Connecting Academia and Business on the Quadruple Helix. Employers' Support to Optimise Training in Higher Education

Venera-Mihaela COJOCARIU, Elena NECHITA, Gabriel MAREŞ, Liliana MÂŢĂ

Abstract

Following the Covid-19 pandemic, Higher Education Institutions (HEIs) have been increasingly confronted with significant challenges at the international, national, and regional levels, such as: the difficulty of switching back from online to face-to-face education, the major trend towards digitalisation and its integration into the academic education process, the increasing use of hybrid modes of teaching delivery, the energy crisis, the need for sustainability, the disruption and obstruction of communication with labour market representatives, the job insecurity, the increasing importance of digital skills for graduates, the identification of new ways of providing practical training for students. Under these circumstances, improving the training of the graduates for the needs of the labour market and their adaptability to international standard remains in the focus of the universities.

The research question addressed in this study was to identify the opinion of employers' representatives concerning some possibilities to complement their specific actions and to make them consistent with the academic community actions in their joint endeavour to provide efficient and relevant training for students.

The results presented in this paper are part of a wider research conducted between April and September 2023, based on a mixed methodology (quantitative and qualitative - questionnaire and focus group) which aimed to analyse the various facets of university relations with the labour market. Our study methodically presents the results of the qualitative analysis derived from the data collected, focused on the proposals made by employers, expressing their beliefs, hopes, and expectations for improving the initial training of students. Universities, as pillars of training, and the business sector, as beneficiaries, should communicate and collaborate constantly, systematically, and in a more practical way, in order to attract, train and value qualified human resources at higher level. The suggestions integrated in this study could also be the basis of new strategic initiatives in higher education.

Furthermore, the implications of successful university training are anticipated to exert a substantial influence on innovation and research, thereby reinforcing the connection between academia and business within the quadruple helix ecosystem. This, in turn, enhances the role of HEIs in the regional development and aligns the European Higher Education Area (EHEA) with the European Research Area (ERA).

1. Introduction

In line with the other European countries, Romania is following a dynamic trajectory while encountering diverse internal and external challenges, ranging from politics to public health, from economy to culture, and from infrastructure to education. While the European Education Area (EEA) exhibits openness and dynamism, there are significant disruptive factors manifesting on a global scale, as highlighted by Bughin and Woetzel (2019). These include the rise of emerging economies, challenges associated with globalisation, digital advancement in technologies, and an escalating disparity between those who have access to these tools and those who are left behind. Governments are dealing with unprecedented situations as they endeavour to navigate these complex issues. Educators, among others, are faced with new contexts, as exemplified by the rapid decisions made by educational institutions to adapt to the challenges posed by the Covid-19 pandemic. Despite the perception that tertiary education is now more accessible than ever, the figures present a contrasting reality. In 2019, there were 20 million students in tertiary education in the EU-27, but by 2021, this number had decreased to 18.5 million, with 59% pursuing bachelor's degrees (Eurostat 2021). Meanwhile, the demand for skilled and competent professionals has risen. Several recent studies by Birtwistle and Wagenaar (2020), Green and Henseke (2021), and Souto-Otero and Białowolski (2021) reveal a discrepancy between the skills needed in real-world scenarios and what graduates can effectively deliver once employed.

The labour market is currently experiencing structural changes with new ways of organising work and employment now coexisting alongside traditional models (United Nations Economic Commission for Europe 2021), influenced by two long-term economic trends such as digitalisation and the globalisation of value chains. In light of these transformations, crucial questions arise: whether universities are prepared to contribute to these systemic shifts and whether these contributions are tailored to the specific local needs of their locations. Initiatives like the large-scale Higher Education for Smart Specialisation (HESS) project launched in 2016 by the European Commission's Joint Research Centre and the Directorate General for Education, Youth, Sport and Culture, have taken some significant steps towards these ambitious goals. Similar to other HEIs across Europe, Romanian universities are expected to tackle societal challenges and provide solutions to pressing issues. The key question lies in how effectively these Romanian HEIs are establishing connections with the various stakeholders in society to deliver those solutions.

As part of the EHEA, the Romanian Ministry of Education undertook several initiatives to improve cooperation between HEIs and labour market representatives, with the aim of identifying ways to update curricula and the educational process (Yerevan 2015). In 2017, the EU Council also recommended the importance of gathering quality data on the professional trajectory of graduates in order to enhance their integration into the labour market (EC, 2017).

A study conducted in Romania (Deaconu and Hâj 2022a) integrates several national research initiatives regarding the employability of higher education graduates in Romania, mining data from 2021. The study examines two generations of graduates: one from 2016 (five years post-graduation) and another from 2020 (one-year post-graduation). The data analysis reveals the following findings:

- 92.4% of the 2016 graduates and 81.1% of the 2020 graduates were employed at least once since their graduation until November 2021, including keeping their first job. This indicates a strong job market integration capacity with 9 out of 10 graduates securing employment after completing their studies or maintaining their student job.

- In the short term, the graduates originating from the rural area exhibit a higher employability rate; for the master's graduates, these distinctions become less pronounced.
- Engaging in internships positively enhances graduates' employability, particularly in the near future, irrespective of their academic level (bachelor's or master's).
- The overall employability rate varied across study domain, ranging from 90% in Education, Humanities, and Arts to 90% for bachelor's studies in ICT and from 88.2% in Humanities and Arts to 98.7% in ICT, for master studies.

The data reflects a favourable employment rate in Romania. According to the Eurostat database, the employment rate of higher education graduates (aged under 34) was 87.1% for the 27 EU member states in 2021, while in Romania, it reached 88.9% (Eurostat 2022). However, this positive outcome must be contextualised alongside the relatively low proportion of Romanians aged 25-34 holding a tertiary education degree. As of 2022, this rate was only 24.7% in Romania, compared to the EU average of 42%, as reported by the Education and Training Monitor 2023 (European Commission 2023). Although the EU-level target is achieving a high 45% tertiary education participation rate, Romania faces challenges in this regard due to multiple factors, such as: early school dropout rates, low passing rates in the baccalaureate exam, high tertiary education drop-out rates (especially during the first year of study) and, to a smaller extent, emigration (Education and Training Monitor 2023). For recent graduates (also aged under 34), the employment figures were 84.9% for EU-27 and 83.0% for Romania.

The study on students' satisfaction regarding the quality of higher education (Deaconu and Hâj 2022b) highlighted the North-East Development Region as one of the Romanian areas demonstrating a superior dynamic of graduates' employability. Despite a 26.2% at-risk-of-poverty rate in 2022 (Eurostat 2023), this region boasts a well-established HEIs network committed to contributing to the smart specialisation of the area (ADR-NE 2023).

Our study explores the practical aspects of these issues in the context of a medium-sized university in this region - "Vasile Alecsandri" University of Bacău (UBc), looking at how the University has developed relationships with employers. Furthermore, it investigates how various organisations (companies, public institutions, NGOs, and other education institutions such as high schools) engage with the university's endeavour. Given the close collaboration between UBc and the North-East Development Region in implementing the Research and Innovation Strategy for Smart Specialisation of the North-East Region (ADR-NE 2023), we have adopted the Quadruple Helix model (Grigorescu et al. 2023) which provides a collaborative framework involving key stakeholders in the socio-economic development sphere - economy, education, society and government. Past experiences with this model have demonstrated that integrating external stakeholders into curriculum co-design enhances the innovativeness, entrepreneurial spirit, and societal relevance of study programmes thus acknowledging the crucial role of universities in sustainable development of the regions they inhabit (König et al. 2020).

The project "INSERT UBc: Students – Employers – University – Together for the Labour Market" was implemented at "Vasile Alecsandri" University of Bacău, Romania, by the Department of Professional Counselling, between April and December 2023. The initiative is embedded in a comprehensive framework proposed by the Romanian Ministry of Education, facilitated through an Institutional Development Fund, aiming to support public universities in their effort in aligning students' training with job market requirements and to increasing employability in Romania. Additionally, UBc demonstrates a commitment to researching employment-related topics, as evidenced by its portfolio of projects (Cojocariu and Damian 2012; Cojocariu et al. 2017; Cojocariu et al. 2019a; Galiţa et al. 2021, Mareş et al. 2021).

2. Employers' requirements from UBc graduates - a quantitative study

This section presents the findings of a quantitative study conducted as part of the project. The methodology involved a *Questionnaire of the employers' requests*, administered to a sample of economic and social organisations, varying in size, situated within the North-East Development Region of Romania. These organisations operate across various domains and have either hired UBc's graduates or have been identified as potential employers.

The invitations to participate in the study were distributed in three rounds (between May-and July 2023) to 177 organisations. The questionnaire was filled in by 65 of these, leading to a participation rate of 36.73%.

2.1. Sample characteristics

The respondents were analysed across four key indicators: geographical distribution, area of expertise, ownership, and organisation size.

Regarding the first indicator, the participants location is presented in Table 1a.

Location	*Frequency*	*Percentage*
Bacău County	53	81.54
Neamţ County	7	10.77
Galaţi County	2	3.07
Vaslui County	1	1.54
Iaşi County	1	1.54
Bucharest	1	1.54
TOTAL	65	100

Table 1a: *"Distribution of respondent employers by location"*

As expected, the significant proportion of employers was from Bacău County, with four out of the five counties listed belonging to the North-East Development Region. This underlines, once more, the pivotal role of the University in this region, which is recognised as one of the poorest in Europe, according to the data released by the regional authorities (ADR-NE 2023). Galaţi, being a neighbouring county, also drew participation, while Bucharest attracted UBc's top graduates seeking career advancement and the vibrant opportunities the capital city provides. For UBc, fostering collaboration with a larger number of employers from other counties than Bacău in activities related to the university's study domains and promoting such initiatives are crucial steps towards increasing the insertion employability rate of its graduates in the labour market.

According to the second indicator – organisations' area of expertise – the respondents were categorised into five distinct domains, aligning with the five faculties of UBc. This breakdown resulted in the organisations distribution presented in Table 1b below.

Faculty	*Frequency*	*Percentage*
Faculty of Movement, Sport and Health Sciences	21	32.32
Faculty of Engineering	17	26.15
Faculty of Letters	11	16.92
Faculty of Economic Sciences	9	13.84
Faculty of Sciences	7	10.77
TOTAL	65	100

Table 1b: *"Distribution of respondent employers by area of expertise / faculty"*

Notably, the organisations associated with the first two categories correspond to the faculties with a higher student enrolment compared to the other three. Additionally, the graduates from Physical Therapy and Occupational Therapy address pressing challenges in the region, particularly concerning the elderly population, while the Engineering graduates have a wide array of companies to engage with due to the diverse range of specialisations available.

The distribution of respondents according to the ownership form (Table 1c) is in line with the findings from UBc previous studies related to employability of its graduates.

Ownership form	*Frequency*	*Percentage*
Public/ state	33	50.77
Private	32	49.23
TOTAL	65	100

Table 1c: *"Distribution of respondent employers by ownership form"*

Table 1d presents the distribution by organisation size. When examining these results, we have noticed that 29 very small organisations, representing almost half of the surveyed sample, demonstrate significant interest in the activity of UBc. Consequently, their expertise should be recognised and promoted. Small and very large organisations have almost equal share, and together accounting for the number of very small ones. The collaborations between the University and these employers should involve them more in students' training. Finally, while the shares of medium and large organisations shares are smaller, it indicates a demand for specialists trained at UBc, and partnerships with these entities should not be overlooked.

Organisation size (no of employees)	*Frequency*	*Percentage*
Very small (less than 50)	29	44.60
Small (51 to 100)	14	21.50
Medium (101 to 250)	4	6.20
Large (251 to 500)	3	4.60
Very large (more than 500)	15	23.10
TOTAL	65	100

Table 1d: *"Distribution of respondent employers by organisation size"*

2.2. Local and regional labour market and its relationship with UBc graduates

The data collected by the questionnaire display the following:

a. In the past year (2022), the respondents hired a total of 3251 people. Among them, 65.85% were university graduates and 21.20% (equivalent to 454 employees) were UBc graduates. These statistics present an optimistic perspective, especially considering that approximately one fifth of UBc graduates secured employment within a year. The most relevant employers included the General Directorate of Social Assistance and Child Protection, two secondary schools in Bacău, Hidroelectrica SA (an energy company), SCC Services Romania (an IT company), and Bacău Municipal Sports Club. Together, these entities accounted for more than half (57.92%) of the individuals employed in the previous year. This situation is in line with the information presented in the earlier section 2.1., concerning the most pressing challenges in our county/region, and corresponds with the numerical distribution of students across the five faculties of UBc.

b. The respondents have identified a demand for 98 specialists in the year 2024. Per faculty, the distribution of these positions is as follows: 27.55% for the Faculty of Engineering, 11.24% for the Faculty of Letters, 16.32% for the Faculty of Sciences, 21.42% for the Faculty of Economic Sciences, and 23.46% for the Faculty of. Movement, Sport and Health Sciences. The analysis of these data show that the total number of the offered positions (98) is relatively modest, even when considered in relation to the organisations participating in the study (65). On average, each organisation needs to hire approximately 1.50 graduates in the coming year. However, there is a job offer available for all faculties, while the extent of the offer is directly proportional to the size of each faculty, considering the number of their study programmes and students. The majority of positions are in the field of Engineering, with Economic Sciences and Sports following closely behind. The demand for specialists for the other two faculties is almost half that of the mentioned faculties. Based on these results, we infer that a permanent update the academic offer is essential, ensuring better alignment with the dynamic needs of the labour market, in terms of study programmes and number of students. Additionally, expanding the employability area to include neighbouring counties (Vrancea, Harghita) could prove beneficial.

c. When projecting the specialists' hiring needs over a 5-year period, the estimated distribution is as follows: 23.90% for the Faculty of Engineering, 15.04% for the Faculty of Letters, 17.70% for the Faculty of Sciences, 25.66% for the Faculty of Economic Sciences, and 17.70% for the Faculty of Movement, Sport and Health Sciences. This perspective indicates a modest demand for positions (113 in total), relatively evenly distributed across the faculties of UBc. Despite the close percentages between Economics and Engineering, the graduates in Economic Sciences have a better offer (both in terms of quantity and quality), given the faculty's number of study programmes compared to the Faculty of Engineering, namely five times smaller. Following closely are Sciences and Sports, with similar shares (and almost equal numbers of study programmes), while the availability of positions for the domains of the Faculty of Letters is slightly reduced.

d. Only 26.15% of the respondents mentioned a need for skilled labour in specialties not currently offered at UBc. The following 16 qualifications were identified as experiencing a shortage of experts: procurement, human resources, social work, tourism, public food, teachers for practical training, robotics, engineering and management in agriculture and rural development, landscaping, topography and land registry, geography, agronomy, horticulture, silviculture, law, and medicine. We notice that the majority of these qualifications (the initial 10, constituting 62.50% of the total) align with study domains already accredited at UBc. Geography was once part of UBc's curriculum but it eventually became impractical. Some qualifications, such as robotics or those related to rural development necessitate an interdisciplinary approach. As of now, the final five suggestions are not currently considered feasible possibilities to be included in the UBc's academic offer.

e. With respect to the components or competencies that UBc graduates should enhance, Table 2 displays the responses from participants in terms of absolute frequencies. For each component, respondents were given a choice among seven categories, ranging from "very important" to "no answer".

Components of training/skills to be improved	*Very much*	*A lot*	*To some extent*	*To a small extent*	*To a very small extent*	*No answer*	*Total*
1. Specialised training (theoretical)	8	10	**25**	7	5	10	**55**
2. Specialised training (practical)	**23**	18	15	3	1	6	**60**
3. Use of digital or ICT tools	13	**16**	15	10	5	6	**59**
4. Professional use of foreign languages	5	15	**26**	10	2	7	**58**
5. Communication and presentation	10	17	19	8	3	8	**57**
6. Teamwork	**19**	13	15	6	5	7	**58**
7. Resources management	12	13	**18**	8	6	8	**57**
8. Time management	**16**	14	15	5	5	10	**55**
9. Critical thinking	15	9	**18**	10	4	9	**56**
10. Entrepreneurship	8	10	**18**	11	7	11	**54**
11. Prospective thinking	**16**	12	**16**	7	5	9	**56**
Total	**145**	**147**	**200**	**85**	**48**	**91**	**625**
Average	**13.18**	**13.60**	**18.18**	**7.72**	**4.36**	**8.27**	**57.04**

Table 2: "*Skills to be improved at UBc graduates"*

The data reveal the employers' keen interest and differentiation in developing various skills or training components. However, a notable proportion comprising 8.27% of the respondents did not assess all competencies. When cumulated, the data underscore a significant need for development. The organisations considered that practical training, teamwork, time management, and prospective thinking should be developed with high priority (23 points). This once again highlights the importance of addressing practical issues and the graduates' capacity to effectively navigate in real-life situations. Although UBc is highly committed to digitalisation, students' proficiency in digital environments is emphasised (16 points). Professional use of foreign languages (with 26 points) and theoretical specialised training (with 25), as well as resources management, critical thinking and entrepreneurial skills (each with 18) are deemed important "to some extent". Placing the theoretical training at this level underlines the employers' emphasis on the practical training and the need to augment its presence and content within the curriculum.

Employers' suggestions with respect to additional areas of training which should be improved include a variety of aspects, most of which are mentioned only once. These include positive thinking, problem solving, management of industrial processes, assertiveness, initiative, organisation, planning, professional responsibility, financial education, communication skills, discipline, fieldwork, active involvement, self-development skills, intensive and perseverant work capacity, and engagement in research projects,

personal development, and change. Almost a quarter of the respondents (23.33%) expressed satisfaction with UBc graduates' training, considering that there is no need for changes in the educational process. Overall, only 46.15% of the respondents completed this item, falling short of our expectations for greater participation. Nonetheless, the extensive list of skills to be improved by the university in its students remains noteworthy. Many of these skills fall within the area of transversal competencies or soft skills, all of which are highly valuable in any position designed for a university graduate. The emphasis on *teamwork* and *professional responsibility* underscores the keen interest and increased training requirements as perceived by several employers.

Another item of the questionnaire inquired about new study programmes that UBc should consider offering in the future. Only half of the respondents (51%) addressed this item. Among them, 27.22% appreciated that there is no necessity for new study programmes, and 6% could not formulate potential developments. The remaining respondents suggested 19 possible directions for the university to consider, such as: Multimedia and Design, Insurance, Social Work, Psychology, Tourism, Land management, Geography, Genetic Engineering, Biotechnology, General Nursing, Physics, Chemistry, Personal Development, New Technologies of Knowledge, Water Supply Systems, Counselling and Orientation for the Didactic Career, Management of the Education Institutions, Childcare, and Wrestling. The majority of them (78.94%) align with the domains already covered by UBc's five faculties, while some (15.79%) are interdisciplinary. However, certain areas, such as Physics and Chemistry, representing 10.53%, may have lost their sustainability or attractiveness among UBc's target candidates.

2.3. Strategies proposed by employers

The respondents advanced a significant number of 41 suggestions aimed at enhancing strategies to facilitate the employability of UBc graduates. These concrete solutions have been categorised into five directions of action, beginning with the highest priority as follows:

- *Development of the practical dimension of the students' training, focusing on both duration and specificity of activities*: forging additional partnerships with the private sector for practical internships; augmenting the practical segment of students' training (laboratories and other practical activities); fostering partnerships for practical training opportunities with the potential employers; implementing activities to overcome students' apprehension towards unfamiliar tasks/fear of unknown; exploring new locations and activities for practical training.
- *Improvement and extension of collaborations and partnerships between the academic community and the business environment*: establishing new collaborations with distinct employers, including training programmes tailored to meet their competency needs; organising "job fairs" and "hiring events" organisation; inviting specialists from relevant economic entities to address topics of interest to students; fostering partnerships with organisations operating within the university's domains.
- *Improvement of the quality of students' training, refining the training and learning processes:* adopting teaching and learning methods aligned with the contemporary communication tools and student interests; upgrading the infrastructure to meet the specific requirement of the study programmes and the demands of the labour market; offering study programmes delivered in foreign languages; implementing a more rigorous admission process for UBc candidates and administering more demanding exams for students.

- Implementation of a proactive marketing campaign to boost the university's visibility, leading to its recognition among the stakeholders in the business, social, political, and cultural environments.
- Active promotion of companies and organisations in Bacău County to students, parents, graduates, including the dissemination of available job opportunities on a national platform, available online.

The questionnaire also sought the employers' perspectives regarding the effectiveness of conducting selection and recruiting sessions while the candidates are still students. All the 65 respondents unanimously agree that this is a beneficial strategy: 35.38% of them regard it as highly useful, 32.30% consider it useful, while the remaining (32.32%) express varying degrees of certainty regarding utility, ranging from small to very small. Moreover, 98.46% of the respondents agree that having a designated individual responsible for maintaining permanent communication with UBc is vital for the student/graduate recruitment process.

A third direction of interest considered the employers' suggestions concerning the collaboration with UBc on the university's training offer. They mentioned 38 measures deemed necessary for better alignment in this regard. Upon a qualitative analysis of these suggestion, several recurring points emerged in answers, indicating collective interests and key efforts: communication – dialogue, practical training again, collaboration, partnership, meetings, exchange of good practices, information and promotion.

While no activities outside the UBc's current scope were identified, we can highlight some nuanced improvement such as better organisation of the activities (facilitating meetings between students, graduates, academic staff, and employers); ensuring continuity of events allowing students to acknowledge the employers' requirements; stimulation of certain activities such as volunteering; increasing the prominence of practical activities, and intensifying engagements that bridge the academic community and the labour market representatives (such as work visits, contests, meetings, workshops, conferences, etc.); assigning dedicated staff for the relationship between the university and the labour market.

Indeed, these suggestions underscore various activity categories that have already been implemented, albeit with varying frequency across different study programmes. Both the employers and the university are interested in shifting the focus of these activities towards establishing an institutional-level action unit. This transition would entail a notable enhancement in systematicity, continuity, regularity, and intensity, transitioning from occasional occurrences, sometimes present in certain study programmes, to a permanent, organised framework across all programs. Simultaneously, there is a desire to introduce and expand any new categories of desirable and feasible activities aimed at better equipping graduates for the demands of the labor market.

The questionnaire is available on the University website (UBc 2023a), in Romanian and in English. The ethics of research and protection of personal data have been carefully addressed, in accordance with UBc's regulations.

3. Employers' requirements - a qualitative examination of the ideal graduate, as perceived by participating organisations

The synthesis of the data collected during the focus groups conducted across the five faculties of UBc between May and June 2023 has enabled us to outline the profile of an "ideal graduate". These insights align with the findings from a comprehensive study encompassing company data from 31 European countries conducted by Souto-Otero and Białowolski in 2021, revealing the crucial skills sought after during the recruitment processes.

3.1. Key attributes of a prospective employee

Employers' representatives highlighted various elements falling into the following categories considered relevant, including general competencies, attitudes, values, expectations and interests.

Under the umbrella of general competencies, the focus was placed on communication skills (including proficiency in one's native language), independent and critical thinking, teamwork and ICT skills. Complementary to these, attitudes such as self-confidence, flexibility, empathy (especially in client interactions), patience, seriousness, perseverance, commitment, curiosity, tenacity, and engagement were mentioned.

Several important qualities include a desire for learning new things, discipline, self-adaptability, and reflexion capacity. Moreover, self-motivation, dedication, resilience, willingness to understand tasks and contexts, and effective stress management make an important difference. Employers expect for the future employees to be disciplined, proactive, and capable of becoming independent quickly. They also value creative thinking, quick adaptability in the workplace, good organising and collaborative skills.

In terms of personal interests, employers seek employees who are passionate about their work in the chosen field, and determined to apply their training acquisitions. Other desirable interests are connected to self-improvement, self-training, continuous search of information and opportunities related to their professional and personal development. Employers' representatives also emphasised the importance of graduates manifesting a genuine vocation and passion for their field of work, while remaining attentive to the needs and particularities of the beneficiaries they serve.

In summary, employers in today's labour market consider that employees should be adaptable to team dynamics and specificities, while also demonstrating relational availability and ability to discover, learn, and solve problems. The ideal candidate, as highlighted by most of the employers interviewed during the focus groups, should be someone who is willing to evolve, ready to invest time and psycho-emotional resources to deal with the daily challenges, and capable to keep up with evolving contexts and approaches within their field of work. Additionally, most of the participants in the focus groups mentioned those sets of competencies that facilitate balanced and effective interactions not only among team workers, but also with the beneficiaries and clients of the companies as desirable traits.

3.2. What (new) topics should the university courses include?

Enhancing the academic training strategy for future graduates was one of the desired outputs of the focus groups, with particular emphasis on identifying topics to be included in the curricula and/or the syllabi across various disciplines.

Some employers referred to the Finnish pedagogical model (Finnish Ministry of Education and Culture 2023) oriented towards developing meta-competencies such as those for building a sustainable future or for ethical purposes. Additionally, key-competencies highlighted include proficiency both in the native language and an international language, and human-centred design principles as well.

A synthesis of the essential contents considered to be compulsory is presented in Table 3.

Course	*Topics to be included in the course*
Risk and conflict management	Conflict typologies and identification techniques Emotional management
Crisis management	Crisis recognition and identification strategies Innovative approaches to issue management
Negotiation techniques	Conflict prevention strategies Alignment issues management Harmonisation methodologies
Challenges and solutions related to digital education	Digital literacy, Digital education Digital security
Expert communication	Communication competencies Communication with clients and negotiation
Social work classes	Interdisciplinary activities
Education for health and first aid courses	Food and nutrition programmes/courses
Technical design	Technical drawing, interpretation of blueprints
Field-Specific Practical Training in Organisations	Integrated practical-theoretical training
Communication in foreign languages	Language and technical terminology in foreign languages
Personal development courses	Creative expression Resources for personal development
AI courses	Ethical issues in AI AI in healthcare, AI applications to address societal challenges
Development of the business environment	Influential factors in business Business analysis, Brand identity

Table 3: "*Suggestions to improve the academic training – new content"*

The field of communication appears to be a priority for employers, evident from the topics they proposed. Additionally, the disciplines closely connected to ICT issues are also emphasised. Furthermore, there is a distinct category dedicated to the disciplines targeting highly specific professional competencies.

3.3. Employer Expectations: Professional Competencies and Personal Qualities

The analysis of the employers' answers concerning professional competencies and personal qualities has revealed their tendency to formulate general competencies, proving that the professional component is strongly connected to personal qualities. A consistent set of desirable personal qualities or attitudes was mentioned among the prospective employees, including: constancy, curiosity, capacity to focus, openness, patience, perseverance, altruism, objectivity, ethical sensibility, punctuality, and the ability to maintain a clear distinction between private and professional life. We can conclude that certain human qualities hold greater significance than purely professional skills, because the latter can often be cultivated starting from the educational support offered during the initial training, whereas personal qualities related to character are more challenging to develop once in a workplace setting.

Personal values must align with the chosen job of the graduate, as well as resonate with the values and organisational culture. These need to be instilled, cultivated and modelled during academic training and strongly linked to social realities and to the dynamic changes within society and the economic sector.

In conclusion, it is crucial for employers to identify in their future employees the ability to integrate theory with practice and with the constantly changing demands of the economic environment.

3.4. Employers – University collaboration on training prospective employees

All the employers' representatives agreed upon the establishment or strengthening of their organisations' collaboration with the university. Discussions revealed that in instances where a tradition of collaboration exists, students demonstrate a higher level of professional quality as UBc specialists take into account the specific needs and particularities the future employers need in their training programmes. The following are several examples of mutually beneficial actions for both university and employers extracted from the five focus groups:

- Constant, bidirectional communication regarding the training needs, during the practical placements, and concerning recommendations for hiring.
- Companies' involvement in proposing topics for the graduation theses, based on case studies.
- Students' engagement in addressing situations identified by companies varies depending on whether they are participating in practical compulsory internships as required by their academic programme or volunteering for internships.
- Scholarships awarded to hard-working students.
- Joint collaboration in teaching activity, including workshops featuring specific case studies, simulations of real-world, significant situations encountered by specialists.

- Launching and collaborating on projects during their implementation.
- Adoption of mentoring and supervision models, tailored to the study programmes of each faculty.
- Organisation of courses, competitions, projects by both companies and the university, followed by job offers.
- Development of a postgraduate course by the university for newcomers/debutants, addressing their need to adapt to their new workplaces.

The consultation process between UBc and employers should be systematic and iterative, so that the connection between the two entities. This ensures the institutional resilience of UBc, while addressing the ongoing need of employers for specialized skills and adequate training.

3.5. Exploring Partnership Opportunities for Enhancing Social Inclusion of Disadvantaged Students

Approaching the inclusion issue from the perspective of a partnership between UBc and the employers revealed an openness towards preventing exclusion and developing joint concrete initiatives. These include:

- Projects focused on raising awareness of inter-culturalism, social integration, exclusion, and marginalisation, potentially involving EU-funded projects.
- Partnership including social services assistance, to address university dropout resulting from economic challenges faced by UBc students' families.
- Courses delivered by organisations for their employers, so they can understand the specific needs of the disadvantaged, including considerations for creating a more inclusive and accessible work environment for individuals with disabilities.
- Both UBc and organisations' websites should become adaptable and accessible to individuals with special needs, while infrastructures, including education and training facilities, should become more available.
- Implementation of sub-structures to facilitate, monitor and enforce inclusive approaches is encouraged.
- Creation of contextual strategies and mechanisms is essential for fostering organisations readiness to employ disadvantaged categories, overcoming outdated mentalities.

The focus groups highlighted a need for further information concerning the specificity of different disabilities, and the potential strategies for organisation to enhance inclusivity and adapt their organisational practices to better support the disadvantaged individuals and reduce exclusion. Similarly, within UBc, efforts to address the dropout rate have been discussed, with specific guidelines already proposed (Cojocariu et al. 2019b).

3.6. Partners' perspectives on study programmes design

The majority of respondents considered that the university should engage in an inclusive, long-term strategy to support all the categories of individuals enrolled in the educational system. Additional suggestions included the following:

- Encouraging students' participation in creative and practical activities, conducted either at the university, partner locations, or within the community.
- Facilitating early exposure of students to the working environment, ideally during their first year of study.

- Providing support and resources to aid students' involvement and adaptation, insisting on developing key competencies; promoting internships was also emphasised.
- Incorporating courses that align with emerging technologies, modern methodologies, and the current state of economy.
- Using non-traditional spaces, both within and outside the university (such as museums, laboratories, plants, hospitals, etc.) for hosting classes can enhance the attractiveness of learning, connect it to real context, and provide a more engaging experience for trainees.
- Organising counselling activities in collaboration with companies can provide insights and support to students.
- Enhancing the university's visibility and engagement within the community can be achieved through increased participation in public events and volunteering programmes.
- Encouraging students to pursue continuous learning and specialisation within their desired field through supplementary courses that complement the university curriculum.
- Providing students with a significant number of practical training hours, with the possibility to choose additional hours, if desired.

The representatives' suggestions reveal their aspiration for the university to be constantly and intensively involved in both the academic and professional training of students, as well as in the local and regional community life.

4. Connections with UBc internationalisation and perspectives for a more integrated approach

Since 2022, UBc has been a member of a European university consortium comprising seven universities located in non-capital cities across Austria, Belgium, Finland, Germany, the Netherlands, Romania, and Spain (UBc 2023b). This consortium aims to achieve European University status by 2024. Together, these HEIs have committed to pooling their resources and efforts to prepare their students to address global and European challenges, such as the energy crisis, labour shortages, and the escalating threat of societal polarisation (de Wit and Deca 2020). Under the slogan "Responsible Living for the Next Generations", the consortium emphasises the exchange of best practices and mobility between member universities as initial steps in their collaboration. However, the partnership is envisioned to extend across multiple levels, including virtual mobility and collaborative online learning, which are approaches to internationalization at home that UBc initiated almost a decade ago (Nechita et al. 2014).

At UBc, research activities are part of students' educational journey. Opportunities such as traineeship mobility at partner universities and the benefits arising from UBc's membership in the consortium, such as joint projects, innovation hubs serving as learning spaces, and the use of microcredentials, double or multiple degrees to be developed, will facilitate the acquisition of the most useful sets of competencies aligned with the requirements of emerging job profiles, therefore increasing UBc graduates' employability. The approach adopted by the HEIs within the consortium, focusing on positively impacting life in their respective regions, through innovative, multidisciplinary and interdisciplinary collaborative efforts to address societal needs, will equip students with valuable skills and expertise. Furthermore, the innovation hubs within the consortium being in strong connection with the stakeholders including government, business and community are expected to boost research and technological transfer in UBc community. These endeavours align with recent initiatives endorsed by the European Commission, particularly in areas such as the Knowledge square, encompassing Education, Research, Innovation and Service to society, for a future stronger Europe in the world (Mitchell 2020).

5. Summary of study findings and conclusions

The collected data underline several significant observations:

- All employers involved in this study, regardless of their geographical location, industry, size, or ownership structure, show a keen interest in establishing consistent collaboration with the academic environment, starting from the initial training period of students in order to ensure that graduates are thoroughly prepared to meet the needs and challenges of the companies,
- Representatives of employers demonstrate an awareness of various difficulties and limitations inherent in the academic environment, openly expressing their willingness to provide systematic and organised support for students' training, particularly in practical, hands-on experiences, in order to better prepare them for entry into the workforce,
- Regardless of how they assess their demand for highly educated workforce or how they foresee it in the future, employers possess a clear understanding of the essential skills graduates must exhibit, while at the same time they acknowledge that graduates are at an entry-level stage and recognise the necessity for ongoing development, through collaboration, both within companies and by re-entering the academic environment such as pursuing master's or doctoral degrees, professional conversion programmes, second-degree programmes, and lifelong learning courses. Employers are prioritising the development of specialised practical training, team working, time management and forward-thinking skills at a significantly high level.
- The recommendations for enhancing components/competencies beyond the foundational ones in the training of our graduates emphasize 21 skills that the university should continue to cultivate and refine. These skills encompass aspects of transversal competencies (soft skills), invaluable in any professional capacity for a graduate with higher education. These skills include critical thinking, teamwork, problem-solving, assertiveness, initiative, organisational process, planning proficiency, communication skills, self-improvement capability, active involvement, sustained and perseverant work ethic, and adaptability to change. Notably, two suggestions (teamwork and professional responsibility) stand out, indicating a heightened interest and increased training needs from the perspective of certain employers.
- The recommendations from participating employers on essential measures for effective collaboration with the university in training programmes underscore several crucial aspects and shared interests across multiple responses. These include communication through dialogue, practical training, collaboration, partnership, meetings, the exchange of best practices, information sharing, and promotional activities.

It is clear that the economic progress of the EU countries depends on highly qualified professionals. The job market is rapidly evolving, displaying new employment opportunities. Both economic competitiveness and personal satisfaction among employees depend on innovations in education and training. We believe that further research in this area is imperative. The guiding principles should be the needs of learners and society (Birtwistle and Wagenaar 2020).

HEIs are under pressure to produce "job-ready" graduates (HolonIQ 2023). Since employers are increasingly implementing skills-based hiring policies, universities are compelled to embrace models centred on skills and competencies for teaching and learning. Consequently, university partnerships with stakeholders are evolving, placing a greater emphasis on student experiences and outcomes. This heightened attention to partnerships is embedded into the strategic plans of HEIs.

Researchers in education argue (UNESCO 2023) that individuals within European societies are not heading towards "a unique future"; instead, they face multiple paths that each individual can explore according to her/his aspirations. Education has the power to support people's aspirations and to transform societies.

References

ADR-NE (2023) 'Elaboration, Implementation and Monitoring of the Regional Smart Specialization Strategy in Romania (RIS3 North-East)', https://www.adrnordest.ro/en/what-we-offer/smart-specialization/ [9 2023].

Birtwistle, T. and Wagenaar, R. (2020) 'Re-Thinking an Educational Model Suitable for 21st Century Needs', in A. Curaj, L. Deca, and R. Pricopie (eds). *European Higher Education Area: Challenges for a New Decade*, Springer, Cham, pp. 465-482, https://doi.org/10.1007/978-3-030-56316-5_29 [11 2023].

Bughin, J. and Woetzel, J. (2019) 'Navigating a world of disruption', Briefing Note Prepared for The World Economic Forum in Davos, Switzerland, January 2019. Online publication McKinsey Global Institute, https://www.mckinsey.com/featured-insights/innovation-and-growth/navigating-a-world-of-disruption [10 2023].

Cojocariu, V.M., Cîrtiţă-Buzoianu, C., Mareş, G. (2019a) 'Opportunities and Difficulties in Conducting Internships in Higher Education from the Employers' Perspective', *Postmodern Openings*, 10 (2): 1-27.

Cojocariu, V.M., Cîrtiţă-Buzoianu, C., Mareş, G. (2019b) *Social Inclusion Guide*, Cluj: Cluj University Press.

Cojocariu, V.M., Furdu I.M., Tomozei C.I. (2017) 'Reliable Distributed Software Platform for Optimizing the Convergence between the University System and the Labour Market', in Proceeding of the 11th International Technology, Education and Development Conference, (INTED 2017); 6-8 March 2017; Valencia, Spain, pp. 843-852.

Cojocariu, V.M., Damian I. (2012) 'Teaching Quality, New Learning Technologies and the Competences Demanded on the Job Market', in *Leveraging Technology For Learning*, Proceedings of the 8th International Scientific Conference for eLearning and Software for Education; 26 – 27 April 2012; Bucharest, Romania.

Deaconu Ș.M. and Hâj, C.M. (2022a) Study regarding the employability of higher education graduates (2021), Bucharest: UEFISCDI Publishing House.

Deaconu Ș.M. and Hâj, C.M. (2022b) Study regarding students' satisfaction regarding the quality of higher education (2019-2020), Bucharest: UEFISCDI Publishing House.

Education and Training Monitor (2023) online publication https://op.europa.eu/webpub/eac/education-and-training-monitor-2023/en/country-reports/romania.html [10 2023].

European Commission (2017) Council Recommendation of 20 November 2017 on Tracking Graduates (Text with EEA relevance), (2017/C 423/01), Official Journal of the European Union, 9 December 2017, online publication https://eur-lex.europa.eu/ [10 2023].

Eurostat (2021) 'Tertiary Education Statistics', online publication https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tertiary_education_statistics [11 2023].

Finnish Ministry of Education and Culture (2023) 'Higher Education and Research', https://okm.fi/en/higher-education-and-research [11 2023].

Galiţa, R., Savin, P., Nedeff, V., Boghian, I., Culea, M., Nechita, E., Bârsan, N. and Nedeff, F. (2021) 'Skills and Challenges on the Labour Market. A Study Regarding the Romanian Graduates' Perception on Employability', *International Journal of Humanities and Social Development Research*, 20-53, https://doi.org/10.30546/2523-4331.2021.5.2.20 [11 2023].

Green, F. and Henseke, G. (2021) 'Europe's evolving graduate labour markets: supply, demand, underemployment and pay', *Journal for Labour Market Research* 55(2) online publication https://doi.org/10.1186/s12651-021-00288-y [10 2023].

Grigorescu, A., Lincaru, C., Sigurjonsson, T.O., Pîrciog, S. (2023) 'Regional Digital Resilience and the 4Helix Model - The Higher Education Institutions' Case in Romania', *Journal of Theoretical and Applied Electronic Commerce Research*, 18(2), 928-958 https://doi.org/10.3390/jtaer18020048 [9 2023].

HolonIQ. Global Impact Intelligence (2023), online platform https://www.holoniq.com [11 2023]

König, J., Suwala, L., Delargy, C. (2021) 'Helix Models of Innovation and Sustainable Development Goals, in Leal Filho, W., Azul, A.M., Brandli, L., Lange Salvia, A., Wall, T. (eds). *Industry, Innovation and Infrastructure. Encyclopaedia of the UN Sustainable Development Goals*, Springer, Cham, https://doi.org/10.1007/978-3-319-71059-4_91-1 [9 2023]

Mitchell N. (2020) 'European Education Area takes a major leap forward', *University World News*, https://www.universityworldnews.com/post.php?story=20201003010059260 [10 2023].

Mareş, G., Cojocariu, V.M., Cirtita-Buzoianu, C. (2021) 'Making Career Decisions in the Context of the COVID-19 Pandemic. An Analysis of Disadvantaged Student Groups', *Postmodern Openings* 12(1): 328-346, https://doi.org/10.18662/po/12.1/264 [10 2023].

Nechita, E., Cojocariu, V.M. and Păcurari, D. (2014) 'Internationalization of Higher Education at Home. An Initiative for Teaching Informatics', in *Procedia - Social and Behavioral Sciences* 149: 624-628.

Souto-Otero, M. and Białowolski, P. (2021) 'Graduate employability in Europe: the role of human capital, institutional reputation and network ties in European graduate labour markets', *Journal of Education and Work* 34: 1-21.

de Wit, H. and Deca, L. (2020) 'Internationalization of Higher Education, Challenges and Opportunities for the Next Decade', in A. Curaj, L. Deca, and R. Pricopie (eds). *European Higher Education Area:*

Challenges for a New Decade, Springer, Cham, pp. 3-11, https://doi.org/10.1007/978-3-030-56316-5_1 [10 2023].

UBc (2023a) Questionnaires on employers' demands to increase the labor market insertion of UBc graduates, RO: https://www.ub.ro/storage/1706786922CNFIS-FDI-2023-F-0091_-Chestionar_angajatori.pdf and EN: https://www.ub.ro/storage/1707371383Chestionar_angajatori_Engleza.pdf [11 2023].

UBc (2023b) UBc in UP University, https://www.ub.ro/up-university [11 2023].

UNESCO (2021) *Reimagining our futures together: a new social contract for education*, Report from the International Commission on the Futures of Education, UNESCO, Paris, https://doi.org/10.54675/ASRB4722 [10 2023].

United Nations Economic Commission for Europe (2021) 'In-Depth Review of New Forms of Employment and Quality of Employment: Implications for Official Statistics Conference of European Statisticians', Geneva (online), 17-18 February 2021, https://unece.org/sites/default/files/2021-02/02_In-depth%20review%20_New%20forms%20of%20employment_appr.pdf [11 2023].

Yerevan Ministerial Communiqué (2015) online publication https://www.ehea.info/media.ehea.info/file/2015_Yerevan/70/7/YerevanCommuniqueFinal_613707.pdf [11 2023].