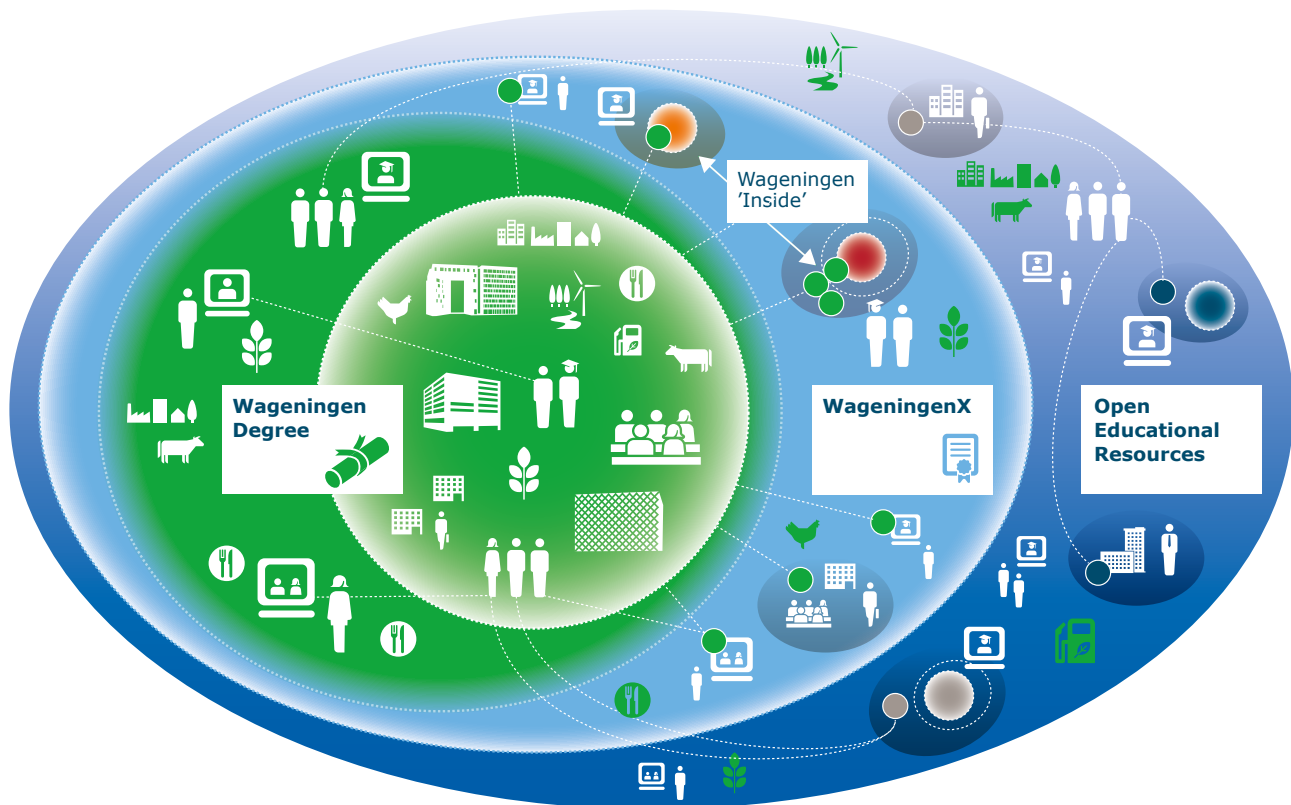
We plan to expand our ability to provide more demand-driven or student-designed education, in which students decide, in consultation with their lecturers, what the content and the aim of a module should be. Conventional examples are capita selecta courses, where individual students can opt for a subject that interests them and study it individually or as part of a course with more students.

## The Education Ecosystem

The new developments in IT and online learning open up an educational setting without limits in time or space, and enhance our ability to organise more flexible learning paths for diverse target groups. Digital technology also enables the realisation of a more learner-centred educational approach. Students ultimately get more options to combine different studies, or incorporate work or travel. They can choose a study programme fitting their individual talents and needs.

Digital technologies enable us to serve more students and make better use of the valuable interaction time between teacher and student to reach higher cognitive learning goals in a more efficient way. By blending online tools and methods for knowledge transfer (such as e-learning modules or video clips) with on-campus interactions in lab sessions, working groups or project work, we can make education more effective. The regular personal contact between student and lecturer is strengthened by a variety of online and face-to-face interactions. Feedback is an essential part of learning and of the development of students and staff, and it is our ambition to enrich this process using the technological advances in "learning analytics", data which guide and support learners by providing insights into their strengths and weaknesses.

The open sharing of content enhances collaboration in global networks. Open platforms such as edX, Coursera or the Khan Academy demonstrate how technology can be used to provide education to a global public of learners. They offer open and online courses, either free or at little cost. New structures of collaboration – and competition – emerge; universities can share and/or trade their online materials. It is our ambition to improve and increase Open Educational Resources, making knowledge and teaching materials available worldwide, as we currently do for Mathematics with other Dutch universities and on entrepreneurship in our 4TU consortium with the other Dutch Technical Universities. In our 2015-2018 strategic plan we sketched out the technological possibilities that could be used to move our university towards a coherent system where different forms of education for different



The Education Ecosystem

groups of students are combined. We call this the Education Ecosystem.

The Education Ecosystem as the guiding framework for our education, was first developed in 2015, and it is work in progress. We envisage four types of education as interacting spheres of learning concepts and business models, and we are striving to integrate these spheres in an “ecosystem” with the campus as the vibrant centre where research, education and business meets (Figure 1). The four spheres of education are:

- 1 Wageningen degree programmes on campus
- 2 Wageningen degree programmes online
- 3 Wageningen Open and Professional Learning
- 4 Open Educational Resources

The system is characterised by permeability between the various spheres, both in terms of the students and the (online) educational products. An integration of

on-campus and online teaching methods and tools provides for the best blend in our degree programmes, serving the individual pace and interests of a diverse group of students in an efficient and effective way. The Education Ecosystem enables the development and promotion of new collaborative models around our online educational products with various stakeholders, and actively promotes network learning through the sharing of educational resources, feeding several communities of practice.

A broadened concept of Wageningen Campus (both physically and virtually) allows for more flexibility, a learner-centred approach and room for the furthering of our worldwide impact. ■



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# 3 | Elaboration and consequences

of the basic principles of our education

The basic principles of our education were described in Chapter 2. What do these principles mean for the university, students and staff? What policies and processes need to be implemented or developed to be successful in realising this vision? The implementation of our vision for education can differ between target groups or types of education. In this chapter, we further operationalise the main principles towards more concrete aspects of our education.

## High-quality scientific knowledge

Research is an important design principle for our education. Our ambition has always been to educate excellent researchers and academic professionals. Not all students will become researchers, but we believe that preparing for and performing research helps the development of attitudes, skills and approaches that are relevant for many academic professions. Many courses contain the stages of the research process (initiation, designing research, data gathering, analysis, discussion, feedback, testing possible hypotheses, dissemination, etc.), progressing in complexity as the student advances through their education. All graduates of the BSc and MSc programmes should possess a set of skills that enable them to make scientifically sound analyses, apply the whole research cycle and research ethics, and employ knowledge to make an impact.

We want our study programmes and courses to be of high quality, containing the latest scientific insights. Lecturers continuously adapt their courses to incorporate new developments in their fields of expertise. Study programmes are updated and innovated by the Programme Committees and Programme Director. Our education funding system includes a budget for making regular updates and innovations to courses, both in their content and delivery. Regular peer reviews at all levels (programmes and courses), both internally and externally, keep us alert and promote the inclusion of state-of-the-art content, ensuring that our portfolio of study programmes match the requirements of the professional field, science and society. When we make

additions to the programmes and courses we offer, we always consider whether they are a logical addition to our portfolio and whether we can live up to the global expectations of Wageningen University & Research.

We focus our research on the domain in which we excel, and collaborate with excellent partners all over the world to strengthen, internationalise and complement our palette. We also invest in the availability of (or access to) cutting-edge and essential research facilities: IT, labs, experimental stations, advanced equipment for monitoring and analysis, thesis workplaces for students, and (inter)national collaboration.

## Rich learning environment

We strive to offer students a rich learning environment, in which they are empowered to develop scientific, engineering/designing, sustainability, social/societal and personal competencies. These competencies are translated into learning outcomes regarding specific skills sets, knowledge and abilities required for all study programmes. We provide the appropriate environments for the learning process, supported by good teaching facilities, and have high expectations for the commitment of both students and staff.

### Active learners

We believe that students should be active learners and direct their own education to develop their full potential and make an impact in society. This has two main goals: an active learner is a better learner (actively learnt concepts sink in more effectively), and active learning better prepares students for a world where the professional environment and societal changes demand a critical and permanent attitude to active learning.

We cannot expect all students to have this responsible attitude from the start; therefore, through the design of our programmes and courses, we aim to cultivate an attitude of active learning in students during their years of study. We train students to reflect on their own learning path, goals and talents, build their own portfolios, identify what they know and can do, and

highlight what still needs to be done. We stimulate students to strive for excellence by giving them additional opportunities, responsibilities and challenges with high-quality criteria.

The character of contact hours changes throughout our degree programmes, with different formats of large-scale lectures being combined with more active and effective teaching methods, usually in small groups. The independent preparation of students via self-study can improve the utility of contact hours between staff and students, enabling them to be used for disseminating more complex knowledge or for interaction, critical questions and inspiration. Where relevant, interactive technology and digital developments support us in creating the flipped classroom approach, where the key concepts are taught before the class takes place.

In addition to giving students the opportunity to design their own learning paths, we also offer them the opportunity to contribute to society and strive for self-development through extracurricular activities. Students can participate in extracurricular activities including an honours programme, Studium Generale, membership of their Programme Committee, Programme Board, student associations, or special activities such as Student Challenges.

### **Effective feedback**

Feedback is essential for learning processes. Providing examination results at the end of a course gives students very limited information about their performance and at a late stage of their learning process. We are continuously implementing better, more personal and more frequent feedback mechanisms, which can also be applied to larger groups of students. Digital technology offers options such as online or in-class direct feedback, regular assessments and learners' statistics, all of which provide students with more detailed information on their performance throughout the learning process, with both summative and formative feedback. The lecturer is not the only person to provide the students with feedback; students can also review and tutor each other. They will learn from reviewing

each other's achievements, but also learn how to give feedback in a respectful manner and how to act on it. In peer grading and tutoring, we need quality mechanisms (e.g. rubrics) that guarantee feedback is adequate and properly supports the development of the learners. The thesis rings that were introduced recently at several chairgroups are a good example of receiving feedback from peers and scientific staff.

### **Internationalisation and diversity**

We expect our graduates to be able to work on global challenges, to compete for jobs in an international environment and to function in a multicultural setting. An international classroom, where the experience of students from different countries can be shared, is one of the best settings to learn intercultural skills. Since 2002, all our master's programmes are taught in English, facilitating an international classroom. We are also in the process of developing international bachelor's programmes to further stimulate the international classroom at the undergraduate level. We expect all our students to be open minded, eager to develop multicultural skills and to have a good level of proficiency in English.

In the international classroom, lecturers are encouraged to use the experience and background of the (international) students in their courses. We strive for a balance in the international classroom<sup>3</sup>, closely monitoring the composition of classes in terms of incoming students and adapting our recruitment strategies when necessary.

Almost all our students go abroad or work in an international company or organisation during their time at Wageningen University & Research, often as part of their minors, internships or on excursions. We maintain an extensive network of international partners to facilitate student exchange, and offer the possibility of double and joint degrees. On campus, we provide a welcoming atmosphere for people from all over the world by using English in all our communications,

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<sup>3</sup> At least 25% international students, at least 25% Dutch students and less than 33% of any specific non-Dutch nationality.

organising international events and by providing essential administrative and practical support.

### Learning in communities

All our students are able to learn by engaging with real-life issues connected to our research and valorisation. This is realised by offering authentic cases (for instance, the Education Project Services<sup>4</sup> provides projects for various courses) and by forming learning communities wherein lecturers, students, societal parties and professionals share knowledge and work together to develop sustainable solutions for real issues.

Many different forms of learning exist in communities in which students and staff interact with businesses and society. Examples of current learning communities are already found in Academic Consultancy Training or Academic Master Cluster (ACT/AMC), "living labs" in the study programme Metropolitan Analysis, Design and Engineering (MADE) and in projects of the Science Shop. A Student Challenge in our domain is a potential

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<sup>4</sup> Onderwijsloket

new concept, connecting excellent students to innovations and impact in the corporate sector. We will stimulate these authentic learning environments and learning communities further by starting additional pilots, sharing examples and developing more expertise.

With knowledge becoming freely available on the internet, some think the role of the university could easily erode. The university offers more than knowledge however; it *develops* knowledge through research, it facilitates personal development and *Bildung*, and it adds value through valorisation and innovation. The quality of our education is enhanced by strengthening the ties between education, research and valorisation so we stimulate relationships with the professional field and society through (international) external advisory committees for each (group of) study programme(s). We welcome industrial and societal organisations onto our campus, we search for educational projects in industry and society, we involve graduates and alumni as guest lecturers and as Wageningen ambassadors, and we organise dialogues with society.





## Flexibility and personal learning tracks

Increased flexibility in personal learning tracks is the most revolutionary yet unpredictable development in our education. We are aiming to increase flexibility to accommodate increases in the mobility of students, the heterogeneity of the student population, the diversity of target groups, and national and global co-operation between universities.

Our students currently have many options during their education, such as the free choice part of their programme, or options to follow a minor or to take part in an exchange programme. We expect that online education will multiply the possibilities for both initial students and lifelong learners to pick and choose their own set of courses and assemble them into coherent packages or a complete study programme. In addition, there will be an increased number of educational formats for various target groups: online and on-campus courses, degree programmes and singular courses, for full-time and part-time students. In the implementation of the flexible learning paths at Wageningen University & Research, we will distinguish between different segments of the education market. At the same time, there are still a lot of legal, certification and accreditational obstacles for a model involving assembling modules, particularly in the case of degree programmes. Discussions are still ongoing about the “minimal levels” of education and the coherence of a programme needed to make a student eligible for a certificate or diploma from Wageningen University & Research.

### An increase in online learning materials

We will continue to produce online learning materials, and we encourage the use of ready-made online materials from other parties. The online learning materials we develop will also increasingly be available as Open Educational Resources.

The production of online learning materials is relatively expensive and laborious. The necessary extra support in the making of online courses is available within our university, for instance for instructional design, graphics, video, programming quizzes or assignments.

The online materials can be used in online courses, but also in blended on-campus courses, where they are complemented with interactive teaching methods and face-to-face meetings. We strive for the multiple use of online materials, for different target groups and in different circumstances.

### Answering the differences in level, ambition and study pace

It is assumed that with the increasing diversity of our incoming students, their starting levels of knowledge and skills will also be increasingly diverse. Some students will have to catch up on basic information, while others could skip some parts of a course or programme. Students may also vary in their ambition and motivation regarding their education, with diverse goals for their professional life after university. Their study pace can also differ; most campus students study full time and at a more or less nominal speed, while others combine their study with work or other activities; some choose a full degree programme, but others only take a few courses.

We want to respond to this variety and stimulate all students to develop their own talents and interests, which means we will need to develop a more flexible format for courses and programmes. We also need better systems of assessing their entry and completion levels and certifications, not only of our own modules but also from other providers.

We also teach students how to direct their own learning. We offer transparent information on the content and level of courses and programmes, requirements for grades and study paths, and advise them on choosing suitable learning paths and relevant courses based on their talents and goals. A digital portfolio might help to support learning processes as well.

To be able to answer the diverse needs of all students, we need administrative systems that adequately support the learning process by providing up-to-date information on scheduling, course information, study progress, results, etc. Furthermore, we have to consider the flexible support of both learners and

teachers, in content matters such as IT and the library as well as administration matters.

## Role of staff

Our staff undoubtedly play pivotal roles in the further implementation of our vision for education. The role of the lecturer is changing. A stronger role in supporting and coaching students in the process of acquiring knowledge and developing excellent academic competencies is required, and knowledge transfer should be more creatively arranged. Staff will prepare learning materials for students to facilitate the self-study process, enabling them to prepare for contact hours with the lecturers to create a high-quality interaction. Assignments will focus on active learning during these contact hours.

To enable students to acquire state-of-the-art scientific knowledge, research and engineering skills, and excellent academic qualifications, we must ensure a strong interaction between research and education. The basic principle is that almost all staff members undertake research and education. In our tenure-track system, we demand high-quality teaching and research and continuous development from our staff. In our annual performance and development interviews (*R&O-gesprekken*), both research and education efforts are discussed. We strive to maintain a good balance between those two factors, which demands that constant attention be paid to obtaining additional research funding, to ensure that it grows at a similar rate to the increases in the education budget associated with the growing number of students. We are also investigating opportunities for educational careers in the tenure track; to ensure that the large majority of lecturers are also engaged in research, the appointment of education coordinators or other educational staff could also be an option.

Staff will continue to be supported in the transition to a more online education. These changes demand new competencies from lecturers, such as designing attractive online self-study materials, guiding students in their learning process, and strengthening effective



face-to-face or online meetings that add value to the self-study process. Online courses involve additional steps in the way teachers prepare and deliver their material; they have to plan further ahead, discuss the format with experts in online learning, and consider the need for future contributions from support staff. The production of online materials also requires an increase in production staff and facilities.

Staff will be supported and trained in the use of various teaching and assessments methods, such as activating teaching methods, methods for deeper learning, working with heterogeneous groups, the moderation of peer learning, etc. We expect all staff to have a (basic) teacher qualification and we offer ongoing development opportunities following this qualification. Lecturers will be offered support and training to acquire and teach 21<sup>st</sup> century skills, in activating teaching methods, to promote learning in communities, to effectively teach the international classroom, and in effective and intercultural feedback. Pedagogical learning labs, rotations, internal cooperation and peer review among lecturers are other supportive approaches that can be applied. ■



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## 4 | What's next?

This vision for education articulates what we aim to accomplish in the future, directing further policy developments that guide our actions, practices and decisions. We will incorporate past experiences and good practices to further refine and improve our education.

We already have a foundation of high-quality education, good practices and widely shared ideas, offering a solid basis for the next phase. We will develop policies and plans to gradually implement this vision from September 2017, setting priorities to ensure its success without increasing the already high workload of staff. The stimulation of innovation via our annual Innovation Rounds will further develop the concepts outlined in our vision for education. Research into, and the monitoring of, our education policy and practices will continue to provide for the continuous enhancement of our education. Our vision for education will be translated into objectives and measurable indicators in the Quality Assurance and Enhancement Plan of Wageningen University & Research.

We have identified several challenges that need to be jointly dealt with in the next steps of the implementation of our vision for education. Practical implications and “how-to” questions must be addressed, for example on the topics of staff support, learning in communities, more flexible learning tracks and the search for an appropriate business model for online education. Next to that, more fundamental issues will have to be addressed in policy working groups or faculty-wide discussions. These discussions will include the following themes; flexibility, excellence and selection, student numbers and workload.

Together we can make our vision for education a reality: a high-quality education that enables our students to become academic professionals who can contribute globally to sustainable solutions for existing and future complex issues in the domain of “healthy food and living environment”, and who take their social, personal and ethical responsibilities seriously. ■

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