vlaamse onderwijsraad

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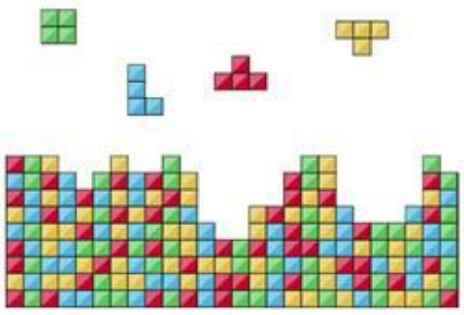
The curriculum in higher education challenged

Final text of the Erasmus+-project on curriculum design

April 18, 2018



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1 Context

The society of the 21st century faces a large number of challenges in social, cultural, economic, demographic and technological fields. In order to give to the graduates the appropriate skills enabling them to participate actively and meaningfully, while helping to shape a rapidly evolving society, increasing demands are being placed on the curriculum. In this sense, higher education is increasingly expected to strengthen internationalisation, innovation, employability, citizenship, democracy, sustainability, social commitment, interdisciplinarity … In one way or another, these elements should be translated into the curriculum. In the framework of the Erasmus+-project, the Flemish Education Council (Vlor) reflected on how institutions can deal with this challenge.

The Vlor conducted a project that was applied for by the Flemish Ministry of Education and Training. The present final text is the result of debate in the steering group and exchange with European experts. The steering group of the project[1] drafted a discussion text and presented this text to a small group of international experts. During a workshop in May 2017[2], they reflected and discussed on the text, in order to co-write the final reflection text. The text has also been completed and enriched at the occasion of a Peer Learning Activity (PLA) in November 2017 (part 1)[3] and in March 2018 (part 2)[4], where speakers from different countries presented a number of cases.

The current text is not the closing point. The Vlor hopes that the findings of this project will inspire further debate in the higher education institutions and reflections on curriculum design.

2 A European trend towards greater transparency: including in Flanders

Flemish higher education has undergone a profound change in recent decades, driven by a number of international trends. Some of these evolutions have a direct or indirect effect on the way in which curricula are designed today.

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[1] The steering group has been composed within the Vlor and chaired by Cis Van Den Bogaert (University Antwerp). The other members of the steering group: Tine Aelter (Flemish University Colleges), Jo Breda (Flemish Inter University Council), Quinten Desmyter (Flemish Student Association), Rachelle DuBois (Flemish Student Association), Bart Hempen (Flemish University Colleges), Yvan Hysentruyt (Flemish Student Association), Emel Kilic (Socio-Cultural Partners), Maxime Leurquin (Flemish Student Association), Pieter Soete (Accreditation Organisation of the Netherlands and Flanders – NVAO), Hugo Uvin (Trade Union), Patrick Van den Bosch (independent observer and rapporteur, Quality Assurance Unit of the Flemish Higher Education Council – VLUHR QA), Ellen Vandenplas (Flemish Ministry for Environment, Nature and Energy), Noël Vercruysse (Flemish Ministry of Education and Training), Piet Verhesschen (Flemish Interuniversity Council), Hilde Willaert (Trade Union). The secretariat of the steering group, for content and logistic matters, was taken up by Isabelle De Ridder and Carine De Smet.

[2] Experts who participated at the workshop on 2 May 2017 in Brussels: Ben Brabon (Higher Education Academy, UK), Liz Thomas (Edge Hill University, UK), Bruce Macfarlane (University of Southhampton, UK), Michaela Horvathova (Centre for Curriculum Redesign, UK), Tine Sophie Prøitz (University of Southeast Norway).

[3] Countries participating at the PLA on 16 and 17 November 2017 in Brussels: Belgium (Flanders), Denmark, France, Iceland, Croatia, Netherlands, Slovenia, UK, Sweden.

[4] Countries participating at the PLA on 9 and 10 March in Rome: Belgium (Flanders), Italy and Spain.

2.1 The Bologna Process[5]

The Bologna Process aims to bring more transparency to European higher education. There is the tendency there to introduce the three-tier bachelor's, master's, and doctorate structure in all 48 countries of the EHEA[6]. Flanders did so in 2003.[7] An attempt is also being made in Europe to standardise the number of credits for bachelor's and master's degrees. The introduction of ECTS[8] (and ECTS sheets) hereby enhances comparability. The Dublin descriptors monitor the target level of a bachelor's, master's and doctorate programme.

2.2 European Qualification Framework[9]

The introduction of a European Qualifications Framework and its translation into national and regional qualification frameworks make it possible to classify programmes into levels, also those of higher education. In order to shape this classification, learning outcomes are used. The framework informs society, employers and students about the programme's intended objectives. This also makes it possible to compare programmes. Also to this aim, describing learning outcomes is essential.

In Flanders, the European Qualifications Framework has been translated into the Flemish Qualifications Framework in 2009.[10] Recently, the structure of higher education was completed with the so-called 'short cycle' in the form of graduate programmes.[11] Graduate, bachelor, master and doctorate programmes are assessed at respectively levels 5, 6, 7 and 8 of the Flemish qualification structure.

2.3 Quality insurance

One of the objectives of the Bologna Process is to achieve European cooperation in the area of quality assurance in European higher education and to develop more comparable criteria and methodologies. To this end, the European Association for Quality Assurance developed the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).[12]

Flanders initially developed an (external) quality management system of programme accreditations. Each programme was monitored by an external independent committee, potentially followed by accreditation. Due to the strong focus on training assessment, the broader perspective of the institution's offer became compromised. It was therefore decided to introduce an institutional review, from 2015-2017. The institutional review is a periodic review by an external committee. The institutions are expected to develop their own direction for the quality assurance of their programmes. The assessment of a course is based on a discussion with peers

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[5] http://www.ehea.info/
[6] European Higher Education Area
[7] *Decree on the restructuring of higher education in Flanders*, 4 April 2003
[8] European Credit Transfer System
[9] https://ec.europa.eu/ploteus/en
[10] *Decree on the Flemish Qualification Structure*, 30 April 30 2009
[11] Draft decree on the expansion of graduate programmes in the colleges and transferring measures for teacher programmes. First Principal Approval by the Flemish Government on 14 July 2017.
[12] Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). (2015). Brussels, Belgium.

and other experts on the content and quality of the programme and provides answers to three key questions:

- What is the aim of the programme?
- How does the programme realise this?
- To what extent are the aims achieved?

In the new quality assurance system, the quality of the programmes will be demonstrated through the quality characteristics[13]. These are characteristics of quality higher education programmes and are linked to the (reviewed) 'European Standard and Guidelines'(ESG):

- The learning outcomes of the programme constitute a clear and programme-specific translation of the international requirements related to level, content and orientation;
- The curriculum of the programme takes into account recent developments in the field and is societally relevant;
- The teaching staff offers to the students maximal possibility to achieve the learning outcomes;
- The programme offers to the students adequate and easily accessible provisions and study guidance;
- The teaching and learning environment stimulates students to play an active role in the learning process and contributes to a smooth study progress;
- The assessment of the students reflects the learning process and concretises the intended learning outcomes; the programme provides complete and easily readable information on all phases of the study career;
- Information on the quality of the programme is publicly accessible.

The Codex on Higher Education states that each Flemish institution of higher education prescribes learning outcomes for each programme and each programme component. Moreover, the institutions describe domain-specific learning outcomes based on the general level descriptors and coordinated by the umbrella organisation for universities (VLIR) and colleges (VLHORA). This description is validated by the NVAO.[14]

3 What are learning outcomes?

3.1 Domain-specific learning outcomes[15]

Domain-specific learning outcomes are defined as competences, namely skills to integrate knowledge, skills and attitudes into action for social activities.[16] They are issued jointly. They form a framework: a learning outcome framework that allows for the global positioning of the programme. This framework outlines the characteristics of the programme and determines the common core for the different providers. It is in any case the reference framework for students,

[13] NVAO, Kwaliteitscode – Vlaanderen 2015-2017
[14] https://www.nvao.net/
[15] Melis, L. 2010. The description of learning outcomes and profiling of programmes. Topic (5), 44 – 48.
[16] *Decree on the Qualification Structure*, 30 April 2009.

society, quality assurance services and professionals. However, use of a common learning framework does not imply that the programmes organised by the different providers must be uniform. Each provider is free to decide on its own profile, its own programme, and its own approach, albeit within a mutually agreed and validated reference framework.

The domain-specific learning outcomes form an integrated, coherent whole, that constitutes a framework for the programme. They describe the programme as a whole and do not address the internal structure of the programme. The organisation of the programme components and their mutual relations are not addressed at this level. These issues are up to the provider. Domain-specific learning outcomes focus on the typical characteristics that form the core of the programme, without being used as a checklist.

Programmes are the same if they have the same domain-specific learning outcomes. Institutions may use different curricula for the same programmes and thereby determine their identity. An institution must issue domain-specific learning outcomes for each programme that fit into the reference framework of the domain-specific learning outcomes.

3.2 Intended and achieved learning outcomes

In the Bologna process, 'intended learning outcomes' are defined as 'statements of what a student is expected to know, understand and be able to do at the end of a period of learning'.[17]

Aerden (2015) defines 'Achieved learning outcomes' as 'demonstrated through the assessment of students'. These assessments show that all students actually achieve the intended learning outcomes. This also means that all the programme's learning outcomes need to be assessed, otherwise achievement cannot be demonstrated.'[18]

4 What is a curriculum?

4.1 Possible definitions

We do not find one, all-encompassing definition of 'curriculum' in literature. Different definitions of 'curriculum' are given:

- Aerden (2015): 'A coherent and structured set of educational content (courses, modules, etc.) covered by a programme and, when completed successfully, leading to a degree'.[19]
- Eisner (1979): 'The curriculum of a school, or a course, or a classroom can be conceived of as a series of planned events that are intended to have educational consequences for one or more students'.[20]
- Valcke (2013): 'Essentially a plan to support learning. It consists of objectives to focus learning; three types of decisions (1) selection and organisation of content, (2) choice of

[17] Bologna Follow-Up Group. (2005) *Framework for Qualifications of the European Higher Education Area.* Copenhagen. p. 29.
[18] Aerden, A. (2015). 'An introduction to international and intercultural learning outcomes'. European Consortium for Accreditation: Occasional Paper.
[19] Aerden, A. (2015). 'An introduction to international and intercultural learning outcomes'. European Consortium for Accreditation: Occasional Paper.
[20] Eisner, E.W. (1979). *The educational imagination*. *On the design and evaluation of school programs.* New York, NY: Macmillan Publishing. Pp.21-134.

learning experiences that one wants to provoke so that the contents are appropriately manipulated, (3) a plan containing the optimal learning conditions.[21]

These definitions emphasise that the curriculum

- has a structural and planned aspect;
- is targeted; it enables the student to achieve a programme;
- encourages learning through a programme.

4.2 Profiling through the curriculum

The curriculum of a programme in higher education is determined by the institution. The curriculum of the same programme may vary from one institution to another. Individual institutions use the curriculum of a programme to distinguish themselves, for example in the degree of integration of 21st-century competences.[22]

A curriculum reflects what the institution considers relevant to a particular programme. The institution has checked this in the field and with other stakeholders. A curriculum is dynamic and constantly developing. It can be customised if the institution considers it necessary, for example as a result of societal changes and scientific developments.

A curriculum also allows the freedom of choice of the student: some contents of the curriculum are required, while others are optional. In the perspective of the self-guidance of the students in view of enhanced study success, the curriculum provides guidance to the student.[23] The student also has certain expectations with respect to the curriculum which an institution may or may not anticipate. The institution must naturally also clearly communicate the choices it has made in order to avoid raising false expectations towards the student or the labour market.

4.3 The power of the curriculum

4.3.1 Multiple objectives

Some authors emphasise the strength of the curriculum given its multiple roles. It can foster the student's development of cognitive processes, encourage growth in various disciplines or provide personal sense-giving. It can serve society, ensuring that students are able to approach society critically, or preparing students for the labour market.[24]

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[21] Valcke, M. (2013). *Krachtige leeromgevingen.* Leuven: Acco

[22] Voogt, J. & Roblin, N.P. 2012. 'A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies'. *Journal of Curriculum Studies,* (44, 3), pp. 299-321. Based on a literature review of models of 21st century competences, the authors list the following competences people should acquire in order to be able to contribute to the knowledge society: communication, ICT-literacy, social and/or cultural competences (incl. citizenship), creativity, critical thinking and problem solving competences.

[23] Dochy, F., Berghmans, I., A.K. Koenen & M. Segers. 2016. *Bouwstenen voor High Impact learning. Het leren van de toekomst in onderwijs en organisaties.* Amsterdam: Boom Uitgevers.

[24] Eisner, E.W. (1979). *The educational imagination. On the design and evaluation of school programs.* New York, NY: Macmillan Publishing. Pp.21-134.

4.3.2 The inclusive curriculum

Other authors stress that the curriculum is what students have in common: 'Curriculum is what all students have in common, irrespective of their diversity, and is within our institutional control'.[25] Thanks to this sense of belonging and engagement, an inclusive curriculum contributes to study success. The sense of belonging (not just learning, but also experiencing) is a strong catalyst for (study) success.[26] Brabon sees an inclusive curriculum as a step towards an inclusive society. Only by making curricula more inclusive, can higher education fulfil its role as a driver of change and social mobility.[27] This is a statement that is also defended by Squires and Birdi.[28]

4.4 Different approaches to the curriculum

The curriculum can be approached as an organisational instrument (a policy or management instrument).[29] Institutions, in this case, use the curriculum to shape programmes. It is a format with which arrangements are made with teachers and students about the organisation of content, the choice of educational activities, evaluations, sequence, and certification.

The curriculum can also be seen as an educational platform.[30] The theoretical construct, or script - which is a curriculum - is put into practice by students and teachers.

Finally, the curriculum can also be an instrument that leads to a product (diploma, credits) which a graduating student can use professionally.

4.5 Explicit/implicit curriculum

The curriculum does not have to be explicitly elaborated. It can also be implicit.[31] The implicit curriculum includes the unwritten standards. This mainly surfaces in the interaction between student and teacher. Moore (2005) states the following: 'The hidden curriculum often reflects societal values, such as rewarding great success, ignoring average performance, and criticizing or punishing failure. The social 'pecking order' – in terms of gender, language, cultural differences, and socioeconomic status – is an inherent part of the hidden curriculum.'[32]

4.6 Elements of the curriculum

When designing or revising a curriculum, an institution should take into account or give shape to a number of structurally imposed decree provisions:

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[25] Thomas, L. 2015. 'Developing inclusive learning to improve the engagement, belonging, retention and success of students from diverse groups.' In Mahsood Shah, Anna K. Bennett, Erica Southgate (eds). *Widening Higher Education Participation: A Global Perspective.* London: Chandos Publishing. Chapter 9.
[26] Brabon, B. 'Universal Design for the experience Economy'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[27] Brabon, B. 'Universal Design for the experience Economy'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[28] Squires, J. & A. Birdi, 'Curriculum design: an example from the UK: Bristol University'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[29].See also Prøitz, TS 'Governance, teaching and learning in higher education – what are learning outcomes for?' Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[30].See also Prøitz, TS 'Governance, teaching and learning in higher education – what are learning outcomes for?' Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[31] Hewitt, T. W. (2006). *Understanding and shaping curriculum. What we teach and why*. Thousand Oaks, CA: Sage Publications.
[32] Moore, K. (2005). *Effective instructional strategies.* London: Sage Publications. p.44

- study load of the programme;
- domain-specific learning outcomes;
- connecting programmes (inflow, outflow)
- programme components;
- division into academic years;
- study paths (model path, individualised learning path);
- Bachelor's thesis/Master's thesis;
- internship.

The institution also translates its vision of education or educational concept into the curriculum:

- the programme-specific learning outcomes (desired competency development);
- the teaching language;
- the division of the academic year into semesters, modules ...;
- the sequence of programme components;
- the programme flexibility (electives, major/minor ...);
- the work and test types;
- the study material;
- the studiability (time students are expected to spend on educational activities, the processing of the material and evaluations);
- the teachability (professionalization of teachers and capacity);
- career guidance (inflow, flow and outflow)
- infrastructure (classrooms, ICT, accessibility).

Within the concept of 'curriculum', the concept of 'learning outcomes' is crucial. After all, the learning outcomes determine what the curriculum aims to achieve. Learning outcomes can be defined and interpreted in different ways (see more in point 5).

5 Relationship curriculum/learning outcomes: the selection of learning outcomes

Aerden (2015) states that 'the curriculum should provide students with the necessary learning opportunity to achieve the intended (...) learning outcomes. If, for instance, the graduates of a Bachelor of Nursing are intended to *"be able to teach, supervise and assess junior colleagues in professional practice"*, the curriculum should cover (and assess) this type of teaching, supervising, and assessing.'[33]

Learning outcomes are a fundamental concept in curriculum design because they determine what should ultimately be achieved by the curriculum. Learning outcomes are a translation of the expectations of society with respect to a programme.[34] This vision makes the learning outcomes

[33] Aerden, A. (2015). 'An introduction to international and intercultural learning outcomes'. European Consortium for Accreditation: Occasional Paper.
[34] For the translation of 21st century skills into learning outcomes, see, for example, 'Four-dimensional education. The Competences Learners Need to Succeed' (2015). Center for curriculum redesign.'

the starting point and the core of curriculum design.[35] Through the curriculum, students can develop competences that are broader than the individual programme components, such as 21st century competences.[36]

Important social themes can find their way to the curriculum through a translation of the learning outcomes. It is up to institutions and stakeholders to ensure that the programmes remain societally relevant and adequately integrate these themes.

The term 'learning outcome' is a layered concept, just like 'curriculum'. They can be used as a management tool (at national level, at institution level, at programme level), but also as an educational tool at the level of the programme component.[37]

In order to determine the learning outcomes, consultation is required with the stakeholders, including the work field. The selection made determines the identity of the programme. Prøitz (2017), for example, warns against learning outcomes that are excessively economically driven.[38] She also states that learning outcomes can be of a very different nature: they can define specific key competences or broad, generic competences. Learning outcomes can

- be of a different type (Gagné, 1974)[39] – 'intellectual skills, cognitive strategies, verbal information, motor skills, and attitudes';
- be 'expressive outcomes' (Eisner, 1979) – 'outcomes of learning where purposes are formulated in the process of action itself as outcomes become emergent and clearer during the learning process'.[40]
- be 'value-added learning results' (from the learner's own unique journey (Buss, 2008)).[41]
- encompass all learning products (Buss, 2008).[42]

Dochy[43] stresses the fact that learning outcomes should not become a checklist, blocking all creativity and innovation. Prøitz (2017) states that the definition of learning outcomes at general policy levels has to leave sufficient room for the functioning of learning outcomes at the teaching and learning level.[44]

The question is whether learning outcomes can contain everything that a society expects from higher education graduates. Can 'attributes' such as perseverance, ethical behaviour, etc. be included in this?[45] For Horvathova (2017), these 'attributes' are included in the so-called 21st

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[35] Prøitz, T.S. 'Governance, teaching and learning in higher education – what are learning outcomes for?' Presentation at the Vlor workshop of 2 May 2017 on curriculum design
[36] Horvathova, M. '21st Century Competences'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[37] Prøitz, T.S. 'Governance, teaching and learning in higher education – what are learning outcomes for?' Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[38] Prøitz, T.S. 'Governance, teaching and learning in higher education – what are learning outcomes for?' Presentation at the Vlor workshop of 2 May 2017 on curriculum design
[39] Gagné, R.M. 1974. *Essentials of Learning and Instruction*. Illiniois: The Dryden Press Hinsdale.
[40] Eisner, EW (1979). *The educational imagination. On the design and evaluation of educational programs*. New York, NY: Macmillan Publishing, 1985(1994), 2002.
[41] Buss, D. 2008. 'Secret destinations.' *Innovations in Education and Teaching International,* 45 (3), pp. 303-308.
[42] Buss, D. 2008. 'Secret destinations.' *Innovations in Education and Teaching International,* 45 (3), pp. 303-308.
[43] Dochy, F. 'High impact Learning that Lasts'. Keynote Presentation at the Vlor PLA on 16 and 17 November 2017 on curriculum design.
[44] Prøitz, T.S.'Governance, teaching and learning in higher education – what are learning outcomes for?', Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[45] Brabon, B. 'Universal Design for the Experience Economy'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.

Century Competences, which break down into a four-dimensional model of 'skills', 'knowledge' ('what we know and understand'), character '('how we behave and engage in the world') and 'meta-learning '('how we reflect and adapt').[46] These skills can be translated into learning outcomes and integrated into the curriculum. According to Macfarlane, these 'attributes' translate into knowledge, skills and attitudes.[47]

6 How can the curriculum offer answers to increasing societal needs?

The societal expectations towards higher education are high, but at the same time there is a reluctance to increase the study load of the programmes. Policy makers in higher education want to avoid having to increasingly stack programme components or modules to translate their learning outcomes into the curriculum. But how could it be done differently?

6.1 Focus

Macfarlane (2017) states clearly that not everything should be part of a curriculum. Focus and a clear goal are important in this regard. [48] The ultimate goal must be to form critically-minded, intellectually independent graduates who can adapt and contribute to the development of society and the economy. In other words, students should not get everything handed to them; graduates should be able to develop themselves through an open attitude and a desire to learn. Ravn (2017) agrees that choices have to be made. [49] Focus is important, but within the framework of the vision of the institution.

6.2 Independent learning

For Thomas (2017), these additional societal expectations can be realised through 'independent learning'. Higher education must teach students to think rather than to transfer knowledge and make them reproduce knowledge. Quality higher education integrates contact hours and independent learning in a balanced way. Although there is no single preferred definition of independent learning, they all relate to the concept of student-centred learning. Independent learening is not simply what happens outside of contact hours but relates to the role of students as enquirers and to their needs as learners. Liz Thomas et al. identified the following purposes and/or benefits of independent learning: developing and extending subject knowledge; personal

[46] Horvathova, M. '21st Century Competences'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[47] Macfarlane, B. 'Integrating the curriculum based on the principle of student academic freedom'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[48] Macfarlane, B. 'Integrating the curriculum based on the principle of student academic freedom'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[49] Ravn, J. 'Curriculum design from an international perspective', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

and professional development; skills and cognitive development; developing a community of learners to work together and provide peer support.[50]

Research in the UK[51] indicates that students are still having trouble learning independently. They don't know the material, are not motivated and often do not know how to go about things. They must therefore be given the necessary tools during the contact hours. It is very important that they are pointed in the right direction by the teachers and receive regular (formal and informal) feedback on this. It is important that institutions think about a vision on independent learning and properly communicate with students about this.

6.3 Universal design for learning

Inclusive curricula are strong drivers for an inclusive society, says Brabon (2017).[52] The inclusive (accessible) curriculum, intended for all students 'to the greatest extent possible' (without the need for adaptations and specialised design) and which enables social mobility, can be designed through universal design for learning. He emphasises the importance of a variety of experiences, partnerships, flexibility and 'belonging'.

The following principles are important in inclusive curriculum development:

- Learning is enriched by different experiences and different students;
- Accessible learning is relevant and accessible to all students;
- The curriculum and the way it is delivered is part of this accessibility;
- Students with full access to 'learning and teaching' are more likely to study deeply.

6.4 Interwoven competences and the importance of interdisciplinarity

Referring to 21st-century competences, Horvathova (2017) states: 'Many of these competences will not be offered as independent courses or modules in a school's curricular offering, and must be intentionally interwoven into the relevant parts of existing learning activities. In fact, it is likely that they are generally best learned when grounded in the context of concrete knowledge domains'.[53] She also emphasises that not everything has to be included in the curriculum and that these competences can also be acquired outside the school/programme/institution. This statement is supported by Schram and Geirsdóttir (2017).[54]

Ravn (2017) agrees that, in order to acquire 21st century competences, overcharging the existing curriculum with extra competences is not the good strategy.[55] On the contrary, the curriculum has

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[50] Effective practice in the design of directed independent learning opportunities, L. Thomas et al., The Higher Education Academy, 2015, York, UK.
[51] Thomas, L, Hockings, C., Ottaway, J. and Jones R. (2015) *Independent learning: Student perceptions and experiences.* York: HEA. Thomas, L., Jones, R. and Ottaway, J. (2015) *Effective practice in the design of directed independent learning opportunities*. York: HEA and QAA. Jones, R. (2015) *Compendium of effective practice in directed independent learning*. York: HEA.
[52] Brabon, B. 'Universal Design for the Experience Economy'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[53] Horvathova, M. '21st Century Competences'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[54] Schram, A. B & G. Geirsdóttir. 'Curriculum design in Iceland'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[55] Ravn, J. 'Curriculum design from an international perspective', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

to be redesigned from zero. According to Ravn (2017), this has to be done in an interdisciplinary way. He points out that an interdisciplinary curriculum is not the sum of two curricula. In order to realize a curriculum that is as interdisciplinary as possible, an institution needs to be organised in a decentral way, allowing all faculties and departments to innovate in freedom. This requires a common central vision and a strong institutional management. Gruden (2017) points out that interdisciplinarity is easier to achieve in one study domain than in another; according to her, interdisciplinarity depends strongly from the context.[56]

6.5 Self-guidance

Demedts (2017) states that the curriculum can create the conditions for students to learn, but that the real deep learning, in the end, will have to be realised by the student himself.[57] The student himself is responsible for what he learns. It is the task of the higher education institution to provide him with the right tools, stimulating active learning. This is the only way to acquire the competences that are broader than the programme components, such as the so-called 21st century competences.

6.6 Interdisciplinarity

Kandiko & Blackmore (2012) see interdisciplinarity as a way to broaden the curriculum.[58] The Vlor also pleads for more interdisciplinarity in education and research, in its recommendation on higher education in the 21st century.[59] Complex challenges can be better addressed through interdisciplinary knowledge. Interdisciplinary cooperation sometimes leads to new concepts, models and methods, and can lead to new forms of cooperation, projects and resources. Simple answers are no longer sufficient in a quickly evolving complex society. That is why the Flemish Education Council recommends exploring existing models that integrate exact and human sciences. At the occasion of a conference organized by the Vlor on this topic, reference was also made to Community Service Learning, whereby students are involved in projects, for instance in development cooperation.[60] Kandiko & Blackmore (2012) agree that in projects related to community engagement, all competences that are expected to be acquired by a graduate, are encompassed. At the same time, these projects have their intrinsic value for society.[61]

Cullen, Harris and Hill (2012) also refer to the quick and huge societal developments as an argument to learn students to apply and integrate knowledge to handle challenging and authentic

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[56] Gruden, V. 'Curriculum design in Slovenia: an example from the Design faculty at the University of Primorska', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[57] Demedts, L. 'New generation curriculum design. Introduction of self-guidance in the curriculum in order to achieve 21st century skills'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[58] Kandiko, C.B & P. Blackmore. 2012. 'Shaping the curriculum'. In Blackmore, P. & C.B Kandiko. 2012. *Strategic curriculum change*. London: Routhledge. pp.73-91.
[59] Vlaamse Onderwijsraad, Raad Hoger Onderwijs, *Uitdagingen voor het Vlaamse hoger onderwijs in de 21ste eeuw*, 13 november 2012.
[60] https://www.vlor.be/activiteiten/verslagen/interdisciplinariteit-het-hoger-onderwijs en De Ridder, I., Van Den Bogaert, C. & K. Versluys. 2016. 'Interdisciplinariteit in het hoger onderwijs'. *T.O.R.B.* (2016-2017, nr. 1-2), pp. 75- 81.
[61] Kandiko, C.B & P. Blackmore. 2012. 'Shaping the curriculum'. In Blackmore, P. & C.B Kandiko. 2012. *Strategic curriculum change*. London: Routhledge. pp.73-91.

questions.[62] They point out that too strictly disciplinary study pathways hinder the development of higher knowledge, such as synthesis and creativity; they plead for a curriculum design that offers students the possibilities of integrated learning, organised around challenges or cases rather than around content related to a discipline.

6.7 Joint programmes

Mendikoetxea (2017) advances joint programmes as a way to respond to the requirements of society.[63] Joint programmes have been set up in the framework of the European Higher Education Area, and are strongly promoted by the Bologna process. The objective is to promote student and staff mobility, but also to improve mutual learning and to create opportunities for cooperation. If the joint programme is designed with care, a joint programme also offers added value in the field of curriculum design. It is not just about putting together the components of both programmes, but to establish an interwoven offer. To realize this, is still a challenge today. Sometimes national legislation is a barrier.

6.8 Workplace learning

Workplace learning encompasses learning activities aimed at acquiring general or professional competences, whereby the work floor is the learning environment.[64] It can take different forms in higher education: an observation or orientation internship, a working internship, a business project, etc. In workplace learning, the competences from the programme are broadened and deepened. At the same time, competences from different aspects of the programme are put together. Cerruti (2017) stresses that involving the work floor in the study programme, is a way to realise interwoven competences in the curriculum. This can also be realized through the involvement of teaching staff and coaches from the world of business.[65]

7 Curriculum design in the higher education institution

7.1 Continuous development of a curriculum

Development or the continued development of a curriculum is an intensive and cyclical process. Curriculum (re)design is not a linear process. A curriculum is developed, implemented, evaluated and adjusted. Brabon (2017) argues that curriculum development requires thinking about 'aim, objectives, intended learning outcomes and attributes'.[66]

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[62] Cullen, R., Harris, M. & R.R. Hill, 2012. *The learner-centered curriculum: design and implementation,* San Francisco: Jossey-Bass.
[63] Mendikoetxea, A. 'Joint programmes'. Presentation at the Vlor PLA of 8-9 March 2018 on curriculum design at Tor Vergata, Rome.
[64] Codex Secondary Education article 123/2. This definition was taken over in the draft decree on graduate programmes (in the Codex Higher Education moint 77°/1 to be added in article I.3).
[65] Cerruti, C. 'Master in Business Administration'. Presentation at the Vlor PLA of 8-9 March 2018 on curriculum design at Tor Vergata, Rome.
[66] Brabon, B. 'Universal Design for the Experience Economy'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.

7.2 Need for a clear vision of the institution

Gillois (2017) emphasises the importance of the integration of curriculum design in the vision and strategy of the institution.[67] The higher education institutions start from their own vision on education. This is achieved through a dialogue with faculties/departments/disciplines, stakeholders (teachers, students, graduates, work field), the government and possibly other societal actors. Subsequently, the programmes are encouraged to implement these guidelines. Ravn (2017) also stresses the importance of the vision of the institution and of a strong institution management.[68]

7.3 Stakeholder involvement

As with any innovation process, it is important to convince teachers and students of the importance of the development. By extension, it is necessary to generate support from all the stakeholders.

7.3.1 Students

Macfarlane (2017) emphasises student involvement ('engagement is not coercion and surveillance') and the fact that 'students should own the curriculum in the sense that the boundaries of their studies should be shaped by their interests, intellect and passions.'[69] Squires and Birdi stress the need for student involvement in their example of curriculum reform at the university of Bristol. A curriculum is a microcosm in which experiments can be conducted with active involvement of the students. Curriculum (re)design is realised through co-creation. [70]

The research of Dochy (2017) shows that self-regulation leads to more intrinsic motivation and better performance of students. [71] Opportunities to choose have a positive impact on study results. Today's students, the so-called millennium students, are different from the students of yesterday. They are more and more used to learn from different sources, and from moving images. Their learning is no longer linear, but takes places at different places and in a discontinue way. The curriculum has to take this into account. That is why Dochy proposes the concept of 'high impact learning'.[72]

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[67] Gillois, P. 'Curriculum design in France: an example from Grenoble Alps University', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[68] Ravn, J. 'Curriculum design from an international perspective', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[69] Macfarlane, B. 'Integrating the curriculum based on the principle of student academic freedom'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design.
[70] Squires, J & A. Birdi, 'Curriculum design: an example from the UK: Bristol University', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[71] Dochy, F., Berghmans, I., A.K. Koenen & M. Segers. 2016. *Bouwstenen voor High Impact Learning. Het leren van de toekomst in onderwijs en organisaties.* Amsterdam: Boom Uitgevers
[72] Impact is defined as the possibility to use adequately the acquired knowledge, skills and attitudes in diverse situations. The HILL model ('High Impact Learning that Lasts') of Dochy et al. proposes seven building blocks that contribute to a bigger and more sustainable impact: a sense of urgency, the experience of a 'gap' or a problem (1), self-management and learner agency (2), collaboration, interaction and coaching (3), hybrid learning environment (4), action and sharing of knowledge by the learner (5), flexibility in formal and informal learning (6) and use of assessment in order to improve learning and as a way of learning (7).

Demedts (2017) also points out the importance of student involvement and the importance of safeguarding their autonomy. [73] She states that making students responsible for their pathway is an important key for the reform of the curriculum, for instance in view of integrating 21st century skills. Motivated students, who take up responsibility in one way or another for their own pathway and objectives, this is according to Demedts the basis of a successful curriculum reform. From the very beginning of their studies, students have to learn to see and act from the point of view of the different learning outcomes, discover themselves learning opportunities in the curriculum, engage in a dialogue with the teaching staff (co-creation), and have the opportunity to integrate experiences from outside the programme in the curriculum.

7.3.2 Teaching staff

Thomas (2017) and Gunnlaugsson (2017) emphasise the importance of 'staff development' and professional development. [74] [75] It is, after all, the teaching staff that implements the curriculum. Demedts (2017) stresses the need for a dialogue with the teaching staff. This way, the curriculum is design through co-creation.[76]

7.3.3 Broader society

Giving 'community service learning' (CSL) a place in the curriculum is a way to involve broader society and to respond to all actual societal trends. Through CSL, students can take up an engagement in the society, but also apply 21st century skills in practice, in an integrated way. This way, internationalisation, sustainability, employability etc. can be addressed.[77]

7.4 The importance of organisational elements for curriculum design

Ravn (2017) points out the importance of the internal organisation of the institution for facilitating and supporting curriculum design (see also point 6.4)).[78] Crnčić Sokol and Luketić state that, at a macro-level, institutions need to be given the legal freedom to be responsible for the curriculum they offer. They stress the importance of international project funding for those countries that are still in the process of implementing Bologna reforms.[79]

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[73] Demedts, L. 'New generation curriculum design. Introduction of self-guidance in the curriculum in order to achieve 21st century skills'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design. See also Demedts, L. & H. Van Puyenbroek. (2016). 'Nieuwe generatie curriculumdesign. Introductie van zelfsturing in het curriculum om 21st century skills te kunnen bereiken.' *Onderzoek van onderwijs* (45, December). Pp. 16-21.

[74] Thomas, L. 'Using independent learning to develop the higher education curriculum for the 21st Century'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design

[75] Gunnlaugsson, G. 'Curriculum design in Sweden: an example form Uppsala University'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design

[76] Demedts, L. 'New generation curriculum design. Introduction of self-guidance in the curriculum in order to achieve 21st century skills'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

[77] Draaijer, S. 'Curriculum design in the Netherlands'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

[78] Ravn, J. 'Curriculum design from an international perspective', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

[79] Crnčić Sokol, M. & D. Luketić. 'Curriculum design in Croatia'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.

7.5 Visualising the relationship between learning outcomes and the curriculum

Through the curriculum, the learning outcomes of the programme are realised. Aerden (2015) explains that the relationship between the curriculum and learning outcomes can be visualised on a matrix, with on one axis the learning outcomes related to a specific theme (e.g. internationalisation), and on the other axis all the courses, modules, etc. from the curriculum (see also 2.3).[80] For quality assurance, this is an often applied test exercise for the programme to determine whether the learning outcomes are being realised by the curriculum. Horvathova (2017) proposes a similar method for examining which 21st century competences are covered by which disciplines.[81]

8 Examples of curriculum design today

In the preparation of this paper, the Vlor has discussed a number of Flemish and international examples of curriculum (re)design in view of the integration of specifically chosen societal themes.

8.1 Sustainability and internationalisation in the curriculum (Ecocampus, Flanders)

The Ecocampus[82] document 'Grensoverschrijdende duurzaamheid'[83] (Cross-border sustainability), for instance, invites Flemish higher education to consider how to strengthen the synergies between sustainability and internationalisation of higher education in its own institutions, in order to achieve a kind of cross-fertilisation. In order to integrate these two sets of competences, Ecocampus proposes to start from the analysis of sustainability and intercultural competences. It looks for competences that overlap and for competences that are inherent to sustainability or interculturalism. Examples of competences that coincide: intercultural competences strengthen interpersonal competences of sustainability, and anticipatory, normative and strategic competences strengthen global engagement. Examples of personal competences are language proficiency in intercultural competences and systematic thinking in competences for sustainability. These competences can then be translated into learning outcomes and be realised through the curriculum of a programme.

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[80] Aerden, A. (2015). 'An introduction to international and intercultural learning outcomes'. *European Consortium for Accreditation:* Occasional Paper.

[81] Horvathova, M. '21st Century Competences'. Presentation at the Vlor workshop of 2 May 2017 on curriculum design. And 'Four-dimensional education. The Competencies Learners Need to Succeed' (2015). Center for curriculum redesign.'

[82] Ecocampus is a programme of the Department of Environment, Nature and Energy that is committed to sustainable higher education.

[83] Department of Environment, Nature and Energy. July 2016. *Grensoverschrijdende duurzaamheid. Duurzaamheid en internationalisering in het hoger onderwijs.*

8.2 21st-century skills in the curriculum (Arteveldehogeschool, Vlaanderen)

The Artevelde University College integrates 21st century skills in the curriculum.[84] The university college has a long tradition in competence based and student-centred learning. Starting from a selection of 21st century skills, 5 21st century learning outcomes are formulated, to be realised in all programmes: enterprise, digital literacy, research, sustainable development, global citizenship. The question how all students can achieve these learning outcomes, is answered through the introduction of self-guided learning in all curricula. From the start of their studies, students are taught to watch and act from the point of view of the different learning outcomes, and they are given the tools to let them discover learning opportunities themselves. Chances for dialogue with the teaching staff and opportunities to introduce experiences from outside the programme are very important in this respect.

8.3 Global citizenship in the curriculum (Bristol University, UK)

'Bristol Futures' is a project that seeks to equip all students at the university of Bristol with skills that allow them to be global citizens in a changing society. In this project, students and staff become co-creators of the curriculum.[85] The university makes use of an advisory group of students, who co-create the curriculum. There are six work streams: planning of personal development (through a portfolio, the students reflect on their competences and identify the competences that they want to acquire), academic study skills, the core curriculum (including the global citizenship competences), the optional units, MOOCs, professional and community engagement (competences from outside the institution). For each of those work streams, working groups are active, involving students as well as teaching staff.

8.4 Interdisciplinarity in the curriculum

8.4.1 Copenhagen Business School (Denmark)

In order to respond to all the requirements from today's society to the curriculum, the Copenhagen Business School (CBS) has chosen to change the culture of the organisation radically.[86] CBS is convinced that the organisation culture is crucial for curriculum design. CBS chose an innovative structure, based on an interdisciplinary, decentral model. All faculties are autonomous in terms of designing their curriculum. They can be innovative, they even have to be innovative. But they work within the framework of the vision of the management. CBS believes in a strong management, providing guidance. CBS opted for a radically interdisciplinary model, because this links best with the 21st century skills that are expected today from the graduates.

8.4.2 Bachelor in global governance (University of Tor Vergata, Italy)

The bachelor in Global governance is the only both liberal arts and science programme in Italy.[87]The programme is a social sciences programme, in English, focussing on challenges linked

[84] Demedts, L. & H. Van Puyenbroek. (2016). 'Nieuwe generatie curriculumdesign. Introductie van zelfsturing in het curriculum om 21st century skills te kunnen bereiken.' *Onderzoek van onderwijs* (45, December). Pp. 16-21.
[85] Squires, J. & A. Birdi. 'Curriculum design: an example from the UK: Bristol University'. Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[86] Ravn, J. 'Curriculum design from an international perspective', Presentation at the Vlor PLA of 17-18 November 2017 on curriculum design.
[87] Piga, G. 'Bachelor in Global Governance'. Presentation at the Vlor PLA of 8-9 March 2018 on curriculum design at Tor Vergata, Rome.

to globalisation. The programme attracts a public of international students. The programme is organised by the School of Economics, but all six schools of Tor Vergata University are contributing. The programme is fully interdisciplinary and makes use of interactive working methods (project work, field work, exchange,..). A lot of the assignments take place outside the university. Setting up such a programme requires the support of the university management and of other faculties. It goes without saying that the engagement of the staff and the dedication of the students is crucial.

8.4.3 University colleges in the Netherlands[88]

During a seminar on interdisciplinarity, in 2016, the Vlor learned about the Dutch University Colleges.[89] University Colleges have a 'Liberal Arts & Science' programme, where exact and human sciences are combined. The combination of insights from different scientific fields, could better enable students to understand complex global questions, and to search for creative solutions. Through the combination of insights from, for instance, social sciences, law, history, business, cognitive neurosciences e.a., it may be possible to offer a more diversified answer to important societal challenges. The Vlor took a closer look at the cases of Roosevelt Academy and of University College Twente.

9 Curriculum design and the role of the government

The Erasmus+-project brought together countries that deal with a complete different (higher) education legislation. In Flanders, access to higher education is linked to only few conditions. The diploma of secondary education is omnivalent, and provides quasi free access to higher education. This is not the case in all European countries. In a lot of European countries, there is a selection of students at the start (in Italy, for instance). This does not necessarily have an impact on the way the curriculum is designed, but it has a strong influence on the context in which institutions and programmes work.

Flemish institutions are autonomous in the way they design their curriculum. They are accountable through the system of accreditation and quality assurance. In countries such as Slovenia, Croatia or Italy, the story is completely different. In Italy, authorities specify some content of academic courses.

10 To take forward

In this final text, the Vlor has presented an overview of questions that rise related to curriculum design today. The Council concludes that the curriculum is a powerful instrument, in constant development, but hard to define. It takes different forms and has different meanings for different

[88] The Dutch University Colleges should not be confused with the Flemish University Colleges (although the name is the same in English). Dutch University Colleges are linked to a Dutch University and offer academic bachelors in English.
[89] https://www.vlor.be/activiteiten/verslagen/interdisciplinariteit-het-hoger-onderwijs en De Ridder, I., Van Den Bogaert, C. & K. Versluys. 2016. 'Interdisciplinariteit in het hoger onderwijs'. *T.O.R.B.* (2016-2017, nr. 1-2), pp. 75- 81.

authors. The Vlor mainly concludes that the curriculum provides structure to a programme. Curriculum and learning outcomes are strongly linked. The learning outcomes determine what the curriculum has to be about.

The Vlor has seen that higher education institutions in Flanders, but also in Europa, are still looking for ways how to (re)design their curriculum with a view on quick societal changes. To respond to this challenge, different answers are possible. The Vlor takes forward the following elements:

1 A shared vision development on teaching and learning, within the higher education institution, offers a framework to the different faculties, disciplines and programmes, within which they can (re)design their curriculum. This offers possibilities of profiling in the field of curricula.
2 Interdisciplinary curricula are more and more present in higher education. They provide answers to contemporary questions, where solutions require more and more knowledge from and cooperation between different disciplines. They also rely more and more on interdisciplinary competences, such as 21st century competences.
3 The responsibility for steering the learning process is more and more put with the student. Enhanced self-guidance seems to benefit study efficiency – or the impact of learning. In the development of an 'independent learner' attitude, coaching is needed, especially with starting students.
4 Cooperation is crucial at all levels: between students, between staff and students, between programmes, between institutions, with the work field, international cooperation… Innovative curricula come about thanks to cooperation.
5 Curricula are powerful instruments for the development of relevant, contemporary competences. But this does not mean that the objective of a curriculum is to be seen as an anthology of all contemporary challenges or themes. Focus and alignment are key for curriculum (re)design. Well-chosen objectives are translated into learning outcomes, with adapted working methods and assessments.
6 In this project, the Vlor has seen that, in countries where curriculum design is strictly controlled by the government, the development and the offer of innovative curricula is much less evident. It shows that higher education institutions need to have, or acquire, strong freedom and use their autonomy to design curricula that are fit to their vision and objectives. The government can play a supportive role, for instance through a legislative framework for a quality and accreditation system that is appropriate, and that promotes the development of joint degrees/programmes.
7 In some countries, there are research centres related to the curriculum, for instance the 'Higher Education Academy' in the United Kingdom and the 'Center for Curriculum Redesign' in the United States. Those centres give advice to higher education institutions, conduct research and collect good practices. Platforms offering opportunities for exchange of good practices, and inspiring further reflection on the current societal challenges for the curriculum, offer doubtless added value.

Thanks to the Erasmus+-project, which is at the basis of this text, the Flemish Education Council collected an important number of voices from all over Europe. The Council will integrate this input in a recommendation on student centred curricula.