Background Paper

The New Student: Flexible Learning Paths and Future Learning Environments

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List of Acronyms

BFUG	Bologna Follow-Up Group
EHEA	European Higher Education Area
EC	European Commission
ECTS	European Credit Transfer System
ESU	European Students' Union
EUA	European University Association
HE	Higher Education
HEA	Higher Education Academy (UK)
HEI	Higher Education Institution
IPR	Intellectual Property Rights
ISCED	International Standard Classification of Education
MOOCs	Massive Open Online Courses
RPL	Recognition of Prior Learning
STEM	Science, Technology, Engineering and Mathematics
UAS	University of Applied Sciences
VET	Vocational Education and Training

1.Introduction

Flexible learning paths and better customised learning environments in higher education contribute to widening participation, improving social inclusion and higher completion rates. They are a key to lifelong learning and essential to address increasing skills demand. With the Higher Education Expert Conference "*The New Student: Flexible Learning Paths and Future Learning Environments*", the Austrian EU Council Presidency aims at supporting the debate on these higher education topics. The outlined programme will introduce the different dimensions of flexible learning, as presented in the second chapter of this paper, provide good practice examples and initiate discussion on necessary measures to be taken at all policy and governance levels and by all stakeholders.

This background paper serves as preparation for all participants of the conference. It should enrich professional discourse and illustrate why it is crucial for higher education stakeholders to engage in flexible learning in all its dimensions. Regarding the conference, the paper provides a common starting point for the discussions that will take place in several sessions.

Flexibility in and permeability into higher education has been an interest of the European Union from early on. Starting with the "European Year of Lifelong Learning" in 1996 the core question was raised, how the needs of different groups could be met by creating more flexibility, as educational institutions were deemed "too rigid" to meet the diversity of demands.[1] However, when screening the recent scientific literature on flexible learning, four aspects are striking: 1) The terms are not defined uniformly and are used in very different ways. 2) The focus is usually on what is happening in the lecture hall, i.e. the actual teaching and the actual learning process. 3) Very few evaluations or impact analyses can be found and these usually consider very narrow individual cases (one study at one university). 4) In recent years, flexibilisation has been used almost symbiotically with digitalisation; hence very many studies come from the technical field. The scientific discussion is further elaborated in chapter two of this paper.

The European Commission has discussed the need for flexible learning paths in several Communications. In the 2001 Communication on "Making a European Area of Lifelong Learning a Reality" it urges "that traditional systems must be transformed to become much more open and flexible, so that learners can have individual learning pathways, suitable to their needs and interests, and thus genuinely take advantage of equal opportunities throughout their lives."[2] In 2006 the European Commission identified the challenge that "most universities tend to offer the same courses to the same group of academically best-qualified young students and fail to open up to other types of learning and learners, e.g. non-degree retraining courses for adults or gap courses for students not coming through the traditional routes".[3] In 2011, this approach was strengthened further, when the EC named (among others) the following key policy issues for member states and HEIs:

- Development of clearly defined progression routes from vocational and other education types into higher education, through national qualification frameworks, the

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[1]   EC (1995): *White Paper on Education and Training: "Teaching and learning – towards the learning society,* p. 24.
[2]   EC (2001): *Making a European Area of Lifelong Learning a Reality.* p. 4.
[3]   EC (2006): *Delivering on the modernisation agenda for universities: Education, research and innovation,* p. 3.

usage of learning outcomes and clear procedures for recognizing learning and experience gained outside formal education and training

- Reaching out to school students from underrepresented groups and to non-traditional learners including adults by improving information on educational opportunities and supporting their study choices[4]

In its recent Communication "On a Renewed EU Agenda for Higher Education" of May 2017, the EC lays out four priorities for action, the first two being:

- "Tackling future skills mismatches and promoting excellence in skills development"
- "Building inclusive and connected higher education systems"[5]

In the agenda, some measures are named: Well-designed higher education programmes and curricula, which should be centred on students' learning needs, are seen as one way to tackle skills mismatches. "A wider range of course choices," including short courses and courses for continuous professional development, technology used to restructure the organisation of learning and teaching to increase flexibility, work-based learning and international mobility are other suggested measures to achieve this objective.[6] For building inclusive and connected higher education systems, "[s]ystematic cooperation between HEIs, schools and VET providers is needed to prepare and guide students based on their talents, not their background, and provide flexible pathways between the different types of education and training. Adequate career guidance and mentoring are crucial." (…) "Flexible study options (part-time or online) and more widespread recognition of prior learning are also required to make higher education more accessible, particularly for adult learners."[7]

Some of the Council's Conclusions on the renewed EU agenda for higher education point to flexibilisation as well. Efforts should be made "to open up higher education systems for people at any stage of their life by facilitating the transitions between different qualification levels and educational pathways, improving the recognition of informal and non-formal learning, and by developing more flexible modes of delivery of higher education, for example through blended learning and Open Educational Resources."[8] HEIs should support academic staff in their professional development, "in order to equip them with the appropriate teaching skills required to address the needs of a diverse student body, create effective collaborative learning environment, […] better utilise innovative pedagogical practices", as well as improve their digital competences.[9]

The most recent debate on (higher) education in the EU-context took place at the European Council meeting in December 2017, where the EU leaders emphasized the "need for an inclusive, lifelong-learning-based and innovation-driven approach to education and training", and suggested two measures that touch upon the topic of flexibilisation in higher education:

- "strengthening strategic partnerships across the EU between higher education institutions and encouraging the emergence by 2024 of some twenty 'European

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[4] EC (2011): *Supporting growth and jobs – an agenda for the modernization of Europe's higher education systems*, p. 4.
[5] EC (2017): *Communication on a renewed EU agenda for higher education*, p. 4.
[6] Ibid, p. 5.
[7] Ibid, p. 6f.
[8] Council of the European Union (2017): *Council Conclusions on a renewed EU agenda for higher education*, p. 4.
[9] Ibid.

Universities', consisting in bottom-up networks of universities across the EU which will enable students to obtain a degree by combining studies in several EU countries and contribute to the international competitiveness of European universities;"

- "promoting cooperation of Member States on mutual recognition of higher education and school leaving diplomas at secondary education level in the appropriate framework"[10]

Within the Bologna process, the objectives of lifelong learning, the social dimension of higher education, student-centred learning and widening access (also through flexible learning paths) have been linked strongly over the past decade. Following up the 2012 Bucharest Ministerial Conference, the BFUG working group on the social dimension and lifelong learning presented "Widening Participation for Equity and Growth – A Strategy for the Development of the Social Dimension and Lifelong Learning in the EHEA to 2020". The core elements of the strategy call for "measurable actions to improve access, participation and completion" of higher education for underrepresented groups, by improving lifelong learning opportunities and developing "flexible and transparent progression routes into higher education" and introducing "clear mechanisms for the recognition of prior learning".[11] At the 2015 Ministerial Conference in Yerevan, the Ministers agreed to implement national strategies for the social dimension in HE,[12] which Austria has since done.[13]

Moreover, in its statement ahead the following Ministerial Conference in 2018, the European University Association also states a strong need to address social inclusion and recalls on the agreement to set up national strategies.[14] ESU, the European Students' Union, stets in their publication "Bologna with student eyes 2018", that not much progress has been achieved in the area of the social dimension "despite numerous commitments to treat the social dimension as a policy priority". Concerning the implementation of student-centred learning, ESU (based on a survey among student unions) comes to a similar conclusion: "(…) progress is happening, but it is extremely slow, uneven across EHEA and the issue of misimplementation presents a significant danger."[15]

Nevertheless, the latest Bologna Communiqué adopted in Paris 2018 reaffirms the necessity "that further effort is required to strengthen the social dimension of higher education". However, also student-centred and flexible learning are high on the agenda of the EHEA for the next years:

> *"(…) we will develop joint European initiatives to support and stimulate a wide range of innovative learning and teaching practices, building on existing good practice in our countries and beyond. This 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*

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10 European Council (2017): *Conclusions on the European Council Meeting*, p. 3f.
11 EHEA (2015a): *Widening Participation for Equity and Growth. A Strategy for the Development of the Social Dimension and Lifelong Learning in the European Higher Education Area to 2020.*
12 EHEA (2015b): *Yerevan Communiqué.*
13 See BMWFW (2017): *Austrian National Strategy on the social dimension in Higher Education.*
14 EUA (2018): *Statement ahead of Ministerial Conference in Paris, May 2018*, p. 2.
15 ESU (2018): *Bologna with student eyes 2018. The final countdown.*

> *professional development whilst enabling learners to access and complete higher education at any stage of their lives"*[16]

This has stimulated several research projects and peer learning activities in recent years to increase knowledge about the social dimension and strengthen the student-centred learning approach. The EUROSTUDENT survey provides data on the socio-economic background, living conditions and challenges of students all over Europe.[17] The PL4SD database – Peer Learning for Social Dimension – collated and catalogued more than 300 policy measures in the European Higher Education Area that address the social dimension of HE, aiming to support diverse student needs and make higher education more inclusive.[18] The Peer Assessment Project on Student-Centred Learning (PASCL) developed guidelines to assess the student-centeredness of higher education institutions[19]. The European University Association presented a report addressing the question on how inclusive and responsive university strategies should look in order to support lifelong learning[20] and recently added another report on "Universities' Strategies and Approaches towards Diversity, Equity and Inclusion" containing case studies from European universities.[21] Furthermore, the current EUROGRADUATE Pilot Study commissioned by the EU will contribute new insights to this field, by analysing the connections between educational and work history of graduates.[22]

As has been shown, there is strong political support for lifelong learning endeavours, the student-centred approach and diversification of paths into and within higher education. The debate on these concepts has been going on for more than 20 years now and even though a lot of measures have been implemented within European higher education, the outcomes of the debate still seem to be scattered. Measures taken often cover only one dimension of flexible learning and are based on singular institutional initiative rather than on a coherent strategy covering all dimensions and goals associated with flexible learning.

The Expert Conference during the Austrian Presidency therefore aims at drawing the bigger picture. To fully exploit the potential of flexible learning, various forms of flexibilisation must be implemented at the same time and at different institutional levels, in order to most appropriately address different types of students. To achieve the ambitious goals of making higher education more inclusive, preparing students for the challenges that lie ahead in the labour market as well as fostering the development of our democracies through active citizenship and social cohesion, a systematic approach should supersede rather isolated measures.

In order to contribute to a comprehensive framework for flexible learning, the conference will provide an overview of the different dimensions, layers and responsibilities related to this concept. Good practices will be presented in order to identify through vivid discussion common criteria and preconditions necessary to make higher education in general more flexible to meet the learners' needs. Conclusions drawn in these discussions will be the

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[16]　EHEA (2018): *Paris Communiqué, p.* .
[17]　EUROSTUDENT project: www.eurostudent.eu.
[18]　PL4SD project: www.pl4sd.eu.
[19]　PASCL project: http://pascl.eu/.
[20]　Smidt & Sursock (2011): *Engaging in Lifelong Learning: Shaping Inclusive and Responsive University Strategies.*
[21]　EUA (2018): *Universities' Strategies and Approaches towards Diversity, Equity and Inclusion. Examples from across Europe.*
[22]　EUROGRADUATE project: www.eurograduate.eu.

subject of the final conference session with European policy makers, thus laying the ground work for a comprehensive flexibilisation strategy in higher education.

2.Dimensions of flexible learning (paths)

The general idea of "flexible learning" originated in the United States in the 1970s as an answer to the changing economic paradigm, but it took more than 20 years to become a frequently discussed topic in the academic community.[23] In higher education, flexible learning can be described as an approach "which provides students with the opportunity to take greater responsibility for their learning and to be engaged in learning activities and opportunities that meet their own individual needs".[24]

Flexible learning is strongly linked to **student-centred learning**. According to the Bologna Communiqué from Leuven/Louvain-la-Neuve (2009), the latter concept "requires empowering individual learners, new approaches to teaching and learning" and its implementation should lead to "high quality, flexible and more individually tailored education paths". [25] The recent Communiqué from Paris (2018) emphasizes its ongoing high priority and shows considerable analogies between student-centred learning and flexible learning, and their dependency on digital technologies.[26]

Additionally, flexible learning is strongly associated with the concepts of **open and distance learning**[27]. While open learning refers to a democratisation of education and distance learning is limited to the geographical needs of students, flexible learning is described as a broader approach, as Li and Wong state in their recent literature review about flexible learning: it targets at learning offers for all students using all types of **new technologies**. Thus, it is no surprise that the majority of recent academic papers on flexible learning focus on different forms of digitalisation in learning.

In any case, flexible learning is a **broad term with various interpretations and definitions**, though "often used in an unclear way"[28] and "operationalized in many ways".[29] Previous academic approaches focus primarily on learning flexibility, such as flexibility within courses. Collis and Moonen, for example, basically describe only course-related components in their overview of dimensions of flexibility.[30] However, the Higher Education Academy (HEA), a British professional institution for learning and teaching in higher education which aims to enhance study success in the UK, defines flexible learning in a more general way: "flexible learning is about empowering students by offering them choices in how, what, when and where they learn: the pace, place and mode of delivery"[31] (for details see Chapter 2.2). The HEA framework of the significant elements of flexible learning can be considered as an example for a comprehensive description of flexibility in higher education (see Figure 1), without compromising academic standards. There are four key areas emanating from the core of the diagram ("flexible learning"): "learner choice" and "personal flexibility" focus on the students, while "institutional agility" and "balanced pragmatism" emphasise the role of institutions. The next layer articulates student choices associated with the flexible learning approach and the following four

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[23]   Li & Wong (2018): *Revisiting the Definitions and Implementation of Flexible Learning.*
[24]   Wade (1994): *Introduction.* In: Wade et al. *Flexible Learning in Higher Education.*
[25]   EHEA (2009): *Communiqué of the Conference of European Ministers Responsible for Higher Education.*
[26]   EHEA (2018): *Communiqué of the Conference of European Ministers Responsible for Higher Education*.
[27]   Wade (1994): *Introduction.* In: Wade et al. *Flexible Learning in Higher Education*
       Li (2014): *How flexible do students prefer their learning to be?.*
[28]   Li & Wong (2018): *Revisiting the Definitions and Implementation of Flexible Learning,* p. 10.
[29]   De Boer & Collis (2005): *Becoming more systematic about flexible learning: Beyond time and distance*, p. 33.
[30]   Collis & Moonen (2002): *Flexible Learning in a Digital World.*
[31]   HEA (2015): *Framework for flexible learning in higher education,* p. 1.

areas and their components influence the degree of flexible learning available to students (e.g. technology-enhanced learning, role of employment and pedagogical approaches).[32]

Figure 1:   HEA Framework for flexible learning
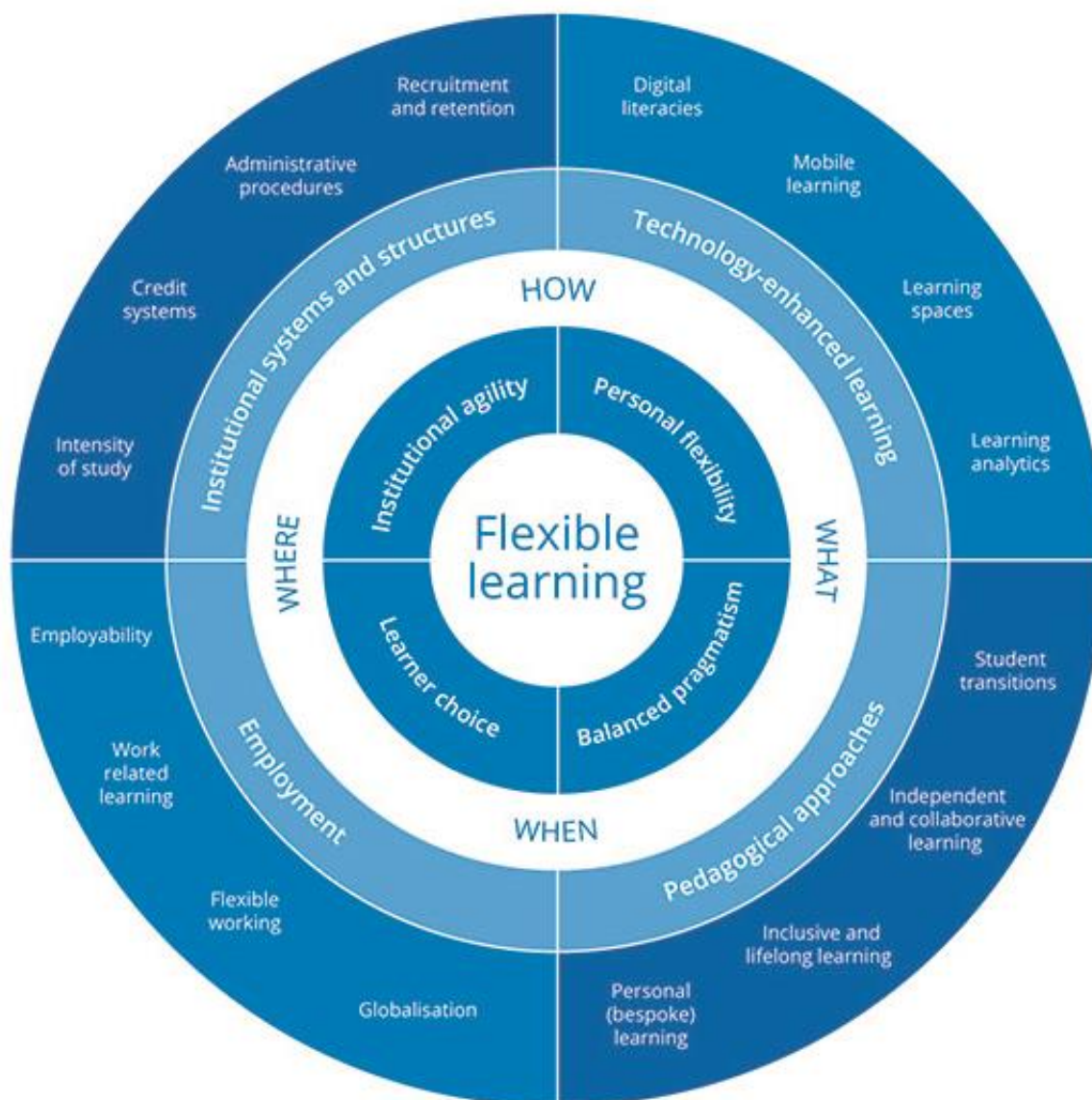
Source: Higher Education Academy (2015).

The Expert Conference on flexible learning paths of the Austrian EU-Presidency 2018 is also guided by the questions of "**how, what, when and where of learning"**. Therefore, not only flexibility within courses or individual learning experiences are considered, but also flexibility in all aspects of higher education. To further emphasise this broad approach, the conference discussion topics include flexibilisation of access to higher education and organisational aspects of the learning environment, albeit, analytically, these two additional categories overlap significantly with the core view on the individual learning process. The following chapters will demonstrate different – but interdependent – potentials of flexibility in higher education.

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[32]   HEA (2015): *Framework for flexible learning in higher education*, p. 3.

2.1   Flexible pathways into higher education

Establishing flexible pathways into higher education can be primarily addressed by enhancing flexible access (e.g. via recognition of prior learning) and admission procedures, but is also strongly linked to the permeability of all educational levels, the compensation of individual skills levels and the flexibility at the beginning of a study programme.

However, the form of flexible access paths is directly linked to the organisation of the school system (differentiated vs. comprehensive) and the different forms of admission systems.[33] The recent Bologna Implementation Report lists various forms of flexible access for underrepresented or disadvantaged groups: quotas or lower admission requirements in standard entry routes, second chance routes via bridging programmes providing standard entry qualifications, (preparatory) programmes providing alternative entry qualifications, recognition of prior learning (RPL) for access, RPL combined with an entrance exam, entrance exams without any prior qualifications and preparatory or trial higher education programmes.[34] No EHEA country provides all of these different forms of flexible access, whereas all countries except one offer at least one of these different forms. Nevertheless, the last EUROSTUDENT report shows that albeit all these different possibilities, alternative routes are in many countries seldom used and only in very few countries more than 10% of students enter higher education through one of these routes.[35]

Furthermore, the great variety of educational backgrounds among (potential) students should also be considered: Some hold a *traditional* upper secondary school leaving certificate, while others hold a vocational training qualification and enter higher education via an *alternative,* 'second chance', route. Skills acquired can also differ between school types or time between graduation from school and entering higher education. Through growing mobility of (potential) students and internationalisation of higher education, students increasingly differ also by cultural background, language competences and even more by educational background. Therefore, all kinds of **bridging programmes** are essential to compensate for differences in individual knowledge levels and ease the transition into higher education. Furthermore, widening access to higher education is vital to ensuring no talent is left behind and the diversity of potential students is taken into account.

Students' diverse backgrounds are reflected in their different learning experiences. Hence, **recognition of prior learning** (RPL) has been on the EU agenda for years, particularly widening access and establishing alternative access routes through validation of non-formal and informal learning[36] are among the top priorities.[37] The general aim is to ease transition into higher education for non-traditional students by making the whole range of potential experiences gained outside the formal education system visible. RPL has been also a *hot topic* in the Bologna Process, resp. the European Higher Education Area, for a

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[33] For a systematic overview of admission systems see Orr et al. (2017).
[34] EC/EACEA/Eurydice (2018): *The European Higher Education Area in 2018, Bologna Process Implementation Report*.
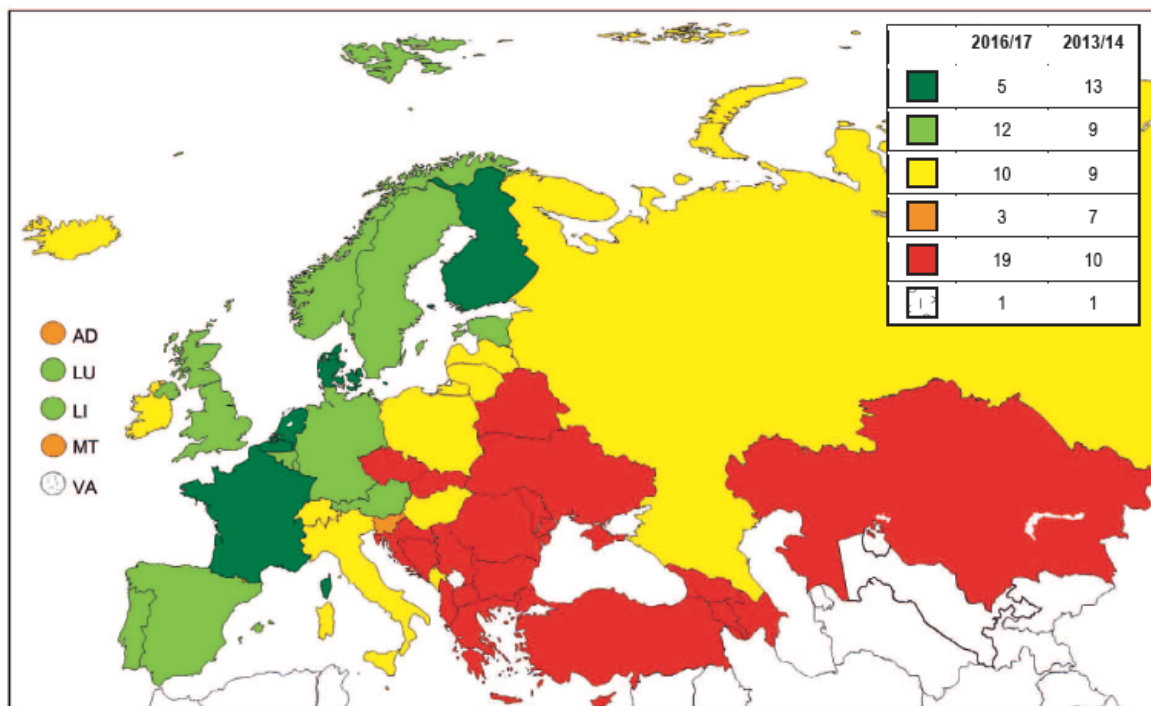[35] DZHW (ed.) (2018): *Social and Economic Conditions of Student Life in Europe. EUROSTUDENT VI 2016-2018*.
[36] For further details and definitions see Chapter 3.1.
[37] E.g. Council Recommendations on the validation of non-formal and informal learning from 2012, New Skills Agenda for Europe (2016) and Council Recommendations on Upskilling Pathways – New opportunities for adults, European Commission on a renewed EU agenda for higher education (2017), Trend 2 of '10 Trends Transforming Education as We Know It'.

long time. Much progress has been made, especially in the EU member states, but the degree of implementation still varies greatly across countries, most notably when looking at the implementation of RPL. As the map in Figure 2 shows, many countries have implemented a top-level framework for RPL, which, however, does not guarantee an implementation on institutional level – and others don't have any procedures for RPL at all. Moreover, there are considerable differences in the definitions of RPL (e.g. recognizable amount of ECTS, RPL at access or for study progress).[38]

Figure 2: Scorecard indicator n°10: Recognition of prior non-formal and informal learning, 2016/17

Source: BFUG data collection.

Scorecard categories

■	There are nationally established procedures, guidelines or policy for assessment and recognition of prior learning as a basis for 1) access to higher education programmes, and 2) allocation of credits towards a qualification and/or exemption from some programme requirements, AND these procedures are monitored regularly by top-level authorities.
■	There are nationally established procedures, guidelines or policy for assessment and recognition of prior learning as a basis for 1) access to higher education programmes, and 2) allocation of credits towards a qualification and/or exemption from some programme requirements, BUT these procedures are not monitored regularly by top-level authorities. OR There are nationally established procedures, guidelines or policy EITHER for 1) OR for 2) (see above), AND these procedures are monitored regularly by top-level authorities.
■	There are nationally established procedures, guidelines or policy EITHER for 1) OR for 2) (see above), BUT these procedures are not monitored regularly by top-level authorities.
■	There are no specific procedures/national guidelines or policy for assessment of prior learning, but procedures for recognition of prior learning are in operation at some higher education institutions or study programmes.
■	No procedures for recognition of prior learning are in place EITHER at the national OR at institutional/programme level.
▢	Data not available

Source: EC/EACEA/Eurydice (2018): The European Higher Education Area in 2018, Bologna Process Implementation Report.

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[38] EC/EACEA/ Eurydice (2018): *The European Higher Education Area in 2018: Bologna Process Implementation Report*.

When discussing flexible pathways into HE, it should be mentioned that dead ends can be found also prior to HE, resp. in school systems. **Permeability of all educational levels** – from kindergarten to PhD, including all forms of secondary education (VET, professional schools etc.) – is needed to guarantee flexible access to HE. This also leads to the necessity to address potential students without upper secondary leaving certificate, e.g. by providing counselling and support services by using non-academic wording in the information provided or by early outreach projects.

Beside different access routes, flexible pathways can also be implemented as the **initial phase of a study programme**. Since study choice is considered as a complex process and the wrong choice can lead to changing the study programme or even dropping-out completely, a *smoother* beginning of higher education – with lower barriers to revise the initial choice – can be considered. One way of tackling this problem is to establish an *introductory* year in a broad field of study. Since this is a concept which requires flexibilisation of the curricula it will be described in Chapter 2.3"Organisational flexibility".

2.2   Learning flexibility

Academic research on flexibility in education focusses mainly on learning flexibility (in a broad sense). In a recent literature review, Li and Wong identified eight **fields of flexible learning within courses**[39]:

- Time
- Contents
- Entry requirements
- Instructional approaches
- Assessment
- Delivery
- Resource and support provided and
- Orientation or goal of learning.

Even though these fields overlap to a certain extend with the concept of organisational flexibility (discussed in detail in section 2.3), these aspects can be characterised as pedagogical approaches. Thus, lecturers could evaluate the degree of flexibility in their courses by looking at these aspects.

The *time* dimension refers not only to the date and time of a course or a module (e.g. evening class), but also the pace of learning within a course. The *content* encompasses the study topics, e.g. flexible curricula, their sequence and level of difficulty – without compromising the standards of the overall learning outcomes. The aspect of *entry requirements* asks for the prerequisites for course particpiation. Many possibilities for flexibilisation can be found in the *modes of delivery* and *instructional approaches*. Modes and structures of presentations or channels for course information can benefit from new technologies creating online learning environments (e.g. lecture streaming, e-learning, blended learning, flipped classroom). Also learning activities can be flexible in regard to their amount, duration, place, social organisation, type, etc. *Assessment* is another

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[39]   Li & Wong (2018): *Revisiting the Definitions and Implementation of Flexible Learning*.

dimension of learning flexibility: different learners need different modes of exams (e.g. written vs. oral, one big exam vs. multiple smaller exams), different ways to obtain a certificate (e.g. exam, presentation, group vs. individual work). Other forms of flexibility regarding assessment refer to the weighting of different assignments in courses (e.g. exams and active participation) and the requirement for or dates/deadlines of assessments. Flexible study environments require a strong framework of *resource, support* and *guidance*: HEIs should ensure that their courses are inclusive by providing different forms of course materials and can avoid dropouts by setting up comprehensive support systems (e.g. e-tutoring, peer-learning). To specify the *goal of learning* can be considered as another important factor for learning flexibility.

The British Higher Education Academy (HEA) emphasizes on the **student-centredness** of the concept, which aims to provide learners with choices regarding how, what, when and where to learn:

- "How: Offering a choice of studying face-to-face, online, or through a blended approach.
- What: Providing personalised learning approaches with a supported range of study options, enabling students to design programmes according to their needs and aspirations.
- When: Building a programme structure that enables choosing when to study, fitting it around work and home life; and choosing the intensity of studying, from full-time and accelerated, to part-time and at a slower pace, with opportunities for pace to vary, during a programme, and to take intermissions as required.
- Where: Facilitating opportunities for students to study in locations of their choice; this might be home, work-based or overseas."[40]

In "Conditions of flexible learning" Barnett takes another approach:[41] instead of categorizing all dimensions of flexibility, he provides examples of institutional flexibility by asking "in what ways and to what extent might an institution itself be flexible, in responding to students' emerging needs and wishes?"[42] There is a strong link to student-centred learning as these examples focus on *enabling students* e.g. "to receive credit (…) for their prior learning", "to switch the disciplines", "to have a (…) choice over the modalities in which they present their assignment" etc. Thus, these aspects of flexibility can be considered as guidelines for HEIs to evaluate the degree of their flexibility by asking questions such as: 'Can students switch disciplines or interrupt their studies?' or 'Can students negotiate the ways in which they are assessed?'.

Flexible learning is all about meeting the students' needs and their requirement for more customised learning. This highlights once again the importance to provide appropriate and well-informed choices for learners – which can be as diverse as the students' population itself. The "what" in the HEA concept refers, for example, to "giving students the opportunity to design programmes according to their needs". This implies good coaching in order to enable students to collate a well-considered individual programme. Empirical

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[40] HEA (2015): *Framework for flexible learning in higher education*. p.1.
[41] Barnett (2014): *Conditions of Flexibility. Securing a more responsive higher education system*.
[42] Barnett (2014): *Conditions of Flexibility. Securing a more responsive higher education system*.

evidence from Hong Kong and Australia[43] also shows that students prefer a higher level of flexibility than usually provided. Regarding flexibility of time, respondents require less rigid examination dates and assignment deadlines. Moreover, they wish for more flexible sources of learning support (including places where support is available and channels for additional course information). However, students consider a maximum level of flexibilisation not as automatically beneficial.[44]

2.3   Organisational flexibility

Flexibilisation has also a lot of potential in organisational aspects of higher education – albeit this overlaps to a certain extend with flexibilisation of teaching and learning. However, for an analytical purpose, they will be discussed separately here.

Many efforts have been made to offer study programmes for individuals who cannot pursue a full-time study (e.g. due to work, caring duties or health issues). There are **part-time study options**: e.g. evening or weekend classes, short full-time modules, which require physical attendance only for a few weeks and not the whole semester, online-learning modules or elements within a course, which reduce the student's physical attendance. Besides such part-time study options, reduced fees for part-timers can improve student retention rates. Furthermore, it is fundamental that the concept of flexibility also implies the ability to switch from the part-time attendance mode to the full-time and vice versa where needed during the student life cycle.

However, not all part-time study options are alike, they can be organised in many different – more or less flexible – ways. The German Rectors' Conference, for example, lists nine different modes of study organisation in the German higher education system: integrated professional training, part-time degree programmes for professionals, integrated professional experience, dual study, distance study, international study, including practical semesters, part-time, and full-time.[45]

The **combination of online learning and physical attendance** is not only suitable for working part-timers students, but may be also helpful for other, if not for all, students. It facilitates different forms of didactic approaches like flipped classrooms, too. The modularisation of courses, i.e. intensive learning in a short period of time, may also be advantageous for many different students.

Other flexible forms of organising study programmes are **cooperations**, e.g. cooperations with companies, so students can gain experience on the labour market (e.g. dual studies), cooperations with other providers of formal or informal learning experiences or cooperations with national or international higher education institutions (e.g. joint degree programmes). Cooperations usually imply that a formal agreement has been made between the education provider and the cooperating party, but students can choose and organise their learning experiences along these dimensions themselves (i.e. without a formal agreement), e.g. by attending online courses from anywhere in the world. An

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[43]   Li (2014): *How flexible do students prefer their learning to be*?
        Tucker & Morris (2011): *Anytime, anywhere, anyplace: Articulating the meaning of flexible delivery in built environment education.*
[44]   Li (2014): *How flexible do students prefer their learning to be*?.
[45]   See https://www.hochschulkompass.de

important question in this context concerns the recognition and validation of achievements during and not only before the study.

Organisational flexibility can also be achieved through **flexibilisation of the curricula**, which as a matter of fact vary enormously across Europe: Usually, a curriculum includes a number of compulsory courses, various freely selectable major subject courses as well as freely selectable minor subject courses, in which students are completely free to choose from any of the courses offered at their (or even at another) HEI. How the different curriculum elements are weighted differs greatly across study fields and institutions. For instance, the Faculty of Arts (in Social Sciences) at the University of Zurich offers Bachelor students numerous combinations of majors (120 or 90 ECTS) and minors (60 or 30 ECTS).[46] 60 ECTS are needed for the admission in a respective Master programme. However, their experience has shown that too much flexibility in combining studies might be disadvantageous and therefore, potential combinations were restricted again.[47] Nevertheless, a programme containing major and minor subjects is a step towards the often demanded interdisciplinarity and may be a measure to facilitate the choice of study and, moreover, prevent study switches or drop-outs. A special entrance semester or year might have a similar effect. For instance, the so-called "foundation year" in the UK (for students not having the traditional entrance qualification) offer a broad range of courses and enable access to various degree programmes.[48] Another example is the Bachelor Plus programme in STEM at the Saarland University, which offers (among others) a *studium generale* and an introductory year in several STEM subjects, so students can make a better-informed decision regarding their subject of choice.[49] Of course, liberal arts programmes have been offering similar possibilities for a long time, they are not very common in Europe though.[50]

Another good example is the University of Helsinki's **Open University** which is characterised by a high level of flexibility resp. access and organisation form.[51] The Open University programmes are approved by the University of Helsinki and are open for everyone, regardless of their educational background. They offer an alternative route into higher education by helping students get started with their studies. Once they are familiar with their desired field they can gain a study right at the University based on studies completed at the Open University. This alternative path aims at reducing time required to prepare for entrance examinations, reducing gap years as well as fewer students switching programmes or dropping out.

Last but not least, there are many possibilities to set up new and more **flexible modes of administrative procedures** by using new technologies (e.g. contact with lecturers or administrative staff, credit and registration system or learning analytics). These will be addressed in more detail in section 3.6.

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[46] For an overview of the Bachelor of Arts in Social Sciences at the University of Zurich see: http://www.degrees.uzh.ch/en/bachelor/50000007/50306208/

[47] The following combinations are possible in Bachelor programmes: 120 + 60 ECTS, 90 + 90 ECTS, and 90 + 60 + 30 ECTS (albeit with limited course offerings). No more possible is the combination of 120 + 30 + 30ECTS. http://www.phil.uzh.ch/de/studium/bachelor.html. A major in a Master may have 120, 105 (expiring), 90 or 75 (expiring) ECTS and be combined with minors of 15 (expiring), 30 or 45 (expiring) ECTS: http://www.phil.uzh.ch/de/studium/master.html.

[48] See for example the University of Southampton: https://www.southampton.ac.uk/courses/foundation-years.page.

[49] Bachelor Plus Programme in STEM at the University of Saarland: http://www.mintplus.saarland.

[50] For an overview of liberal arts in Europe see here: http://www.ecolas.eu/eng/?page_id=226.

[51] Open University at the University of Helsinki: https://www.helsinki.fi/en/open-university/open-university.

2.4   Limits of flexibilisation

The discussion on flexibilisation needs also to address possible limitations. Albeit flexibilisation of the learning environment can be very helpful in many regards, it is no magic cure for *all* issues hindering different types of students from entering and completing higher education. Flexibilisation of learning paths is a great opportunity for many, but might not be for all students as learners are different (see e.g. Wroblewski et al. 2007, Lahenius/ Martinsuo 2011). A complete flexibilisation of all forms of learning and the structure of the learning process requires a high level of self-organization and commitment from the learner and might therefore become too challenging for some. Those might benefit from having e.g. a more guiding structure, a model schedule and a given daily routine. Taking full advantage of the benefits of a far-reaching flexibilisationrequires good counselling, for example in order to enable students to combine different offers in a meaningful way.

Moreover, too much flexibilisation might also be overloading for higher education institutions. A group of learners where every student has different prior knowledge, different skills and experiences, is a huge challenge for every learning process. All the more so if each of them wants to learn independently of time and place, but requires individual support from teachers and institutions. Therefore, flexibilisation of learning paths as discussed in this document should be introduced carefully to take its full potential avoiding unintended side effects. One possibility would be to introduce it in addition to existing structures as an additional option for learners and by this providing even more choices for the learners.

Nevertheless, a structured examination of flexibilisation based on existing national and institutional strategies is needed. That should also include the question of who should take care or regulate potential limitations of a flexible learning environment – the higher education institutions themselves or the state. Another critical issue in this regard is whether all higher education institutions should introduce similar forms of flexibilisation or whether there should be a division of labour among them and hence, more diversification of the offerings.

3.   Different approaches on flexible learning paths for discussion

The Conference aims at supporting the European debate on creating flexible learning paths in higher education in order to respond to the challenges of an increasingly diverse student population. To meet the needs of students, support from HEIs, government and EU is needed. But HEIs themselves also need support in order to implement suitable forms of flexibility.

Therefore, the key questions will be dealt with in five working groups at the conference in order to discuss flexible learning paths:

1. How to widen access and strengthen alternative access through *validation of non-formal and informal learning*?
2. How to *identify the needs of an increasingly diverse student population*?
3. What are the *institutional approaches* to flexible learning environments?
4. What can *national governments* do to ensure flexible learning paths?
5. How can the implementation of flexible learning environments be supported by *EU initiatives*?

Each of these important questions will be discussed in detail in different workings groups at the Conference.

The implementation of flexible structures in higher education highly benefits from the use of new technologies, particularly regarding learning flexibility within courses, but also organisational aspects, such as facilitating administrative procedures or evaluating study programmes. Therefore, the Conference also provides an input on new technologies, e.g. virtual learning environments and learning analytics, as well as on the use of the 'blockchain technology' in higher education.

3.1   Recognition of prior learning focusing on non-formal and informal learning

Validation of non-formal and informal learning means the process of confirmation of prior learning experiences in order to enter higher education without standard certificates. This form of recognition of prior learning (RPL) aims at easing the transition into higher education for non-traditional students. To put the focus on widening access, other forms of RPL, e.g. recognizing competences acquired outside the formal education system as part of the study programme, will not being discussed here.

According to the Council Recommendations on the validation of non-formal and informal learning from 2012, these learning experiences are defined as follows:

> "[…] **non-formal learning** means learning which takes place through planned activities (in terms of learning objectives, learning time) where some form of learning support is present (e.g. student-teacher relationships); it may cover programmes to impart work skills, adult literacy and basic education for early

school leavers; very common cases of non-formal learning include in-company training, through which companies update and improve the skills of their workers such as ICT skills, structured on-line learning (e.g. by making use of open educational resources), and courses organised by civil society organisations for their members, their target group or the general public;

*[…] **informal learning** means learning resulting from daily activities related to work, family or leisure and is not organised or structured in terms of objectives, time or learning support; it may be unintentional from the learner's perspective; examples of learning outcomes acquired through informal learning are skills acquired through life and work experiences, project management skills or ICT skills acquired at work, languages learned and intercultural skills acquired during a stay in another country, ICT skills acquired outside work, skills acquired through volunteering, cultural activities, sports, youth work and through activities at home (e.g. taking care of a child).*"[52]

Validation of these learning experiences is strongly linked to adult or lifelong learning and so among the top priorities of the EU agenda (see Chapter 2.1). To promote the aim to foster the national establishment of validation of skills acquired outside the formal education, the Member States were invited by the European Commission to put the necessary arrangements for validation in place by 2018. Therefore, two support tools for policymakers and practitioners were created: The European Guidelines for validating non-formal and informal learning[53] were published in early 2016 and will be updated regularly. Their aim is to clarify the conditions for implementing validation and to emphasize the need of quality assurance. Additionally, a European Inventory containing up-to-date information on the current validation situation in the European countries, including examples of good practice, was published in 2004 and has been updated regularly ever since. In its recent update in 2016, the analysis shows that all involved countries either already offer individuals the opportunity to have their competences validated or are currently developing arrangements to do so. However, the challenges to meeting the 2018 deadline are in regard to professional development of validation practitioners and prioritisation of disadvantaged groups.[54] Furthermore it is strongly recommended to set up comprehensive databases of validation procedures and participants, to make them available online and to establish monitoring systems.[55]

The Bologna Implementation Report shows in its EHEA-wide country comparisons that in more than half of the education systems, applicants still cannot access higher education on the basis of their prior non-formal and informal learning experience. Moreover, in countries with RPL frameworks (primarily western European countries), these arrangements are rarely compulsory for all HEIs. It is also stressed that there is almost no improvement compared to the last report (2015).[56]

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[52] Council of the European Union (2012a): *Council Recommendations of 20 December 2012 on the validation of non-formal and informal learning.*
[53] Cedefop (2015): *European Guidelines for validating non-formal and informal learning.*
[54] Cedefop (2016): *European inventory on validation of non-formal and informal learning – 2016 update. Executive Summary*, p.18.
[55] Cedefop (2016): *Monitoring the use of validation of non-formal and informal learning. Thematic report for the 2016 update of the European inventory on validation*, p.41ff.
[56] European Commission/EACEA/Eurydice (2018): *The European Higher Education Area in 2018: Bologna Process Implementation Report*, p. 177.

Validation of non-formal and informal learning will be discussed in working group I at the Conference. The aim is to address the soft facts required for the implementation of validation of non-formal and informal learning, discuss the differentiation between HEIs and the role of quality assurance. Therefore, the leading questions of working group I are as follows:

- **The *hard facts* enabling implementation (e.g. development and implementation of clear routines/validation processes; time and money; legal framework etc.) are well known, but how do we address the *soft facts* (e.g. general attitude/commitment to recognition of non-formal and informal learning within HEIs/on national level)?**
- **What is needed to overcome these obstacles?**
- **Question of outreach: Do we want all HEIs (in a system) to fully use the range of recognition/validation procedures? Are we paying too little attention on the question of supply on demand on student's side (universal vs target-group specific)?**
- **What about the role of quality assurance (Agencies)?**

Moreover, the outcomes of the Peer Learning Activity in Denmark (June 2018) on promoting recognition and access to higher education will be presented.


3.2   Needs of an increasingly diverse student population

The European student population is changing and so are its demands. The increasing numbers of students (more precisely the increasing share of an age cohort entering higher education) plus the growing internationalisation contribute to a growing heterogeneity of the student body. But there are not only more, but also different students: Students enter higher education more and more often via non-traditional pathways, e.g. after completing a vocational training or after gaining professional experience at the labour market; an increasing share of students has a migration background, special needs (increasingly because of mental disease) or caring duties and – not to forget – students increasingly have more than one non-traditional characteristics ("intersectionality"). In most European countries, a large share of the student population is also working alongside their studies and not all of them are formally enrolled part-time, thus facing the challenge to combine study and working. However, a more diverse student population comes along with more diverse demands for higher education.

The recent EUROSTUDENT report demonstrates this development.[57] An exemplary indicator is the age profile of students, also showing the demand for lifelong learning in higher education (see Figure 3). The mean age of students on ISCED 6 and 7 levels (Bachelor and Master) ranges from 22 in Georgia and Albania to 29.7 years in Iceland. As a proxy one can say, the further north a country is located in Europe, the older are the students. The older the students are, the more heterogeneous is the student population.

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[57]   DZHW (2018): *Social and Economic Conditions of Student Life in Europe. EUROSTUDENT VI 2016-2018, Synopsis of Indicators.*

Figure 3: Age profile of students (ISCED 6, 7). Share of students in different age groups and mean age
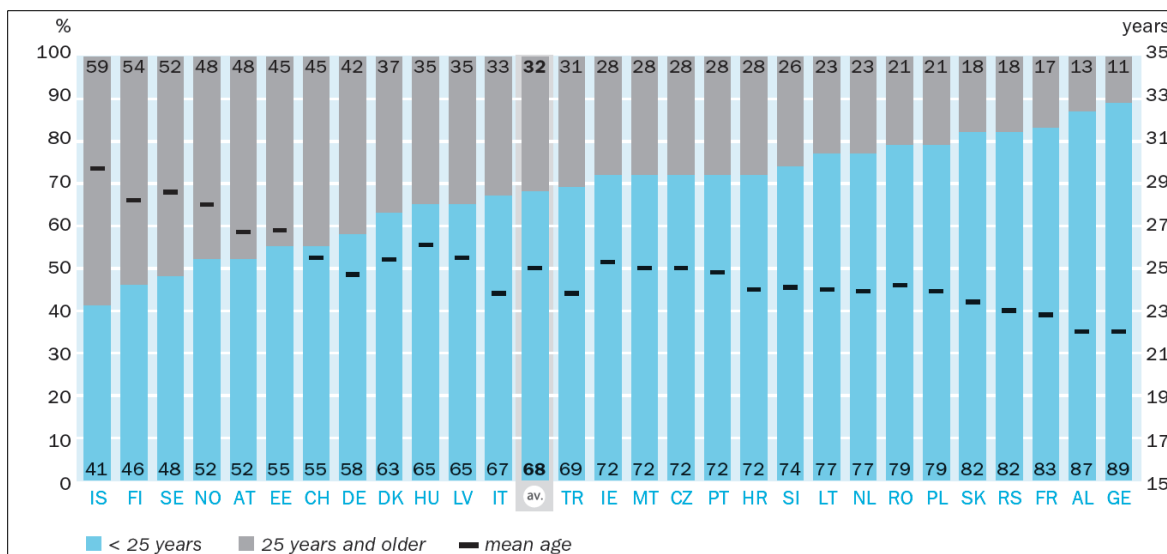
Source: DZHW (2018), EUROSTUDENT VI, Synopsis of Indicators.

Nevertheless, EUROSTUDENT also shows that across Europe there is still a gap between the diversity of the student body and the general population (for an example on the educational background of students see Figure 4). Closing this gap is an objective of the Bologna process, which was already stated in the Communiqué of the ministerial summit in London 2009: "We share the societal aspiration that the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations".[58] In other words, it is a political priority that the heterogeneity of the student population will continue to grow.

Figure 4: Representation of students with parents not holding a tertiary degree (based on fathers' educational attainment)
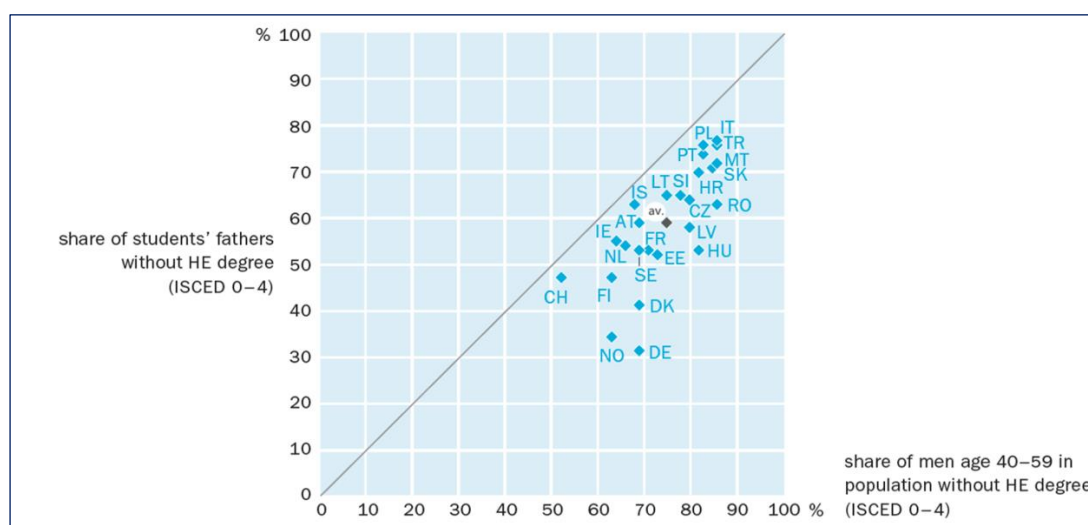
The closer countries are positioned towards the diagonal, the better the student population reflects the educational distribution in society.
Source: DZHW (2018), EUROSTUDENT VI, Synopsis of Indicators.

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[58] EHEA (2009): *Communiqué of the Conference of European Ministers Responsible for Higher Education*. See also Council of the European Union (2013): *Council conclusions on the social dimension of higher education*.

Different students enter higher education with a different set of skills and different study motivations. Therefore, the learning pathways of students become more and more individualised, so do their requirements for higher education. Moreover, the skill demands of the labour market are changing rapidly, thus the combination of professional, transversal and generic skills taught in higher education needs to be reconsidered continuously. Thus, different modes of delivery (e.g. blended learning, part-time or full-time, dual study programmes, modularisation) and diverse didactic concepts are needed.

The concept of student-centred learning (see page 10 in this paper) is based on these increasingly diverse requirements and its implementation by making use of the technical possibilities of digitalisation is encouraged by the Ministers responsible for higher education in their recent communiqué.[59] The European Students' Union (ESU) has been working for many years on this approach and has been involved in several research projects on the topic. One of their results is, for example, a "Student Centred Learning Toolkit for Students, Staff and Higher Education Institutions".[60] However, there is still a large gap in empirical research about the impact and outcomes of different modes of delivery and different didactical concepts – most of all on different types of students. The European University Association (EUA) is addressing this gap through its Learning & Teaching Initiative, where among other activities, peer groups, webinars and fora support the exchange of experiences.[61]

Nevertheless, the **leading questions** in this area still need more evidence-based answers and will be discussed **in working group II**:

- **Which types of students need different modes of delivery, different teaching modes and flexible learning paths? How large are the target groups concerned?**
- **What are the demands for**
    - **modes of delivery: e.g. blended learning, part-time or full time, dual study programmes, modularisation**
    - **teaching modes: didactic concepts and e.g. online teaching**
- **What is the impact of different modes of delivery and different teaching modes on student success and skills acquisition?**
- **What is the contribution of flexible learning paths to social inclusion and which concepts are most valuable for different target groups? (concerning educational background, compatibility, etc.)**

As an example for good practice the Austrian project "Create your UNIverse"[62] will be presented. Its aim was to collect ideas and expectations of students regarding the future of higher education. The main finding is that students want a hybrid form of higher education which has both digital and analogue elements. The digital tools shall enable them to study with a greater flexibility. Accordingly, the opportunities of virtual learning should be combined with analogue settings in a coherent way: for example, savings due to the use of online courses etc. should be used for a better mentoring and teaching in small groups. Furthermore, the importance of interaction is emphasized as well as the

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[59]   EHEA (2018): *Communiqué of the Conference of European Ministers Responsible for Higher Education*, Paris, 24-25 May 2018.

[60]   European Students' Union (2010): *Student-Centred Learning Toolkit for students, staff and higher education institutions*.

[61]   Further information: http://www.eua.be/policy-representation/higher-education-policies/eua-learning-teaching-initiative

[62]   Further information: https://www.rat-fte.at/tl_files/uploads/Studien/170427_Create%20your%20UNIverse_finale%20Praesentation.pdf (in German)

promotion of peer-to-peer communication applying new technologies. Nevertheless, it is stressed that virtual learning cannot replace face-to-face contact. According to students' statements, the objective of HEIs should be to foster individuality among students by considering their needs, such as a better compatibility of study and work and better opportunities for students who are not able to be physically present (e.g. due to caring duties, disabilities or health impairments).

3.3   Institutional approaches

The discussion on the variety of dimensions and potential components of flexibility in higher education in Chapter 2 showed that some concepts are widely spread in higher education institutions, while others are only rarely implemented. HEIs with comprehensive strategies regarding flexibilisation appear to be the exceptions.

For example, the Bologna Implementation Report looked at selected single measures, among them provision of part-time studies and online components in programmes.[63] According to the report in the majority of EHEA systems, most HEIs do provide part-time or alternative forms of study, and in some HE systems, such provision can be found in some institutions. Only in three HE systems all institutions have to provide part-time studies or other alternative forms of study.[64] Three types of online provision have been analysed in the report (see Figure 5 below): Online components of degree programmes, often called blended programmes, are the most widespread options provided, only five countries do not offer online courses at all. In contrast, less than half offer fully online degree programmes. And MOOCs are provided by more than half of the countries. Among all HE systems only 11 have implemented all three options – but usually only in a few HEIs.[65]

Figure 5: Most commonly offered online courses by higher education institutions, 2016/17
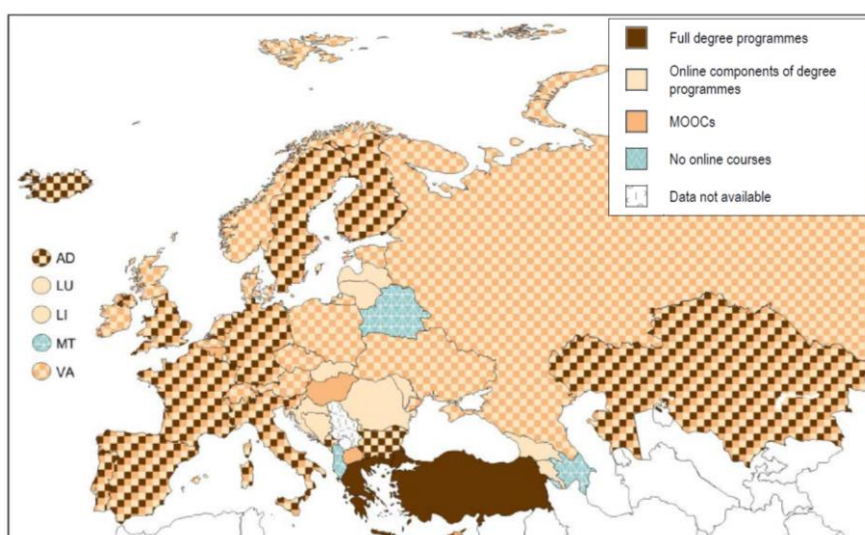
Source: EC/EACEA/Eurydice (2018): The European Higher Education Area in 2018, Bologna Process Implementation Report, p. 80.

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[63]   Analyses of the implementation of recognition of prior learning are mentioned in Chapter 0.
[64]   European Commission/EACEA/Eurydice (2018): *The European Higher Education Area in 2018: Bologna Process Implementation Report*, p. 66.
[65]   European Commission/EACEA/Eurydice (2018): *The European Higher Education Area in 2018: Bologna Process Implementation Report*, p. 80.

The report also provides an overview of the national strategies and policies on the use of new technologies in teaching and learning: Most systems have such strategy or policies in place, but only three countries have a strategy specifically for higher education. Instead, many systems have broader national strategies which include new technologies in higher education. Overall, it is stressed that "higher education institutions have a well-established flexible course provision, offering various types of distance and e-learning studies, in addition to part-time studies".[66]

In order to demonstrate the variety of implemented measures, discuss the main challenges, and potential further steps towards enhancing flexible provisions, the following questions will guide working group III:

- **What types of flexible learning (paths) are in place within a HEI? All programmes or target-specific programmes?**
- **What has been done to allow flexibility to take root within the institution and to support a common understanding of flexibility (taking into account the specific frameworks of institutions/programmes)?**
- **What are the main factors supporting or impeding these processes?**
  - **Developing clear processes / strategies, commitment of all HEI stakeholders (administration, teaching, students …), balance between institutional framework and students' needs;**
  - **General attitude towards flexible learning environments;**
  - **Infrastructural and pedagogical flexibility;**
  - **Time and money;**
  - **Other enabling factors?**
- **What is the contribution of digitalisation, statistics, learning analytics, …?**

Three examples of good practice will be presented:

Flexibilisation in higher education institutions is often limited to programme duration, particularly in higher education systems with study programmes with a rigid time schedule. For students who can't complete their studies within the scheduled time (e.g. working students, students with care duties) 1 or 2 semesters extra can be the only possibility to complete their studies. However, there are programmes with a more elaborated concept, e.g. "Studium flexibel" at South Westphalia University of Applied Sciences (Germany): in selected STEM study programmes, students have the opportunity to complete the first year curriculum within two years by taking additional courses considered as bridging courses within the studies.[67]

New technologies such as the opportunity of virtual learning environments are often used to create more flexible learning offers. Even though streaming and e-learning components (e.g. MOOCs, blended learning or flipped classroom) are widely spread, a closer look often shows a lack of holistic strategies. The Zurich University of Applied Sciences (ZHAW) and its "Blended Learning Study Programme FLEX" is another good practice example. "FLEX" is a combined study degree programme, which requires reduced physical attendance, offers (compensatory and complementary) e-learning courses and

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[66]   European Commission/EACEA/Eurydice (2018): *The European Higher Education Area in 2018: Bologna Process Implementation Report*, p. 75f.
[67]   Further information:
       http://www4.fh-swf.de/de/home/ueber_uns/standorte/ha/fb_ei/studium_flexibel/studium_flexibel_1.php (in German).

thus allows students to study time- and location-independent. The "Center for Innovative Teaching and Learning" (CITL) is responsible for the implementation of the university's blended learning concept including a scientific monitoring system and continuous adaptations.[68]

The reason for flexibilisation at higher education institutions may be a matter of demand and supply, while the opportunity to actually establish flexible structures originates often from subsidised programmes. For example, in 2015, the Dutch government started the programme 'Pilots Flexible higher education for adult learners'[69] with the objective to stimulate HEIs to realise flexible, tailor-made programmes for adult learners. Instead of fixed, pre-defined curricula, each programme consists of units of learning outcomes, which offer adult learners a variety of flexible programmes. Validation of prior learning (formal, non-formal and informal) is a crucial and compulsory element in the pilots, as well as the use of work-based learning and online learning. The pilots will be evaluated by an external, independent research organisation and on the basis of this assessment structural changes in laws, rules and regulations will be made. Programmes of all bigger and middle sized universities of applied sciences (UAS) are taking part in the project; research universities' plans did not meet the requirements. One of these UAS is Saxion University of Applied Sciences which will be presented as a good practice example with its "Part-time School".[70] This pilot explicitly takes into account the characteristics of part-time students by allowing them to validate and build upon what they already know and are capable of, and to realise learning trajectories using work-based learning tailored to their needs. Students can create their own study programme with the support of their personal study coach, e.g. regarding their individual pace of studying, elements of distance learning or study goals. The emphasis is on the design and development of the learning outcomes and its consequences for the courses.

3.4   National support for flexible learning environments

Chapter 2 describes the challenges of a flexible higher education for the future. However, this approach is embedded in a great "*field of tension*", where steering by the state might be necessary: Higher education, and research universities in particular, are confronted with increasingly diverse demands by their societies: They are often assessed at the global level on the basis of their research activities ("rankings"), should train their students according to the needs of the (regional) labour market ("employability") while focusing also on the social outcomes of higher education ("democratic citizens") and at the same time opening themselves more to the needs of a heterogeneous student population.

Flexibilisation can help to resolve this tension, but the role of the state is to set the framework conditions for this, to define, so to speak, the guard rails within which the flexibilisation of learning environments should develop avoiding unintended effects of too much flexibilisation (see also section 2.4 on this). Working group IV discusses therefore in the first session fundamental questions, like: **(How) does widening participation in**

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[68]   Further information: https://www.zfhe.at/index.php/zfhe/article/view/971 (in German).
[69]   Further information:
      https://www.rijksoverheid.nl/onderwerpen/hoger-onderwijs/experimenten-om-deeltijdonderwijs-flexibeler-te-maken/pilots-flexibilisering (in Dutch).
[70]   Further information: https://www.saxion.nl/parttimeschool/home (in Dutch).

higher education correspond with the claim of being a global-oriented research university? Is there a need for a standardized approach to flexible learning and how would this correspond to foster innovative and creative thinking in higher education?

A possible answer to these questions is a further differentiation of the higher education system, because a sole type of institution might not be able to answer all described challenges at the same time. Some universities might therefore follow the model of "world-class universities"[71], which is a very resource intensive approach. Others might focus more on regional needs. Increasing co-operation among HEIs or between HEIs and their environment (e.g. business, other learning providers, NGOs) might also be a strategy to follow. In any case, guidelines for and support of HEIs to implement these guidelines need to be provided by the state. In general, a state can steer using money or law, but in the case of higher education also by using quality assurance systems. But then the question arises of **what role quality assurance systems should play in creating flexible learning pathways and learning environments?**

In the second part, working group IV will focus more on how the state can support flexible learning paths in higher education taking into account the points made before on steering in a field of tensions. Leading questions will therefore be:

- **What can national governments do to ensure the development and implementation of flexible learning paths and conducive future learning environments? Should these goals be integrated in the budgeting process?**

- **What directives for flexible learning pathways should governments set for the entire higher education system or individual types of higher education institutions? What should be reserved for the individual universities?**

- **Is the quality assurance system the appropriate steering instrument to ensure compliance with these directives and at the same time to avoid unintended side effects?**

3.5   EU initiatives to support flexible learning

When it comes to expanding flexible learning paths and learning environments, there are also supranational topics that need to be addressed. Some of these topics have already been identified by the EU, e.g. in its modernisation agenda,[72] but flexibilisation in the broadest sense, as it is to be understood at this conference, also leads to new challenges on all levels, so that the question of possible measures at European level arises continuously. To name just a few:

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[71]   Salmi, J. (2009): *The Challenge of Establishing World-Class Universities;*
Altbach, P. G. & Salmi, J. (Eds.) (2011): *The Road to Academic Excellence. The Making of World-Class Research Universities.*
Sadlak, J. N.& Cai L., Hg. (2009): *The World-Class University as Part of a New Higher Education Paradigm: From Institutional Qualities to Systemic Excellence.*
[72]   EC (2006): *Delivering on the modernisation agenda for universities;*
EC (2011): *Supporting growth and jobs – an agenda for the modernization of Europe's higher education systems.*

- The EU has long been promoting international student mobility. International mobility and international exchange are also forms of flexible learning used by an increasing number of students all over Europe. Conversely, international (exchange) students also contribute to a greater heterogeneity in the classroom and thus promote the need for flexible learning environments at HEIs. However, more efforts are needed to make also ERASMUS+ accessible for a more diverse student population.

- Digitalisation will affect all education systems equally, but how to best use its opportunities to support a flexible learning environment including all types of learners needs to be tested more extensively in international pilot projects. That comprises also advantages to be gained using more digital tools in administration and organisation of higher education. Encouraging the exchange of ideas and experiences with the digitalisation of higher education is needed to learn more how it can be made fruitful for supporting disadvantaged learners and more flexible learning environments.

- Mutual recognition of diplomas and learning periods abroad is another policy field where the EU contributes likewise to more flexible, in that case international, learning environments.[73] Just another example of international policy support is the upcoming initiative of "European Universities" which was also broadly discussed at the Bologna ministerial conference end of May 2018. Together with already existing joint degree programmes, these networks of universities may further stimulate flexible learning paths across Europe.

- What are the most meaningful reactions to the needs of an increasingly heterogenic student body? More flexible learning paths? Yes. But what is the best way to organise this and how to avoid unintended side effects? What kind of experiences have others made in implementing measures in this field? Peer learning activities or similar instruments can contribute significantly and should be used much more frequently – not only by policy makers, but also by HEIs' managers or intermediary systems such as quality assurance.

- A major shortcoming throughout Europe is however, that very little is known about the *impact* of flexibility measures and different forms of teaching and learning. More evaluations of existing measures would be needed – preferably in international comparative settings – to gain more knowledge about their effects.

EU support in all these areas is of great value, which leads to the guiding questions for working group V:

- **How to raise the impact of European measures for the modernisation of higher education?**
- **What are the current challenges in the area of mutual recognition in higher education? What needs to be done at the EU level?**

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[73] EC (2018): *Proposal for a Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education diplomas and the outcomes of learning periods abroad.*

- **What supporting measures are needed for the realisation of the flexible learning paths? How can the EU support Member States and higher education institutions?**
- **How can the European Union further promote the development of joint degree programmes?**

3.6   New technologies supporting flexible pathways in higher education

In most of the references regarding flexible learning in higher education, new technologies are considered a transversal dimension of flexibility, because they are seen as the main instrument for flexibilisation: the necessity to use digital innovation has been repeatedly emphasized in different academic approaches as well as in EU and Bologna policy papers.

In its most recent Communication on the Digital Education Action Plan, the European Commission sets three priorities containing a set of measures to support EU Member States tackle the challenges and exploit the opportunities of education in the digital age: "Making better use of digital technology for teaching and learning", "Developing relevant digital competences and skills" and "Improving education through better data analysis and foresight".[74]

The relationship between education and digital technologies is of particular importance to the Bologna Process as well: "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." [75]

In the position paper "Bologna Digital", a group of experts regarding digital learning in higher education emphasizes that digitalisation is a cross-sectional dimension and "should not be viewed as an additional challenge, but as a powerful means to meet existing challenges for higher education"[76]. Among others, such challenges are the social dimension and widening access, recognition of non-formal learning and internationalisation.

There are numerous examples of ICT-based learning that differ primarily in ratio of online to analogue settings:[77] fully online programmes exist alongside programmes which offer only singular online courses. Some HEIs have implemented blended learning or flipped classroom concepts with the goal to combine elements of presence and online learning in an optimal way and thus get the best learning outcomes. Moreover, there are MOOCs platforms that create and/or collect online courses in order to distribute them publicly (e.g.

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[74]   EC (2018): *Communication on the Digital Education Action Plan*, p. 4.
[75]   EHEA (2018): *Communiqué of the Conference of European Ministers Responsible for Higher Education*, p. 3.
[76]   Orr et al. (2018): *Bologna Digital*, p. 1.
[77]   There is a variety of terminologies in this context which are often used synonymously or strongly linked to each other, such as e-learning, virtual learning environments (VLE), technology-enhanced learning (TEL) and open educational resources (OER).

FUN – France Université Numérique[78] or iMoox[79] in Austria). Digital environments also have a great potential for creating new support structures (e.g. online tutoring or mentoring) and forms of communication. For example, online communication can ease access to information, e.g. for students with limited possibilities to physically attend a course (working students, students with care duties or student with health issues, etc.). Finally, digitalisation opens a whole range of opportunities for facilitation of administrative procedures.

In addition to finding new ways of assessment of student learning in online learning settings one of the challenges are major restraints due to copy right issues (resp. contents or lecturers). For example, MOOC´s providers must take into account their national Intellectual Property Rights (IPR) legislation – and depending on their scope even international IPR framework. Although there is a 'teaching exception' in the European copyright law it is still seen as too restrictive. The European Council's Committee of Permanent Representatives (Coreper) has recently expressed its position to modernise copyright rules in the EU in order to meet the requirements of the digital age: To maintain "teaching in the digital environment" the committee's position includes "mandatory exceptions or limitations" to EU copyright rules in the context of research and learning.[80] Furthermore providers can find a remedy by using open content materials or materials with general licences that can easily be used for public content, such as Creative Commons.

In the course of the recently started project AHEAD[81], a systematic analysis of current digital trends and challenges regarding required skills and competences will be conducted. This analysis of recent developments related to learning sciences, didactics and digital technologies in education will be the background for developing future scenarios for higher education ("Horizon 2030").

Another field with high impact on developing higher education is learning analytics, "the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs".[82] Thus, it can be seen as a great opportunity to enhance learning quality by better understanding and therefore optimising it. At the same time, concerns regarding data protection and ethical use of the data have been raised.[83] Furthermore, as learning analytics has emerged from the fields of analytics and data mining, there is still a lack of connections to the learning sciences.[84]

Hence, plenary session II of the Conference will present opportunities of digitalisation for teaching and learning as well as the potential of learning analytics. Plenary session III will give attention to one of the most recent and noticeable development: the *blockchain technology*. In 2017 an explorative study by the Joint Research Centre of the European Commission examined its potential for the education sector – a very new perspective

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[78]　Further information: https://www.fun-mooc.fr
[79]　Further information: https://imoox.at
[80]　EC (2018), Directive on copyright in the Digital Single Market, p. 5.
[81]　"A Higher Education Digital" is a project funded by the German Ministry of Education and Research, conducted by a consortium of FiBS (Dominic Orr) an HIS-HE (Klaus Wannemacher) in cooperation with the Austrian Graz University of Technology (Martin Ebner) and the Massachusetts Institute of Technology (MIT, Philipp Schmidt).
[82]　Ferguson, R. (2012): *Learning analytics: drivers, developments and challenges*, p. 305 (referring to the first international Conference on Learning Analytics and Knowledge in 2011).
[83]　Greller, W., & Drachsler, H. (2012): *Translating Learning into Numbers: A Generic Framework for Learning Analytics*.
[84]　Ferguson, R. (2012): *Learning analytics: drivers, developments and challenges*, p. 9.

considering that the main effort in blockchain research is focussing on the financial system. According to the report, the main characteristics of the blockchain technology can be described as follows:

> *"Simply put, a blockchain is a distributed ledger [a tool by which one can determine the owner of an asset at any point in time] that provides a way for information to be recorded and shared by a community. In this community, each member maintains his or her own copy of the information and all members must validate any updates collectively. The information could represent transactions, contracts, assets, identities, or practically anything else that can be described in digital form. Entries are permanent, transparent, and searchable, which makes it possible for community members to view transaction histories in their entirety. Each update is a new "block" added to the end of a "chain." A protocol manages how new edits or entries are initiated, validated, recorded, and distributed. With blockchain, cryptology replaces third-party intermediaries as the keeper of trust, with all blockchain participants running complex algorithms to certify the integrity of the whole."*[85]

The core idea of blockchains is decentralizing verifiable information, so blockchains can replace public certificate registries. Several (potential) advantages of blockchains for the educational system can be identified: For example, any types of certificates issued by an educational organisation (e.g. qualifications) can be permanently and reliably secured.[86] "More advanced blockchain implementations could also be used to automate the award, recognition and transfer of credits, or even to store and verify a complete record of formal and non-formal achievements throughout lifelong learning".[87] Accordingly, it could remove the need for educational organisations to validate credentials, or ease accreditation procedures or intellectual property management[88] – which is particularly important considering the increase in counterfeit diplomas. Other opportunities are considered in establishing (secure) students records (e.g. for their identity or accomplishments), the use of money in HE, such as collecting fees, managing student loans or customising teaching and learning.[89] In this context Voshmgir stresses the potential of peer-to-peer-education, scenarios of changing procedures of peer reviews or new ways of hypothesis testing.[90]

As plenary session III will address the question what blockchain technology could mean for higher education one of the rare case examples in higher education will be presented as well: The University of Nicosia (UNIC) already makes use of the blockchain technology, for example, certificates are being issued using a public blockchain, tuition fees can be transferred in Bitcoins, a Master programme in Digital Currency and a MOOC called 'Introduction to Digital Currencies' are provided.

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[85] Grech, A. & Camilleri, A. F. (2017): *Blockchain in Education*, p. 16. (Adapted from Piscini et al. 2016).
[86] Ibid, p. 8f.
[87] Ibid.
[88] Ibid, p. 9.
[89] Tapscott, D., Tapscott, A. (2017): *The Blockchain Revolution and Higher Education*.
[90] Voshmgir, S. Interview by Häußler, H. (2017): Blog Hochschulform Digitalisierung.

4. Summary and Policy Considerations

The concept of flexible learning in higher education (HE) has been on the EU agenda for years and the recent documents on the renewed EU agenda for higher education from the EC and the Council of the EU also refer to a flexibilisation of HE in a broader sense. Over the years, a lot of measures have been implemented across Europe. Nevertheless, more efforts are needed to reach the envisaged objectives. Therefore, the Austrian EU Council Presidency wants to provide a platform with the Higher Education Expert Conference "*The new Student: Flexible Learning Paths and Future Learning Environments*" to look at flexibilisation in HE from different points of view, to learn from each other's experiences and to further stimulate the development of concrete measures at HEIs, the national and the European policy level. The growing diversity of the student population and its different demands are the background against which all measures should be designed.

The idea of flexible learning is strongly linked to student-centred learning but in general, it is used as a broad term with various interpretations and definitions, thus "often used in an unclear way" (Li & Wong). For the preparation of this conference, we distinguish three – interdependent – dimensions: **1) flexible ways into HE** (e.g. alternative access routes, bridging programmes and RPL) **2) learning flexibility within courses** (such as time, place, instructional approaches, assessment and pace of a course) and **3) organisational flexibility** (e.g. introductory year, part-time or dual studies, flexible curricula, administrative procedures). However, as with any measure, flexibility of learning pathways should be introduced with care, as it is advantageous for many, but can also pose a great challenge for some students and higher education institutions.

Following from presentations of good practices, the discussions at the conference approach the topic of flexible learning paths from five different angles: 1) alternative access routes (focusing on the recognition of non-formal and informal learning); 2) students' needs; 3) institutional approaches; 4) national support and 5) EU's initiatives. Moreover, digitalisation is a core trend affecting all areas of HE, but will also strongly facilitate more flexible learning paths. Thus, it will be discussed as a cross-sectional matter influencing all mentioned aspects.

The **political considerations** of the conference focus therefore on the following key issues:

- Validation of non-formal and informal learning, as one important step towards lifelong learning, is among the top priorities of the EU agenda. According to the recent Bologna implementation report, students in around half of the education systems of the EHEA, can access higher education on the basis of their prior learning experiences and five EU member states reach already the full score of this indicator.[91] In order to increase that number, it is also necessary to address the soft facts (e.g. general attitude towards RPL) in addition to the hard facts (e.g. legal framework and standards), as the lack of commitment and trust to RPL within HEIs or at national level can be considered a major obstacle to progress. Moreover it is essential to discuss the role of quality assurance in this context.

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[91]   Source: EC/EACEA/Eurydice (2018): The European Higher Education Area in 2018, Bologna Process Implementation Report. See also **Figure 2** in this report on page 12.

- The more heterogeneous the student population becomes (see EUROSTUDENT 2018), the more diverse their needs become. The ministers responsible for HE therefore want to further develop the student-centred learning approach and include it in teaching and learning (see Paris Communiqué 2018). But in detail, it is still unclear which modes of delivery are in high demand and above all what the impact of these different modes of delivery is. In any case, the development of more flexible learning paths is a central element for student-centred learning, but how can it be ensured that this flexibilisation will also contribute to increased social inclusion and deliver a high quality of learning for all students?

- Many HEIs across Europe have already introduced or are experimenting with more flexible learning pathways. But in most cases this concerns individual studies and so far rather rarely entire institutions. Coherent strategic approaches are needed here, which also take broader issues into account, such as infrastructure or attitudes towards flexibility. In addition, possible positive contributions of digitalisation or learning analytics must also be taken into account. First, however, it would have to be clarified whether all programmes of a HEI should actually be included or whether target group-specific offers would be more suitable against the specific background of each individual HEI.

- Each member state must find its own way to promote the flexibilisation of learning paths, e.g. by (further) differentiation of the higher education system, or by more cooperation within and outside the higher education system, or in some other way. Some of the primary questions at governmental level are whether all HEIs should introduce similar forms of flexibilisation or whether (further) differentiation of the system makes more sense. Do we need a standardised approach for this or should HEIs develop individual approaches? Finally, implementation of flexible learning paths has to be evaluated continuously and should be constituent part of the quality assurance systems.

- How can the EU support the flexibilisation of learning paths in the member states and combine it with a social inclusion policy? The EU is already strongly involved in this field, from mutual recognition to mobility programmes, joint degrees and 'European Universities'. However, there would be a need for greater support for the exchange of experiences at all levels and the evaluation of the impact of various measures. Moreover, common principles for flexible learning should be reached by providing tools for HEIs to further implement flexible learning paths. The social accessibility of existing programmes is also an issue where even more commitment on the part of the EU would be helpful.

- Digitalisation is a cross-cutting issue that will affect all areas of higher education. But especially for the combination of flexible learning paths with social inclusion and the consideration of increasingly heterogeneous needs of learners, digitalisation is crucial. There are already approaches to this at some HEIs, some of which will be presented at the conference. The position paper "Bologna digital"[92] contains proposals on how digitalisation should be used to open HEIs to a diverse population, to recognise non-formal learning and to improve teaching and learning, internationalisation and quality assurance. This paper describes a possible

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[92] Orr et al. (2018): *Bologna Digital*.

measure scenario that will also be discussed in all working groups of the Vienna Conference.

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