"Developing future skills in higher education"

ET2020 – Peer Learning Activity (PLA)[1]

Brussels, 25-26 February 2016

KEY FINDINGS

1. Examining "future skills": background to the PLA

1. The idea that **"transferable" skills** - or "soft", "generic" or "21st century" skills[2] - should be part of the set of learning outcomes all students are expected to acquire during their time in higher education is not new. In a European context, the Bologna Process has, since its inception in 1999, accelerated and spread the process of **defining explicit learning outcomes** for higher education programmes, including outcomes in terms of certain types of transferable skill, such as communication, teamwork or problem-solving.

2. This process has run in parallel with an increased focus among policy makers, higher education institutions (HEIs) and students on the **employment outcomes** of higher education graduates – and the extent to which higher education prepares students adequately for working life (**employability**). Surveys regularly highlight the importance employers already attach to transferable skills in recruitment[3], while the **rapid pace of change** in economic structures and the nature of many occupations means graduates increasingly need knowledge and skills sets that they can apply in **different and dynamic settings**.

3. The objective of teaching and learning in higher education naturally extends beyond ensuring that graduates are employable. Higher education institutions are arenas where students pursue their socialisation and acquire and develop a range of knowledge, skills, attitudes and attributes that affect the way they **act in, and engage with, wider society**. Efforts to define learning outcomes explicitly relating to **social and civic competence**[4] for high education programmes have been less widespread than for transferable skills, although there instinctively appears to be a **strong overlap** between the interpersonal, social and intercultural skills seen as important for active citizenship and the skills sets needed for successful professional careers.

4. Despite the many high-level objectives to promote acquisition of transferable skills and social and civic competences in higher education – expressed through the Bologna Process and in many national higher education strategies – the **reality of teaching and learning on the ground** in Europe's universities seems, at best, variable. The most recent

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[1] PLAs are seminars organised within the framework of the Working Group on the Modernisation of Higher Education (WG-MHE). They bring together ministry and HEI representatives to share experience and help identify common areas for further work and cooperation at European level.

[2] And related concepts in other languages, such as *Schlüsselkompetenzen* or *compétences transversales*.

[3] For example, CEDEFOP (2013) *Piloting a European employer survey on skill needs* http://www.cedefop.europa.eu/node/11966

[4] The EU's Key Competence Framework defines social and civic competence as including "personal, interpersonal and intercultural competence" and covering "all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life" http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:EN:PDF

(2015) edition of *Bologna with Student Eyes*[5], for example, found that implementation of the **student-centred learning** that are key to inclusive and versatile skills development remains piecemeal in Europe's higher education systems. There is thus evidence that the **rhetoric of higher education policy is not being translated into common practice** in the classroom.

5. Against this backdrop, the PLA set out explore how, in practical terms, institutions and system regulators are promoting the development of transferable skills and social and civic competence ("**future skills**") in higher education. Representatives of higher education ministries and HEIs from 11 countries[6] took part in the PLA, along with Business Europe, ETUCE, EUA and ESU. The key questions tackled were:

a) How these kinds of skill and competence are **understood and defined;**
b) The degree to which their acquisition can and should be embedded in **system-level strategies**, **frameworks and incentive mechanisms**; as well as
c) **Institution-level approaches** to promoting acquisition of these skills sets, including opportunities and challenges in teaching and learning practice;
d) How and where further **cooperation at European level** could add value.

2. Which skills are we talking about?

6. Understanding and defining the skills and attributes we are seeking to help students acquire is a logical **first step** in developing strategies and curricula to promote relevant skills acquisition. Discussions in the PLA were informed by a presentation by Robert Wagenaar, drawing on international experience, including work on the TUNING projects[7] to define learning outcomes in higher education. This served to highlight both the **wide range of skills** that tend to be bundled under headings like "transferable skills" and variation in the way these skills are **identified and classified**. Despite the existence of **established typologies** like the European Framework for key competences for lifelong learning[8] and **significant commonalities and overlaps** between the different skills and competence classifications used, national authorities, HEIs, employers' organisations and others **use different sets of language** to talk about "future skills". It is thus not always clear whether different actors are indeed talking about the same things.

7. Even **basic terms** can be used to have different meanings – in particular the English words "skill" and "competence". The European Key Competence Framework and the European Qualifications Framework (EQF) distinguish between knowledge, skills and competence, where:

- **Knowledge** means the outcome of the assimilation of information through learning;
- **Skill** means the ability to apply knowledge and use know-how to complete tasks and solve problems (and can be cognitive or practical);
- **Competence** means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

5   European Students' Union (2015) http://bwse2015.esu-online.org/Main+findings
6   Albania, Croatia, Cyprus, France, Greece, Latvia, Malta, Netherlands, Romania, Sweden, UK.
7   http://tuningacademy.org
8   EU (2007), Key competences for lifelong learning. European Reference Framework. https://www.erasmusplus.org.uk/file/272/download

Although often used synonymously with "skill", "competence" is here seen as broader, referring to the **ability of a person to use and apply knowledge and skills** in an independent and self-directed way. As reflected in the EQF, competence can be defined and measured at different levels and, as argued in the Key Competence Framework, skills combine to constitute different "types of competence" or "competence*s*". Importantly for our discussion, the same skills can be important for different types of competence.

8. While many **classifications** of skills exist, the following, non-definitive, grouping covers the main skills important for higher education students that emerged consistently from presentations and discussions at the PLA:

- **Cognitive skills:** analytical, critical, reflective, creative thinking;
- **Methodological skills:** time management, problem-solving, decision-making, learning (strategies), planning, digital skills;
- **Social skills:** interpersonal communication, teamwork, conflict management and negotiation, inter-cultural understanding.
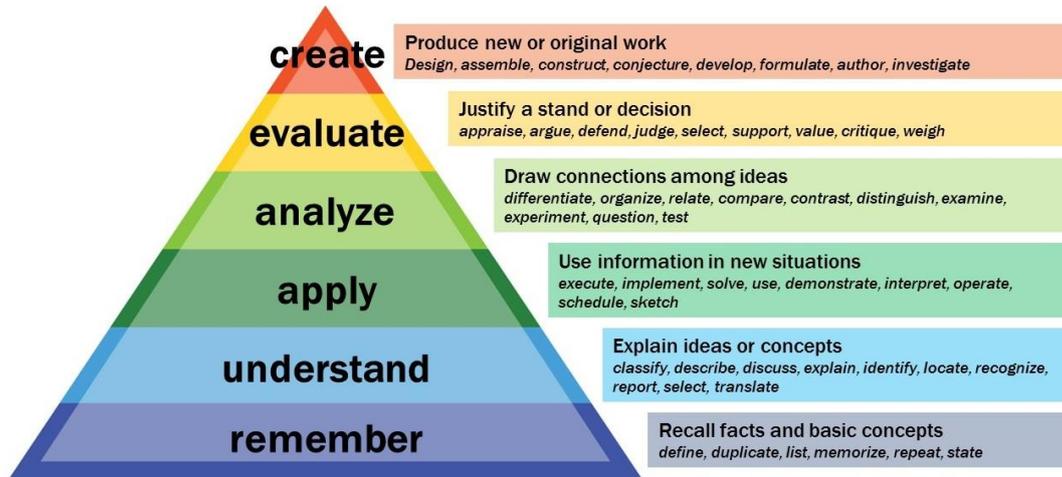
9. It was widely accepted that this broad list of desirable skills includes skills – such as "interpersonal communication" - that are **important for "social and civic competence"**, as well as successful integration into the labour market. However, it was equally evident from discussions that social and civic competence is, perhaps to a greater extent than other types of competence, about more than skills *per se* and also depends on **personal attitudes and ethical values.** Attitudes and values can be influenced by knowledge and skills, but are distinct, and are almost certainly **more difficult to change** in an educational setting.

10. The **basic or foundation skills** of literacy and numeracy are best viewed as a necessary basis for the skills above and thus do not appear explicitly in the list. Nevertheless, in light of the growing importance of digital literacy across all kinds of occupation and in daily life more generally, a discussion emerged about the place of **digital skills** in our classification. The general consensus was that **digital and data literacy**, including underlying knowledge of **logic and maths**, are growing in importance and should be considered as transferable skills across disciplines. This more profound **knowledge and understanding of digital processes and technology** should be distinguished from the simple ability to use applications.

11. At the level of higher education programmes, the level of particular types of competence (ie the combination of knowledge, skills, abilities etc.) that should be achieved on successful completion of the period studies are defined in terms of **learning outcomes**. The learning outcomes fixed for the programme will naturally depend on the programme, although a **core of transferable skills or types of competence** can be included in all disciplines. Learning outcomes should include a specification of **what** the student will be able to do with an active verb form (the learning outcome proper), the **level** at which they will be able to do it and an indication of the **context(s)** in which they can apply this. **Annex 1** provides an example of a developed learning outcome, particularly relevant to social and civic competence. **Bloom's revised taxonomy** of cognitive learning objectives, which identifies different levels of complexity and mastery, is a valuable reference point for defining learning outcomes for transferable skills (see figure 1). The top three categories (**analyse, evaluate and create**) and the associated active verbs correspond particularly well to core skills we expect to develop in higher education.

Figure 1: Bloom's revised taxonomy[9]

Bloom's Taxonomy

create	**Produce new or original work** *Design, assemble, construct, conjecture, develop, formulate, author, investigate*
evaluate	**Justify a stand or decision** *appraise, argue, defend, judge, select, support, value, critique, weigh*
analyze	**Draw connections among ideas** *differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test*
apply	**Use information in new situations** *execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch*
understand	**Explain ideas or concepts** *classify, describe, discuss, explain, identify, locate, recognize, report, select, translate*
remember	**Recall facts and basic concepts** *define, duplicate, list, memorize, repeat, state*

3. What can be done at system-level?

12. European higher education systems are composed of HEIs with a varying, but always considerable, degree of **autonomy** and operating within system-level frameworks, generally defined by government. HEIs – and academic staff within them - have primary responsibility for specifying learning outcomes for individual programmes and for the organisation of teaching and assessment. Depending on national traditions – but to some extent in all systems - public authorities may seek to influence skills development approaches within HEIs through system-wide **strategies, funding frameworks, quality assurance systems** and, depending on the system, **targeted initiatives and incentive and performance mechanisms**.

13. Presentations from Sweden, the Netherlands and Romania focusing specifically on national policy frameworks and subsequent discussion in the group demonstrated how relevant higher education legislation and strategies underline the importance of transferable, social and civic skills (defined in varying levels of detail), but **leave detailed implementation to HEIs**. In the absence of comparable information on students' *actual* **learning outcomes**, quality assurance systems are generally limited to assessing

> **BOX 1 Dutch strategic agenda for higher education 2015-2015**
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> *Specific areas of focus include:*
> a) ***Small scale learning communities*** *(student-teacher interaction, individualised support and feedback)*
> b) ***Rich learning environments*** *intertwined with research, professional practice, international classroom, online education, and new learning environments*
> c) ***Flexible lifelong learning*** *(demand-driven education experiments, piloting learning pathways and a 'lifelong learning credit')*
> d) ***Sustainable regional and sector-based collaboration*** *(engagement with the society and labour market);*
> e) ***Stronger labour market links*** *(entrepreneurship education, alumni policies and stronger orientation of the UAS centres of expertise to societal challenges).*

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9   Anderson, L. W., Krathwohl, D. R., & Bloom, B. S. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. Allyn & Bacon.

whether the **conditions for skills development** are in place[10].

14. The new Dutch Strategic Agenda for higher education goes further than others in identifying **particular factors that create a favourable environment** for development of skills, including critical reflection, cooperation, creativity and results orientation (see Box 1). The intention is to support the development of these factors at institutional level with public funds released by the replacement of a previous system of (non-repayable) student grants with (repayable) student loans. At the same time, enhancement of the learning environment and student achievement are objectives in institutional performance agreements between the Dutch state and individual institutions.

15. The PLA also discussed two examples of **thematic strategies** at system level, which have an explicit focus on promoting transferable and social skills. The **UK higher education sector** has launched the **Go International**[11] strategy to increase the UK's very low levels of outward student mobility. Current estimates suggest only 1.2% of UK students have any form of learning mobility experience in a given academic year, although an increasing body of evidence is demonstrating both the **value of mobility for skills development** and **demand for international experience** from employers. Cohort studies in the UK and among Erasmus students, have demonstrated the positive impact of mobility experience on graduates initial entry into and progression in the labour market, while other work has shown positive impacts on students' independence, intercultural understanding, confidence, curiosity and tolerance[12].

16. In **France**, one of the five strategic pillars identified for the new national strategy for higher education[13] ("Designing 21st century higher education") focuses on **delivering student-centred learning**, with a particular **emphasis on exploiting digital technologies** to do this. Considerable emphasis has been placed on dissemination of digital teaching resources (through pedagogical portals such as "sup-numerique.fr") and training for teaching staff. At the same time, the "Excellence Initiatives for Innovative Training" programme (*Initiatives d'excellence en formations innovantes* - IDEFI) has provided competitive funding for a range of projects to test and implement technology-supported learning on campuses. The French higher education system has also made efforts to improve students' digital skills across all study

> **BOX 2: Certificat informatique et internet (C2i)**
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> *The C2i Higher Education IT & Internet Certificate (launched in 2002) is a voluntary certification of digital literacy skills for higher education students and helps develop, strengthen, validate and accredit 20 ICT skills in 5 areas; each skill is defined by knowledge and aptitudes the student must acquire. Each year, a third of students take the C2i level 1 test, 50 000 students pass the test in one of 118 higher education Institutions (350 local partners).*
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> *The relevance, scope and access of C2i is being improved with the help of closer interaction with employers (National Committee for Education-Economy CNEE), inclusion of coding skills in the C2i portfolio, and enhancing access to Digital literacy and certification with the help of C2i MOOCs*

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[10] The Swedish QA system until recently assessed achieved learning outcomes mainly through reviewing a sample of students' final dissertations. In the new system that is underway this approach will be complemented with other quality aspects.

[11] http://go.international.ac.uk/

[12] Student Perspectives on Going International (2015, UK HE IU/British Council), http://go.international.ac.uk/student-perspectives-going-international

[13] Stratégie nationale de l'enseignement supérieur (StraNES) http://www.enseignementsup-recherche.gouv.fr/cid92442/pour-une-societe-apprenante-propositions-pour-une-strategie-nationale-de-l-enseignement-superieur.html

programmes, in particular through the C2i testing and certification tool for **digital literacy** (Box 2).

4. What is happening at institutional level?

17. The detailed design and implementation of higher education programmes, taking into account system-level frameworks, occurs in HEIs. From a theoretical perspective, the first step in programme design is to **identify the broad learning outcomes** a particular programme should deliver, including transferable, social and civic skills. With a "whole-programme" perspective, the next steps are to identify the modules needed, define more detailed learning outcomes and decide on teaching, learning and assessment approaches (see summary in Box 3).

> **BOX 3: Steps for integrating generic skills into degree programmes**
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> a) *Academic staff identify most appropriate set of skills based on mission programme*
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> b) *Decide which modules best suited to develop the identified set of generic competences and skills*
>
> c) *Decide on progression routes following taxonomies / models to define learning outcomes (level of competence)*
>
> d) *Decide on teaching, learning and assessment strategies and approaches: identify modes of teaching / learning and measuring /assessment*

18. In practice, academic programmes are rarely built entirely from scratch, but draw on existing expertise and teaching modules. While it is in principle possible to develop a wide range of skills within programmes and modules in any single discipline, another response to the challenge of developing transferable, social and civic skills has been to introduce more **inter-disciplinarity** into programmes. Both Swedish and Dutch participants highlighted an increase in HEIs offering broad-based **liberal arts programmes** (combining several disciplines), although it is acknowledged that this only caters for a small minority of higher education students. An alternative approach was presented by the West University of Timisoara[14], where students at undergraduate level must take **additional courses** from a broad selection offered by different facilities in the university. These credit-bearing courses add diversity to their programme, in areas including critical-thinking and problem-solving, collaborative learning and teamwork, oral and written communication, entrepreneurial skills, and debating.

19. Designing curriculum and adapting higher education programmes is a challenging process, but can be supported by **involving students and consulting other stakeholders**[15] in the formation of relevant learning outcomes and design of adapted learning, teaching and assessment approaches. ESU argues that involving students in programme design is crucial to address different needs of learners and achievement of the desired learning outcomes. ESU is currently running the **PASCL (Peer Assessment of Student-Centred Learning)** project with enhancement-led evaluations in different European HEIs, in order to help bridge the gap between policy and practical implementation of student-centred learning in institutions[16].

20. The need for better support in implementing new approaches in programme design and in teaching and assessment were recurring themes in PLA discussions about **training**

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[14]   http://www.uvt.ro/en

[15]   The involvement of employers and/or unions from outside academia is particularly relevant here, both in terms of defining relevant skills needs and gaps, but in building links to increase work-based learning opportunities. Given limited time, these links were not discussed at length in this PLA.

[16]   See www.pascl.eu. Evaluations are underway in seven institutions.

and development of teaching staff. Different approaches to staff development are seen, with **staff development centres** in place at many institutions in countries such as Sweden or the Netherlands, whereas the Romanian authorities are planning to develop a national staff training centre as part of the broader national higher education strategy. Closely related issues are the **time and incentives available** for teachers wanting to improve their programme design and pedagogical skills and/or the actual design of the programmes they deliver. A lack of time and **competing pressures**, such as the need to deliver a sufficient level of research output, were identified in discussions as barriers to improvements in programme design – and thus in skills development potential. There was a general consensus that **improving resources** for improving programme design (in terms of time, human resources, training, practice examples, incentives and funding) should be a top priority for higher education policy.

21. The role and value of **extra-curricular activities** in developing relevant skills in higher education was also discussed at the PLA. While non-academic activities are typically organised by and through student associations, government and institutional leadership can help to create environments which encourage students to **engage more broadly with the world around them**. France and Romania, for example, have developed policy frameworks to facilitate the participation of higher education students in **volunteering activities**, while the UK authorities have previously supported the "Beacons for Public Engagement" programme aiming "to create a culture within UK Higher Education where public engagement is formalised and embedded as a valued and recognised activity for staff at all levels, and for students".

5. How can further European cooperation help?

22. Along with drawing out some of the key points presented above, the final discussion groups at the PLA focused on identifying areas where **further European-level cooperation** would be valuable. The main areas emerging from the PLA overall were:

- Working towards a **shared understanding of the skills** we want to promote. There is scope to consolidate and improve European-level definitions of transferable, social and civic skills, not least as a basis for defining comparable learning outcomes to support academic recognition.
- Working towards **implementation of student-centred learning** in European higher education institutions.
- Additional identification and dissemination of **good practice in programme design and assessment** at institutional level, potentially involving better networking and support for trans-national communities of practice. As **assessment of transferable skills** is a particular challenge, this should be an area of focus.
- Follow-up activities on **effective design on national policy frameworks and incentive systems** to support good programme design and skills development, including strengthened cooperation between relevant national authorities. Here it will be important to highlight and draw on evidence and policy evaluations from different jurisdictions.
- Greater support / emphasis on **inter-disciplinary cooperation** in teaching and research projects in higher education supported through EU funds, where inter-disciplinary is understood to include links across academic disciplines and between

academia and non-academic organisations. Here, **"building bridges"** between higher education and **labour market actors** should be an important focus.

- Continued / greater support for **international mobility of students and staff**, as a means to support relevant skills development.

Annex 1: Example of a learning outcome definition

CONFLICT MANAGEMENT & TRANSFORMATION

Competence indicator	Level 1	Level 2	Level 3
Developing strategies for coping with emotions caused by differences	Tolerates feelings of frustration in interaction with others	Feels at ease with different views and discrepancies	Empathizes with others' views and emotions
Developing strategies for coping with intellectual conflict caused by differences	Tolerates tensions and arguments with others	Accepts different views and discrepancies	Values positively expressions of differences among others
Listening and considering the positions of others in situation of conflicts. Being able to understand own and others' position and the ethical responsibilities	Listens to and understands only the opinions and interests which do not conflict with own position, and gets tense when differences are expressed	Takes the opinions and interests of others into account, recognizing and understanding points of agreement or divergence	Promotes an atmosphere of respect and dialogue where everyone can speak freely and be listened to and comprehends ethical implications of own and others' position, seeing possibilities for reconciliation
Showing assertiveness and strategy when proposing and defending own positions and managing conflict	Expresses own opinions and interests calmly but with firmness and conviction, even though different from those of others. Is open to dialogue, but there is little strategy and defense of own position weakens when a competitive atmosphere arises or the process takes an unexpected direction	Expresses own position and interests with clarity, and knows how to defend it in an atmosphere of dialogue. Knows how to plan a strategy and adapts own position to the process with flexibility	Expresses own positions and interests to others, remaining open to dialogue and the possibility of reconsidering own standpoint(s). Analyses and plans the best strategies, responding quickly and with versatility and cooperation in process of negotiation
Seeking acceptable alternatives and solutions for conflicts	After listening, is clearly open to considering others' proposals, and to conceding points in order to reach agreement	Contributes actively to dialogue with proposals to explore possible alternatives and achieve agreements and commitments with others	Tries to reconcile and integrate different postures to reach agreements satisfactory to everyone involved

Source: Presentation by Robert Wagenaar