



EMPOWER University of West-Bohemia Report of Findings

Recommendations for Mainstreaming Digital Education

November 2018



Erasmus+

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Executive summary

Higher education worldwide is becoming steadily more infused with digital technologies and approaches to its businesses, education, research, knowledge exchange and administration. Digital education is now mainstream in most European Higher Education Institutions (HEIs), and in all HEIs in countries such as US, UK, Australia, Korea, Singapore. Its deployment is often (and best) guided by a top level vision and strategy, and with a senior member of staff (vice rector or equivalent) in charge to guide the developments. The majority of digital education takes the form of blended learning (where face-to-face, residential methods are integrated with digital education methods), but there is growing use of fully online education, mainly at Masters levels, to reach new audiences and retain existing audiences.

Open education, in the form of Massive Open Online Courses (MOOCs), is small but expanding, with MOOCs and MOOC 'platforms' taking root in European HEIs. It offers not only reach to new audiences but also a route to innovate education and to increased recruitment to degree programmes.

The drive to expand digital education has raised awareness of the need to encourage and support innovation by faculty, and to train them in pedagogy. Techniques have been developed to reward and value teaching as well as to assess its quality, both residential and digital.

The current state of the art of digital education requires a substantial portfolio of applications and services, and we provide two examples of universities with long-standing and well-developed digital education, namely KU Leuven and the University of Edinburgh.

Our report also reviews the current situation at University of West-Bohemia (UWB), in its local and national context, and we provide a survey of the very positive developments which have taken place in the past few years. These offer a solid base on which to go forward. Opportunities exist for the university (e.g., growing international education; planned MOOCs; bundle Lifelong Learning (LLL) opportunities; expanding digital learning environments already in use; expressed enthusiasm by some faculty). But challenges and barriers also exist (e.g., lack of a strong, central, integrated digital education service; lack of recognition of online education in teacher evaluation; lack of incentives for departments to engage). The student 'voice' needs to be heard in planning for digital education expansion. They are positive about its use, and see important career and LLL benefits, but they are also wary of whether it can/will be offered well and at high quality.

On the basis of our knowledge of, and experience in, international digital education, we offer 10 Recommendations for the University of West Bohemia to consider.

We should be happy to advise further on your decision-making and on your implementation of all or some of our Recommendations.

Jeff Haywood, University of Edinburgh
Piet Henderikx, EADTU/KU Leuven
Fred Truyen, KU Leuven
Darco Jansen, EADTU
George Ubachs, EADTU

Abbreviations and glossary

DE	Distance Education
EADTU	European Association of Distance Teaching Universities
EC	European Commission
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EU	European Union
EUA	European Universities Association
HE	Higher Education
HEIs	Higher Education Institutions
LLL	Lifelong Learning
LMS	Learning Management System
MOOCs	Massive Open Online Courses
NL	The Netherlands
OERs	Open Educational Resources
UK	United Kingdom
UWB	University of West-Bohemia
VLE	Virtual Learning Environment

A **glossary** explaining various concepts and terminology is available online¹ as part of EMPOWER programme.

¹ <https://empower.eadtu.eu/glossary>

Report of Findings & Recommendations for Digital Education

1 Background: A Brief Review of the Landscape of Digital Education

Digital education (hereafter abbreviated to DE) is now so deeply embedded in the mainstream activities of universities worldwide that a full review of all types of universities and their uses of technology in learning and teaching is impossible. For the reader with a strong interest in reading widely on this subject we recommend the many reports offered by the EMPOWER programme on its website². However, it is possible to summarise the current state of play in Europe, with some reference to the USA which also has well-developed DE in its universities and colleges, and much of what we can say about these regions is applying increasingly in all countries, *mutatis mutandis*. This summary is due to the presence of a set of longitudinal surveys that have been carried out into what universities are doing in DE and why: in Europe by the European Universities Association (EUA), and in the USA by EDUCAUSE. Inside Europe there are reports from studies and country-specific surveys, such as those by UCISA (UK), SURF (NL), and the ICT Monitor (Norway) and the Changing Pedagogical Landscape studies (1st report on behalf of European Commission, 2018 version by EADTU³).

These various reports show that the great majority of European universities use ICT as a core element of their learning and teaching approaches, and for those that do it has become an essential component and no longer optional or elective. In some countries this use reaches 100% of HEIs (e.g. NL, UK), and it has been true in the USA for some time. The virtual learning environment (VLE or LMS) lies at the heart of most provision, with a 'halo' of educational applications (embedded in the VLE or separate) including formative and summative online assessments, assignment submission systems, lecture capture, wikis, blogs, virtual classrooms, messaging, and plagiarism testing. For most universities linkage to the (increasingly) digital library is a key element of this digital learning environment. Alongside the purely digital, classrooms and other learning spaces are becoming technology-infused with lecture capture and presentation equipment becoming more common, and student group study facilities, with embedded technology, appearing in most universities.

1.1 Blended education on campus

The overwhelming majority of this use of educational technology is in blended learning, i.e. for campus-based courses, and at Bachelor (1st cycle Bologna) qualification levels. Penetration into Master and Doctoral level education is less consistent, albeit growing strongly. Despite very widespread uptake of technology, the extent to which individual courses and modules in each university use it differs, ranging from a re-think of the course and curriculum design through to basic provision of digital versions of physical teaching materials. Similarly, in some universities there are well-established central DE services, and the presence of technical and pedagogical advice services for academic staff, with a new cadre of professional (support) staff employed in these areas.

Most European universities seem to have a digital education strategy of some kind, either as a separate document, or (especially where DE has become mainstream) as part of the overall learning

² EMPOWER programme EADTU, <https://empower.eadtu.eu/>

³ https://eadtu.eu/documents/Publications/LLL/2018_-_The_Changing_Pedagogical_Landscape.pdf

and teaching strategy. Often there is a senior staff member (Vice-Rector or equivalent) assigned responsibility for this area.

1.2 Online education off campus

After blended learning, fully online courses and degrees are the next most common form of digital education, but the development of this form of education is very much less prevalent. It is however a major growth area, with enrolments in online education rising faster than in on-campus education in several countries, and especially in the USA. Developing countries are looking to online education to solve part of their problem of unsatisfied demand for HE from their young adult populations (e.g. India, Indonesia, Malaysia). The majority of growth of fully online education in Europe has been at Masters (2nd cycle) level, with non-credit courses for lifelong learning expanding too. Vocational and skills development subjects predominate. Although often called 'distance education' many of the students on these online programmes choose this form of education to solve limited time-to-study problems as much as geographical challenges. The learning systems used for fully online education are the same as those for on-campus education, with the difference that they may use online meetings and groupwork as a core component whereas on-campus courses may prefer face-to-face methods.

1.3 MOOCs

Finally, open education is a newly expanding area, brought to public attention by the emergence of Massive Open Online Courses (MOOCs). MOOCs, and open educational resources (OERs) offer access without fee to learning, either self-directed or taught to varying degrees, but rarely provide a route to a recognised qualification or ECTS credits. MOOCs do have the potential to attract very large audiences (in excess of 100,000 learners per course iteration) and so offer a route for universities to promote themselves or reach new learner audiences. They have also proved invaluable as a pedagogical and technological sandbox area for innovation and experimentation for academic and support staffs alike. In general, MOOCs do not run on the university learning environment but upon specific MOOC 'platforms', many of which are provided commercially, and which have scaling ability beyond the capability of most universities. The European MOOC platforms (Futurelearn, FUN, Miriadax, OpenEdu, and the OpenupEd portal and partnership) are associated in the European MOOC Consortium⁴.

1.4 Quality assurance

One issue that emerged early in the development of digital education and which is still a challenge in some countries and universities is that of quality assurance. Although in theory, quality assurance of university education should be able to accommodate any form of educational offering within a generic framework, in some countries this has proved less than simple, and in some universities lack of understanding of how to evaluate the quality of blended, or especially fully online courses, has been a problem. Some guidance and frameworks now exist to help with this area, and the European

⁴ European MOOC Consortium: <http://eadtu.eu/home/policy-areas/open-education-and-moocs/services/416-the-european-mooc-consortium>

QA network (ENQA) has been involved in these developments⁵. EADTU has developed a benchmarking instrument and manual for the quality of blended and online education⁶

Promoting university-wide innovation in teaching has been identified as an issue for all universities as they have moved to introduce digital education, and to rethink aspects of their on-campus education (see below). Calls to value and reward teachers as a key to excellence in education have come from many quarters, most recently from the EC in its 'Renewed EU Agenda for Higher Education'⁷. There is an increasing expectation, approaching a requirement in some countries, for universities to offer training to their teachers and for these teachers to have accreditation (e.g. UK in the new Teaching Excellence Framework).

1.5 Digitalisation and the Bologna process

In the Paris Communiqué (25 May 2018), the Council of Ministers of Education says:

"Digitalisation plays a role in all areas of society and we recognise its potential to transform how higher education is delivered and how people learn at different stages of their lives. We call on our higher education institutions to prepare their students and support their teachers to act creatively in a digitalised environment. We will enable our education systems to make better use of digital and blended education, with appropriate quality assurance, in order to enhance lifelong and flexible learning, foster digital skills and competences, improve data analysis, educational research and foresight, and remove regulatory obstacles to the provision of open and digital education. We call on the Bologna Follow-Up Group to take the issue of digitalisation forward in the next working period".

and:

"A wide range of innovative learning and teaching practices will encompass the further development and full implementation of student-centred learning and open education in the context of lifelong learning. Study programmes that provide diverse learning methods and flexible learning can foster social mobility and continuous professional development whilst enabling learners to access and complete higher education at any stage of their lives".

To give follow up on this reference, UWB should develop pro-active policies and strategies in order to be a front-runner in the field.

1.6 Why universities develop digital education

Thus far we have briefly reviewed 'what' has been done by European universities in digital education but not 'why' they have decided to deploy it. Surveys of university leaders have shown that the most common reasons for introducing technology into courses are: to give greater flexibility to students and to teachers, in the time and place that teaching and learning take place; to enable more flexible curricula; to enhance quality, especially of on-campus education; to cope with more students, and with more diverse students; to respond to demands from government or employers

⁵ See ENQA E-learning Working Group. <http://www.engq.eu/index.php/engq-launches-e-learning-working-group/>

⁶ <http://e-xcellencelabel.eadtu.eu/>

⁷ https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf

for more relevant education; to maintain parity with peers, especially internationally; and to reach new audiences of learners, sometimes with new income streams as an added incentive.

These developments in digital education have been closely linked to wider developments in, and pressures on, European higher education, and indeed some of the demands of governments, students, funders and employers of what sort of education should be offered by universities and colleges could not be met without deployment of technology. These developments and pressures are:

1. The continuing need for more and better graduates to ensure that Europe has a competitive economy. This goes beyond just the percentage of young people entering tertiary education to include lifelong learning and the digital skills agenda;
2. A growing demand for more student-centred learning to replace didactic/teacher-centric teaching. This demand has been made more concrete by the Yerevan Agreement of Ministers of Education (2015) and formalised in the latest European Standards Guidelines 2015 which defines how HE quality assurance should be operated in the EHEA;
3. The growth in international / trans-national education, in terms of incoming residential students, online/distance students and in-country campuses. International students may provide direct benefits such as an income stream for universities or the local community, or indirect benefits such as an increase in national 'soft power' impact in countries of strategic importance;
4. Funding of HE has decreased across Europe, mostly as a consequence of the economic collapse in 2008, and in some countries, this has been accompanied by more students or at least the same number of students. Technology has enabled many universities to cope with these changes;
5. Across Europe there is a sensitivity to the lack of access to HE of many young people due to disadvantages of gender, ethnicity, income levels, family responsibilities. Widening access to HE is seen as one purpose of digital education as it can remove or at least minimise many of these barriers.

1.7 Two cases

The universities with the most developed use of blended learning (and amongst campus-based universities, these are also those with most fully online and open education), broadly have features similar to those of KU Leuven and the University of Edinburgh, as described briefly below:

The educational strategy of **KU Leuven** is based on future-oriented education, which is active, cooperative and solution-oriented (see also Annex 2). It is also aiming at digital innovation in education. Starting from a common vision at both campus and faculty level, expertise and good practices will be shared in the Leuven Learning Lab, supporting teaching and learning by continuous professional development. In an international context, KU Leuven will organize micro-masters as a gateway for students to its programs.

Future-oriented education is activating education. It is less focused on listening and cramming knowledge than on actively constructing and processing knowledge. It uses contemporary feedback and evaluation methods. Hence, the learning objectives as embraced by KU Leuven go further than memorising and reproducing.

The KU Leuven policy plan for educational technology aims for digital innovation in education.

Learning and teaching can be supported by technology in a much more powerful way than is currently the case. Educational technology creates countless new possibilities but requires a well-considered policy.

KU Leuven is using one unique learning platform, called Toledo. This is a full-fledged learning platform (Toledo, based on Blackboard).

In the vision of KU Leuven, Toledo will only remain relevant, if it can also be used for more complex learning tasks and for the automatic and semi-automatic generation of feedback. Only then, it will become a personalized learning environment for students and enable teaching staff to exploit the opportunities for teaching and learning in this environment.

KU Leuven is also planning to create an online examination platform and exam centre as a complement to the online learning platform. By the independence of place and time, this can be a great help for working students. Exams can be taken by appointment.

The Leuven Learning Lab will become the expertise centre for everything related to new pedagogies and educational technology. The Leuven Learning Lab will support teaching staff by continuous professional development in teaching and learning. It will also contribute to a strong network between campuses and faculties.

Innovation in education, especially when involving innovative technology, should be well-framed and supervised, starting from a shared vision at both campus and faculty level. The Leuven Learning Lab will allow KU Leuven to build a network of expertise at the service of the entire university. A substantial number of best practices will be shared as well.

KU Leuven already has a dozen MOOCs (Massive Open Online Courses), but it will offer a wider range, especially because MOOCs can contribute to our international reach. By combining MOOCs into Micro-Masters, we can create a gateway to KU Leuven for international students. Calls will be launched regularly to develop (well-supported) MOOCs.

The University of Edinburgh has a top level strategy for learning and teaching that includes digital education, with responsibility assigned to a member of the senior management team (a Vice Principal). Committee structure that encompasses digital education, in the past as a separate committee (eLearning Committee) but now as part of the work of the top level Learning and Teaching Committee. Horizon scanning and evaluation of strategy and implementation are routine. Almost all of the university's 8000 courses (modules) are blended to some extent, and fully online education (60 Masters degrees and 50 MOOCs) is

offered by almost all academic Schools ('faculties'). The importance of digital education can be seen by its presence on the university's homepage. To place teaching, and especially innovative teaching, on a par with research and knowledge exchange, training, support, reward and valuing processes are in place for academic staff, including promotion to the level of full professor ('Chair').

The university offers a wide range of digital education applications and tools, based around two core VLEs or LMS (Blackboard and Moodle). Single sign-on to all applications (teaching, research and admin) is the norm. The range of digital education tools around the VLEs, which are available to all courses in all Schools, includes: e-assessment, e-portfolio, blog, wiki, lecture capture, assignment e-submission, groupwork/collaboration software and discussion forums. Some Schools have subject-specific tools in addition. There is very close integration with the university's research and teaching library, which is itself highly digital with millions of e-journals and e-books, and its technology-rich study and groupwork spaces. This integration between underpinning IT systems, digital education, research and admin systems is achieved by having a single integrated Information Services support unit (IS), under a member of the senior management team. The student 'voice' is strong in the university, and their views are taken on teaching developments in committees and directly by surveys and consultations with the Student Association. The model for delivery of digital education services is having a strong central service (in IS) and local support units in Schools, with coordination through relevant committees, networking and communities of practice. This hub-and-spokes model enables flexibility for subject –specific pedagogies as well as a strong, resilient, core service on which these can build.

Innovation in teaching has been given impetus by a series of investments of funds to the Schools and to individual faculty. These are competitive and organised in a similar fashion to research grants with a formal proposal process and requiring defined objectives for delivery. In the mid 1990's we invested £3.6M in 50 blended learning projects, in the mid 2000's we invested £5M for development of fully online Masters, and in the 2010's we invested £2M in the creation of MOOCs. All these were strategic, university-wide and required those faculty bidding for funds to align with proposals with university strategic objectives. In addition, there is a constant annual call for teaching innovation proposals, most of which now include some element of digital technology.

2 UWB Institutional perspectives

The main focus of the university management is now on the consolidation of current educational provisions at the university, which is mainly operating face to face for 12,000 students. The Bologna reform has been the most important and demanding innovation, adopting a 3+2 structure. Education is almost tuition-free. There is a strategic plan 2016-2020 in which raising the quality of teaching and learning is a focal point. All bachelor and master degrees comply with the national and European Qualification Framework. The university elaborated course descriptions for each course inter alia with regard to learning outcomes, competences, and skills in order to get the ECTS label. Also, the institutional quality assurance system is improved in collaboration with the faculties. Questionnaires are provided to students for delivering feedback on teaching and learning. National regulations define standards for the quality of education.

A central steering group is setting up a new framework for quality and co-ordinates activities of the respective faculties. At this moment, the quality of teaching and learning is mainly left to the responsibility of the individual teaching staff. This also includes the pedagogical approach, which is chosen by staff. As a consequence, innovation is to a large extent depending on the individual teacher. Seminars and workshops for staff development are organized. Project funding is restricted to small projects. Some staff is involved in innovative projects in Erasmus +, KA2, strategic partnerships.

The management has the ambition to raise the quality and outreach of education by blended learning in mainstream degree education and online learning in continuing education and in MOOCs. On the work floor, several examples of best practice are shown by individual teachers, sometimes in collaboration with European partners. Some staff show leadership in re-designing courses for blended and online teaching and learning.

A central learning environment is set up, but not yet fully exploited as a pedagogical tool by teaching staff. Students have access to LMS Moodle, LMS Unifor, and Courseware. An institutional strategy about one UWB environment might be more efficient and save costs. Examples are available at European universities (see also annex 2, KU Leuven).

In view of the future development and wider ambitions of the university, a central institutional strategy for blended and online learning is recommended, covering innovation through blended/hybrid education in the mainstream, flexible online education for continuous education for regional business needs, continuous professional development of alumni, and open education through MOOCs (which subsequently can be part of continuous education and degree education).

Such vision should embrace blended and online modes of teaching and learning as a solution for problems which the university is facing and will face with regard to quality, student numbers, and flexibility. The sole existence of a vision and a strategy on innovation, led by the Vice-Rector Education, and massively supported by the entire university board, will be a main driver for all university staff. It will also profile the institution at the national level as a frontrunner in education.

This requires an efficient learning technology infrastructure (e.g. LMS), tools, and services. A selection should be made on what tools and devices will be supported by the university, in order to keep it cost-effective. Also, continuous professional development of staff to keep the university continuously innovative is needed, including new modes of teaching and learning. To this end, current technical and educational staff should form a task force or a dedicated support service. Today, staff support is only incrementally provided in faculties and departments, often on a project basis, or only on demand.

Also collaboration between teaching staff on certain subject-related teaching concepts and practices, eventually related to broader national or international networks, would enable innovation. Such collaborations or communities could start from existing good practices at UWB. A space with good practices at UWB on intranet could inspire colleagues.

When designing blended and online courses, it is recommendable to share and adapt existing resources, such as OER material, MOOCs, also pedagogical approaches, always if the quality is guaranteed and when leaving academic autonomy to the teaching staff.

Finally, institutional educational research would enable the university to underpin promising options, and to take evidence-based decisions.

3 UWB Institutional implementations of news modes of teaching

3.1 Teaching and learning in mainstream degree education

In UWB faculties, some good practices of blended teaching and learning take place, taught by staff who are aware of the potential of ICT and have developed an excellent personal expertise.

An example of good practice is found in the Institute of Applied Language Studies, delivering courses to mainstream students, but also to companies and citizens (third age) outside of the university. A course on academic writing is produced online (European project). Another example is the mechanical engineering course. The Faculty of Education seems to be the most innovative, which is promising in view of institutional change. The majority of courses are offered in blended learning formats.

Furthermore, a course in Economics, which is taught in three modes, due to accreditation rules: regular face to face, distance education, and blended. Since 2001 the Unifor LMS platform is used, developed and supported by experts of Olomouc university. An online game is used. A course on school management is set up online for 300-400 school teachers.

In engineering, there is a strong collaboration with industrial partners, in particular with those employing graduate students. Research, innovation, and education are strongly linked. Companies organise internships, and pay stipends for students. The faculty is experimenting with online assessment.

One main barrier is that online teaching and learning are not yet recognized in the same way as face to face teaching. According to current departmental rules, 22 hrs of on campus instruction are required. These rules should be revised in order to combine face to face teaching and online learning into blended learning.

Professional development of teachers for course design is needed. Under the current circumstances, taking part in online courses might be a good start to professionalise teachers: e.g. the UWB online course on Academic Writing, as well as some open courses on the OpenLearn, FutureLearn, Edx, or Coursera websites.

At this moment, probably more innovation is happening at UWB than is known by the institution, since information and data are not sufficiently available at the central level (perhaps more at the faculty level?). However, innovative pedagogies are bound to particular study domains.

Learning analytics is not yet practiced, although some teachers use statistics to evaluate their course via the Moodle LMS.

Currently, there is no systematic support for innovation and new modes of teaching and learning and there is no central department providing such support.

3.2 Open and flexible lifelong learning

UWB already has an important operation for lifelong learning (more than 20 mio Cz Kr), mainly in the region. It is the ambition of UWB to become a respected national LLL provider for off campus

students. For many courses, the Division of Lifelong and Distance Education already operates as an interface with companies and public authorities. LLL at UWB is organized at the level of individual departments. So far, 57 programs are organized at a distance (online) at UWB, accredited by the Institute of LLL.

Upscaling to a national outreach is only possible, when a large part of LLL provisions are delivered online because of the flexibility required. Therefore, information on all open and flexible courses is needed on a website, advertised to the Czech Republic (and Slovakia). This also requires staff support for developing online and flexible courses reaching a sufficient scale. An advantage of developing such courses is that they can be re-used in blended education formats for young, mainstream degree students (the reverse is not the case, since the e-learning part of blended education is a complement of the face to face part, which is not available for lifelong learners).

Extending university education to continuous education and open education (MOOCs) is an additional task of the UWB, allowing the university to profile itself as a provider of higher education in a lifelong learning perspective, supported by new modes of teaching and learning.

Face to face and online distance education should be considered as equivalent formats for higher education.

Key in flexible and distance education for non-traditional learners is the intake and guidance of students, which can only be successfully carried out by a university extension structure, following-up students from their registration until the delivery of an award, and organizing the delivery and tuition of distance education. Therefore, in addition to administrative staff, also professional experts are needed for that operation.

Such structure can function as an interface with the outside world. Can the Institute for LLL be transformed into a university extension institute?

The combination of three areas of provision (degree education, continuous education/CPD, and open education (MOOCs) will require an institutional strategy in which the profile of UWB is designed:

- Which student target groups does UWB want to reach?
- Which domains/subject areas will be given priority?
- How will the interface with companies/public administration clients and social partners function? Can the centre for LLL be transformed into a university extensions structure?
- Which place is given to short higher education programs (5 – 30 ECTS) for continuous education? How do they fit in the national qualification framework? (see EADTU project on short learning programmes)
- Which business models for continuous education can be used in a culture where education is expected to be for free?
- How can continuing education/CPD be made cost-effective by upscaling, using online education facilities?
- How to reach out (inter)nationally by an agreed central marketing strategy?
- How can scale effects be reached by collaboration with other universities (CZ and international)?

- How can MOOCs stimulate the access to continuing education and mainstream program?
- How can OER and MOOCs be partially re-used in some subject areas?

In practice, issues will occur:

- Concerning the workload of teaching staff
- For small faculties which will develop their own vision and strategy in all three areas

Hence, a central policy, central staff, and organizational support is needed, e.g. through an extension structure. This is not prohibitive for policy developments on the faculty level.

Also, business models should aim at the benefits for the departments. They should be sure to gain additional income (minus an overhead of ca 18% for the central structure). Also, the departments concerned will get more visibility and reputation. It is important that key players in a department take the lead in developing continuing education courses and MOOCs and lead the dynamics. Shared leadership throughout the institution is important. Central staff support, and there is an organizational structure as well.

UWB is planning to develop MOOCs in collaboration with CADUV as part of a national platform. A European project has been applied for. This would also support the visibility of UWB. It also fits in a national plan as defined in the Strategy for Digital Education until 2020 by the Ministry. In the Czech Republic, up to now, there has been no national infrastructure for MOOCs and there is no funding available to design for the big international platforms

Distance learning is defined in the Act on Higher Education Institutions (Act nr. 111/1998) and a set of accreditation criteria has been developed.

3.3 New modes in international education

UWB is involved in Erasmus mobility programs, with some 350 agreements and 150 incoming and outgoing students. Also internships abroad are organized.

The university also belongs to a European network of cultural cities.

UWB has a mutual project with the University of Milwaukee, involving 10 students from each site, for 14 years

In the institutional plan on internationalization, it should be envisaged that more students (even the majority) get an international experience, e.g. through virtual seminars, think tanks, joint projects and case studies, virtual mobility, networked degree programs (double and joint degrees), etc. Diverse innovative internationalization formats should be considered.

UWB wants to participate more in European programs (Erasmus + and others) with partner universities meeting challenges of innovation, blended/online learning, and internationalization.

Generally, in the Czech Republic, there seems to be not enough experience with internationalization. Internationalization is described in the Amendment of the Act on Higher Education Institutions (2016).

International networking and funding can support the institution:

- Erasmus+, KA2, strategic partnerships, knowledge alliances, and sectoral skills development
- European Social Fund, to be discussed with the national ESF agency in CZ

In order to make an international experience accessible to all students, the possibilities of structural online mobility in collaboration with international partners are to be considered (See EADTU Mobility Matrix⁸)

4 The role and perspectives of students at UWB

Students want to see UWB modernized by new modes of teaching and learning. They experience examples of good practice, e.g. in the pedagogical faculty and in languages. Other courses vary in quality. However, they fear that most of the staff shows some conservativeness, mainly because they are not informed about the opportunities of e-learning. Existing good practice should be demonstrated and rewarded in order to create a culture of change.

Some students say that they are more motivated when they can learn at their own tempo. On the other hand, also structure is very much needed, e.g. by regular (weekly) assignments. Teaching staff are sometimes afraid that students won't prepare the face to face part of the course (e.g. in the flipped classroom). Peer interaction and interaction with teachers is felt to be very important in e-learning.

Students are aware that after graduation they will work in e-environments in whatever domain/profession. Higher education should prepare students for this by organizing education in such an environment as well (e.g. Moodle). The attractiveness still depends on the teacher, but flexibility, interactivity and learning outside the classroom are mentioned as well. Obstacles are: motivation of teachers (teacher training, rewards needed); the technology (should be up-to-date), students' equipment; the classroom.

At UWB, students are partners for innovation.

5 Regional and governmental perspectives in the Czech Republic

The Czech Republic has a well-developed tertiary education system, with 29 universities (24 public), and 40 tertiary education colleges (38 private). They offer degrees and other qualifications in the EQF range 6-8. In general, the universities are not large by world standards (only 2 significantly exceed 25,000 students) and the process of integration of smaller, specialised universities into larger comprehensive universities, being seen in many other European countries, has not yet taken place. The tertiary education colleges, mainly offering Bachelor level studies, are generally very small organisations. The Czech Republic lags behind the EU and OECD averages in the percentage of 25-34 year olds with a tertiary qualification, and it aspires to increase its current value. On the positive side, Czech nationals pay no fees for full-time degree studies as the state provides a per capita payment to their university or college, and this allows to them take fully residential, blended or fully online/distance education. Less helpfully, and especially in the context of current EU drives to expand higher education access, the state does not appear to recognise part-time study as a valid

⁸ See: the EADTU Mobility Matrix: <https://eadtu.eu/home/policy-areas/virtual-mobility/news/438-eadtu-mobility-matrix-published>

form of education and does not fund it. International students, in common with most EU countries, pay their own fees from their own sources. HEIs may also provide lifelong learning for certificates that can be converted into university credits if the learner joins a degree programme, which opens up a good opportunity to target new students, and perhaps more mature students, by targeted LLL courses, residential or online.

The recognition that the govt of the Czech Republic intends to align its HE provision with that of the rest of the EHEA, and as a consequence international standards and developments, is clear from the several documents that address the government's forward strategy, its desire to see expansion of digital education (at all education levels) and those that define how institutional accreditation and quality assurance should operate.

For example, in setting out the near-term future in the '2016-2020 Strategic Plan for Scholarly, Scientific, Research, Development and Innovation, Artistic and Other Creative Activities of HEIs' much is informed by high level EU reports and guidelines. Explicit mention is made of the need for 21st century relevance of education and its outcomes; increasing access to HE; internationalisation of the curriculum; use of data to guide decision-making. Teaching quality is a prominent theme, in accreditation of programmes and institutions, and choice of appropriate teaching methods is signalled. Combined (blended) and online education are both mentioned under this heading. The need for graduates to have modern transferable competences beyond the core academic syllabus are noted, and for teachers to be supported and trained in for their roles.

This clear intention to modernise HE is aligned with another government guiding document produced in 2014, the 'Digital Education Strategy by 2020', which, although mainly focused on schools, nevertheless also directs attention to challenges and opportunities for higher education. In common with those identified in many other countries facing the same issues of how to achieve 21st century education, these opportunities are: relevant career skills; computational thinking; a shift from didactic to student-centred learning; learning online skills for LLL. The challenges are also common to all countries, namely: lack of digital education skills and training for teachers; lack of digital education vision in educational organisations; low support for innovation and little recognition for it in teachers; insufficient funding to introduce the necessary systems, at a suitable volume and quality.

Government regulations already in existence, namely the Standard for Accreditation in Higher Education (274/2016), already set out broad criteria which could be used to assess the extent to which HEIs are aligning their actions to the government's strategy, as has taken place in other EHEA countries. These are the presence of a strategic plan and actions to ensure its implementation, in teaching as well as in research, through quality assurance processes. Support services for teaching are identified as important elements. A strategy for support and training for teachers are noted too. The National Accreditation Bureau for HE points to the role of the EHEA 'Standards and Guidelines for Quality Assurance', which, in their recent 2015 revision, are explicit about a move to student-centred learning and promoting new pedagogical methods, especially through support for innovation by teachers.

Most of these issues are addressed in our Recommendations at the end of this Report.

6 Our Recommendations to UWB for its next steps in Digital Education

We recommend that the University should:

1. Identify, at the University Board level, a clear ambition and specific place that Digital Education can occupy for the university as a whole, taking into account the specific position of the UWB in the HE marketplace and its privileged relation to stakeholders. This should lead to a mission statement on Digital Education.
2. Develop an over-arching Digital Education Strategy for deploying digital education in line with the mission statement in all courses and modules, at all qualification levels, over a 3-5 year period. This Strategy should be subordinate to the University [DATE PERIOD] Strategy and its Learning & Teaching Strategy, which will both therefore refer to it. It should address:
 - blended learning for on campus students,
 - blended or fully online postgraduate learning for continuous professional development, updating alumni, specialisation courses at the (inter)national level
 - open education (MOOCs),

It should define the credit levels at which each of the three forms of digital education will be used. It should also prioritise targets.

3. Use new modes of teaching and learning in international curriculum and mobility collaboration at the bachelor , master and doctoral level.
4. Ensure that the Digital Education Strategy which is developed meets the needs of the whole University academic community.
 - a. Appoint an individual to lead, with responsibility for the implementation of the Digital Education Strategy, called in this document the “Director of Digital Education”. However, the exact level of this position is entirely up to UWB. In some universities it is a Vice-Rector, and in others a direct report to a Vice-Rector.
 - b. Create a limited-life Digital Education Task Force (DETF) led by named Director, with wide representation. In addition to academic community representatives, the Task Force should also include senior staff of the key services that support learning and teaching (e.g. IT, Library, Student Record, Teaching and Study Spaces). We recommend a two-stage approach, with at first a smaller group led by the Director – a steering committee - to prepare the ground and in a second stage a broader representative Task Force.
5. Include in the remit of the DETF, a requirement to address the following issues:
 - which university and faculty committees (existing or new) will be responsible for the oversight of digital education and how reporting from Faculties to senior levels will

operate. It should take note of the need for a linkage to quality assurance mechanisms for the university's education portfolio;

- how funding streams for digital education and any underpinning services (e.g. library, IT, student record, teaching space technology) might be provided. It should consider both recurrent funding (for continuous university-wide educational and technology support services) and special/one-off funding (e.g. for developing new projects, encouraging innovation);
 - how best to provide a university-wide service for pedagogy and technology advice
 - how best to provide a university-wide DE service to select, operate and review/update the wide range of online learning and teaching software needed in a modern university
6. Devise transparent mechanisms to promote and value teaching staff who are educational innovators, and those who provide excellence in their teaching and its management.
 7. Ensure that a regular review of curricula of modules and degree programmes takes place, and that this process, including quality assurance, always includes consideration of the role of digital education.
 8. Integrate ICT infrastructure for blended and online learning with central university IT systems, e.g. for enrolment and student administration. This will allow for coherent monitoring of activities as well as KPI's, and also enable leverage and capacity for governance.
 9. In the light of the current GDPR regulation, the complex management of data involving students must be assumed, streamlined and safeguarded at the central university level.
 10. Create a specialized service for educational video-production and related learning materials development/scenarization, including a cost model for its use by faculties and faculty members.

EMPOWER

University of West-Bohemia

On site visit

9-10 May 2017

Case study University of West-Bohemia

This questionnaire is aimed at creating a picture of the state of the art of new modes of teaching and learning in the institution as well as the development of a vision and institutional strategies. It also seeks to evaluate governmental policies, strategies and frameworks from an institutional perspective.

Objectives:

- To explore current innovations in the institution with regard to the implementation of new modes of teaching and learning in mainstream degree education, to open and flexible education for non-traditional (e.g. adult) student groups (if applicable) and to international education
- To investigate the ambition level, vision and strategies of the institution concerning the integration of new modes of teaching and learning and/or blended learning (in 5-10 years, ~2025)
- To identify strengths and barriers within the institution for the implementation of new modes of teaching and learning
- To identify strengths and barriers in governmental policies from an institutional perspective, which influence the implementation of new modes of teaching and learning
- To identify possible governmental policies, strategies and frameworks which would better enable institutions to implement new modes of teaching and learning

Documents about institutional strategies and the implementation of new modes of teaching and learning:

- Institutional strategies for education and new modes of teaching and learning (technology enhanced teaching and learning)
- The implementation of new pedagogies in the institution
- Main research and development concerning new modes of teaching and learning within the institution (if applicable)
- Strategies and implementation of continuous education/continuous professional development, facilitated by new modes of teaching and learning
- International policy and new modes of teaching and learning

Persons to be interviewed on site:

A series of persons will be interviewed, each with a different focus:

- Focus on teaching and learning: Service for Teaching and Learning Support, R&I departments, Program Directors, Staff – 1,5h
- Focus on continuous education/CPD, open and flexible education, MOOCs, OERs: Service for Teaching and Learning Support, Center for Distance Education, Departments involved in MOOCs and OERs, Staff - 1h (if applicable)
- Focus on international education: Director International Policy, Vice-Rector International Policy – 1h
- Focus on students: mainstream bachelor and master students, non-traditional (adult) students – 1h
- Focus on institutional policy: Vice-Rector Education and eventually Vice-Rector International Policy – 1,5h
- Focus on governmental policy: Vice-Rector Education and eventually Vice-Rector International Policy – (time included on former point)

For each focus, the contact person is free to invite one or more people mentioned in the table above or similar, depending on the structure of the institution and the expertise of these persons. **Questions will be sent beforehand to the contact person to allow the institution to prepare the site visit as much as possible.**

On average the interviews will last between 1 and 1,5 hours, to be organized by the institutional contact point.

Suggested Timetable	Guidelines for the interviews:	Interview Partners until now (may change)
9:00 - 10:30	<ol style="list-style-type: none"> 1. Focus on institutional policy: vision, strategies, frameworks & 2. Focus on the relationship between the institution and governmental policy with respect to new modes of teaching and learning 	<ul style="list-style-type: none"> • The Vice Rector for Academic Affairs, Teaching and Learning
10:45 - 12:30	<ol style="list-style-type: none"> 1. Focus on teaching and learning in mainstream degree education (on campus) 	<ul style="list-style-type: none"> • Director Teaching and Learning • Deans, directors, professors of innovative programs (1 or 2)
12:30 - 14:00	Dinner	
14:00 - 16:00	<ol style="list-style-type: none"> 1. Focus on continuous education, open and flexible distance education 2. Focus on international education 3. Focus on students 	<ul style="list-style-type: none"> • Director continuing education/CPD • Director distance education • Support structure for MOOCs • The Vice-Rector International Relations and Head International Office • Students
16:00 – 15:30	Further action	<ul style="list-style-type: none"> • Vice-Rector Academic Affairs

Guidelines for the interviews:

1. Focus on teaching and learning in mainstream degree education (on campus)

Service for Teaching and Learning, R&I Departments, Program Directors, Staff

Lead question 1: Identify most innovative practices involving new pedagogies in new modes of teaching and learning in degree education: e.g. online/blended courses and programs, embracing student-centered learning, a better/in depth acquisition of knowledge through well-conceived learning activities, discussion groups involving peer students and staff, blended/online collaborative projects and practice, constructive knowledge building, social/collaborative/problem-based learning, new approaches to assessment, etc.

What is the state of the art in the institution? Which good practice will most substantially contribute to meeting challenges concerning the quality of the learning experience; linking research, innovation and education; student numbers; graduation time; the cost of education?

- Has the implementation of ICT in your institution affected at all pedagogical approaches in your degree programs?
- If so, identify three examples of courses/curricula in degree programs, which practice innovative digital/blended teaching and learning. How do they contribute to innovation? Do they enhance the quality of teaching and learning: new pedagogies as described above? Do they link in a new way with developing research skills, innovation skills?
- Are innovative pedagogies in the institution bound to particular study domains or faculties or are they wide-spread over all faculties?
- Is learning analytics practiced?
- Is there some evidence that new modes of teaching and learning solve issues of study success and study progress in a degree program? Of dealing with large student numbers?
- Is there evidence that new modes of teaching and learning can be a factor in the cost of a course/programme in the short to medium term?

Lead question 2: Describe the actual institutional organization as a support structure for new modes of teaching and learning and evaluate its effectiveness:

- How is the support for educational innovation for new modes of teaching and learning organized in your university?
- Is it current practice that a (central) teaching and learning service supports the development of courses and curricula taught in new modes of teaching and learning? Does this happen on request from course or program directors?
- Is innovation top-down or bottom-up?
- Is there a standardized approach to learning/course production implemented across the institution? Is collaborative course development practiced, stimulated in the institution? If so, how?

- Is all staff systematically trained in new pedagogies dealing with new modes of teaching and learning/blended education? If not all staff, what is the staff development policy, e.g. on a voluntary basis?
- Does the current institutional electronic learning environment satisfy the needs of teachers and students? Would you like to change the current environment? Is there a policy to accommodate staff with learning environments, which suit better to their course?
- Are new modes of teaching and learning incorporated in the institutional quality assurance framework?

Lead question 3: Investigate the innovative capacity and resilience of the institution with regard to education.

- Does the institution formally (e.g. through an annual review) take stock of patterns of good practice in new modes of teaching and learning or blended courses - both internally and externally - and are they systematically disseminated throughout the institution?
- Are new pedagogies nurtured by research and innovation in this domain from groups within the institution? From elsewhere?
- Is there enough institutional capacity in your institution to accelerate the implementation of new modes of teaching and learning in the next five or ten years? Or to meet new challenges, e.g. MOOCs?
- What are the main barriers for the implementation of new modes of teaching and learning?

Lead question 4: Which arrangements and incentives would accelerate the implementation of new modes of teaching and learning in your institution?

- At the staff and department level: environments, tools; motivation, training
- At the institutional level: pedagogical, organisational
- At the governmental level: funding aspects, recognition
- Which plans and measures would you propose?

2. Focus on open and flexible education

Service for Teaching and Learning, Center for Distance Education, Departments involved in MOOCs and OERs, Staff

Lead question 1: Describe the organization of online and distance education:

- Does the institution organize distance education programs for off campus target groups in the country, region? Eventually for part-time students? Degree programs, corporate programs/ workplace-based learning, CPD courses?
- How many students are registered in these online and distance programs?
- Does the institution set up a specific organization/department for distance education to develop courses and programs and to deliver them to distance students (information, guidance, facilitation of interaction with staff and peer students, organization of tutoring, eventually study centers in the region, tests/assignments and feedback, etc.)?
- Are there links with employment (e.g. work-based learning)?
- Which are the main challenges and barriers for online and distance education in your institution?
- Does online and distance education for off campus students connect with a governmental plan or framework?

Lead question 2: Describe the organization of Open Educational Resources:

- Does the institution currently publish OERs? Have they published in the past and now ceased?
- Does the institution adopt a strategy and plan for publishing OERs?
- What are the most important reasons for the institution to publish OERs: visibility, service to society, opening up education, continuous professional education, facilitating the choice for a study, international education,...
- Does this connect with governmental initiatives, frameworks?
- What are eventual barriers to publish OERs?
- Are OERs from elsewhere used in courses/programs in the institution? To what extent (if known)?

Lead question 3: Describe the organization of MOOCs:

- Does the institution teach MOOCs?
- Does it adopt a strategy or plan for MOOCs?
- What are the most important reasons for the institution to teach MOOCs: visibility, service to society, opening up education, continuous professional education, facilitating the study choice of students, international education,...
- How is the development and delivery of MOOCs supported?
- Does this connect with governmental initiatives, frameworks?
- What are eventual barriers to teach MOOCs?

Lead question 4: Which arrangements and incentives would accelerate the implementation of open and flexible education in your institution?

- At the staff and department level: learning environments, tools; motivation, training
- At the institutional level: pedagogical, organisational
- At the governmental level: funding aspects, recognition of studies
- Which plans and measures would you propose at all these levels?

3. Focus on international education

Director International Policy, Vice-Rector International Policy (1,0h)

Lead question 1: Does the institution involve online/blended international courses/curricula in its international policy:

- Does the institution organize international courses/programs online/ in blended form, accessible for international students?
- Does the institution organize international courses/programs online/in blended form in partnership with institutions abroad (collaborative programs)?
- Do some programs organize international virtual seminars/learning communities/discussion groups/projects online?
- Does the institution organize virtual/blended mobility schemes? In combination with the Erasmus scheme?
- Would the institution recognize/stimulate courses, taken in another institution in the world? What are the opportunities and barriers for doing so? Does this also apply to MOOCs?
- What are the major opportunities and barriers for international online/blended education in your institution?
- Are there legal barriers or barriers related to the funding, quality assurance or accreditation for such initiatives?

Lead question 2: Which arrangements and incentives with regard to new modes of teaching and learning would support international education in your institution?

- At the staff and department level: awareness raising, new approaches to international/collaborative course and curriculum development and (blended/on line) mobility; new types of international partnerships; adapted learning environments, tools; training of staff
- At the institutional level: institutional strategies concerning international programmes and related mobility; organisational support for new types of partnerships involving collaborative courses/ curricula and distance courses/curricula
- At the governmental level: funding aspects, quality assurance and accreditation aspects
- Which plans, arrangements and measures would you propose at the institutional level, the governmental level?

4. Focus on institutional policy: vision, strategies, frameworks

Vice-Rector Education and eventually Vice-Rector International Policy (focus 4 and 5= 1,5h)

Lead question 1 - Institutional vision and strategies: how does the institutional organization support the continuous innovation of all aspects of teaching and learning by digital technologies and blended approaches?

- Has the institution developed a strategic institutional plan/framework for online/blended teaching and learning?
- Does this include open and flexible education (distance education, CPD, OERs, MOOCs,...)
- Does this include international education?
- Does the institution provide incentives, rewards for the implementation of online/blended teaching and learning? Project funding? Does it boost teaching staff's careers?
- Does the institution promote (bottom up and innovative) leadership in new modes of teaching and learning:
 - Leadership in new pedagogies
 - Leadership in subject-related course design: for statistics, law, medicine, engineering, etc.
 - Leadership for the support of international education with new modes of teaching and learning
 - Leadership with regard to the development of open and flexible education and the use of OERs and MOOCs
 - Leadership with regard to quality benchmarking in this area
 - Leadership in research and innovation about new modes of teaching and learning
- Does the institution operate like a space for open innovation in education and new modes of teaching and learning, bringing together an institutional knowledge body and disseminating/exploiting it institution-wide.
- Does the institution promote R&D in online/blended teaching and learning?

Lead question 2 - Explore institutional expectations and ambitions with regard to the new modes of teaching and learning (online/blended):

- What are the institutional expectations with regard to the number of courses taught in blended/online teaching and learning? What will be the picture of institution with this regard in the future (in 5-10 years, ~2025?)
- Will this change the quality of the learning experience? The courses? Student recruitment? Retention? Time to graduation?
- Will this facilitate a better implementation of the knowledge triangle between education, research and innovation in higher education?

- Will this change dealing with student numbers? Interaction with students?
- Will this change cost models of institutions?
- What are the opportunities and barriers internally?
- How will the institution accelerate the implementation of new modes of teaching and learning?

5. Focus on the relationship between the institution and governmental policy with respect to new modes of teaching and learning

Vice-Rector Education and eventually Vice-Rector International Policy (focus 4 and 5=1,5h)

Lead question 1: Do governmental initiatives currently promote new modes of teaching and learning in mainstream degree education? Opportunities, barriers, incentives

- Are new modes of teaching and learning legally recognized?
- Are online students/courses included in funding rules?
- Are there issues with regard to quality assurance or accreditation of online learning?
- Does the institution contribute to governmental policy development, framework building? Is it involved?
- Does the institution connect with current governmental policy for online/blended teaching and learning? Do you benefit from Incentives, opportunities given by the government?
- Are there barriers concerning the implementation of online/blended teaching and learning, which can be removed by the government?
- Does the government provide a framework for open and flexible education, distance education, MOOCs? Does it promote opening up education to off campus target groups through distance education, CPD, corporate training, OERs, MOOCs?
- Does the government stimulate and activate an international courses/programmes, where institutions play a European and global role in some areas?
- Does also the government invest in the continuous innovation of higher education: Is the government sensitive for new developments in the area of new modes of teaching and learning/blended education and does it promote the field by supporting research and innovation, sharing good practices, awareness raising, professional development and policy reports?
- Do intermediate support organizations support the implementation of new modes of teaching and learning in mainstream education, open and flexible distance education, international education? Does the government provide support and funding for doing so?

Lead question 2: Which suggestions of good policy would the institution do to the government?

- Do you prefer that the government leaves all policy issues and challenges to the autonomy of the institutions, as long as it recognizes institutional initiatives ?
- If you were in a government position, what concrete measures would you support/recommend, which you believe could make a substantial difference in the adoption of new modes of teaching and learning?

6. Focus on students

Mainstream bachelor and master students, non-traditional (adult) students (1h)

Lead question 1: Investigate how students currently appreciate the impact of new modes of teaching and learning on the learning experience

- Are students satisfied with the current implementation of new modes of teaching and learning? The quality of the learning experience? Organisational aspects?
- What do they see as the main added value of online/blended teaching and learning?
- Which are the main complaints of students concerning the implementation of new modes of teaching and learning?

Lead question 2: Which arrangements and incentives would accelerate the implementation of new modes of teaching and learning in the eyes of the students?

- At the staff and department level: enriched learning environments, tools; staff training?
- At the institutional level: new pedagogies, organisational aspects
- At the governmental level: funding aspects, recognition, quality assurance
- Which proposals would students do for accelerating the process?

ANNEX 2: Educational Strategy KU Leuven

Educational strategy KU Leuven, May 2018

After a first phase, in which several professors in Faculties of KU Leuven experimented with e-Learning on a small scale, KU Leuven started with Blended Learning around 2001, when an initiative was taken to deploy a Virtual Learning Environment, for which in the end a solution based on Blackboard was chosen. Once a platform was set up, an educational policy “guided self-instruction” was developed, where professors were encouraged to develop online tools to complement real life teaching. Money was competitively allocated to Faculty innovation projects, as well as for local assistance teams, under the umbrella TOLEDO (Toetsen en Leren Doeltreffend Ondersteunen – Efficient Support for Evaluation and Learning). The TOLEDO VLE became the largest such enterprise in Belgium, currently hosting more than 80.000 users and thousands of courses. The deployment of Toledo 2001-2006 at the KU Leuven Campus in Leuven can be considered the second phase.

The local assistance teams – in each Faculty – proved to be key to the success and uptake of the learning environment. These “TOLEDO support team members” reached out to professors in their Faculty, went through the courses and helped to write scenario’s to develop them into a blended course with a TOLEDO presence.

At the same time, KU Leuven put a lot of effort in re-organizing its central support services, where a few measures are important to mention:

The setup of an “ICT for Education” committee where representatives of both the ICT services as well as people from the Educational services were present.

A small steering group consisting of a chairman, a secretary, an ICT project leader and a couple of experts (professors in this case).

A multimedia support unit, that had expertise and capacity to make educational materials such as video lectures, knowledge clips, animations, online quizzes and tests.

A second key enabler proved to be the integration of ICT services for Education into the core ICT services of the university. No separate MOODLE server running on its own, but a highly integrated architecture where the core administrative systems (running SAP software) directly feed into the Blackboard learning environment, so that student enrolments, grades, calendar, exams, etc. are all synchronized. Every student registered at KU Leuven is automatically enrolled in all blended courses on the VLE. This actually meant that students saw the list of all their courses in TOLEDO and would complain if for some courses no online materials were made available. This added peer pressure to the professors who were lagging behind their colleagues in embracing the learning environment.

A third phase can be identified when the TOLEDO environment was deployed across all the Campuses of the KU Leuven Association, creating a large Virtual Campus, 2006-2013.

In a fourth phase, the first MOOC pilots were run from 2013 onwards.

In May 2018, a new Educational as well as a Digital Strategy was published as part of the new KU Leuven Strategic Plan.

The educational strategy of KU Leuven is based on future-oriented education, which is active, cooperative and solution-oriented. It is also aiming at digital innovation in education. Starting from a common vision at both campus and faculty level, expertise and good practices will be shared in the Leuven Learning Lab, supporting teaching and learning by continuous professional development. In an international context, KU Leuven will organize micro masters as a gateway for students to its programs.

Activating education

Future-oriented education is activating education. It is less focussed on listening and cramming knowledge than on actively constructing and processing knowledge. It uses contemporary feedback and evaluation methods. Hence, the learning objectives as embraced by KU Leuven go further than memorising and reproducing.

Scientific (meta) research shows that a deep level activation of students leads to a higher quality of education. Activation starts from a number of variables, both on the lecturer's side as on the student's side.

The Flemish government expects the universities to opt for activating education. This expectation implies that the universities do not let their efforts towards activating education depend on the efforts of a single lecturer. Instead, they should incorporate this vision on education in their institutional policy throughout the university.

Digital innovation.

The KU Leuven policy plan for educational technology aims for digital innovation in education.

Learning and teaching can be supported by technology in a much more powerful way than is currently the case. Educational technology creates countless new possibilities but requires a well-considered policy.

KU Leuven is using one unique learning platform, called Toledo. This is a full-fledged learning platform (based on Blackboard).

In the vision of KU Leuven, Toledo will only remain relevant, if it can also be used for more complex learning tasks and for the automatic and semi-automatic generation of feedback. Only then, it will become a personalized learning environment for students and enable teaching staff to exploit the opportunities for teaching and learning in this environment.

KU Leuven is also planning to create an online examination platform and exam centre as a complement to the online learning platform. By the independence of place and time, this can be a great help for working students. Exams can be taken by appointment.

This requires an up-to-date infrastructure, founded on reliable and solid IT foundations. A proper network infrastructure and adjustments to the latest developments are to be continuously developed, which cannot be achieved without continuous efforts. Old classrooms are not suitable for digital education. A technological update - well spread out, scalable and financially feasible - forms the essential link to incorporating technology in contemporary university education.

Leuven Learning Lab

The Leuven Learning Lab (LLL) will become the expertise centre for everything related to new pedagogies and educational technology. The LLL will support teaching staff by continuous professional development in teaching and learning. It will also contribute to a strong network between campuses and faculties.

Innovation in education, especially when involving innovative technology, should be well-framed and supervised, starting from a shared vision at both campus and faculty level. The LLL will allow KU Leuven to build a network of expertise at the service of the entire university. A substantial number of best practices will be shared as well.

Each year, a number of new technologies will be implemented, first in a testing phase, later university-wide. This can include technologically advanced, but also very promising techniques from the field of, for instance, artificial intelligence or augmented reality.

MOOCs need to grow

KU Leuven already has a dozen MOOCs (Massive Open Online Courses), but it will offer a wider range, especially because MOOCs can contribute to our international reach. By combining MOOCs into MicroMasters, we can create a gateway to KU Leuven for international students. Calls will be launched regularly to develop (well-supported) MOOCs.



Correspondence

European Association of Distance Teaching Universities (EADTU)
att George Ubachs, Managing Director
Parkweg 27, 6212 XN Maastricht, The Netherlands
Tel: +31 43 311 87 12 | E-mail: secretariat@eadtu.eu
www.eadtu.eu | empower.eadtu.eu



2018, European Association of Distance Teaching Universities (EADTU)



Co-funded by the
Erasmus+ Programme
of the European Union