



European University Alliance for Global Health

Deliverable

DL4.4 Needs analysis for the online tutorials

WP4 - PROFESSIONAL AND INDIVIDUAL DEVELOPMENT &
EMPLOYABILITY

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WP4 Activities:

A4.1: Schools on entrepreneurship and professional skills development (with student mobility)

A4.2: Online courses on entrepreneurship and professional skills development

A4.3: Joint workshops on “hot topics” and SGDs

A4.4: Online tutorial and mentoring on “entrepreneurial mind-set”

A4.5: Set of activities to enforce individual skills of the disadvantaged student population

A4.6: Fairs with industrials and other potential employers of the 5 EU regions

A4.7: Submission of EU projects and fundraising to sustain the activities

A4.8: Dissemination of best outputs and practices with industrials and other stakeholders for the improvement of the employability

A4.9: Monitoring of the activities and their impact

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Publishable Summary

Due to the recent labour market trends identified in the literature review, the forecast is that technological advances, digitalisation of the economy, as well as the green transition will lead to job polarisation and, consequently, a need for workers to have skills that are not codifiable by software – increasing the value of transversal skills. To become a knowledge-based society, Europe needs to innovate, ensure a rapid recovery from COVID-19 and adjust to the above-described labour market important transformations that defy teaching and learning and that demand citizens to develop new skills to meet these challenges and the subsequent requirements of emerging sectors, of diverse types of work and of new environments.

To this end, the present report is a first attempt at mapping the perception of the EUGLOH Alliance students on the importance of transversal skills in the Higher Education context, susceptible of favouring employability. The European University Alliance for Global Health (EUGLOH) is a strategic partnership between Université Paris-Saclay (UPSaclay), Lund

University (LU), University of Szeged (USZ), University of Porto (UPorto) Ludwig-Maximilians-Universität München (LMU) established in 2019, in the context of the European Commission's European Universities Initiative. The results from the survey responded by EUGLOH Alliance students confirm that students attribute great importance to transversal skills, namely the practical application of knowledge and critical and creative thinking skills. Within its institutional transformation agenda and structured cooperation among partner Universities and external actors, the vision of EUGLOH Work Package 4 - dedicated to personal and professional development - as well as employability - is to contribute to strengthen the Alliance's role in training highly qualified human resources prepared to solve societal challenges, with strong knowledge and transversal "forward-looking" competencies, as well as European values and attitudes, thus reinforcing EU HE's competitiveness, attractiveness and impact in employability and responsible citizenship.

To this end, EUGLOH stimulates interdisciplinary and collaborative work, in line with European, and international trends and strategies and with the removal of barriers to multidisciplinary and strict compartmentalisation of areas such as economics, entrepreneurship, digital technologies, life sciences and health. Thus far, WP4 training opportunities were inclusive, diversified, taking on new formats and modes, making use of the unique resources mobilised by partners. Activities were oriented towards the acquisition of transversal and specific competencies related to Global Health (multidisciplinary concept), addressing societal challenges and a wide range of topics linked to the acceleration of the Sustainable Development Goals. Through these activities partners have not only stimulated co-creation between EUGLOH Universities, but also with their ecosystems, (e.g.: industry players/other actors, such as national/regional/local authorities, civil society, innovation hubs, public organisations, hospitals, NGOs, science & innovation parks), bringing together students, academics, researchers, staff, businesses, regional and civil society actors

Introduction

Along with the labour market trends previously pointed out in the literature (World Economic Forum (WEF), 2016; Hirsch-Kreinsen, 2016), the COVID-19 pandemic-induced lockdowns initiated in 2020 contributed to an acceleration of technology adoption in jobs and an unprecedented need for adaptation and tech-savvy skills from workers (World Economic Forum (WEF), 2020).

The skill-upgrading and job polarisation trends that result from the Digital Revolution projected by literature hypotheses contribute to the need for the worker of the 21st century to have skills that are not codifiable by software or automatized, i.e. the demand for non-routine jobs increases while the demand for routine jobs remains constant or decreases (Goos, 2018).

The aim of this report is to analyse the perception of students belonging to the Universities of the EUGLOH Alliance regarding the importance of developing soft skills in enhancing graduate employability.

This report is organized as follows. In the first section, a brief literature review about the transversal skill of the 21st century is presented. It starts with a brief description of labour market trends and an overview of the literature about transversal skills. In the second section, the methodology is described. The third section presents an exploratory analysis of the data collected, from the surveys, carried out by each partner University, to the EUGLOH Alliance student community. And finally, the fourth section presents the joint study conclusions.

Transversal Skills of the 21st Century

Labour Market Trends

Among the different economic sectors, the new developments of digital technologies are not comparable to the ones of previous decades, since these have been opening the door to deep economic and societal structural changes (Hirsch-Kreinsen, 2016).

The revised literature refers to the different type of outcomes that the Digital Revolution can lead to, as there could be a complex interplay between worker skills and digital capital, in the workplace. The range of outcomes can go from job displacement to job creation, to the increase in productivity and widening of skills gaps, reflecting advantages for some workers

and disadvantages for others (WEF, 2020; Goos, 2018; WEF, 2016). Even though, different outcomes are pinpointed, the literature highlights the growing mismatch between the supply of skills that evolves at a low pace, due to the features of educational systems in most Countries, and the demand of skills that comes from a rapidly evolving economy (WEF, 2016; Annunziata & Bourgeois, 2018).

This skills mismatch is described in the literature by different theoretical hypothesis (capital–skill complementarity (CSC) hypothesis, skill-biased technological change (SBTC) hypothesis, routine-biased technological change (RBTC) hypothesis and the globalization/offshoring hypothesis).

Although some predict that the Digital Revolution will lead to skill-upgrading (CSC and SCBTC) other hypotheses forecast that it will lead to job polarisation (RBTC and globalization) (Fonseca, Lima, & Pereira, 2018; Goos, 2018).

Moreover, the skill-upgrading phenomenon is defined as an increase in demand for high-skill occupations (non-routine cognitive jobs), while the job polarisation phenomenon is described as simultaneous employment growth in both high-skill occupations (non-routine cognitive jobs) and low-skill occupations (non-routine manual jobs), and as the demand for middling skills occupations (routine cognitive and routine manual jobs) remains constant or declines (Fonseca et al., 2018; Goos, 2018). Non-routine jobs include: i) low-wage manual tasks mainly executed by unskilled workers, for example, personal services such as cleaning or waiting tables in a restaurant (non-routine manual); and ii) high-paid abstract tasks mainly performed by high-skilled workers, for example, managing a team or engineering (non-routine abstract/cognitive) (Goos, 2018). Routine jobs include both cognitive and manual jobs that involve high-wage abstract tasks and low-wage manual tasks, respectively, that are codifiable in software language, for example, office clerks for routine cognitive jobs and machine operators for routine manual jobs (Goos, Salomons, & Vandeweyer, 2013; Acemoglu & Autor, 2011).

Both the skill-upgrading and job polarisation labour market trends identified in the literature lead to a need for workers to have hard skills and transversal skills not codifiable in software language. To this end, this study will focus on exploring the perception of EUGLOH students on the importance of such “transversal skills” to the workers of the 21st century.

Transversal (Transferable/Soft) Skills

Transversal skills are referred to in the literature by a multitude of different terms, such as “soft skills”, “life skills”, “transferable skills”, “cross-functional skills”, “employability skills” and more recently as “twenty-first-century skills” (WEF, 2020; Succi & Canovi, 2019; Moore & Morton, 2017; Suarta, Suwintana, Sudhana, & Hariyanti, 2017). In this sense, the definition found in the revised literature for this type of skills is broad and difficult to pinpoint since the constellation of skills that belong to this group may change according to context and keep evolving throughout the worker’s life (Succi & Canovi, 2019).

Generally, transversal/soft skills are presented as complements to field-specific/hard skills (Pérez, Nebot, Capmany, Dima, Mula, Gonzalez, Piligrimienè, Pilinkiene, Riccio, & Fattore, 2020). Hard skills relate to the rational intelligence that contains the theoretical knowledge and technical skills of the worker (Succi & Canovi, 2019; Cotet, Balgiu & Zaleschi, 2017). Transversal skills are defined as a cluster of capabilities that represent the emotional intelligence side of workers, contributing to the effectiveness of the development of practical work and interpersonal interactions in a professional setting (Succi & Canovi, 2019; Cotet, Balgiu & Zaleschi, 2017). In a way, hard skills will give individuals the prospects of a job and probably secure one’s career interview, but soft skills are needed to succeed during the interview, keep the job and develop one’s career (Succi & Canovi, 2019). It is possible to compare transversal skills and technical skills by its application since, as the name indicates, transversal/transferable skills can be applied by the worker in different types of jobs/fields and diverse stages of their career, while technical skills have their application restricted by the type of job/field and might be developed to a greater level of specialisation depending on the stage of the worker’s career (Suartha et al., 2017).

The transversal skills might include empathy, leadership, teamwork, communication, problem-solving, willingness to take on responsibility, critical and innovative thinking, flexibility, creativity, ethical understanding, self-confidence, time management, among others (Succi & Canovi, 2019; Moore & Morton, 2017; Clarke, 2017; Kalfa & Taksa, 2015; Andrews & Higson, 2008).

As discussed previously, due to labour market trends the need for transversal skills is evident. Employers have been indicating that hard skills are no longer sufficient to meet the needs of

the labour markets (Suarda et al., 2017; OCDE, 2013). The top skills employers referred to as prominent in the *Future of Jobs* Report (WEF, 2020) include groups such as critical thinking; analysis and problem-solving; and a variety of self-management skills, such as active learning, resilience, stress tolerance and flexibility. Skills such as ethical understanding, adaptability to change, creativity and innovation, customer orientation and teamwork have also been referred to as important by employers, while students consider more important networking skills and conflict management skills more important (Succi & Canovi, 2019). Thus, the worker of the 21st century is expected to have not only academic skills, traditionally represented by the subject and degree class, but also skills related to high professional self-development and good interrelation to face the new challenges coming from Industry 4.0 (Cotet, Balgiu & Zaleschi, 2017; Suarda et al., 2017).

This soft-skills gap noticed in the graduates happens despite Higher Education Institutions (HEIs) evident efforts to develop this group of skills in their education curricula (Pérez et al., 2020). This shows the need to organize the dialogue between HEIs, graduates and employer groups to ensure the high quality of training specialists and the compatible provision of this training (Succi & Canovi, 2019).

To understand the perceptions of graduates/students on the importance of soft skills and better fulfil these needs in the curricula of HEI, this report will analyse the data of a survey carried out among the EUGLOH students on this matter.

Methodology

The study is based on the collection of data obtained from a questionnaire survey, which was self-administered, in electronic format, through the University of Porto's LimeSurvey platform, to the universe of undergraduate students (1st cycle), Integrated Master, Master (2nd cycle) and Doctorate (3rd cycle) belonging to the Universities of the EUGLOH Alliance (Ludwig Maximilian University of Munich (LMU), University of Lund (LU), University of Szeged (USZ), University of Porto (UPorto) and University of Paris-Saclay (UPSaclay)). The protocol for sending the invitation to participate in the study followed the methodological guidelines applicable to this type of inquiry, namely involving the sending of invitations, individually, by each partner University to their population of students, between November 2020 and May 2021.

The anonymous questionnaire consists of an initial section of information for the participant and the respective consent form, followed by a set of questions to identify the cycles of studies, training needs in transversal skills and, finally, questions to define the general sociodemographic details of the participants. The focus of this study was on the two-research questions regarding transversal skills:

1. From the following list, please indicate the skills you would like to continue developing at the [EUGLOH Partner University], in addition to those you have thus far been acquiring, within the cycle of studies you are currently attending:
 - a. Knowing how to apply the acquired knowledge to problem analysis and practical situations
 - b. Transfer scientific knowledge to society through the creation of business models (entrepreneurship), as well as other forms of production of economic and social value for the community
 - c. Collect, select and interpret relevant information in your field of study, taking into account its social, scientific, professional and ethical implications
 - d. Design suitable plans for research and intervention in the various professional career paths within your field of study
 - e. Communicate information, ideas, problems and solutions to audiences of experts and non-experts
 - f. Analyse, interpret data and diversified sources of information
 - g. Proficiency and practical use of foreign languages
 - h. Autonomy in learning and studying
 - i. Working in multicultural and multilingual contexts
 - j. Acquiring knowledge that allows to adequately understand contemporary societal challenges
2. From the following list, specify the skills ("soft skills" and "transferable skills") that, in your opinion, are important to increase the employability of students:
 - a. Ability to think logically, intuitively and creatively
 - b. Proficiency in foreign languages
 - c. Practical application of knowledge (involving the use of methods, materials and tools)

- d. Personal and social interaction skills
- e. Methodological skills and data/information analysis skills
- f. Attitudes and values
- g. Internationalisation (e.g.: International mobility; participation in international scientific projects and events; international publications)

A final sample of 1733 valid questionnaires was obtained. However, each University had very different samples. In fact, LU collected a sample of 25 responses, LMU a sample of 34 responses, USZ a sample of 92 participants, U.Porto a sample of 1388 participants and UPSaclay a sample of 194 participants. This means that the analysis herein is exploratory, in the sense that the results give us indicative insights on the needs of EUGLOH students for transversal skills.

Results and Discussion

Sociodemographic Description

Students participating in the survey were mainly female for three of the partners' Universities, namely LMU (82%), USZ (60%) and U.Porto (70%). For LU, 50% of students identified as female and 50% of students as male. For UPSaclay, 50% of students identified as female and 44% as male, with the other 6% choosing not to answer or choosing other gender identification. (Table 1).

Regarding participants' age, only in U. Porto and UPSaclay most of the students are situated in the 17 to 21 range - ages normally associated with University enrolment, at least in the bachelor's degrees. The other 3 partners in the Alliance (USZ, LMU and LU) have a considerably older student population, since practically half of their inquiries are over 27 years old. This age gap between EUGLOH partners is reflected in the marital status of their respective students, considering LMU and USZ a majority of participants live or have lived in some form of conjugality, in turn, U.Porto and UPSaclay more than 8 in 10 students are single. This link between age and marital status is logically sound, considering the older someone is, the more likely they are of entering a conjugal relationship. For the EUGLOH Alliance partners, this data indicates the need to provide short training courses that are compatible, not only with classes or work schedules, but with family and personal life as well.

Most participants from UPSaclay and U.Porto were French (82%) and Portuguese (80%), respectively. LMU (48%), LU (42%) and USZ (52%) had a high percentage of respondents that were from other nationalities, besides the respective main nationality in their Country.

Regarding the cycle of studies, most participants in each sample are enrolled in a Master degree or PhD. For example, in the specific case of LU, only 17% of respondents are enrolled in a Bachelor degree while the other 83% are enrolled in a Master degree.

Table 1. Sociodemographic description of EUGLOH Alliance students.

											
		N	%	N	%	N	%	N	%	N	%
Gender	Male	5	15%	12	48%	36	39%	388	28%	85	44%
	Female	27	79%	12	48%	54	59%	976	70%	97	50%
	Rather not answer	0	0%	0	0%	0	0%	20	1%	7	4%
	Other	2	6%	1	4%	2	2%	4	0%	5	3%
Age of Students (years)	17-21 years old	6	18%	7	28%	16	17%	769	55%	107	55%
	22-26 years old	12	35%	5	20%	34	37%	294	21%	77	40%
	27-31 years old	10	29%	6	24%	17	18%	124	9%	3	2%
	32-36 years old	2	6%	2	8%	12	13%	59	4%	3	2%
	37-41 years old	4	12%	3	12%	4	4%	48	3%	0	0%
	42-46 years old	0	0%	1	4%	4	4%	46	3%	0	0%
	47 years old	0	0%	1	4%	5	5%	48	3%	4	2%
Marital Status	Single	14	41%	18	72%	46	50%	1229	89%	162	84%
	Married	4	12%	3	12%	21	23%	93	7%	3	2%
	Non-marital partnership	14	41%	3	12%	22	24%	45	3%	27	14%
	Divorced/separated	2	6%	0	0%	3	3%	20	1%	1	1%
	Widower	0	0%	1	4%	0	0%	1	0%	1	1%
Nationality	Same nationality as their respective University	16	47%	10	40%	47	51%	1113	80%	158	81%
	Other	18	53%	15	60%	45	49%	275	20%	36	19%
City of Residence	Same city as their respective University	27	79%	12	48%	60	65%	610	44%	41	21%
	Other	7	21%	13	52%	32	35%	778	56%	153	79%
Degree Programme	Bachelor or equivalent level	8	24%	5	20%	31	34%	525	38%	55	28%
	Master or equivalent level	17	50%	20	80%	35	38%	737	53%	122	63%
	PhD or equivalent level	9	26%	0	0%	26	28%	126	9%	12	6%
	Other	0	0%	0	0%	0	0	0	0%	4	2%
Total		34	100%	25	100%	92	100%	1388	100%	194	100%

Needs for Transversal Skills

The large majority of students from all partner Universities indicated a high interest in continuing to develop transversal skills at their University and, consequently, there is a need for HEIs to continue to devote more attention to transversal skills.

Addressing the first research question, students were asked to indicate which skills (from a list of ten skills) they would like to continue developing at the EUGLOH Partner University, in addition to those they have thus far been acquiring, within the cycle of studies they are currently attending. Therefore, a Table with the list of transversal skills and the percentage of students that selected each skill by University has been built (Table 2).

In four of the five partner Universities, practical application of knowledge and problem analysis is the highest valued transversal skill by students. The exception is LU, where, nonetheless, almost 9 in 10 students seem eager to develop that ability.

The data collected suggests that managing, interpreting, applying and communicating high volumes of information (first five categories of Table 2) are the most sought-after skills by students, in spite of the different partner Universities. This might not come as a surprise, considering the huge amounts of information that are nowadays available and required to perform academic and professional duties.

The least desirable skills identified throughout the Alliance seem to be related to autonomy in terms of studying, academic research and employment/entrepreneurship (last three categories of Table 2). Either autonomous work might not be as highly valued by the students, or it might be a competence already incorporated and developed in their academic experience.

Even though sample sizes are different for all Universities there seems to be a common necessity to continue developing skills for the practical application of knowledge and problem analysis pointed out by students at the Universities of the EUGLOH Alliance.

Table 2. Skills EUGLOH students would like to continue developing at the EUGLOH Partner University.

	LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN		LUNDS UNIVERSITET		SZTE UNIVERSITY OF SZEGED		U.PORTO		université PARIS-SACLAY	
	N	%	N	%	N	%	N	%	N	%
Knowing how to apply the acquired knowledge to problem analysis and practical situations	30	88%	22	88%	82	89%	1314	95%	175	91%
Collect, select and interpret relevant information in your field of study, taking into account its social, scientific, professional and ethical implications	20	59%	14	56%	61	66%	913	88%	95	49%
Acquiring knowledge that allows to adequately understand contemporary societal challenges	23	68%	23	92%	81	88%	1222	87%	172	89%
Analyse, interpret data and diversified sources of information	22	65%	19	76%	73	79%	989	86%	114	59%
Communicate information, ideas, problems and solutions to audiences of experts and non-experts	24	71%	22	88%	73	79%	1149	83%	155	80%
Working in multicultural and multilingual contexts	26	76%	21	84%	71	77%	1189	82%	154	80%
Proficiency and practical use of foreign languages	23	68%	16	64%	77	84%	1083	78%	163	84%
Design suitable plans for research and intervention in the various professional career paths within your field of study	16	47%	18	72%	69	75%	1170	71%	128	66%
Autonomy in learning and studying	24	71%	22	88%	68	74%	1135	84%	147	76%
Transfer scientific knowledge to society through the creation of business models (entrepreneurship), as well as other forms of production of economic and social value for the community	24	71%	23	92%	73	79%	1209	66%	151	78%
Total	34	100%	25	100%	92	100%	1388	100%	194	100%

Concerning the second research question, students were asked to assess each of the seven transversal skills listed on a 5-point Likert Scale (1 = Not at all important, 5= Extremely important). Therefore, five graphs (one per partner University) with the list of transversal skills were built showing the importance students assigned to each skill (Figure 1-5).

It emerged that the “Ability to think logically, intuitively and creatively” skill and the “Practical application of knowledge” skill were commonly ranked as the two most important skills, by

the partner University, confirming the trend indicated by WEF (2020) in their annual report on *The Future of Jobs* that highlighted critical thinking, analysis and problem-solving as the most prominent group of skills currently and in the future.

On the contrary, the “Internationalisation” skill is ranked of lowest importance by the students belonging to the EUGLOH Alliance. Perhaps this skill has not been considered important by students because of the strong mobility programmes the partner Universities already offer, or because this skill may not be considered essential by graduates at the beginning of their careers. Following the same rationale, it makes sense that the “Proficiency in foreign languages” skill is less selected by the students of most Universities belonging to the EUGLOH Alliance.

Figure 1. Transferable Skills LMU students find important to increase their employability (%).

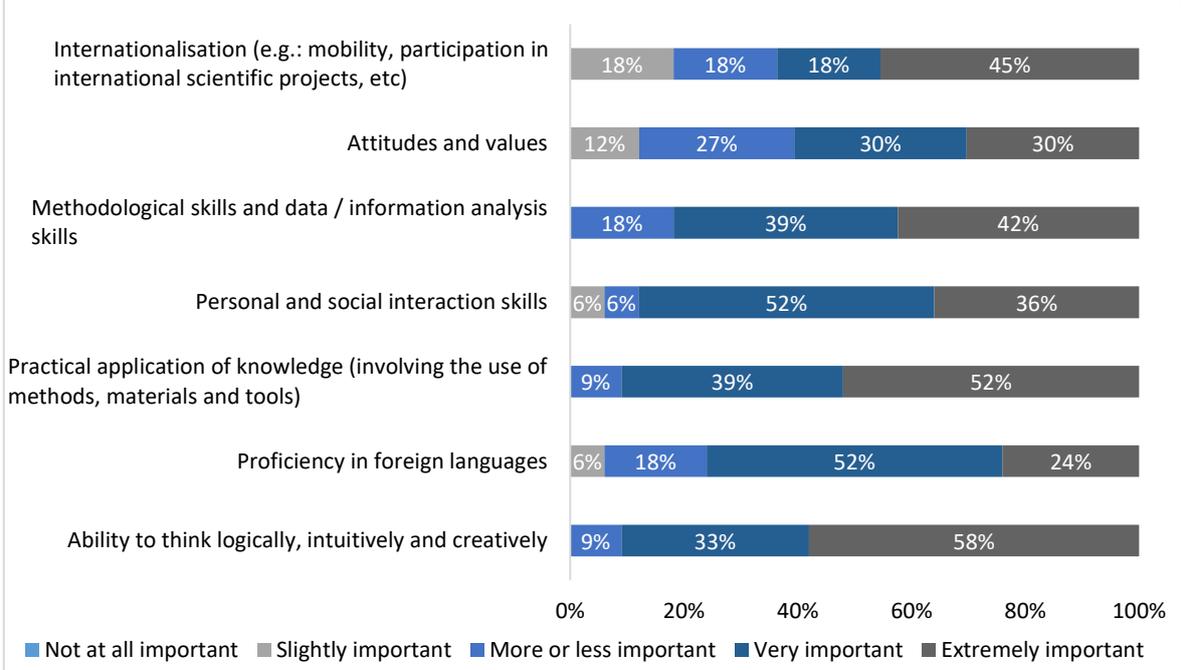


Figure 2. Transferable Skills LU students find important to increase their employability (%).

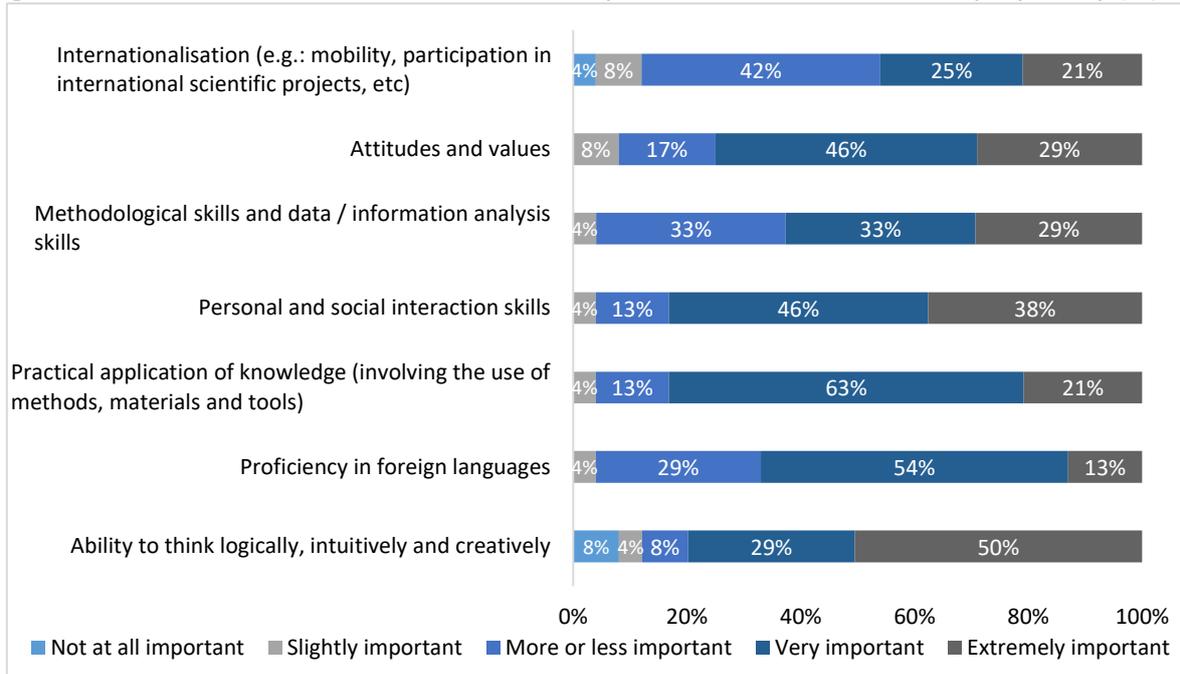


Figure 3. Transferable Skills USZ students find important to increase their employability (%).

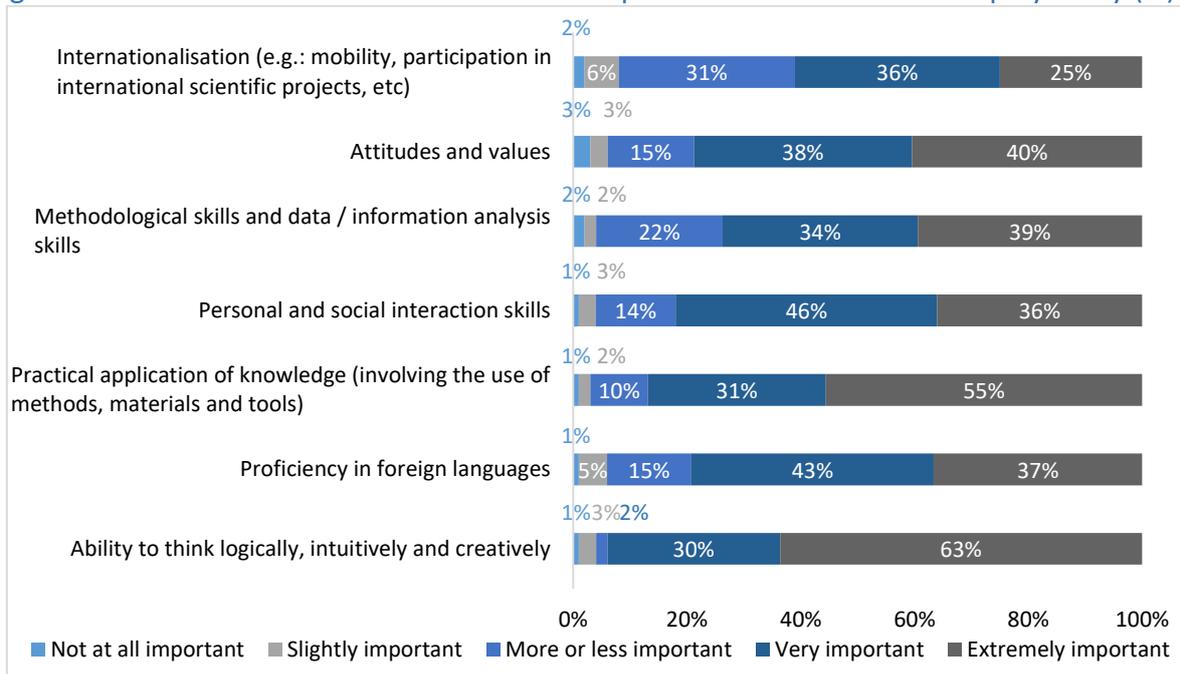


Figure 4. Transferable Skills U.Porto students find important to increase their employability(%).

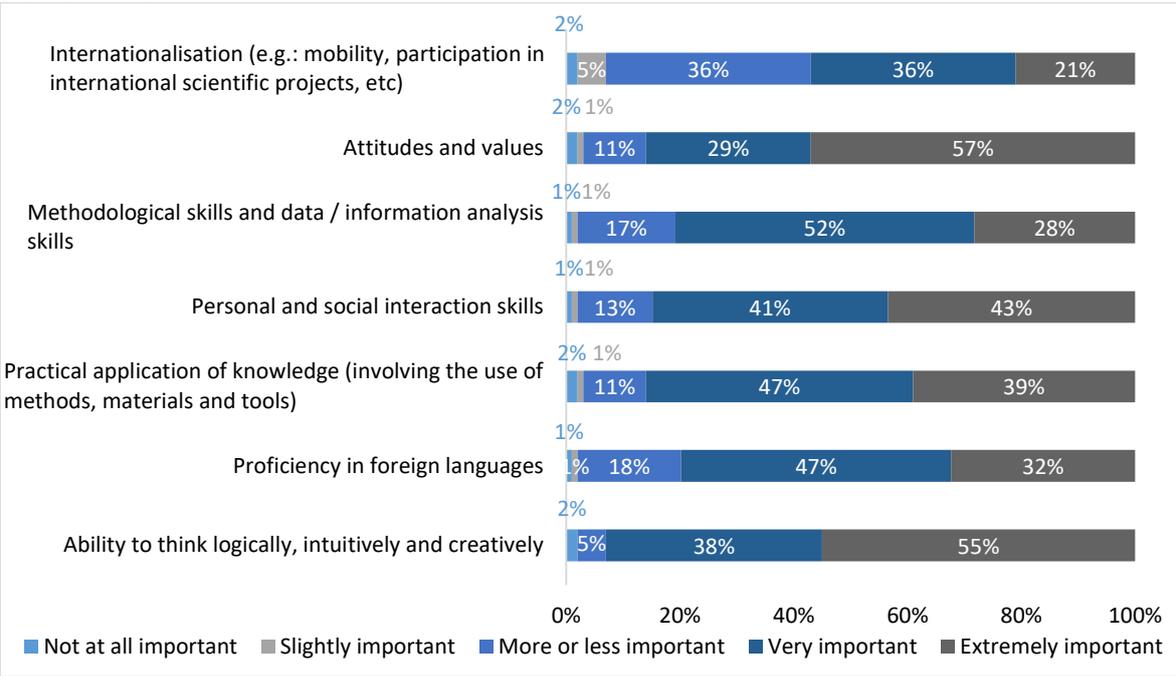
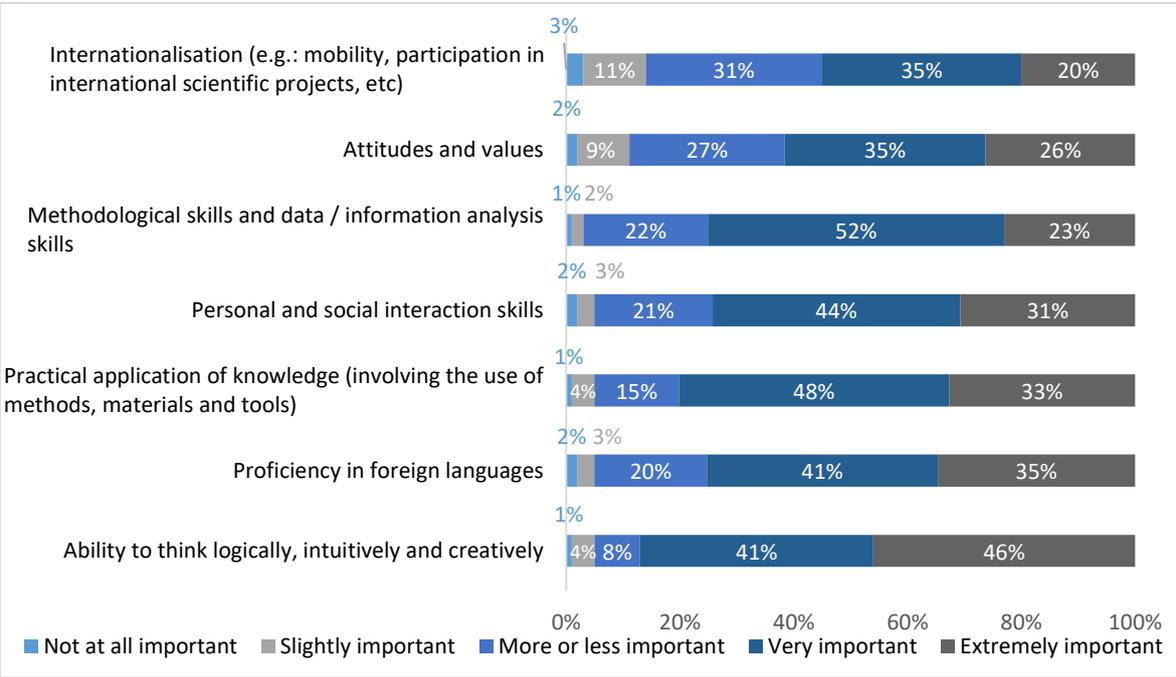


Figure 5. Transferable Skills UPSaclay students find important to increase their employability (%).



Short-term Training Courses Preferences

When it comes to the preferred format of the short-term training courses offered by EUGLOH, in 4 of the 5 partner Universities students favour the blended -learning format, in which the courses are partly taught physically and remotely. Only in USz this learning mode is not the most prevalently chosen, coming in a very close second place to e-learning. As expected, due to the sanitary restrictions imposed by the pandemic or due to its relative inflexibility, purely physical learning is the least favoured format in all partner Universities, except in UPSaclay. However, despite the constraints imposed due to multiple COVID-19 outbreaks across Europe, a still considerable percentage of students seem to prefer a face-to-face approach in these programmes, ranging from 16% in LU to 39% in UPSaclay. (Table 3). This data seems to indicate that the EUGLOH Alliance should focus its offer, on short-term courses, in b-learning formats, whilst still providing training in other models, in order to encompass the various needs and preferences of their students.

Table 3. Preferred format for short-term training courses, by EUGLOH partner University

										
	N	%	N	%	N	%	N	%	N	%
Blended (b-learning)	19	56%	13	52%	33	36%	609	44%	79	41%
Online (e-learning)	9	26%	8	32%	34	37%	472	34%	38	20%
Physical/face-to-face	6	18%	4	16%	24	26%	297	22%	74	39%
Total	34	100%	25	100%	91	100%	1378	100%	191	100%

Regarding schedules, data shows students are very divided in terms of their preferences. At U.Porto and LU most students state they wish to have their training sessions after working hours; in UPSaclay, USz, LMU sessions during working hours are favoured. However, there isn't even a consensus within each University, given the fact that neither option was taken by at least half of the students, apart from UPSaclay, where the option "during working hours" marginally got more than 50% of students. (Table 4). This shows EUGLOH partners should try, whenever possible, to provide students with a myriad of scheduling options for their training courses.

Table 4. Type of schedule preferred for short-term training courses, by EUGLOH partner University

										
	N	%	N	%	N	%	N	%	N	%
During working hours	13	38%	5	20%	33	36%	454	33%	98	51%
After working hours	9	26%	12	48%	24	26%	565	41%	59	31%
A condensed number of hours on Saturday	9	26%	4	16%	29	32%	340	25%	27	14%
Other	3	9%	4	16%	5	5%	19	1%	7	4%
Total	34	100%	25	100%	91	100%	1378	100%	191	100%

Unlike what we've analysed previously, concerning the distribution of the training sessions throughout the week and the number of hours per session, students reveal clear and overwhelming preferences. Across every partner University, data shows students favour training hours condensed into 3 days, instead of a more spread-out schedule throughout the week. Only UPSaclay and LMU students seem to be a bit more divided –still, in the latter, a bigger sample would be needed to draw further conclusions (Table 5). Regarding the number of hours of each training session, data seems very clear that students want 2-hour training sessions – a fact that every EUGLOH partner should consider when designing their training programmes. (Table 6).

Table 5. Preferred distribution of training hours for short-term training courses, by EUGLOH partner University

										
	N	%	N	%	N	%	N	%	N	%
Training hours condensed into 3 days of the week	12	55%	12	71%	47	82%	841	83%	90	57%
Training hours distributed over all days of the week	10	45%	5	29%	10	18%	178	17%	67	43%
Total	22	100%	17	100%	57	100%	1019	100%	157	100%

Table 6. Number of hours preferred per training session, by EUGLOH partner University

										
	N	%	N	%	N	%	N	%	N	%
1 hour	2	6%	5	20%	21	23%	444	32%	46	24%
2 hours	28	82%	19	76%	54	59%	820	59%	127	65%
3 hours	4	12%	1	4%	17	18%	124	9%	21	11%
Total	34	100%	25	100%	92	100%	1388	100%	194	100%

Conclusions

The increased relevance of transversal skills in the labor market, for employees and employers, makes it an important topic for HEIs to discuss and contribute to. From our exploratory analysis, the relevance given by students to the application of practical knowledge and critical thinking and analysis confirmed the trends identified in the Future of Jobs 2020 report and reviewed literature. It was, however, surprising that students gave less importance to entrepreneurship skills and internationalisation skills.

To tackle the need for the practical application of knowledge the EUGLOH Alliance will continue providing training that contributes to testing different methodological approaches (e.g. Digital Media in Health Communication and Literacy and the Social Entrepreneurship 4 Health activities) and initiating transversal skill training based on the needs of their students.

On one hand, the difference in sample sizes in this study shows a need to reproduce it with a higher participation rate from the partner Universities so the results could be further

statistically analysed and be representative of the population of the EUGLOH students. On the other hand, this exploratory analysis gave us research leads on the needs of EUGLOH students for transversal skills that could be further explored through focus groups or interviews.

References

- Acemoglu, D., & Autor, D. (2011) Skills, tasks and technologies: Implications for employment and earnings. *Handbook of Labor Economics*, 4B, 1043-1171. [https://doi.org/10.1016/S0169-7218\(11\)02410-5](https://doi.org/10.1016/S0169-7218(11)02410-5)
- Andrews, J., & Higson, H. (2008). Graduate Employability, 'Soft Skills' Versus 'Hard' Business Knowledge: A European Study. *Higher Education in Europe*, 33(4), 411–422. doi: 10.1080/03797720802522627
- Annunziata, M., & Bourgeois, H. (2018). The future of work: how G20 countries can leverage digital-industrial innovations into stronger high-quality jobs growth. *Economics-the Open Access Open-Assessment E-Journal*, 12, 1-23. doi:10.5018/economicsejournal.ja.2018-42
- Clarke, M. (2018) Rethinking graduate employability: the role of capital, individual attributes and context. *Studies in Higher Education*, 43(11), 1923-1937, doi: 10.1080/03075079.2017.1294152
- Cotec, G. B., Balgiu, B. A., & Zaleschi (Negrea), V. (2017). Assessment procedure for the soft skills requested by Industry 4.0. *MATEC Web of Conferences*, 121. 07005. doi: 10.1051/matecconf/201712107005
- Fonseca, T., Lima, F., & Pereira, S. C. (2018). Job polarization, technological change and routinization: evidence for Portugal. *Labour Economics*, 51, 317-339. doi:10.1016/j.labeco.2018.02.003
- Goos, M. (2018). The impact of technological progress on labour markets: policy challenges. *Oxford Review of Economic Policy*, 34(3), 362-375. doi:10.1093/oxrep/gry002
- Goos, M., Salomons, A., & Vandeweyer, M. (2013). Job polarization during the great recession and beyond. *Euroforum KU Leuven, Leuven Belgium*, 1-28. Retrieved from <https://lirias.kuleuven.be/retrieve/230885>
- Hirsch-Kreinsen, H. (2016). Digitization of industrial work: development paths and prospects. *Journal for Labour Market Research*, 49(1), 1-14. doi:10.1007/s12651-016-0200-6

Kalfa, S. & Taksa, L. (2015) Cultural capital in business higher education: reconsidering the graduate attributes movement and the focus on employability. *Studies in Higher Education*, 40(4), 580-595, doi: 10.1080/03075079.2013.842210

OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264204256-en>

Pérez, L. D., Nebot, A. P., Capmany, A. B., Dima, G., Mula, A., Gonzalez, P., Pilgrimienė, Ž., Pilinkienė, V., Riccio, A., & Fattore, L. (2020). *NATIONAL REPORTS ON THE LABOUR MARKET SOFT-SKILLS IO1.A*. Retrieved from: <http://skills4employability.eu/wp-content/uploads/2020/08/National-Reports-on-Soft-Skills-current-scenarios-by-Skills4Empolyability-Erasmus-Project-IO1.A3-.pdf>

Moore, T., and J. Morton. 2017. The Myth of Job Readiness? Written Communication, Employability, and the 'Skills Gap' in Higher Education. *Studies in Higher Education*, 42 (3), 1–19. doi:10.1080/03075079.2015.1067602

Succi, C. & Canovi, M. (2019). Soft skills to enhance graduate employability: comparing students and employers' perceptions. *Studies in Higher Education*, 45(9), 1834-1847. doi:10.1080/03075079.2019.1585420

Suarta, I M., Suwintana, I K., Fajar Pranadi Sudhana, I G P., & Hariyanti, N. K. D. (2017). Employability Skills Required by the 21st Century Workplace: A Literature Review of Labor Market Demand - Proceedings of the International Conference on Technology and Vocational Teachers (ICTVT 2017). Atlantis Press, 112, 2352-5398. doi: 10.2991/ictvt-17.2017.58

World Economic Forum. (2016). *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*. Retrieved from http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

World Economic Forum. (2020). *The Future of Jobs Report 2020*. Retrieved from http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf