



Article

# Developing Global Competences via University Internationalization Activities—A Comparative Analysis of Business Students' Opinions before and during the COVID-19 Pandemic Crisis

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Abstract: For the last two years the COVID-19 pandemic has changed the main activities in higher education institutions (HEIs), including teaching activities and internationalization activities, activities that are directly involved in the development of student graduates' competences. The present study analyzes the perceptions of students on the results of a university's internationalization activities, in terms of competences they develop at two different moments in time: before the pandemic and during the pandemic. The research started in 2019, before the pandemic, having as objective to identify how various types of competences are associated with HEIs' internationalization activities. Once the pandemic started and given the changes in the activities of HEIs, it was of interest to see what the perceptions of students were of the contribution of different HEIs' internationalization activities to the development of their competences in the new conditions. Therefore, the present research has the purpose of investigating if the perceptions of students on the types of competences the university develops through its internationalization activities before the pandemic are different from their perceptions on the development of the same competences during the COVID-19 pandemic in the conditions of modified international activities. This can help universities to decide on possible changes needed in their activities (given the fast-changing environment) in order to support the development of competences for their students. Two quantitative studies were organized in Romania. The first was conducted in 2019 with 148 students in the terminal year of bachelor studies at a particular business faculty in Bucharest. In order to see if there were shifts in the opinions of students about how the university contributes to the development of their competences in the new COVID-19 context and the new forms in which higher education took place, the research was replicated at the beginning of 2022 with 179 students in the terminal year at the same business faculty. The results show both different and common opinions of the two analyzed groups of students (before and during the pandemic) regarding the role of the business university's activities in providing specific, generic and global competencies that are demanded in the national and international labor markets. The paper contributes theoretically by extending the HE literature on the developments of skills and competences for students and graduates and also by extending the literature on changes determined in HE by the COVID-19 crisis. The research also has practical implications for universities willing to offer sustainable education by better adapting their strategies for the development of various competences for their students in the continuously changing environment and uncertain situations determined by the COVID-19 crisis, for example, the need for universities to offer special course content, new courses and events focused on the most recent international events in all spheres of activity.

**Keywords:** internationalization; global competences; uncertain environment; sustainability of higher education; labor market; students' perceptions; COVID-19 pandemic crisis



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#### 1. Introduction

In the context of rapid internationalization and globalization in economic life, in the labor market there is the need for employees with international and global competences and skills [1]. Such competences and skills can also be developed while students go through higher education. HEIs, through their activities in general and their internationalization activities in particular, support the development of skills and competences for their students and graduates [2,3]. Creating the educational framework for the acquisition of skills, abilities and competences for students and graduates during their HE studies can be associated with sustainable universities, along with other elements that characterize sustainable universities, such as environmental protection, economic performance and social cohesion [4]. The involvement of all HE stakeholders (including students and graduates) is seen as one of the actions to be taken by sustainable universities in order to help society make the transition to sustainable lifestyles [5]. In this context, the relationship between the universities' activities and the way they contribute to the development of their students' skills and competences becomes important [6]. At the same time, it is acknowledged that adjustments to the universities' activities can also modify the skills and abilities acquired by students during their studies [6,7].

The recent literature [8–11] has revealed that the COVID-19 pandemic represented both a disruptive process in the sustainability of educational organizations and also an opportunity to identify fundamental strategic investment in order to transform the educational process and adapt academic activities to increase competitiveness in a globalized world. This comes along with different challenges that HEI faced during the COVID-19 crisis such as those related to preparedness for the crisis and quality concerns about remote learning, financial matters and online delivery [12]. One of the categories of activities that changed within universities due to COVID-19 was that of internationalization activities [6], an important group of activities that contribute to the formation of global competences for students. However, changes in educational activities might determine an alteration in the skills, abilities and competences that HEIs may be able to develop for students [7].

In this context, the present paper highlights how university efforts to develop internationalization activities in order to build skills and competences are seen by students in two periods of time: before and during the pandemic. The paper envisages a comparison of how students' perceptions regarding the formation of global competences during university studies (how skills and abilities acquired are associated with the internationalization activities of the HEI) differ from students' opinions on this association before the pandemic. The purpose is to identify if the perceptions of students during the pandemic (given the changes in the activities of HEIs) differ from or are similar to the perceptions that students had before the pandemic about acquiring global competences during their studies and the contribution of the HEI's internationalization activities to this. To achieve this purpose, the perceptions of two groups of students were compared (the first group interviewed before the pandemic and the second group interviewed during the pandemic). All interviewed students studied at one faculty of one major Romanian university, the Bucharest University of Economic Studies.

The paper is organized as follows: Section 2 presents the supporting theoretical framework with focus on the one hand on internationalization activities and how they contribute to the formation of skills and competences for students, and on the other hand on the disruption that COVID-19 brought for employers, universities and students, as main stakeholders in HE. Further, Section 3 presents in detail the methodology used to conduct the research and Section 4 presents the results, identifying similarities and differences between the opinions of students' before and during the pandemic regarding how HEIs' activities contribute to the development of their skills and abilities, as required in national and international labor markets. The paper ends with the discussion, conclusions and limitations sections that emphasize how the results of the present research connect with other studies in the literature and how universities can use the opinions of students to build sustainable educational strategies.

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#### 2. Theoretical Framework

# 2.1. Activities Related to the Internationalization of Universities

Higher education is influenced by trends registered both at national and international level given the increased importance of internationalization in the globalized world [13]. In a narrow sense, internationalization of HE is often associated with either curricula (international studies, global studies, multicultural education) or academic mobility (studies abroad, educational programs in partner universities) [14]. De Wit [14] points out that the phenomenon of internationalization has seen a much broader approach because of the impact of the global environment on the development of education at the international level. Thus, terms such as borderless education, transnational education, offshore education or the international market for educational services are used to describe the complex process by which universities respond to global markets and stakeholders [15]. The extracurricular activities with an international perspective promoted by the university for students, have impact also in gaining the high skills necessary for students in their future professional activities [2,3]. Thus, the important direction of opening universities to global environments, through the internationalization of their activities, aims to increase the quality of educational and research activities and the efficient training of students by ensuring the necessary skills in their professional activity in an intercultural and competitive global environment and, not least, increasing the international reputation of universities [16,17].

Table 1 illustrates in a synthetic form the typologies of internationalization activities of universities, as presented in the literature and as used in the present study, together with the corresponding bibliographical sources.

**Table 1.** Levels for internationalization activities in HEI.

Internationalization Activities in HEI	<b>Bibliographical Sources</b>
I. Activities focused on internationalization of	the curriculum:
Intensive English courses/or subjects taught exclusively in English (IA1)	[2,13,14,18–22]
Intensive courses in other foreign languages (as a second foreign language)/or subjects taught exclusively in other languages (IA2)	[2,13,22]
Joint/dual diplomas from different countries according to universities collaborations (IA3)	[2,13,22]
International topic of the courses/or providing international professions for the students (IA4)	[13,18,22–25]
Compulsory subjects that are studied in institutions outside the country according to universities collaborations (IA5)	[13,22]
The diploma offers internationally recognized professional qualifications (IA6)	[2,13,18,22,24]
II. Internationalizationthrough extracurricular activities or provided with different stakeholders belonging to local and in	
Extracurricular activities promoted by the HEI (IA7)	[2,3,13,21]
III. Activities related to internationalization	on abroad:
Study programs mobility/double or joint specialization (IA8)	[2,16,26,27]
Student mobility (IA9)	[2,14,16,18–21,25,26,28–34]
Professors and staff mobility (IA10)	[2,16,18,19,25,26]
Other cross border activities like collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to	[2,16,26,28,30]

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The study of the literature on activities carried out in universities for opening the university to the global world, focusing on those who prepare graduates for the national/international labor markets, shows a diversity of definitions and approaches, with the existence of three main levels of analysis: (a) internationalization focused on curriculum internationalization, (b) internationalization through extracurricular activities and (c) internationalization abroad. These three levels of internationalization activities of universities were also used in the present study, with the inclusion in the research of three categories of internationalization activities, each of them with other specific sub-activities, as presented in Table 1.

# 2.2. The Link between the Internationalization of Universities' Activities and the Formation of Global Competences

The literature recognizes that there is a close connection between the internationalization of universities' activities and the formation of students' competences [2,3,7,14,17,18,20,23,24,34,35]. Many of these competences are those that are needed to work in global environments and they are also known as global competences. In recent years, many of the competences that were traditionally linked to the international environment are also requested by employers when recruiting young graduates for national labor markets. In this context, it is of interest to highlight the importance of activities developed in universities for the formation of global competences. Recent studies [1,6] also identified six core groups of global competences: international competences, personal competences, competences needed to develop a future career, competences needed in the workplace, theoretical competences, and practical competences. This classification comprises diverse skills and abilities belonging to one of the six group of competences, all of them needed in the actual national and international contexts. Thus, for the present research, the above mentioned six core groups of global competences and the corresponding skills are used, as presented in Table 2.

**Table 2.** The detailed skills that form global competences.

Core Groups of Global Competences	Skills Belonging to a Group of Global Competences
International competences	Efficient communication in work teams (S1) Very good knowledge of English language (S2) Very good knowledge of a second foreign language other than English (S3) Knowledge of international political, economic and business context (S4) Efficient work in multidisciplinary teams (S5) Efficient work in multicultural teams (S6)
Personal competences	Truthfulness (S7) Flexibility (S8) Initiative and involvement (S9)
Competences needed to develop the future career	Accessing online/offline information about employment opportunities (S10)  Accessing the online platforms to find a job (S11)  Providing the relevant information in a CV/job interview (S12)
Competences needed at workplace	Efficiency in scheduling the activity (S13) Efficiency in organizing the activity (S14) Solving the problems (S15) Orientation towards customers and results (S16) Critical thinking (S17)
Theoretical competences	Knowledge of economic theoretical concepts and formation of an economic way of thinking (S18)  Knowledge of professional terminology, theories and concepts (S19)

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Table 2. Cont.

Core Groups of Global Competences	Skills Belonging to a Group of Global Competences
	Applying in practice the theoretical concepts (S20) ICT skills (S21)
Practical competences	Applying the mathematics theories to manage operational problems (S22) Understanding the business reality (S23)

Sources: [1,6].

# 2.3. Uncertain Environments during the COVID-19 Pandemic

The experienced reality of the two years of pandemic was dissimilar for employers from different industries, the public sector (in which we can include public universities) and individuals. Some important aspects of pandemic disruptions and the methods used for adaptation are presented in this section, as the main influencers of activities and perceptions of employers, universities and students as main stakeholders in HE.

For the employers, the two years of the COVID-19 pandemic represented one of the most uncertain environments ever experienced with various (a) disruptions, such as suspending entirely or partially their activity [36] and (b) adaptation, such as adapting activities to remote work [37], adapting the production process to product categories demanded by the new necessities (e.g., masks, disinfection products, hospital tools and machinery such as artificial ventilation devices, etc.) and adapting sales and distribution processes from physical stores to virtual stores and retailers [38]. Customers' demand for digital experience has also seen an increase in pandemic years [39]. This new on new business models also needs dedicated resources and the most important are the human resources that need to be equipped with skills and competences such as creativity, reasoning and reflection to solve problems in order to generate innovation for the company [40–42]. These human resources need to possess competences specific to the 21st century: business and client oriented, critical thinking, responsibility, adaptability, communication with teams with diverse specialization and cultures [7,23,34,43–47] and knowledge of communication technology [45], to be able to adapt and work with the new technology in order to keep up with customers' demands, and not least knowledge of the business environments, international markets and understanding of cultural diversity in order to be able to successfully work in the new conditions imposed by both national and international labor markets [7,48–52]. Thus, in order to compete globally, there is a need for diverse skills and competences "required to shape the 21st century generation" [42] (p. 1) and the COVID-19 pandemic imposed even more a "maturity of several key digital technologies in information and communication technology" [41] (p. 2) which require strong ICT skills from employees to be able to use the newest technologies in all the labor process.

Due to COVID-19 pandemic, *universities* had to adapt in a very short time, firstly by using new digital learning management systems [10,53,54] and secondly by ensuring online extracurricular activities for their students in which could be included the use of social media [54] or workshops/other forms of training (online or hybrid mode) in order to keep connection with both local and international students [55]. These strategies were applied in a sustainable way only in developed countries and in universities that already possessed an integrated online platform for their students [10]. Thus, for universities that were less technologically advanced and/or for whom online platforms were scarce, the educational process was seriously affected because the university could not adapt in real time to deliver online classes for their students due to their weak digital infrastructure [10,53]. In addition, "the pandemic has created quite difficult economic conditions that threaten the sustainability of internationalization in HE" [10] (p. 528) and also forced universities to set new strategies in order to adapt to the new conditions and to keep operating their internationalization practices [9].

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The internationalization activities developed in universities in the pandemic years were reevaluated from the perspective of: (a) ensuring internationalization activities and experiences for all students and (b) shifting from the physical mobility of students, teachers and researchers to online activities/sessions/workshops [9].

From the first perspective, the focus was on internationalizing the curricula and expanding the universities' online connections with stakeholders belonging to local and international communities and also with students, professors and researchers from the international environment. From the second perspective, the focus was on transferring all the events, workshops and conferences that involved national and international students, professors, researchers and specialists to online formats. Thus, in practice, both perspectives implied to a large extent developing more online activities for students in order to connect with the international environment and to have contact with the multiculturality and the internationalization of businesses. In this way, the internationalization processes developed in universities could become, in the future, even more complex with the use of online platforms and the contribution of artificial intelligence [10].

The COVID-19 pandemic changed many aspects of *students'* life, such as their social life and learning strategies [56], social cognition and memory abilities [57,58] and adaptation to new digital learning management systems [53]. In developed countries, the main issue related to COVID-19 pandemic was the "lack of student self-motivation and self-organization in online environments" [10] (p. 529) and also the rise of psychological distress with negative effects on students' academic performance [53]. To all this is added, in some developing countries, another important issue: students who did not have proper internet connections and/or suitable PCs or laptops and also faced financial problems in continuing their studies [10]. Thus, from that point of view, researchers [10,54] point out that the pandemic years have aggravated the inequalities between students and also have deepened the inequalities between universities from developed countries and those from developing countries.

Even if some studies have shown the negative effects of the COVID-19 pandemic on students' activities and perceptions [10,54,55,57,58] as presented above, there are also studies which have highlighted positive impacts of the uncertain environment on their perceptions and activities. Thus, according to Gonzales et al. [56], the younger generation had to shift from social activities that included learning together in libraries or cafeterias to individual learning based only on digital books, online platforms and general online information to prepare their projects and exams. This enhanced student autonomy. Students also became more responsible by learning continuously to be better prepared and to have the ability to adapt to an uncertain environment [56]. Thus, the literature has highlighted that the COVID-19 pandemic "accelerated the adaptation of students and faculty members to technology and cultural change" [10] (p. 529).

The changes that took place in the requirements of employers regarding their present and future employees and the changes that took place in HEIs' activities due to the COVID-19 crisis may determine on the one hand different expectations and on the other hand a different accumulation of skills and abilities during university studies.

#### 3. Methodology

### 3.1. Research Variables and Research Questions

Based on the above opinions in the literature on the changes incurred by higher education due to the COVID-19 health crisis, it is of interest to see if the perceptions of students on the associations of the universities' internationalization activities with the development of their global competences were different during the pandemic as opposed to the period prior to the pandemic. It is of interest to identify if the new forms of higher education (the ones taking place during the pandemic) are perceived to be associated differently with the development of skills and abilities for students during their studies. Sustainable universities would ensure the development for students of skills and abilities

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that are required on national and international labor markets, regardless of the changes in higher education activities.

Therefore, the question of the present research is:

RQ: Are the opinions of students on the association between global competences and internationalization university activities different during the COVID-19 period as compared to the period prior to the pandemic?

As objectives, the study aimed to identify:

- (1) If there are differences in the perceptions of students on the association between the skills and abilities acquired during studies and the HEI internationalization activities, during the pandemic as compared to the period previous to the pandemic.
- (2) If there are differences in the opinions of students in the two periods of time (before and during the pandemic) about the association between HEIs' activities and the development of competences needed for the national labor market on the one hand and those needed for the international labor market on the other hand.

The global competences, as a first category of variables, analyze skills and abilities from the following angles:

- (a) skills and abilities generally seen as required to develop global competences, as identified by students.
- (b) skills and abilities developed by the university for the national labor market, as identified by students.
- (c) skills and abilities developed by the university for the international labor market, as identified by students.

#### 3.2. Data Collection and the Research Instrument

The data was collected from students enrolled in the third year of the Bachelor program in International Business and Economics of one major economic university in Romania. The third-year students were selected as being in their terminal year, as they are assumed to have more qualified opinions on the HEIs' activities and on the skills and abilities that they have acquired during their studies. Given that the focus of the present research was on global competences and internationalization activities, a faculty was selected that, via its specialization (international business and economics), is more preoccupied with both internationalization activities and the development of global competences for its students and graduates.

A first survey was conducted in winter 2019–2020 (before the pandemic), with the purpose of identifying the perception of students on skills developed by the university, seen as necessary for the labor markets (national and international), and the way they are determined by the HEIs' internationalization activities in the eyes of the students.

In order to make the comparison and see if the health crisis and associated changes in the HEIs' internationalization activities had any influence on students' opinions, the research was replicated during the second year of the COVID-19 pandemic (winter 2021–2022) with a similar cohort of students, in terms of faculty, specialization and year of study. Usually, the cohort of third year Bachelor students at the selected faculty and specialization is around 400 students.

The two online surveys were disseminated via Google forms. Responding students received an invitation for voluntary participation in the survey and they were provided with the link for the questionnaire whose completion was estimated to last 5–10 min.

The questionnaire comprised in total 11 questions: 3 asked about respondents' demographics, 6 closed-ended questions were asked in order to collect information that answers the present research question and 2 open questions were asked in order to find out students' recommendations regarding the activities that the university should carry out in order to develop the global skills and competences for both the national and international labor markets. For each item, a Likert five-point scale was used (1 = to a very small extent/very low utility and 5 = to a very large extent/very high utility). See Appendix A for the questionnaire.

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For the first survey organized in the period November 2019–January 2020 (before the COVID-19 crisis), 148 valid answers were obtained, illustrating a response rate of around 37%. For the second survey organized in the period November 2021–January 2022 (during the COVID-19 crisis), 179 valid answers were obtained, illustrating a response rate of around 45%. Table 3 presents the characteristics of the two samples.

**Table 3.** Characteristics of the samples.

Characteristic	Before the Pandemic Winter 2019–2020	During the Pandemic Winter 2021–2022
Gender	Male: 23 Female: 125 Total: 148	Male: 64 Female: 115 Total: 179
Age	Under 25: 147 25–30: 1 Over 30: 0 Total: 148	Under 25: 172 25–30: 6 Over 30: 1 Total: 179
Language of study	In Romanian: 100 In English: 48 Total: 148	In Romanian: 108 In English: 71 Total: 179

Source: Authors' own calculations.

#### 3.3. Statistical Analysis

In this subsection will be detailed the statistical analyses which were undertaken in order to verify the normality of distribution and homogeneity of the data collected from the two groups of students. The process of comparison of the opinions of the two groups of students (before and during the pandemic) is also presented.

We proceed by testing the homogeneity by group of variables (skills and internationalization activities of HEI) based on coefficient of variation (CV) of the two analyzed groups as presented in Supplementary Materials Table S1 (for skills) and Table S2 (for internationalization activities of HEI). CV is a measure for homogeneity of data [59], but can also be used to test the normality of data for samples larger than 50 [60], as is the case in the present research. As all coefficients of variation in this study had values lower than 50%, data can be considered normal [60].

Statisticians admit that the data series is characterized by homogeneity if the coefficient of variation (CV) < 35–40%, values close to 0 indicating high homogeneity [59] (p. 100), and if CV > 70–75%, it is stated that the variation is very large, the group hides a heterogenous structure that requires repeating the grouping operation in order to obtain group homogenization [60–62]. The data presented in Tables S1 and S2 from the Supplementary Materials show that, in general, the two groups present homogenous points of view, the CV calculated having mostly values below the 35% threshold, indicating homogeneity at the level of both analyzed groups.

In order to compare the opinions of the two groups of students (before and during the pandemic) Pearson correlations were calculated and compared for both groups. The Pearson correlation, which generally identifies the strength and the direction of a linear relationship between two variables [63], was used to identify the existence of association relationships between the various skills and abilities considered and the internationalization activities analyzed. Therefore, Pearson correlation coefficients were determined between all 23 skills and abilities as perceived by students and all the 11 internationalization activities of the university as also perceived by students. The students' opinions about each skill were correlated with the students' opinions about each internationalization activity conducted by the university. The values of the correlation coefficients were interpreted as the perceived associations between the two types of variables: the acquisition of a skill and how this associates with one HEI internationalization activity, the value of the correlation coefficient illustrating the strength of this association. The analysis was conducted twice, for each

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group of students (before and during the pandemic) and subsequently the correlation coefficients were compared for the same combination of skill and internationalization activity for the two periods of time with the two groups of students. The purpose was to see if the perceived associations between skills and HEI activities, were different during the COVID-19 crisis, as compared to the period prior to the health crisis, given the changes in the activities of HEIs that took place during the pandemic. It was envisaged to see, if after the changes that took place in the activities of HEIs, students perceive differently the association between the university's activities and their contribution to the formation of skills and abilities. The comparison was made for each relationship between a skill and a corresponding internationalization activity.

The comparison has a double character: (a) the association relationship between perceived opinions on skills and HEI activities in the two distinct periods of time are compared and (b) the same association relationships are compared but from the perspective of two destinations and use of skills: for national labor markets and for international labor markets.

In the next section the results of the comparative analysis are presented.

#### 4. Results

First, the questionnaire was tested for validity and reliability. Validity relates to the degree to which the measurement that was proposed actually measures what it intended to measure in the first place [64]. Validity was assured at the initial stage when the questionnaire was conceived by checking it with experts from higher education (e.g., experts in assuring quality in Romanian HEI). The reliability of the questionnaire is checked through the calculation of Cronbach Alpha for the two samples [65]. The Cronbach Alpha reliability test shows that  $\alpha=0.980$  for the first group (before the pandemic) and  $\alpha=0.977$  for the second group (during the pandemic). Both values of Cronbach's Alpha were higher than the recommended threshold of 0.70 [66], suggesting a good level of statistical reliability for the instrument used with the two groups of students.

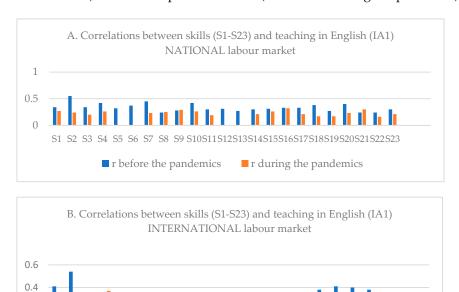
Correlations between Skills and Faculty's Activities

The Pearson correlation generally is used to understand the relation between two variables [63] and in the present research is used to analyze the association between two categories of variables: skills/abilities and HEIs' internationalization activities, illustrating a perceived connection between these. Generally, the correlation coefficient r is used to explain how strong is the relationship between variables (skills and HEI activities) with the following interpretation of the values: weak correlation (0.20–0.39), moderate correlation (0.40–0.59), strong correlation (0.60–0.79) and very strong correlation (0.80–1), at p values lower than 0.05 [67].

The correlation between the skills identified as being offered by the university and the actual internationalization activities conducted were analyzed from the perspective of competences needed for both the national labor market and the international labor market. The analysis was conducted for both periods of time: before the COVID-19 crisis (group 1) and during the COVID-19 crisis (group 2). From the 11 HEIs' internationalization activities were selected for analysis those activities that were perceived as being related to the resulting skills and abilities, in the opinion of students, for which the correlations were statistically significant. These are: IA1 = Intensive English courses/or subjects taught exclusively in English, IA4 = International topic of the courses/or providing international professions for the students, IA7 = Extracurricular activities promoted by the HEI, IA9 = Student mobility, IA10 = Professors and staff mobility, IA11 = Other cross border activities such as collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to provide competences for students. Figures 1A,B–5A,B and Appendices B and C present the correlation coefficients between each acquired skill and a number of HEIs activities (interpreted as the strength of

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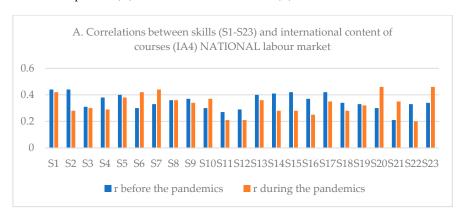
the relationship existing between variables) for both types of labor markets (national and international) and in both periods of time (before and during the pandemic).



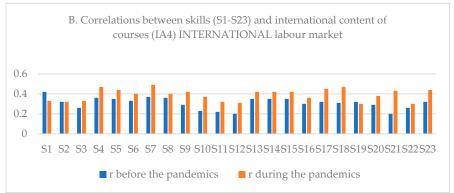
0.2

**Figure 1.** Correlation between IA1 (English courses/or subjects taught exclusively in English). and skills developed for **(A)** national labor market and **(B)** international labor market.

r during the pandemics



r before the pandemics

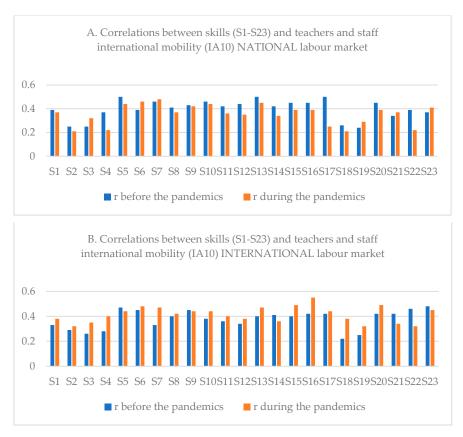


**Figure 2.** Correlation between IA4 (International topic of the courses) and skills developed for **(A)** national labor market and **(B)** international labor market.

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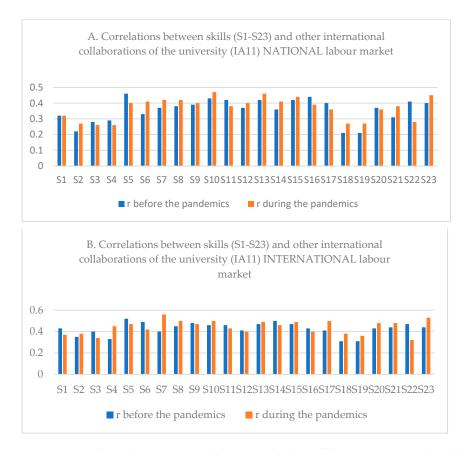


**Figure 3.** Correlation between IA9 (International student mobility) and skills developed for **(A)** national labor market and **(B)** international labor market.



**Figure 4.** Correlation between IA10 (International professors and staff mobility) and skills developed for **(A)** national labor market and **(B)** international labor market.

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**Figure 5.** Correlation between IA11 (Other cross border collaboration activities) and skills developed for **(A)** national labor market and **(B)** international labor market.

The results are presented first from the perspective of the national market labor alone and the international market labor alone and how the relationships between skills developed for these types of markets and the HEI internationalization activities differ in the two periods of time analyzed.

Then, results are presented from the perspective of different university internationalization activities and how the relationships between perceived skills and the university activities compare in the two types of markets (national and international) and in the two periods of analysis.

Based on the interpretation of the statistical data in Appendix B (for the NATIONAL labor market) and Figures 1A–5A, a number of specific aspects can be highlighted.

First of all, it can be seen that, in the vast majority of cases, there are statistically significant correlations between the pairs of variables analyzed, for both periods of time. Most skills and abilities of students are seen as being related to the university's internationalization activities, in both periods (before and during the pandemic). Secondly, for many relationships analyzed, the level of intensity of the correlation between the skills developed and the internationalization activities conducted by the university (as perceived by students) is pretty similar, suggesting that there are few differences in the strength of the relationships, in the two periods of time. However, there are at least a quarter of the relationships for which the correlation is slightly higher for the second group of students (during the pandemic) as compared to the first group of students (before the pandemic), but still with moderate values of the intensity of the correlation. This illustrates that during the pandemic students' perceptions are to a certain extent different from the perceptions of students before the pandemic. The differences that can be highlighted between the two groups of students (before and during the pandemic) are of two types:

(a) The first type of difference refers to slightly higher correlation levels in the pandemic period for certain relationships, such as S5 (Efficient work in multidisciplinary teams)

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and S6 (Efficient work in multicultural teams) with IA7 (Extracurricular activities promoted by the HEI), or S7 (Truthfulness) and S8 (Flexibility) with IA11 (Other cross border activities such as collaboration with international students, professors, or researchers to develop transnational programs or transnational internships in order to provide competences for students) and global competences compared to group 1 (before the pandemic). This illustrates that, during the pandemic, students' opinions indicate a stronger relationship between the internationalization activities of the university and the global competences developed by universities.

The second type of difference refers to the fact that there are relationships for which before the pandemic a statistically significant correlation was found, whereas during the pandemic the correlation was not statistically significant anymore, and vice-versa. For example, the correlation between IA1 (Intensive English courses/or subjects taught exclusively in English) and global competencies S6 (Efficient work in multicultural team, r = 0.37 \*\*), S12 (Providing the relevant information in a CV/job interview, r = 0.31 \*\*) and S13 (Efficiency in scheduling the activity, r = 0.27 \*\*), are registered only for group 1, but not for group 2 of students. This type of situation could suggest that, before the pandemic, when the courses took place in a "face to face" manner, global competences such as S5 (Efficient work in multidisciplinary teams), S6 (Efficient work in multicultural teams), S12 (Providing the relevant information in a CV/job interview) and S13 (Efficiency in scheduling the activity) were perceived to be better transmitted to students through the IA1 activities of the university (Intensive English courses/or subjects taught exclusively in English) than in the online courses (during the pandemic). Complementary is activity IA9 (Student mobility) which correlates with the skills that form global competencies S10 (Accessing online/offline information about employment opportunities), S11 (Accessing the online platforms to find a job), S12 (Providing the relevant information in a CV/job interview) and S21 (ICT skills)), this time only for group 2 (which benefited from online courses during the pandemic), unlike group 1, for whom at the perceptual level no such correlations were made. This indicates that student mobility was valued more highly during the pandemic, as compared to the period previous to the pandemic. IA4 (International topic of the course) also correlates more highly with skills such as Applying in practice theoretical concepts (S20), ICT skills (S21) and Understanding the business reality (S23), during the pandemic period as compared to the pre-pandemic period. These results could be interpreted as the more mature perception of group 2 (from the pandemic years) regarding the internationalization activities of universities and the formation of global competences for students, especially of those competences that involve using online platforms and gaining the practical skills and abilities necessary for the national labor market.

Regarding the correlations of university activities with global competences obtained for the international labor market as presented in Appendix C and Figures 1B-5B, it can be observed that there are important differences between relationships identified based on the two groups' perceptions (before and during the COVID-19 crisis). One first major difference is that teaching in English (IA1) is correlated to a lower extent with most skills developed by the university for the international labor market, as perceived by group 2 who were interviewed during the pandemic. For this group, the value of English teaching for developing skills and abilities for the international labor market seems to be lower than for students interviewed before the pandemic. Another major difference relates to all other university internationalization activities considered (IA4, IA7, IA9, IA10 and IA11) for which the correlations with the skills developed for the international labor market, were higher in the case of students interviewed during the pandemic period. In other words, all university activities are seen to contribute to a larger extent to the development of skills and abilities for the international labor market, in the case of students interviewed during the pandemic as compared to students interviewed before the pandemic. These university activities were valued higher by students studying during the pandemic.

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For example, for the international labor market analysis, in the case of group 2 there are several moderate correlations between activities and skills and abilities that lead to formation of global competences, as compared to group 1 (pre-pandemic years) for which the correlations were weak. The moderate correlations identified for the group interviewed during the pandemic period are between:

- (a) IA4 (International topic of the courses/or leading to international professions for the students) and global competences from the category of *International competences* (S4 'Knowledge of international political, economic and business context' r = 0.47 \*\*, S5 'Efficient work in multidisciplinary teams' r = 0.44 \*\* and S6 'Efficient work in multicultural teams' r = 0.40 \*\*), *Personal competences* (S7 'Truthfulness' r = 0.49 \*\*, S8, 'Flexibility' r = 0.40 \*\*, S9 'Initiative and involvement', r = 0.42 \*\*), *Competences needed at workplace* (S13 'Efficiency in scheduling the activity', S14 ' Efficiency in organizing the activity' and S15 'Solving the problems' r = 0.42 \*\*, 'Critical thinking' r = 0.45 \*\*), *Theoretical competences* (S18 'Knowledge of economic theoretical concepts and formation of an economic way of thinking', r = 0.47 \*\*) and Practical competences (S21 'ICT skills', r = 0.43 \*\* and S23 'Understanding the business reality', r = 0.44 \*\*);
- (b) IA7 (Extracurricular activities promoted by the HEI) and only few global competences like S3 'Very good knowledge of a second foreign language other than English', r = 0.42 \*\*, S10 'Accessing online/offline information about employment opportunities', r = 0.48 \*\*, S12 'Providing the relevant information in a CV/job interview', r = 0.41 \*\*, S16 'Solving the problems', r = 0.45 \*\*, S20 'Applying in practice the theoretical concepts' and S21 'ICT skills', r = 0.40 \*\*;
- (c) IA9 (Student mobility) and global competences from the group of *International competences* (S4 'Knowledge of international political, economic and business context', r = 0.45 \*\*, S5 'Efficient work in multidisciplinary teams' and S6 'Efficient work in multicultural teams', r = 0.46 \*\*), *Personal competences* (S7 'Truthfulness' r = 0.42 \*\*), *Competences needed at workplace* (S13 'Efficiency in scheduling the activity', r = 0.45 \*\*, S15 'Solving the problems' r = 0.42 \*\*, S16 'Orientation towards customers and results' r = 0.41 \*\*), S17 'Critical thinking', r = 0.46 \*\*) and *Practical competences* (S23 'Understanding the business reality', r = 0.42 \*\*;
- (d) IA10 (Professors and staff mobility) and S4 'Knowledge of international political, economic and business context t', r = 0.40 \*\*, S7 'I Truthfulness' r = 0.47 \*\*, S10 'Accessing online/offline information about employment opportunities', r = 0.44 \*\* and S11 'Accessing the online platforms to find a job', r = 0.40 \*\*;

Overall, the above situation could also be interpreted as a different perceived reality between the two groups of students. For the first group (before the pandemic) that benefited from real international mobility, face-to-face interactions with groups belonging to local and international communities in different extracurricular activities and also interactions with students, researchers, and specialists from international companies in different university programs, there is a rather weak correlation between the above types of activities and the formation of specific global competences. For the second group of students (from the pandemic years) that benefited from these internationalization activities only in online formats (e.g., during international conferences and other online classes and meetings), there is a moderate correlation between these activities and the formation of global competences. Thus, for group 2 (from the pandemic years), there is a moderate correlation between the activities IA4 (International topic of the courses/or leading to international professions for the students) and IA11 (Attracting foreign collaboration) and almost all the skills and abilities that lead to the formation of global competences, perceiving that these activities are the most important for obtaining relevant competences for the international labor market.

Another remark that could be highlighted is that the university activities and global competences that involve using ICT skills (online platforms for finding a job) and understanding the business reality seem to be more correlated in the case of the second group of students. This can also be interpreted as an adaptation of students to the new environments that includes using online platforms, having knowledge about the labor market and not

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least understanding (especially in an uncertain environment) the different international contexts in terms of political, economic and business environments.

Comparing the two types of analyses (for the national and international labor market and before and during the pandemic) in order to identify how the opinions of students about specific university internationalization activities related to global competences differ during the COVID-19 period as compared to the prior COVID-19 period, the obvious differences identified are:

- (a) For activity IA1 (Intensive English courses/or subjects taught exclusively in English), it can be noticed that English teaching is seen as contributing more to the development of global competences for the international labor market in both periods of time (before and during the pandemic). For the pre-pandemic period with physical classes, a stronger correlation was identified between the English taught courses and the development of global competences than in the pandemic period (online teaching), for both national and international labor markets. The strongest correlation was with the skill S2—accumulation of the English language. This activity was appreciated more and perceived as contributing to the development of skills in the pre-pandemic period when teaching took place face-to-face.
- (b) For activity IA4 (International topic of the courses), the correlations between this activity and the different skills are stronger in the case of the international labor market, for both periods. During the pandemic, this activity also correlates stronger with all skills developed for the international labor market and with a quarter of the skills developed for the national labor market. One of the skills seen as being correlated with this activity was accumulation of knowledge about the international political, economic and business context (S4). This activity is seen as contributing more to the development of skills for the international market during the pandemic period.
- (c) For activity IA9 (Student international mobility), it was noticed that there were some skills that did not significantly correlate with this activity (accessing information about employment opportunities or about online platforms to find jobs, or preparing for a job interview). However, those skills that correlated registered stronger relationships for the international labor market in both periods (before and during the pandemic). The intensity of the connection between this activity and the skills acquired by students was also slightly stronger during the pandemic as compared to the prior pandemic period. In other words, during the pandemic, international student mobility was seen as contributing more strongly to the development of global skills.
- (d) For activity IA10 (Professors and staff international mobility statistically significant correlations were found for all skills for both types of labor markets and in both periods of time. The strength of correlation was higher for the skills developed for the international labor market and during the pandemic, as compared to the skills developed for the national labor market and as compared to the pre-pandemic period. In other words, teachers' mobility is seen to a larger extent to a be a contributor to the development of students' global competences during the pandemic.
- (e) For activity IA11 (Other cross border activities such as collaboration with international students, professors, or researchers to develop transnational programs or transnational internships in order to provide competences for students), the intensity of correlations with the national labor market were lower for both periods (before and during the pandemic) as compared to the international labor markets. This is one of the activities for which the levels of correlation remain similar before and during the pandemic for all skills.

#### It can be concluded that:

(a) For the data collected from the second group of students (pandemic years), more statistically significant correlations were found (low or moderate) between university activities and global competences obtained for both national and international labor markets than for the data collected from the first group of students (before the pandemic);

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(b) The intensity of correlations is moderate and stronger in the case of data collected from the second group of students when analyzing the relationship between students' perception of university internationalization activities and global competences acquired for the international labor market, as compared to the data collected from the first group of students, for which the relationships identified correlated rather weakly.

These differences in results are also complemented by students' recommendations regarding the activities that the university should carry out in order to develop global skills for the national/international labor markets. Both groups of students (before and during the pandemic) appreciate that there is a need for students' mobility, but organized differently:

"More international study programs and intensive courses in foreign languages."

(student from the first group—before pandemic years)

"More Erasmus internship programs during the summer."

(student from the second group—from pandemic years)

Other proposals of the students from the second group are:

"Developing a dual undergraduate programme with universities from other European countries."

(student from the second group—from pandemic years)

Both groups of students recommended more activities that imply experts from companies (national and international) and also extracurricular activities, but the second group of students is also interested in online activities with these specialists:

"Job Shadow projects for students at both national and international level."

(student from the first group—before pandemic years)

"Zoom meetings with managers/CEOs of international companies that don't have headquarters in Romania."

(student from the second group—from pandemic years)

As a particularity, the second group of students (from pandemic years) more than the first group (before the pandemic) identify the need to communicate with other students, experts from companies and public organizations (including via virtual meetings) in order to gain global competences:

"Sharing experience is a good way to develop certain skills."

(student from the second group—from pandemic years)

"Hold online summits with business representatives around the world, figure out a job-finding software, perhaps using the metaverse, where people can connect directly with no other intermediates."

(student from the second group—from pandemic years)

"Have more partnerships/exchanges/joint events with universities and organizations (EIB, EU Commission, IMF, etc.) worldwide."

(student from the second group—from pandemic years)

Thus, in the pandemic years, the students' recommendations for university activities are: to develop many more activities that imply sharing experience and gaining global competences from collaboration with other colleagues and experts including learned online experiences.

Another particularity is that students from the second group (pandemic years) are more preoccupied by the global competences obtained in university and necessary for the national labor market, rather than for the international labor market. The uncertainty registered globally triggered an increased need for stability in students:

"I think that our university should encourage people to work in our country, because nowadays a lot of students leave Romania. Also, the university should

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promote the benefits that we can have if you work in Romania. It is easier for us if we decide to develop the global skills for the national labor market, because we know our culture, our politics, etc."

(student from the second group—from pandemic years)

There are also similarities regarding the perception of the two groups of students, both of them having an increased need for digital competences for both the national and international labor market, but the second group of students that had already faced the transition from face to face courses to exclusively online activities emphasized that there is a need to focus on developing higher ICT skills, not just basic ICT skills:

"Optional courses of MS Office for different levels."

(student from the first group—before pandemic years)

"In the context of the transition to a digital world of work, the courses presented should be adapted to a more digital approach and there should be more courses that focus on developing higher ICT . . . skills for all students."

(student from the second group—from pandemic years)

That analysis shows that the online environment changed students' perceptions regarding the global competences obtained during university study and the contribution of HEIs' internationalization activities to their development, both at national and international level.

#### 5. Discussion

The changes induced by the COVID-19 crisis to the ways HEIs run their activities might be reflected also in changes in the results of the HE processes, including the formation of skills, abilities and competences for students and graduates. The study was conducted in the context in which considering the main stakeholders of HE (such as students and graduates) characterizes the activity of sustainable universities [5].

The objective of this research was to identify the differences in perceptions between two groups of students (one interviewed before the pandemic and one interviewed during the COVID-19 pandemic), in terms of the way in which the internationalization activities of the university are seen to relate to the formation of global competences for both national and international labor markets.

The results show that there are differences in the perceptions of the two groups of students interviewed and, based on their opinions, there are differences in terms of how university internationalization activities correlate with global competences developed by students during their university studies, in the two periods of time (before and during the pandemic). For the data collected from students interviewed during the pandemic, the skills and the university activities correlate at moderate levels, but at higher levels than for the data collected from students interviewed before the pandemic, for which skills and university activities are correlated rather weakly.

For the national labor market, only certain skills and abilities (such as use of ICT and understanding the business reality) were perceived by students to have been provided differently through university activities before and during the COVID-19 pandemic.

Regarding the international labor market, the differences in the perceptions of the two groups of students (before and during the pandemic) were larger, with students during the pandemic perceiving a stronger relationship between university activities and the global competences developed during university studies. A possible explanation could be that, during the pandemic, students perceived with more enthusiasm the internationalization activities developed by the university, in a general context of lockdowns and decreased territorial mobility. During the pandemic, students also perceived to a higher extent that they must be anchored in the present socio-economic environment which is unpredictable and unsafe. These conclusions are similar to those of Gonzales et al. who highlighted that during the pandemic students "might be motivated by their intrinsic responsibility in a very confused situation and work hard to contribute as much as they can to solve the

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problems that higher education is facing" [56] (p. 21). In the present study, the perceived contribution of university activities for the development of ICT skills was higher during the pandemic, similar to Sobait et al. [53], who find positive significant impacts of using online platforms in learning.

Our findings illustrate that students became more aware during the pandemic (than before) about the contribution of university activities to the development of certain skills that contribute to the development of global competences. Some of them (ICT) were actually involved more than before the pandemic in the teaching activity, requiring students to adapt. In this way an increased adaptability was needed from students (and teachers) during the pandemic, an aspect that was acknowledged by students, similarly in a study conducted by Tasci [10], who showed that the pandemic accelerated the adaptation of students to technology and cultural change.

This study also revealed that students from the second group (pandemic years) have a positive perception regarding the development of internationalization activities in online formats and the formation of global competences in this way, indicating the adaptation of the university to the new conditions. This supports the findings of other studies [9,54] that specified the need for reshaping internationalization activities by including online activities in order to gain international and intercultural learning experiences for all students.

The fact that students in this study emphasized the contribution of ICT and of understanding business and social realities complements a study of WEF [11] that illustrated that collaboration and communication using technology has brought students closer to the realities of their future jobs. This is also similar to the results of a IAU study that revealed that "the pandemic has clearly stimulated an increase in importance of virtual exchanges and collaborative online learning and internationalization of the curriculum/at home" [8] (p. 86).

This study also illustrates that students studying during the pandemic years realized that they need high ICT skills to deal with present necessities, both in their learning and in their future job. This shows that the students are aware of the socio-economic changes recorded globally and add to the results of other studies which showed that the COVID-19 outbreak has had a large impact on students' increase in awareness of their unstable environment [9] and of the full development of several key digital technologies that imply high ICT skills [41]. Students' perceptions of increased ICT skills is in line with the new need for digital literacy that is required in times of social distancing and distance learning during the pandemic [68], but also will be further needed in the future in the context of diversification of teaching-learning experiences [12], etc. Other studies have also revealed that there is a crucial importance in introducing new technologies for the development of international business through digital transformation [40] and that digital competence is very important for all the citizens in order to develop in society [69], even more so in unpredictable environment in which employees will continue to work and communicate with their colleagues using digital technologies [37].

# 6. Conclusions

The present study contributes to the literature by extending two concepts and theories. Firstly, the study extends the literature related to the development of skills and competences during higher education studies. Here, differences were identified in the perceptions of students about university activities that contribute more to the development of skills and abilities needed for the international labor market (such as very good knowledge of English, efficient work in multidisciplinary and multicultural teams, efficiency in scheduling and organizing activities), as compared those perceived as being needed for the national labor market. Based on this research, it is noticed that students still note a difference between national and international labor markets, which are seen to require different types of abilities, or the same type of abilities but at different levels of intensity, with stronger intensity for international labor markets (truthfulness, flexibility, orientation towards customers, critical

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thinking, understanding business reality) and consequently different levels of involvement of the university through its activities.

Secondly, the study extends the literature dealing with COVID-19 impact at organizational level, bringing the example of universities as educational organizations, illustrating how one main stakeholder category (students) perceive differently the internationalization activities conducted by universities and their contribution to the development of their competences. The general conclusion of the study is that, during the pandemic, students became more aware of many aspects related to both organizational and environmental challenges and, in this context, they appreciate more the university's efforts and internationalization activities meant to develop their global competences. In the new labor market conditions, students see more clearly the contribution of universities to their competences' development. Two lines of argument can be followed to explain this: (a) in the context in which students were restrained from leisure activities (due to the pandemic), they focused more on studying and came to appreciate more the university's activities and (b) some of the students, in the context of online learning, manifested the need to interact with people and took jobs. Being employed, they became aware and more knowledgeable about the competences needed in the labor market and, accordingly, they have seen more clearly how universities contribute to the development of these competences.

The practical implications of the present study relate to how the results of the paper can assist higher education institutions in further developing their activities so that to better fit into the new environmental context and to better respond to the expectations of students in contributing to the development of their skills, abilities and competences.

In more concrete terms, the present study contributes to the practice of universities with the following ideas and suggestions:

- (a) a higher appreciation of students of the inclusion of international topics in the course content taught during the pandemic years might be related to their need for acquiring new knowledge and being up-to-date with a very volatile international environment. It can be concluded that, during environmentally turbulent times, students want to be updated about international changes within the content of curricula. Universities can respond to this requirement by: (i) constantly updating the content of existing courses with the new changes in the economic, social, political, technological and health environments; (ii) introducing either compulsory or optional (depending of the field of study) courses to present and discuss current geo-political, economic, social and health events taking place in the current period or (iii) organizing events (such as open lectures, symposiums) with specialists (theorists and practitioners) from different fields of activities. All these can contribute to satisfying the need of students to discuss in an organized and well-documented setting very recent international events in all fields of activities.
- a higher appreciation of international mobility from both students and teachers, as contributors to the development of global competences, during the pandemic years as compared to the previous period, indicate that during the pandemic and the periods of lockdown, isolation and online teaching, students appreciated to a higher extent the value of international mobility. During the pandemic period, characterized by online teaching, students appreciated that the teachers' mobility can contribute more to the development of their skills. It can be concluded that international mobility and international cooperation for both students and teachers needs to continue, regardless of the form of organization of the studies. Universities can respond to this requirement by: (i) continuing exchanges as far as possible during the pandemic and increasing the physical international mobility of students and teachers after the pandemic ends; (ii) in the aftermath of the pandemic, international cooperation and virtual mobility can also continue at higher levels than previously during the pandemic period, as virtual meetings and collaborations at international level between students and between teachers proved to have value during the pandemic and a mixed approach (physical and online) can bring more value in the future.

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#### 7. Limitations and Future Research

As with any research, this is not free of limitations. One limitation of the present study relates to the fact that the samples included students in only one field of study, the economic field, therefore limiting the generalization of findings to other domains of study. Another limitation relates to the geographical space involved: the data was collected in only one country and, even though measures in higher education during the pandemic were similar in many regions of the world, country specific aspects could have influenced the results.

Further research can address these limitations by extending the study to other fields of study and to other countries. It would be of interest also to re-do the study once the pandemic is over and see if any other changes in the students' perceptions occur in a post pandemic era that could again show the need for changes to higher education activities by either returning to the total physical running of activities or to hybrid formats (physical and online).

The study looked at the association between global competences development and internationalization university activities and how perception of students about this relationship changed over time, with the focus on university activities. However, the differences in opinions might be also related to changes in the status and experiences of students and a direction of future research can be to identify what factors related to the change in the personal characteristics and experiences of students contribute to changes in their perceptions.

Supplementary Materials: The following are available online at <a href="https://www.mdpi.com/article/10">https://www.mdpi.com/article/10</a>.3390/su142114581/s1. Table S1. Testing normality and homogeneity by group of variables (skills) based on coefficient of variation of the two analyzed groups (CV), Table S2. Testing normality and homogeneity by group of variables (internationalization activities that contribute to the development of the skills for NATIONAL/INTERNATIONAL labor market) based on coefficient of variation of the two analyzed groups (CV).

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**Institutional Review Board Statement:** Prior to completing the questionnaire, potential respondents were informed about the purpose of the survey and the fact that their responses were used exclusively for scientific purposes. Respondents participated to the survey on a voluntary basis. Participants were assured confidentiality of the answers provided, as data collected through the questionnaire was used in a summarized statistical form and quotes were not associated with specific respondents. Therefore, our faculty grants approval for the studies.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

# Appendix A

Questionnaire for students

Dear participants in this study, we thank you for accepting to complete this questionnaire which will take a maximum of 5–10 min. The results of this questionnaire will be integrated into a larger research that aims to identify the global skills needed for graduates to be competitive both on the local labor market and on the international labor market. Also, the results will draw the directions of development of the activities carried out in the university to ensure the global competences for the students. Sustainability **2022**, 14, 14581

(1) Which are the skills and abilities required to develop global competences? (1 = to a very small extent and 5 = to a very large extent)

		to a very sma	all extent to	o a very lar	ge extent
	_				
International competences:					
Efficient communication in work teams (S1)	1	2	3	4	5
Very good knowledge of English language (S2)	1	2	3	4	5
Very good knowledge of a second foreign language other than English (S3)	1	2	3	4	5
Knowledge of international political, economic and business context (S4)	1	2	3	4	5
Efficient work in multidisciplinary teams (S5)	1	2	3	4	5
Efficient work in multicultural teams (S6)	1	2	3	4	5
Personal competences:					
Truthfulness (S7)	1	2	3	4	5
Flexibility (S8)	1	2	3	4	5
Initiative and involvement (S9)	1	2	3	4	5
Competences needed to develop the future career:					
Accessing online/offline information about employment opportunities (S10)	1	2	3	4	5
Accessing the online platforms to find a job (S11)	1	2	3	4	5
Providing the relevant information in a CV/job interview (S12)	1	2	3	4	5
Competences needed at workplace:					
Efficiency in scheduling the activity (S13)	1	2	3	4	5
Efficiency in organizing the activity (S14)	1	2	3	4	5
Solving the problems (S15)	1	2	3	4	5
Orientation towards customers and results (S16)	1	2	3	4	5
Critical thinking (S17)	1	2	3	4	5
Theoretical competences:					
Knowledge of general economic theoretical concepts and formation of an economic way of thinking	1	2	3	4	5
Knowledge of professional terminology, theories and concepts related to profession	1	2	3	4	5
Practical competences:					
Applying in practice the theoretical concepts (S20)	1	2	3	4	5
ICT skills (S21)	1	2	3	4	5
Applying the mathematics theories to manage operational problems (S22)	1	2	3	4	5
Understanding the business reality (S23)	1	2	3	4	5
Note: The main categories of competences are included in bold.					

<sup>(2)</sup> To what extent does your university develop the skills needed to activate in the NATIONAL labor market? (scale from 1–5 where 1 to a very small extent and 5 to a very large extent)

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to a very small extent to a very large extent

International competences:						
Efficient communication in work teams (S1)	1	2	3	4	5	
Very good knowledge of English language (S2)	1	2	3	4	5	
Very good knowledge of a second foreign language other than English (S3)	1	2	3	4	5	
Knowledge of international political, economic and business context (S4)	1	2	3	4	5	
Efficient work in multidisciplinary teams (S5)	1	2	3	4	5	
Efficient work in multicultural teams (S6)	1	2	3	4	5	
Personal competences:						
Truthfulness (S7)	1	2	3	4	5	
Flexibility (S8)	1	2	3	4	5	
Initiative and involvement (S9)	1	2	3	4	5	
Competences needed to develop the future career:						
Accessing online/offline information about employment opportunities (S10)	1	2	3	4	5	
Accessing the online platforms to find a job (S11)	1	2	3	4	5	
Providing the relevant information in a CV/job interview (S12)	1	2	3	4	5	
Competences needed at workplace:						
Efficiency in scheduling the activity (S13)	1	2	3	4	5	
Efficiency in organizing the activity (S14)	1	2	3	4	5	
Solving the problems (S15)	1	2	3	4	5	
Orientation towards customers and results (S16)	1	2	3	4	5	
Critical thinking (S17)	1	2	3	4	5	
Theoretical competences:						
Knowledge of general economic theoretical concepts and formation of an economic way of thinking	1	2	3	4	5	
Knowledge of professional terminology, theories and concepts related to profession	1	2	3	4	5	
Practical competences:						
Applying in practice the theoretical concepts (S20)	1	2	3	4	5	
ICT skills (S21)	1	2	3	4	5	
Applying the mathematics theories to manage operational problems (S22)	1	2	3	4	5	
Understanding the business reality (S23)	1	2	3	4	5	

<sup>(3)</sup> To what extent does your university develop the skills needed to activate in the international labor market? (scale from 1–5 where 1 to a very small extent and 5 to a very large extent)

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to a very small extent to a very large extent

International competences:					
Efficient communication in work teams (S1)	1	2	3	4	5
Very good knowledge of English language (S2)	1	2	3	4	5
Very good knowledge of a second foreign language other than English (S3)	1	2	3	4	5
Knowledge of international political, economic and business context (S4)	1	2	3	4	5
Efficient work in multidisciplinary teams (S5)	1	2	3	4	5
Efficient work in multicultural teams (S6)	1	2	3	4	5
Personal competences:					
Truthfulness (S7)	1	2	3	4	5
Flexibility (S8)	1	2	3	4	5
Initiative and involvement (S9)	1	2	3	4	5
Competences needed to develop the future career:					
Accessing online/offline information about employment opportunities (S10)	1	2	3	4	5
Accessing the online platforms to find a job (S11)	1	2	3	4	5
Providing the relevant information in a CV/job interview (S12)	1	2	3	4	5
Competences needed at workplace:					
Efficiency in scheduling the activity (S13)	1	2	3	4	5
Efficiency in organizing the activity (S14)	1	2	3	4	5
Solving the problems (S15)	1	2	3	4	5
Orientation towards customers and results (S16)	1	2	3	4	5
Critical thinking (S17)	1	2	3	4	5
Theoretical competences:					
Knowledge of general economic theoretical concepts and formation of an economic way of thinking	1	2	3	4	5
Knowledge of professional terminology, theories and concepts related to profession	1	2	3	4	5
Practical competences:					
Applying in practice the theoretical concepts (S20)	1	2	3	4	5
ICT skills (S21)	1	2	3	4	5
Applying the mathematics theories to manage operational problems (S22)	1	2	3	4	5
Understanding the business reality (S23)	1	2	3	4	5
Note: The main categories of competences are included in bold.					

<sup>(4)</sup> Which are, in your opinion, the skills required by employers in the recruitment process?

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to a very small extent to a very large extent

	_				
International computer and					
International competences:					
Efficient communication in work teams (S1)	1	2	3	4	5
Very good knowledge of English language (S2)	1	2	3	4	5
Very good knowledge of a second foreign language other than English (S3)	1	2	3	4	5
Knowledge of international political, economic and business context (S4)	1	2	3	4	5
Efficient work in multidisciplinary teams (S5)	1	2	3	4	5
Efficient work in multicultural teams (S6)	1	2	3	4	5
Personal competences:					
Truthfulness (S7)	1	2	3	4	5
Flexibility (S8)	1	2	3	4	5
Initiative and involvement (S9)	1	2	3	4	5
Competences needed to develop the future career:					
Accessing online/offline information about employment opportunities (S10)	1	2	3	4	5
Accessing the online platforms to find a job (S11)	1	2	3	4	5
Providing the relevant information in a CV/job interview (S12)	1	2	3	4	5
Competences needed at workplace:					
Efficiency in scheduling the activity (S13)	1	2	3	4	5
Efficiency in organizing the activity (S14)	1	2	3	4	5
Solving the problems (S15)	1	2	3	4	5
Orientation towards customers and results (S16)	1	2	3	4	5
Critical thinking (S17)	1	2	3	4	5
Theoretical competences:					
Knowledge of general economic theoretical concepts and formation of an economic way of thinking	1	2	3	4	5
Knowledge of professional terminology, theories and concepts related to profession	1	2	3	4	5
Practical competences:					
Applying in practice the theoretical concepts (S20)	1	2	3	4	5
ICT skills (S21)	1	2	3	4	5
Applying the mathematics theories to manage operational problems (S22)	1	2	3	4	5
Understanding the business reality (S23)	1	2	3	4	5
Note: The main categories of competences are included in bold.					

<sup>(5)</sup> To what extent do the activities of your university contribute to the development of the skills for the national labor market?

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to a very small extent to a very large extent

Activities focused on internationalization of the curriculum:					
Intensive English courses/or subjects taught exclusively in English (IA1)	1	2	3	4	5
Intensive courses in other foreign languages (as a second foreign language) /or subjects taught exclusively in other languages (IA2)	1	2	3	4	5
Joint/dual diplomas from different countries according to universities collaborations (IA3)	1	2	3	4	5
International topic of the courses/or providing international professions for the students (IA4)	1	2	3	4	5
Compulsory subjects that are studied in institutions outside the country according to universities collaborations (IA5)	1	2	3	4	5
The diploma offers internationally recognized professional qualifications (IA6)	1	2	3	4	5
Internationalization through extracurricular activities or projects/collaborations of HEI with different stakeholders belonging to local and international groups (Extracurricular activities promoted by the HEI) (IA7)	1	2	3	4	5
Activities related to internationalization abroad:					
Study programs mobility/double or joint specialization (IA8)	1	2	3	4	5
Student mobility (IA9)	1	2	3	4	5
Professors and staff mobility (IA10)	1	2	3	4	5
Other cross border activities like collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to provide competences for students (IA11)	1	2	3	4	5
Note: The main categories of internationalization activities are included in	bold.				

(6) To what extent do the activities of your university contribute to the development of the skills for the international labor market?

to a very small extent to a very large extent Activities focused on internationalization of the curriculum: Intensive English courses/or subjects taught exclusively in English (IA1) Intensive courses in other foreign languages (as a second foreign language) /or subjects taught exclusively in other languages (IA2) Joint/dual diplomas from different countries according to universities collaborations (IA3) International topic of the courses/or providing international professions for the students (IA4) Compulsory subjects that are studied in institutions outside the country according to universities collaborations (IA5) The diploma offers internationally recognized professional qualifications (IA6)

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	_				
Internationalization through extracurricular activities or projects/collaborations of HEI with different stakeholders belonging to local and international groups (Extracurricular activities promoted by the HEI) (IA7)	1	2	3	4	5
Activities related to internationalization abroad:					

to a very small extent to a very large extent

(Extracurricular activities promoted by the HEI) (IA7)								
Activities related to internationalization abroad:								
Study programs mobility/double or joint specialization (IA8)	1	2	3	4	5			
Student mobility (IA9)	1	2	3	4	5			
Professors and staff mobility (IA10)	1	2	3	4	5			
Other cross border activities like collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to provide competences for students (IA11)	1	2	3	4	5			

Note: The main categories of internationalization activities are included in bold.

- Please provide recommendations regarding the activities that your university should carry out in order to develop the global skills for the national labor market.
- (8)Please provide recommendations regarding the activities that your university should carry out in order to develop the global skills for the international labor market.
- Language of the study program. Romanian. English.
- (10) Age in years. under 25 years. 25–30 years. over 30 years.
- (11) Gender. Male. Female.

# Appendix B

Correlations of university internationalization activities with global competences provided for national labor market, before and during the health crisis.

ls	Pearson Corre	elation Skills	Provided by	University fo	or the Nation	al Labor Maı IA9, IA10,		withUnivers	ity Internatio	onalization A	ctivities (IA	t, IA4, IA7,
Skills	IA1		IA4		I	<b>A</b> 7	IA9		IA10		IA	111
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
S1	0.34 **	0.27 **	0.44 **	0.42 **	0.33 **	0.37 **	0.38 **	0.35 **	0.39 **	0.37 **	0.32 **	0.32 **
S2	0.55 **	0.24 **	0.44 **	0.28 **	0.28 **	0.27 **	0.33 **	0.24 **	0.25 **	0.21 **	0.22 **	0.27 **
S3	0.34 **	0.20 **	0.31 **	0.30 **	0.21 **	0.28 **	0.22 **	0.31 **	0.25 **	0.32 **	0.28 **	0.26 **
S4	0.42 **	0.26 **	0.38 **	0.29 **	0.21 **	0.24 **	0.27 **	0.25 **	0.37 **	0.22 **	0.29 **	0.26 **
S5	0.32 **		0.40 **	0.38 **	0.39 **	0.45 **	0.18 *	0.40 **	0.50 **	0.44 **	0.46 **	0.40 **
S6	0.37 **		0.30 **	0.42 **	0.32 **	0.43 **		0.40 **	0.39 **	0.46 **	0.33 **	0.41 **
S7	0.45 **	0.23 **	0.33 **	0.44 **	0.42 **	0.33 **	0.29 **	0.38 **	0.46 **	0.48 **	0.37 **	0.42 **
S8	0.24 **	0.25 **	0.36 **	0.36 **	0.35 **	0.33 **	0.23 **	0.28 **	0.41 **	0.37 **	0.38 **	0.42 **
S9	0.28 **	0.29 **	0.37 **	0.34 **	0.38 **	0.35 **	0.19 *	0.34 **	0.43 **	0.42 **	0.39 **	0.40 **
S10	0.42 **	0.26 **	0.30 **	0.37 **	0.37 **	0.43 **		0.41 **	0.46 **	0.44 **	0.43 **	0.47 **
S11	0.30 **	0.19 *	0.27 **	0.21 **	0.37 **	0.41 **		0.29 **	0.42 **	0.36 **	0.42 **	0.38 **
S12	0.31 **		0.29 **	0.21 **	0.34 **	0.41 **		0.29 **	0.44 **	0.35 **	0.37 **	0.40 **
S13	0.27 **		0.40 **	0.36 **	0.39 **	0.41 **	0.25 **	0.38 **	0.50 **	0.45 **	0.42 **	0.46 **
S14	0.30 **	0.21 **	0.41 **	0.28 **	0.45 **	0.34 **	0.27 **	0.29 **	0.42 **	0.34 **	0.36 **	0.41 **
S15	0.31 **	0.26 **	0.42 **	0.28 **	0.45 **	0.37 **	0.26 **	0.37 **	0.45 **	0.39 **	0.42 **	0.44 **
S16	0.33 **	0.32 **	0.37 **	0.25 **	0.34 **	0.37 **	0.25 **	0.35 **	0.45 **	0.39 **	0.44 **	0.39 **
S17	0.33 **	0.21 **	0.42 **	0.35 **	0.31 **	0.30 **	0.26 **	0.34 **	0.50 **	0.25 **	0.40 **	0.36 **
S18	0.38 **	0.17 *	0.34 **	0.28 **	0.21 **	0.21 **	0.32 **	0.27 **	0.26 **	0.21 **	0.21 **	0.27 **
S19	0.27 **	0.17 *	0.33 **	0.32 **	0.17 *	0.24 **	0.28 **	0.33 **	0.24 **	0.29 **	0.21 **	0.27 **

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Pearson Correlation Skills Provided by University for the National Labor Market (S1-S23) withUniversity Internationalization Activities (IA1, IA4, IA7,
IA9 IA10 IA11)

-2	,											
Skil	IA1		IA4		IA7		IA9		IA10		IA11	
_	Group 1	Group 2										
S20	0.40 **	0.23 **	0.30 **	0.46 **	0.36 **	0.40 **	0.26 **	0.34 **	0.45 **	0.39 **	0.37 **	0.36 **
S21	0.24 **	0.30 **	0.21 **	0.35 **	0.30 **	0.31 **		0.28 **	0.34 **	0.37 **	0.31 **	0.38 **
S22	0.24 **	0.16 *	0.33 **	0.20 **	0.31 **	0.28 **	0.29 **		0.39 **	0.22 **	0.41 **	0.28 **
S23	0.30 **	0.21 **	0.34 **	0.46 **	0.35 **	0.35 **	0.29 **	0.28 **	0.37 **	0.41 **	0.40 **	0.45 **

Note: \*. Statistical significance at the 0.05 level (2-tailed); \*\*. Statistical significance at the 0.01 level (2-tailed) (Bernard, 2013: 631). Group 1 = students 3rd year from IBE faculty, survey conducted in November 2019–January 2020; Group 2 = students 3rd year from IBE faculty, survey conducted in November 2021–January 2022; IA1 = Intensive English courses/or subjects taught exclusively in English, IA4 = International topic of the courses/or providing international professions for the students, IA7 = Extracurricular activities promoted by the HEI; IA9 = Student mobility, IA10 = Professors and staff mobility, IA11 = Other cross border activities like collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to provide competences for students; S1–S23 are presented in Table 2; Source: Authors, based on SPSS output. The values are rounded at two decimal places.

# Appendix C

Correlations of university internationalization activities with global competences provided for international labor market, before and during the health crisis.

so.	Pearson Correlation Skills Provided by University for the National Labor Market (S1–S23) withUniversity Internationalization Activities (IA1, IA4, IA7, IA9, IA10, IA11)											
Skills	IA1		IA4		IA7		IA9		IA10		IA11	
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
S1	0.41 **	0.27 **	0.42 **	0.33 **	0.46 **	0.36 **	0.42 **	0.34 **	0.33 **	0.38 **	0.43 **	0.37 **
S2	0.54 **	0.35 **	0.32 **	0.32 **	0.40 **	0.31 **	0.32 **	0.34 **	0.29 **	0.32 **	0.35 **	0.38 **
S3	0.23 **	0.22 **	0.26 **	0.33 **	0.36 **	0.42 **		0.34 **	0.26 **	0.35 **	0.40 **	0.34 **
S4	0.34 **	0.37 **	0.36 **	0.47 **	0.34 **	0.36 **	0.28 **	0.45 **	0.28 **	0.40 **	0.33 **	0.45 **
S5	0.27 **	0.26 **	0.35 **	0.44 **	0.43 **	0.45 **	0.24 **	0.46 **	0.47 **	0.44 **	0.52 **	0.47 **
S6	0.29 **	0.15 *	0.33 **	0.40 **	0.44 **	0.47 **	0.23 **	0.46 **	0.45 **	0.48 **	0.49 **	0.42 **
S7	0.36 **	0.26 **	0.37 **	0.49 **	0.45 **	0.47 **	0.26 **	0.42 **	0.33 **	0.47 **	0.40 **	0.56 **
S8	0.35 **	0.25 **	0.36 **	0.40 **	0.48 **	0.43 **	0.35 **	0.35 **	0.40 **	0.42 **	0.45 **	0.50 **
S9	0.32 **	0.20 **	0.29 **	0.42 **	0.46 **	0.42 **	0.33 **	0.37 **	0.45 **	0.44 **	0.48 **	0.47 **
S10	0.23 **	0.16 *	0.23 **	0.37 **	0.36 **	0.48 **	0.16 *	0.38 **	0.38 **	0.44 **	0.46 **	0.50 **
S11	0.21 **		0.22 **	0.32 **	0.42 **	0.43 **	0.18 *	0.35 **	0.36 **	0.40 **	0.46 **	0.43 **
S12	0.20 *		0.20 **	0.31 **	0.32 **	0.41 **		0.36 **	0.34 **	0.38 **	0.41 **	0.40 **
S13	0.28 **	0.22 **	0.35 **	0.42 **	0.47 **	0.45 **	0.29 **	0.45 **	0.40 **	0.47 **	0.47 **	0.49 **
S14	0.25 **	0.23 **	0.35 **	0.42 **	0.47 **	0.32 **	0.30 **	0.36 **	0.41 **	0.36 **	0.50 **	0.46 **
S15	0.31 **	0.22 **	0.35 **	0.42 **	0.42 **	0.41 **	0.36 **	0.42 **	0.40 **	0.49 **	0.47 **	0.49 **
S16	0.31 **	0.24 **	0.30 **	0.36 **	0.35 **	0.45 **	0.30 **	0.41 **	0.42 **	0.55 **	0.43 **	0.40 **
S17	0.38 **	0.27 **	0.32 **	0.45 **	0.45 **	0.45 **	0.34 **	0.46 **	0.42 **	0.44 **	0.41 **	0.50 **
S18	0.41 **	0.30 **	0.31 **	0.47 **	0.35 **	0.31 **	0.33 **	0.36 **	0.22 **	0.38 **	0.31 **	0.38 **
S19	0.40 **	0.20 **	0.32 **	0.30 **	0.32 **	0.30 **	0.35 **	0.33 **	0.25 **	0.32 **	0.31 **	0.36 **
S20	0.38 **	0.17 *	0.29 **	0.38 **	0.37 **	0.40 **	0.24 **	0.37 **	0.42 **	0.49 **	0.43 **	0.48 **
S21	0.32 **	0.24 **	0.20 *	0.43 **	0.38 **	0.40 **	0.18 *	0.33 **	0.42 **	0.34 **	0.44 **	0.48 **
S22	0.28 **	0.16 *	0.26 **	0.30 **	0.39 **	0.36 **	0.37 **	0.30 **	0.46 **	0.32 **	0.47 **	0.32 **
S23	0.28 **	0.21 **	0.32 **	0.44 **	0.45 **	0.43 **	0.36 **	0.42 **	0.48 **	0.45 **	0.44 **	0.53 **

Note: \*. Statistical significance at the 0.05 level (2-tailed); \*\*. Statistical significance at the 0.01 level (2-tailed) (Bernard, 2013: 631). Group 1 = students 3rd year from IBE faculty, survey conducted in November 2019–January 2020; Group 2 = students 3rd year from IBE faculty, survey conducted in November 2021–January 2022; IA1 = Intensive English courses/or subjects taught exclusively in English, IA4 = International topic of the courses/or providing international professions for the students, IA7 = Extracurricular activities promoted by the HEI; IA9 = Student mobility, IA10 = Professors and staff mobility, IA11 = Other cross border activities like collaboration with international students, professors, researchers to develop transnational programs or transnational internships in order to provide competences for students; S1–S23 are presented in Table 2; Source: Authors' based on SPSS output. The values are rounded at two decimal places.

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