Responsible Change Makers for Science and Society

Vision for Education 2025

WAGENINGEN
UNIVERSITY & RESEARCH

What came before

The previous Vision for Education of Wageningen University & Research (WUR) dates from 2017.[1] Since then, Wageningen University has maintained its position as 'Best Dutch university'[2] and large parts of that vision still hold true: high-quality scientific knowledge remains the foundation of our education, a rich learning environment is unremittingly important, and flexibility is a key characteristic of our education. We have every reason to be proud of our students, our lecturers and of the role our graduates take up in society.

And yet, as the world around us is changing and will continue to change, we will be treading new paths. So to prepare our students, our education needs to change as well. Inevitably, challenges will come our way, but we can choose how to respond to them. We can sketch education that befits our university.

A new vision can only originate in the organisation, taking on board all the ideas, expertise and ingenuity of students and staff – but also: their frustrations, fears and failures, which are just as informative.

During an extensive consultation phase, the university has demonstrated an enormous commitment to this new vision. Over a period of ten months in three rounds, students, lecturers, non-teaching staff, management and other stakeholders have attended numerous consultation sessions, given their input and commented on draft texts.

In this new Vision for Education of Wageningen University & Research, we outline how to act on pressing developments and challenges, while simultaneously safeguarding our current educational strengths. The vision projects our ideas for the future of Wageningen education, from pre-university education to degree education and continuing education, for the next ten years. Its purpose is to provide inspiration, direction and focus to the academic community and other stakeholders about the distinctive qualities of our education in the coming years. *How* we are going to achieve these ambitions, which concrete *actions* are to be taken and in which order, those are questions to be answered in future Strategic Plans, which usually cover a period of four years.

Reading guide

The text of this vision builds from a description of our domain, our values and our education profile to the urgency emanating from the main challenges we are facing. An analysis of the characteristics underlying these challenges and their implications for education leads to a revised mission statement for WUR education: to empower responsible change makers for science and society. The three main directions that our education will need to focus on form the core of the vision: ownership for personal leadership, an inspiring learning community and an agile curriculum that has an inside-out and outside-in perspective on the world. We conclude this vision with a brief description of what comes next.

Our origin and education profile

Wageningen University & Research (WUR) is an internationally oriented knowledge institute which, since its founding more than a century ago, has been educating students from around the world to research, explore, reflect on and create new insights in the fields of agriculture, healthy food and the living environment. Issues like food security, biodiversity loss, climate change, preventive health and the transition to a biobased economy require approaches beyond geographical boundaries.

The philosophy of the T-shaped graduate[3] is part of our DNA: we have deep disciplinary knowledge in our domain and view issues in a broader context, across disciplines. With natural sciences, social sciences and engineering sciences under one roof we are well positioned to provide knowledge and innovations for urgent transitions and to educate academic professionals.

The combination of Wageningen University and Wageningen Research enables us to work from curiosity-driven research to applied research. We collaborate with local, regional, national and global partners. These collaborations enrich our institute and help to identify relevant questions, deepen the understanding of the world around us, and explore new ways forward.

Our values and our domain
Values that contribute to our profile and guide our behaviour are sustainability, responsibility, courage, curiosity and collaboration; these direct our decisions and actions:

- Our contribution to responsible innovations and transformation is guided by the principle of **sustainability** as being ecologically sound, socially fair and equitable, economically vital and digitally smart.
- We take **responsibility** by offering a socially safe, diverse and inclusive working and learning environment based on trust.
- We support **courage**, dare to listen, speak out with integrity and nuance, and embrace dialogue to address difficult topics.
- **Curiosity** pushes our boundaries of learning and produces knowledge to safeguard the wellbeing of the planet.
- We **collaborate** with other parties based on an independent but accountable position, leveraging on open, respectful and transparent ways to address intricate global challenges.[4]

We offer world-leading education in our domain, and we will uphold our position as a high-quality institution for research and education. Characteristics that contribute to our success include our academic excellence, our integral and transdisciplinary approach for complex problems, our strong network and collaborations all over the globe, and the small scale of our education. These we will maintain.

Since the needs of learners evolve throughout life, we support a continuous learning journey from pre-university education to degree education and continuing education. For this we provide a rich and flexible palette of education arrangements.

A new context for education

Although the latest Vision for Education of Wageningen University has not lost its relevance, global developments and external disruptions call for thought: what are the main challenges that may affect higher education in general and our domain in particular?

Planetary boundaries
The need to strike a delicate balance between humanity's need to fulfil basic needs like food, water, shelter and energy, while securing the wellbeing of our planet and its diverse species is pressing.

Planetary boundaries are being reached and exceeded. These developments have geo-political and social dimensions, too, as societies can only thrive in a safe and just space. For instance, we see that climate change is increasing inequalities within and between countries, as nations try to secure their access to natural resources. Food security and water scarcity problems put living conditions at risk, force people to leave their homes and create instabilities that threaten wellbeing. The urgency and complexity of such issues feed into perceptions of polarisation.

We need to move towards a socio-ecological system that operates within the planetary boundaries and is based on a fair distribution of wealth. So, more than ever, there is a need for understanding and insights on how to balance demands for food production, housing and mobility with the need to protect natural eco-systems and resources. Universities have a role in inviting dialogue and in collaboratively finding ways forward.

> *"There is a need for understanding and insights on how to balance global demands with the need to protect natural ecosystems*

Changing (inter)national relations
Global challenges go beyond geographical boundaries and thus require an international approach to science and education. Any such approach must take into account geo-political relations that are shifting due to demographic and economic developments. In line with current reflections on the dominant influence of Western ideas in science and development, the concepts of equality, shared capacities and diversity of knowledge in partnerships are revalued.

Anticipating geo-political developments, the European Union has an increasing wish for EU sovereignty and strategic autonomy. Regarding education, the EU aims to increase international cooperation between universities, stimulate student mobility, and develop structures and agreements that ease cooperation between universities and support learners in their skills development.

Digital transformation continues
The Covid-19 outbreak has taught us the benefits and the costs of digitalisation for distance teaching and learning, while simultaneously underlining the value of face-to-face interaction on campus. Meanwhile, the pace of technological change is accelerating: large investments in the chip industry and decreasing costs of computing power propel developments in Artificial Intelligence (AI) and automation. Artificial Intelligence also poses fundamental new questions regarding the nature of knowledge and education.

These innovations challenge university organisations and academic services, and boost digital transformations, for they impact where, when and how people can learn. For instance, education can be organised more time and place independently, and new technologies can offer personalised learning arrangements that support professional growth. Online platforms provide new opportunities for cooperation between institutions and between learners.

In light of such major developments, our education must be responsive. Changes in the world around us warrant a new vision on how our education can best prepare students and professionals for their future roles in science and society.

Implications for the future of our education

Rather than responding to each separate challenge that we know will come our way, we need to identify patterns and common characteristics, and translate these into guiding principles for our education. Which factors are underlying these developments? And how will they impact teaching and learning?

The basis: foundational knowledge
A constant of university education, not affected by the upheavals of time, is the fact that our education is rooted in foundational knowledge and research. In all the disciplines at Wageningen University & Research, a scientific mindset and strong research abilities remain the basis for all our students and for those professionals that come to us to expand their knowledge.

> *"Real-world problems don't come in disciplinary-shaped boxes* [5]

Multiple perspectives
Having said that, topics within the WUR domain are characterised by their complexity, due to their interdisciplinary, transdisciplinary and international nature. These so-called 'wicked problems' do not lend themselves to unambiguous solutions, but require multiple perspectives and systemic thinking. Our task is to teach our students how to operate within the complexity of their domain by approaching issues from different disciplinary entry points and stakeholder perspectives.

Just as WUR is embedded in the wider world, so university education must burst the 'academic bubble.' Thus, where much of our research embraces a transdisciplinary approach by involving societal partners, our education needs to incorporate the societal perspective and address the complex societal dilemmas in our domain.

Reflection
The landscape for collaborations is everchanging. Continual re-assessment of what constitutes an equitable and sustainable working relationship is needed. Our education should therefore foster reflection, an intercultural mindset and a cross-border approach.[6][7]

To be able to make responsible use of technological developments, we need to reflect on their potential impact. Now that Artificial Intelligence is (seemingly) able to derive insights from facts and even generate new content, we need to redefine which knowledge is essential for our students, and what else they need in terms of skills or reflective aptitude to prepare them for the future. Also, we need to ensure that our education benefits from new technologies. The increasing speed of knowledge circulation underscores the importance of learning as a continuous, lifelong activity.

Uncertainty
In a context of ongoing technological transitions, complexity and uncertainty bring with them a sense of unease. We know a lot, but we have few ready-made answers to offer. Students can be frustrated by competing or contradictory ideas. Sometimes the force and urgency of global challenges exacerbate mental stress and lead to, for instance, climate anxiety. In this context it can be difficult for students to decide where they stand and where they want to go. The greater the uncertainty, the stronger the need for an inner compass.

Complexity and uncertainty preclude simple answers as to how to act on these patterns of our time. Therefore, our approach needs to be flexible: we need to be able to adapt to new situations, new understandings and new scientific questions. Our answer to this complexity is agility in our educational system: education that can respond with relative ease to developments in science, our domain and changes in society.

Our mission: Empower responsible change makers for science and society

Given the current context and the typical education profile of Wageningen University, the mission as phrased in the earlier Vision for Education still proves its urgency:

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.

Wicked problems, complexity and uncertainty require academically trained scientists and professionals who are driven to make a positive impact on our world and who can accelerate the required transitions. In an acknowledgement of this, in this Vision for Education we further distill our mission:

We empower responsible change makers for science and society.

At WUR no two graduates are the same, nor can they be. Each learner has their own interests, personal history, knowledge, attitudes and skills. The concept of the Responsible Change Maker is intended to capture and capitalise upon this diversity in graduate and professional profiles. As such, this concept keeps with the principle of responsibility and its links to diversity, inclusion and trust, while simultaneously offering students and professionals the agency to explore and act upon their personal motivation.

Responsible refers to shared values and the ethical viewpoints that guide our education, such as sustainability, courage and collaboration. This idea is also grounded in personal leadership: consciously choosing position and defining for oneself the boundaries of one's own 'responsibility'. It also means change makers accept the consequences of their actions: their chosen position determines which role they take on in science and society, they are 'response-able'. Moreover, for those who are academically trained 'responsible' also means critically evaluating evidence and adhering to codes of research integrity.

Change maker implies that students and professionals can and should strive to add meaningful value to their field of interest. 'Change' relates to making a difference and contributing to solutions for the challenges we face. In some instances, this might mean focusing on one small part of a wicked problem or advancing fundamental research; other cases may require systems thinking and holistic approaches, perhaps even radical ones. It is our task to support learners in discovering for themselves how they can best contribute, be it through academia or in the professional world.

For science and society. As experts in their fields Responsible Change Makers take on diverse roles. They can be scientists who push the boundaries of knowledge, engineers who design and implement solutions, entrepreneurs who scale up inventions and make them accessible to a wider audience, and advisers who interact on the science-policy interface.

Achieving our mission: Building on our strengths

Education at Wageningen University is consistently highly appreciated by our students – an indication of the strong fibres that make up our educational system. These existing strengths contribute greatly to achieving our education mission. And yet, we cannot sit back. We need to give direction to a form of education that our future change makers for science and society may expect from us. Such education builds on our strengths, but also seeks new ways to make our mission a success.

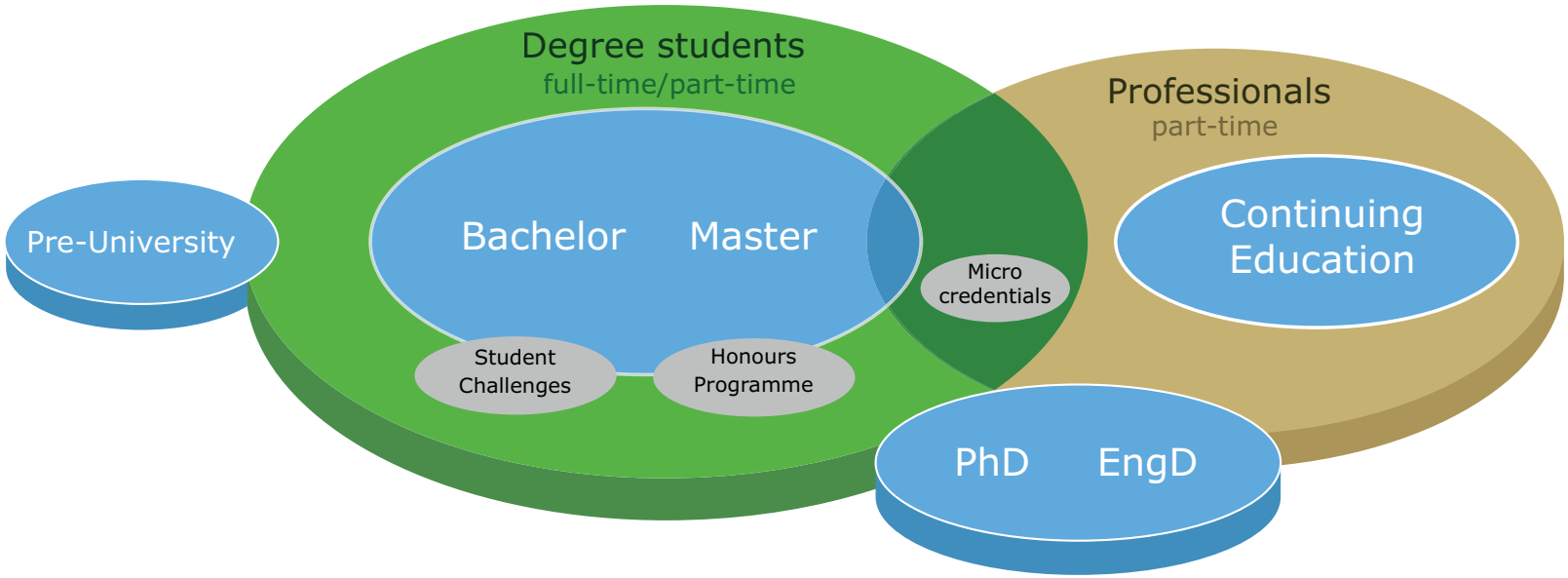
Our current education has many characteristics which, having proven their value, serve as a foundation for the future.

High-quality scientific knowledge

- As a global beacon in its domain WUR pushes boundaries of discovery and innovation, with its state-of-the-art research facilities and high calibre staff. Foundational knowledge is at the heart of academic education, fuelled by both interdisciplinary and fundamental research.
- The connection to research is elemental to our education. Through cross-pollination, both research and education are strengthened. Conducting research helps develop attitudes and skills that are relevant in many careers. Critical thinking is at the base of our academic excellence.
- WUR successfully seizes opportunities for new and improved degree programmes within the WUR domain. Examples include MSc Data Science for Food and Health, BSc Marine Sciences, the revised programme for the MSc Management, Economics and Consumer Studies, the repositioning of the MSc Resilient Farming and Food Systems and the projected BSc Data Science for Global Challenges.

Rich learning environment

- Small-scale education is a strong feature of Wageningen education. We are a close knit academic community and treasure personal contact between teachers and students. Our study advisers have a key position by offering close at hand and intensive guidance to students. Our campus is a valuable and indispensable asset to accommodate face to face contact between students and between students and lecturers, and to foster students' social life.
- WUR's academic community is truly international. Students and employees from all over the world conduct research and study at WUR. Through an extensive exchange programme we offer our students the opportunity to study abroad and allow students from our partner institutions to take courses in Wageningen. WUR also provides several double degree programmes in cooperation with international partners.
- In our education we create room for innovative educational concepts. Some examples are:
  - the Academic Consultancy Training – by now a WUR 'classic' – is a highly valued addition to more traditional coursework;
  - the didactic concept of Boundary Crossing enriches our education by making use of differences in a positive way, e.g. in the international classroom or in the mixed classroom (in which students and professionals work together);
  - in the WUR-wide programme for skills trajectories a new impetus is given to a firm position of essential skills in all bachelor programmes.
- WUR invests in up-to-date education facilities and support, such as the High Performance Computing Cluster environment.[8] We facilitate blended and hybrid forms of education, aided by online learning tools and good lab facilities. Student administration is expertly serviced with the online platform Osiris. We value the explicit role of lab work, field work and study trips in our education.



Flexibility in learning arrangements

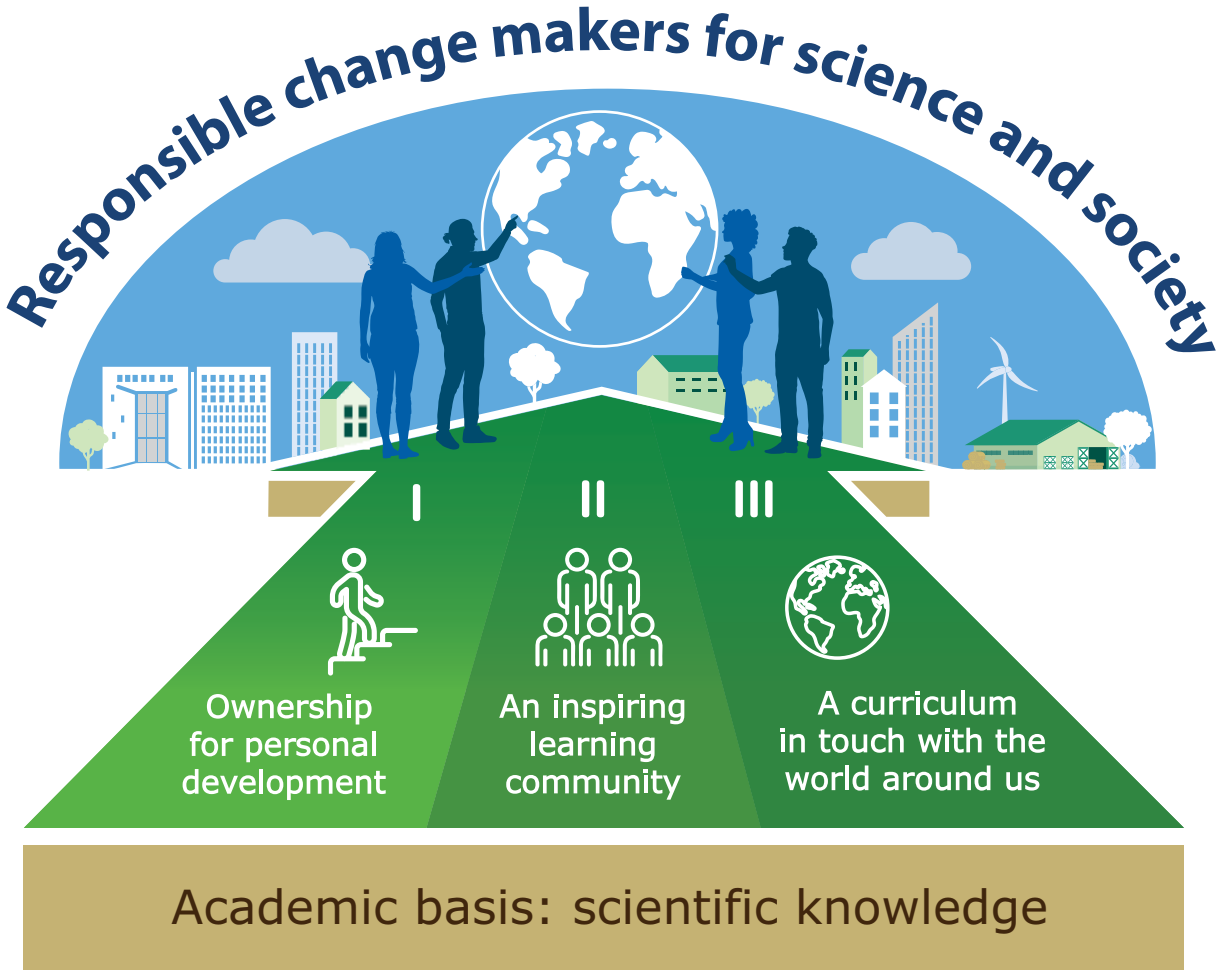
- WUR offers a full range of learning opportunities, from Pre-university to BSc, MSc, EngD and PhD degree programmes, to Continuing Education for professionals. Education takes place on campus, but also fully online and everything in between (blended, hybrid).
- WUR degree programmes are characterised by giving students much room for individual preferences. All degree programmes contain optional or restricted optional courses, and allow students to specialise – in their choice of projects, minor, thesis track or internship. Some study programmes facilitate personalised pathways. Via the EduXchange platform students can take courses as part of the EWUU alliance.[9]
- WUR offers those who appreciate an extra challenge an Honours Programme and opportunities for taking part in international projects on complex problems, such as the Student Challenges.
- WUR provides up-to-date knowledge and scientific insights to professionals. Lifelong learning pathways are serviced by Continuing Education: through seminars, online degree programmes, blended courses and MOOCs.
- Wageningen campus is our home base, but we also actively seek collaboration in joint programmes, partnerships (4TU[10]), alliances (EWUU, ELLS[11]) and the 'green (education) sector' at large[12]. We endorse the open exchange of educational resources, for example in Groen Kennisnet.

It cannot be stressed enough that, combined, these feats are the backbone of our education, providing a stable foundation for the future.

Achieving our mission: Focus areas for the future

Bearing in mind the patterns in what we see happening around us, our own mission and the strengths of Wageningen education, how should we move forward? Which facets of teaching and learning require extra attention, so that our students and professionals are aptly qualified to take their role in shaping the future?

Looking ahead we believe we need to direct our focus to three equally important main areas: ownership of personal development, an inspiring learning community and an agile curriculum that is in touch with the world around us. These directions inspire us to bring about change in our education. They inform our choices and help us in achieving our common goal to empower responsible change makers for science and society.



Direction 1 Towards ownership for personal development

Career preparation and professional orientation go hand-in-hand with personal development. Students are best able to leverage the complexity and uncertainty of the future through reflection on who they are, what motivates them and how they see themselves as operating within their chosen domain.

An academic education is only complete when learners take full ownership of this aspect of their development. We therefore see a clear role for the university in helping students to work on their scientific and professional attitude.[13] Furthermore, supporting learners as 'whole persons' with their own qualities, identities and values is key to promoting the wellbeing of all students. With this focus on wellbeing, we aim for students who enjoy their studies and can find their way in life.

> *We see the academic journey as a journey of discovery*

Personal leadership

In our education, we challenge students and professionals to embrace complexity and look beyond the simple, obvious approaches, while also making sure they are sufficiently equipped to face potentially daunting challenges. This means our education needs to foster resilience and create a culture of continuous learning. We see the academic journey as a journey of discovery during which students and professionals develop themselves to their full potential as responsible change makers.

This journey links three waypoints: scientific rigour, personal interests and capabilities, and global needs. A future that is volatile, complex and ambiguous requires a steadfast inner compass, an independent attitude and strong interpersonal and intrapersonal skills. Student challenges provide opportunities for students to experiment with different roles, with science at their base. By tapping into the intrinsic motivation of learners, we allow them to gradually take on more responsibility for their personal development. We teach our students that this process of growth continues after graduation: once you have learned to take charge of your own development, it becomes a lifelong skill.

Examples of how this may be brought about:

- *Explore new forms of assessment that support the learning process and encourage ownership for personal development, e.g. experiment with 'ungrading';*
- *In each degree programme, students can design their 'own course' of about 3-6 ECTS, including their own learning objectives and a plan for how to achieve them;*
- *Create room for reflection in the timetable of programmes.*

Student wellbeing

For students to thrive in their development, the university must first and foremost offer high-quality and well-organised learning opportunities. These opportunities should strike a balance between taking seriously the needs of students, while stretching students slightly beyond their comfort zones. Since wellbeing and study success are strongly correlated, we support students' wellbeing by offering them opportunities for reflection on their own values, in relation to their study programme and in relation to domain-related ethical issues.

> *"We help students develop skills for life*

Also, we acknowledge that most university students are on the brink of their adult and professional life and that this transition can lead to insecurity. Therefore, we help students develop skills for life that increase wellbeing before and after graduation, such as curiosity, courage and resilience.

An example of how this may be brought about:

- *Deal with the stigma of failure, e.g. by establishing a Special Interest Group with students and staff that proposes ways to work on a culture shift inside and outside the classroom.*

Direction 2 Towards an inspiring learning community

Learning is a joint venture. Students, teachers and professionals learners that join WUR become members of a community that seeks to accelerate transitions within our domain that are necessitated by our changing world. Being part of this community fulfils important psychosocial needs, contributing to the wellbeing of students and staff. Moreover, community members support each other in individual and collective learning processes.

A robust community of learners includes all levels and types of learners: students, teachers, researchers, professionals, alumni and members of the broader society representing a diversity of nationalities, cultures and disciplines. We foster an inspiring learning community in which members experience a sense of belonging and feel safe enough to try new things and make – and learn from – mistakes.

“Learning is a joint venture

Teachers as partners in learning

Teachers are not only role models for students, but they are also partners in learning. To build an inspiring learning community the energy, creativity, flexibility and motivation of teachers are essential. With their multiple roles, duties and backgrounds, teachers are recognised as powerful exemplars of an academic journey. No textbook, project or assignment can provide a learning experience as rich and powerful as personal interactions with a teacher who shares their knowledge, transfers skills, and reflects on their own attitudes.

To promote these meaningful interactions, teachers need autonomy, training and support, as well as time to set aside to improving their own competences. The new Academic Career Framework may prove its value in better acknowledging teachers for their contribution to the academic and personal development of WUR students.

We will continue to search for ways to alleviate the burden of non-academic tasks of teachers and enhance the possibilities for teachers to work together. This can involve interacting within and across programmes and disciplines, but also sharing experiences peer-to-peer. While such learning community in which teachers work side by side is valuable in its own right, it can also serve as an example for students.

Examples of how this may be brought about:

- *Support peer learning for teachers, e.g. by initiating a WUR Teacher Academy Network;*
- *Offer bespoke professional development beyond the University Teaching Qualification programme;*
- *Invest in the teaching competences of Wageningen Research staff.*

Embracing diversity and inclusion

The global challenges that permeate our domain require multiple perspectives. A mixture of Dutch and international students and staff is necessary to come to a full understanding of those issues. The international classroom is an important didactical concept in our English taught programmes: students learn to interact with people from different cultures and backgrounds. Therefore, we strive for diversity in our student population, with Dutch and non-Dutch students spanning the spectra of cultural, social and economic backgrounds. Similarly, our teaching staff bring with them not only their varied academic expertise, disciplines, and approaches, but also their diverse personal stories. Together, this diversity of students and teachers fuels our learning community and its aims.

> *“We open up our campus and invite dialogue*

We stimulate interaction by opening up our campus, inviting dialogue between those with opposing views, and fostering an open minded attitude and global perspective. We aim to create an inclusive educational culture in which the voices of all groups and individuals are heard, valued and respected. It is especially important for incoming students that a supportive community is visible and accessible. Our intention to be inclusive reaches beyond the academic world, extending to partners in industry

and in the broader society. For example, our programme for Continuing Education is accessible to people all over the world.

An example of how this may be brought about:

- *Increase ‘scientific debating’ as a learning activity, thus challenging students to take a different standpoint from their own.*

Dynamic learning environment
The university explicitly aims to offer a brave and safe learning space: an environment in which students, staff and professionals discuss scientific questions and encounter opposing views, but also look for common ground, through continuous interaction within and across disciplines. Our campus is the meeting place for students and staff, the university's 'living room', where all members of the academic community should feel welcome to exchange ideas, and where inspiration to work together leads to shared understanding. Study associations play an important role in intensifying relationships among cohorts and stimulating the exchange of life and study experiences. We plan to expand our network with other universities, societal partners, industry and government to strengthen learning opportunities in which professionals and students work side by side and learn from each other.

> *We strengthen learning opportunities by expanding our network*

We aim to reinforce the role of education for professionals as an integral element of our learning environment. In doing so, we offer extended learning trajectories in a comprehensive and dynamic setting, and ensure our continuing education programme is used to its full potential. For instance, by facilitating cross-pollination among BSc, MSc, and PhD-education and opportunities for life-long development, the

programme can serve as a nursery for education innovation. To maximise vibrancy and quality in our education, we aim to increase the exchange of learning materials inside and outside of WUR, following our Open Educational Resources policy.

Digital educational tools and related technologies can enrich on-campus education. These tools make possible new learning formats, such as blended learning and hybrid learning, as well as fully online courses for professionals. Opportunities for studying independent of time and place are a welcome addition to our learning arrangements. Among other benefits, such flexible arrangements can leave more room for interactive in-person learning activities.

We welcome digital technologies that assist the learning process, for instance feedback tools or tools that facilitate student guidance.

Examples of how this may be brought about:

- *Explore the potential of virtual reality in practicals and as an alternative for experiments that involve animals;*
- *Establish a lab on campus where boundary crossing is required and where learners with different backgrounds work together on wicked and real-life problems;*
- *Explore ways to better support learning journeys across institutions, e.g. by adapting education logistics or developing joint minors.*

Direction 3 Towards a curriculum in touch with the world around us

Since the world around is changing and seems to be changing at an ever faster pace, the contents of our education need to be adaptive. Naturally, in our curriculum foundational, disciplinary knowledge remains a solid basis for academic growth. However, in order to maintain our relevance we need to stay attuned to the outside world and be constantly open to revising our education programmes.

Agile portfolio and curricula

Our education aims to be responsive to the interest of students, and the needs of society, industry and science. In light of the changing demands placed on our students and our education, we identify and remove obstacles in our educational system that keep us from moving forward. We can do this by creating room for change within the current educational system, but we will also consider system interventions.

> *We create room for change*

In order to align our education portfolio to developments in the WUR domain we intend to increase the speed of curriculum renewal. We extend the focus on courses as building blocks for education to extra attention for the redesign of curricula at programme level, and we offer support for this new scope of education innovation.

We use innovations within continuing education and our experience from external organisations to improve our degree education. An example of new insights that no longer reflect our values are elements in our education that are rooted in a historical agricultural and colonial context – this calls for acknowledgement, reflection and action.

Examples of how this may be brought about:

- *Introduce mechanisms that increase the adaptability of WUR's education portfolio, e.g. periodically re-examine the relevance of each course or reduce funding for courses that attract few students three years in a row;*
- *Develop education leadership programmes for senior staff;*
- *We explore ways of increasing the involvement of 'critical friends' to reflect on our portfolio, e.g. from the labour market.*

Interdisciplinary and transdisciplinary education
The complexity of current challenges requires input from cultural, environmental, societal and technological perspectives. Interdisciplinarity for students should be more than taking courses in different disciplines. We want to redefine 'true' interdisciplinarity in terms of which integrative knowledge is needed in our programmes and broaden opportunities for exposure to other disciplines. To increase interdisciplinary learning experiences we strive for complementarity with other universities.

> *"We fuel societal relevance of our education*

To ensure that students gain experience in dealing with the complexity of real-life challenges and different world views, we actively seek the proximity of and interaction with external stakeholders. We fuel the societal relevance of our education by exploring how to connect with organisations' ideas for innovation and the learning demands of their employees. In our society-based education projects we encourage learners to become academic professionals who are actively and critically engaged in society. Therefore we intend to give a boost to real-life, authentic assignments. In this context Wageningen Research is a distinctive asset to our institute: grounded in practice and applied science, their activities and network are valuable in addressing 'wicked problems' in our education.

Examples of how this may be brought about:

- *Recognise and value society-based education and Student Challenges through microcredentials that are accepted by degree programmes;*
- *Introduction of interdisciplinary mentor groups of 4-6 students from different programmes who meet throughout their studies and are guided by a mentor.*

Skills, Boundary Crossing and digital competency
Following the previous Vision for Education four categories of academic skills have – to a greater or lesser extent – found their way into all bachelor programmes: Communication, Personal Development, Research and Responsibility skills. For our future students these skills are only gaining in importance and so we aim to further strengthen the integration of skills in courses and in the core curriculum of BSc programmes. Furthermore, we intend to explore how the skills learning trajectories may be extended into the master phase.

> *Skills are only gaining in importance*

The concept of Boundary Crossing – a unique WUR educational philosophy – is aptly suited to bringing about a curriculum that is inspired by the world around us. The purpose of Boundary Crossing is to deal with 'the other' in social or professional contexts, to leverage diversity and uncertainty; it is a great tool for WUR graduates to become true bridge builders. We therefore aim to bring Boundary Crossing to its fullest expression.

As science and society transform under the influence of new AI applications, our students need to learn about the opportunities and dilemmas raised by these new technological developments in their domain. Responsible use of AI implies that students – and staff – understand how AI models work and are able to measure the value of AI-generated results, to separate sense from non sense. Hence digital competencies, from general data science skills to an advanced understanding of AI, are essential in all our degree programmes. We support teachers in updating their data literacy skills and in how to incorporate AI in their courses.

Examples of how this may be brought about:

- *Evaluate the Modular Skills Courses, also taking into account AI developments, and renew the course-portfolio where needed;*
- *Expand the number of (transnational) learning experiences in cooperation with societal partners and industry.*

What comes next

This vision is not future-proof, nor does it contain a concrete implementation plan. Rather, it is an invitation to the entire organisation to follow up on all the ideas that they volunteered and that are reflected in this vision.

This text provides a common language on the topics that we believe specifically deserve our time, effort and creativity: ownership for personal development, an inspiring learning community and an agile, world-oriented curriculum. The subsections in each of these directions may be used to structure the operationalisation of this vision in terms of Strategic Plans, faculty-wide programmes, support projects or working groups.

It stands to reason that representatives from all corners of the organisation will be involved in this, to ensure that the realisation of our vision is realistic and feasible. The deep commitment of the organisation towards WUR education induces confidence in this new vision as a common source of inspiration, giving direction to reinforcing our educational strengths, while also providing guiding principles for a process of gradual change.

Notes

1 *Vision for Education, 2017: the next step.* (2017). Wageningen University & Research.
2 *Keuzegids Universiteiten 2024*.
3 One of the earliest reference to T-shaped skills is Johnston, D. L. (1978). Scientists Become Managers-The "T"-Shaped Man. *IEEE Engineering Management Review, 6*(3), 67–68.
4 *Strategic Plan.* (2024). Wageningen University & Research.
5 Jeffrey, P. (2003). Smoothing the Waters: Observations on the Process of Cross-Disciplinary Research Collaboration. *Social Studies Of Science, 33*(4), 539–562.
6 Cross-border' refers to thinking across geographical boundaries, e.g. national or regional, or disciplinary boundaries, e.g. the borders between different fields of expertise or policy domains
7 *Vision for Education, 2017: the next step.* (2017). Wageningen University & Research, p. 8.
8 The HPC cluster is supported and coordinated by the Wageningen Data Competence Centre, see also Shared research facility: High-Performance Computing cluster Anunna - WUR (consulted 20 September 2024).
9 EWUU is an alliance of Wageningen University & Research with Eindhoven University of Technology, Utrecht University and the University Medical Centre Utrecht, see ewuu.nl (consulted 20 September 2024).
10 The 4TU.Federation is a partnership of Wageningen University & Research with the Technical University Delft, Eindhoven University of Technology and the University of Twente, see 4tu.nl (consulted 20 September 2024).
11 In the Euroleague for Life Sciences eight life science universities join forces, see Euroleague for Life Sciences - WUR (consulted 20 September 2024).
12 Collaboration takes place between education institutes that focus on 'green' domains such as agriculture, food and environment, e.g. agricultural colleges (Dutch: (v)mbo, ROC) and universities of applied sciences (Dutch: hbo). Also, WUR participates in Groenpact, an innovation platform for the 'green' domain, in which education, research, industry and the government work together/
13 For a description of the Knowledge – Skills – Attitude model, see Kirschner, P. A. (2015). Do we need teachers as designers of technology enhanced learning? https://doi.org/10.1007/s11251-015-9346-9.

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The mission of Wageningen University & Research is “To explore the potential of nature to improve the quality of life”. Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 7,700 employees (7,000 fte), 2,500 PhD and EngD candidates, 13,100 students and over 150,000 participants to WUR’s Life Long Learning, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.