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Expectations Versus Reality: What Matters to Students of Economics vs. What They Receive from Universities?

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Abstract: The phenomenon of increasing tuition fees is one of the factors which reinforce the increasingly consumerist attitudes among students towards the product (understood as a whole process of university education) they receive from universities. The aim of the study is to characterise the difference between the expectations of students and the extent to which those expectations are met by universities. This analysis also focuses on the conditions that determine this perception of what universities offer and discusses selected issues concerning the relations between universities and industry. The findings demonstrate why creativity, apart from practical knowledge, is one of the most important aspects in the process of education, where a student's graduation work is aimed at solving specific problems in companies and institutions. In the empirical part of the paper, students' opinions about the importance of selected aspects of the education process are compared with the level of support provided by universities. The research covered 505 students of economics from 10 different countries. Their expectations of the educational process with regard to the majority of its aspects (apart from theoretical knowledge) proved to be higher than those of their universities. The findings of this research may thus be useful in formulating optimal study plans.

Keywords: creativity; student expectations; education assessment

1. Introduction

As a natural consequence of technological progress, many kinds of jobs may disappear in the coming decades. This process has an increasing impact on the discussion about the role of university in educating future employees. Since permanent change is the most important constant, universities should develop their students' skills and abilities to creatively adjust to these changing conditions. Maximising the social value of the labour force requires not only a capacity for change, but also to apply the acquired skills, knowledge and competences in a creative manner. The main aim of this research was to compare the expectations of students towards universities with their opinions on the extent to which these expectations were met. The main research question concerns the determination of those key aspects of higher education in which the discrepancy between the expectations of students and the extent to which they are met by universities is the greatest. According to the main research hypothesis, in students' view, there is a significant gap between expectations and actual university performance in relation to creativity. The comparative analysis of students' expectations in individual countries offers an opportunity to use the benchmarking method and, as a result, may encourage university management to improve the performance of the lowest scoring parameters of university operation. With change becoming the most important feature of development, creativity has become a

key skill expected and in many cases required from university graduates. This paper not only reviews the importance of creativity to students and their opinions about its development at university level, but also their interest in applying it in practice in their graduation theses.

1.1. Challenges Faced by Universities and Expectations from Them

The fourth industrial revolution and the associated automation of numerous processes increase the risk that graduates' qualifications will not match the prevailing requirements of the market. For this reason, universities should further develop young people's competences, in particular their flexibility in solving problems and their ability to change roles in teamwork scenarios. The adverse consequences of responding only to short-term economic goals are becoming more pronounced, especially when taking into account both sustainable development and the social consequences of the economic decisions made. Neoliberal attitudes, global competition, the ease of transferring capital and jobs and an excessive focus on market mechanisms have led to a significant reduction in the role of common values. The role of universities is to show the importance of taking into account long-term community interests beyond the interests of individual actors, be they individual economic agents, corporations, regions or countries.

Major challenges facing university education also include the need to personalise learning, which is associated with the need to overcome the shortage of tutors available for one-on-one courses, which cannot be remedied by online learning platforms [1]. The introduction of teaching and learning platforms in addition to several positive aspects also leads to a reduction in interpersonal relations between academic staff and the student population. Moreover such platforms are perceived by some as a mechanism to further limit the level of investment in academic learning [2]. Another challenge for universities is posed by the limited staff–student interaction opportunities. This is partly caused by the pressure to publish, which Barzun [3] describes as impersonality. The idea to have students address the specific problems of companies and institutions in their graduation thesis would thus naturally promote student–researcher interactions and simultaneously partly solve the problems outlined above. Knowledge generated in this way will involve the transfer of academic knowledge from universities to companies and provide useful feedback information about the current needs of companies and other institutions.

The fact that among the 85 Global institutions which have operated without interruption for 500 years or more, 70 of these are universities [4] justifies the special role they hold in societies and the inherent high expectations. These stable institutions, co-funded to a greater or lesser extent from public sources, manage to meet the expectations of the public at large as well as students, though they have been evolving with the passage of time. The increasing awareness of the need to move away from the philosophy of economic growth, mainly in the quantitative sphere, towards sustainable growth means that the goals of universities must be redefined [5]. Complexity, uncertainty and unsustainability characteristics of current times requires an innovative path of socio-ecological transition [6,7].

Research conducted among a group of German business students showed that they expect more value impact than their universities actually deliver, and they would be more satisfied if such values were discussed [8]. The research has also shown that the values expected by students are more closely associated with universalist values (associated with sustainability and CSR) than with power values. The knowledge about the structure of students' values is also important in the context of reducing the dropout out and transfer rates, which pose a significant problem for universities [9].

1.2. Factors Determining the Perception of Universities by Students

The perception of universities is no longer limited just to the community of students and their teachers. In this context, Kerr [4] uses the term "multiversity", which covers several communities (including those of the wider scientific community, vocational aspect of training and the other communities of non academic staff), with its fringes embracing the graduates and other external partners, such as legislators, entrepreneurs, and so forth. The changing role of universities is well illustrated by the term "academic capitalism", which describes the association of scientific search for

truth with economic profit maximisation [10,11]. Consumerisation, especially in the Anglo-Saxon model of university education, characterised by ever higher fees, has also had an impact on perceptions of the role of universities [12,13].

Studies among academics in Northern England (post-1992 business schools) found that the consumerisation of educational opportunities encourages, in turn, customer-like behaviours and transactional attitudes among the students. These are not necessarily conducive to effective learning and put pressure on universities to recruit better-qualified staff [14]. Due to its costs, university education has taking on more and more aspects of a classic financial investment, which is expected to bring in tangible returns in the future, and thus the expectations students have from their universities increase [15]. However, there remain opinions that students also display more altruistic attitudes towards education and appreciate such values as self-oriented development in order to improve themselves [16].

The overall level of student satisfaction in the UK is high. As many as 84% of those surveyed in the National Students Survey in 2019 chose the two most positive responses (definitely or mostly agree) to the question about their overall satisfaction level [17]. The findings of previous research on students' overall satisfaction with their academic experience [18] suggest that their opinions primarily depend on the year of study and the ethnic origin of the individual concerned. The main factors that influence students' satisfaction with their university experience are composed of the specific university's reputation and the perceived faculty competence [19]. The perception of the university's offer (understood as a whole process of education) is more positive if students are involved in the development of course curriculum, both in terms of its components and teaching methodologies [20]. Paradoxically, surveys measuring the level of satisfaction from studies among UK students have shown higher levels of satisfaction among those attending universities where the rates of top-level research were in fact lower, as against those universities with higher rates of top-level research [21]. To a certain degree this may be associated with the phenomenon of disintegration between the activities of teaching and those of research, which, according to Locke [22], has, over the last 40 years, seen the "dislocation" of these core academic activities. It is possible that in universities where researchers do not illustrate the highest aspirations for research, there is more time to devote to contact with students. This thesis is supported by the results of surveys carried out by Kim & Sax [23], which confirmed the positive impact and beneficial effects of faculty accessibility on student–faculty interaction. Academic institutions have many possibilities to influence how they are perceived in the eyes of students. Of especial importance is the challenging adaptation phase among first-year students. As research has illustrated [24], one effective mechanism to strengthen formal as well as informal student-to-peer interactions can be the allocation of a few days prior to commencement of courses to programs of collaboration with mixed participants. Geagea et al. [25] draws attention to the impact of creative arts outreach initiatives undertaken prior to academic studies which allow for development of social and cultural capital in the individual student. Group work, especially in teams made up of students from different years, was assessed as valuable and conducive to development [26]. The extent to which students interact at university is important for their perception of benefits, which especially applies to the international student community [27]. Both the level of satisfaction with group work and the level of interaction among them, defined in terms of satisfaction with personal contacts were taken into account in the research.

1.3. Creativity in the Education Process

Creativity, as a process of finding non-standard solutions to problems, has both a personal and a collective dimension. Research conducted among CEOs [28] revealed that creativity was the most crucial factor for future success in the case of leaders operating in a complex economic environment. At the same time, in the case of both creativity and critical thinking, the second important requirement for managers, deficits are noticeable [29]. Although creativity is difficult to capture precisely, its consensus definition [30,31], covers four dimensions: the person(s) who create(s), the cognitive processes associated with the creation of ideas, the press or environmental influences and

the product which results from such an activity (4Ps: person, process, press and product). Applying this definition to the international sample, students' (personal) expectations were analysed together with the process of preparing their graduation work (master's or bachelor's theses) as part of a formal procedure (press) leading to a diploma, where the work, intended to address a given problem posed by a company or institution, is expected to be delivered. Such case-specific applied master's or bachelor's theses constitute a form of creativity, as defined by the terms new and useful [32]. Universities which encourage and support student–company contacts in the process of thesis preparation are reflective of the main determinant of creativity as proposed by Eysenck [33], that is, a complex interaction between person and environment. In the long practice of measuring creativity, different methods have been developed, such as pretests and post-tests in an experimental situation [34]. Batey [35], in his heuristic creativity measurement framework, uses a three-dimensional matrix, which refers to the possible levels of reference as individual, team, organisation and culture. Such an approach emphasises the importance of collaborative group/team work/activities of students in the context of creativity. Also, classroom context matters for creativity, and what interesting removal of high-stakes examination can provide room for the development of creative potential [36].

Universities not only develop an individual capacity to think creatively, but also provide institutional conditions for undertaking joint creative initiatives. Insufficient development of creativity in universities is a problem which is often mentioned in the literature [37–39]. The role of creativity in the educational process is the subject of research, along with the academic and innovation dimensions of universities [40–42]. Clegg [40] perceives "creativity" as a life force or power and compares it to the Ancient Greek idea of Eros. Kleiman [43] argues that while the impacts of creativity on institutions are often associated with productive and profitable outcomes for individuals engaged in this process, the benefits mostly involve personal transformation and professional fulfilment. The creative process supported by learning behaviours depends on specific social-environmental conditions and requires intrinsic motivation combined with creativity-relevant skills [44]. Milgram and Hong [45], drawing on over 18 years of observations, found that creativity and the creative performance were better predictors of achievements in adult life than school grades or intelligence. Owing to the fact that universities train future staff for all types of organisations, they play a crucial role in stimulating creative behaviour in the future professional lives of their graduates.

In the research, students were asked about their interest in cooperating with a chosen company to solve a specific problem at the stage of preparing their graduation work. This was viewed as a means by which it was possible to verify their actual attitude to creativity. Solving specific problems was a subsequent step in the development process of creativity, following up on knowledge reproduction and higher understanding. It links creative writing, so important in high education [46], with problem-solving techniques and verification of results. Asking about a student's interest in preparing graduation work aimed at solving a particular problem in a company of their choice was reflective of this perception of creativity. Students should also be made to feel comfortable in the event they do not succeed in finding a satisfactory solution to a given problem. The process of working on a set task is more important than the actual solution itself or its achievement. The extent to which academics subscribe to Sullivan's thought that "the right to fail is of the essence of creativity" [47] determines the students' openness to undertaking projects even with a predicted low level of potential for success. Among the factors influencing creativity amongst students can be the time of day during which lectures and class interactions take place. The existence of such causality was confirmed by the results of surveys carried out by Breslin [48], according to which a peak in creative fluency normally occurred around midday. The level of innovation and simultaneously, student satisfaction is also influenced by the design of the innovation project as well as the innovation culture of the teaching team [49]. A further positive, significant and direct influence on team members' creativity levels is the level of the intra-team collaborative dynamic [50].

1.4. Applied Graduation Theses as the Essence of Creativity and Practical Knowledge

Practical knowledge is often seen by students as the development of narrow, specific skills that reflect methods currently used by companies and other institutions. The discussion about balancing knowledge and skills in university education has a long tradition. For example, Newman [51] declared that the university's primary objective is to provide education, not training. As was shown by Robins et al. [52], the phenomenon of burnout was more intense during studying than at work for all dimensions of burnout. Development of practical knowledge with a high relevance to processes in real gainful employment could thus reduce student burnout.

The gap between the expected and delivered levels of practical knowledge by universities should be used as an argument for more practical skill training rather than the focus on current business practices. An employee with an open mind focused on looking for creative changes which improve the processes controlled by him and who is ready to learn is a more valuable employee than a narrowly trained worker.

This aspect of shaping qualifications to the specific demands of future employers is of particular importance in the context of successful entry to the labour market, especially in countries suffering economic downturns. Surveys carried out amongst graduates in Greece and Cyprus have shown these graduates to be critical of the fact that the knowledge gained did not meet the expectations of employers, with one of the main contributory factors being the overly general character of the knowledge imparted and its limited transferability and applicability to the workplace. Research among Russian students showed that they were most satisfied with their activities in the project, and the results achieved, aimed at obtaining new professional knowledge and skills [53].

Graduation theses addressing firms' problems could offer not only an effective method of developing different skills, but also increase the positive impact of university education on society as a whole, in addition to re-enforcing the above-mentioned practical knowledge. The process of preparation of such a thesis promotes interaction with supervisors, which was shown by Del Río et al. [54] to contribute to students' satisfaction. Involvement in applied work allows students to engage in participatory action and research. Allowing them to see for themselves how effective their research has been by applying it to real-life problems and subsequently, receiving feedback. Even if students are not successful in applying the proposed solution, they have had an opportunity for an in-depth and real-world case study, so important in the process of action learning. Contacts with companies during the process of graduation thesis preparation increases the involvement of existing employees in the development of skills expected from future graduates. Such opportunities are in the opinion of students still too rare [55]. Defining the problem to be solved has an important impact on the level of personal commitment to the process. Hijzen et al. [56] point to a strong association between group learning and social support goals. Applied graduation work could be treated as a more interactive version of problem-based learning, which is known to be an effective way of teaching based on four modern insights into learning: constructive, self-directed, collaborative and contextual [57]. It is important to note that while preparing a thesis based on the resolution of specific problems, students are often critical of the process of and path to resolution in the academic context. Studies carried out by Sherwood [58] showed that all types of evaluations of student learning experiences, especially those in the form of story-telling, when they wrote about their personal experiences, are of significant importance for the improvement of teaching and learning (activities/methodologies). Universities must tailor their offer more closely to the challenges posed by Revolution 4.0. Education that meet these requirements, known as Education 4.0 [59], which includes the integration of the work of researchers and industrial experts, lifelong learning and virtual assistants (whose job it is to assist students in making the right decisions).

2. Materials and Methods

In order to investigate the gap between students' expectations from the educational process and their satisfaction level, a questionnaire-based survey [60,61] was conducted among 505 students attending broadly defined courses in economics at universities located in 10 different countries:

Armenia, Austria, France, Germany, Hungary, Mexico, Poland, Portugal, Switzerland and Ukraine. The selection of countries takes into account the variety of backgrounds and includes post-socialist countries (transformation success stories, such as Poland and Hungary, and those that fared much worse, such as Armenia and Ukraine), highly developed European countries (Austria, France, Germany and Switzerland) and two countries at a slightly lower development level, but without the socialist economy experience, such as Portugal and Mexico. Our objective was to select countries with varied cultural background, tradition and legal framework in order to avoid biases caused by such local factors. The universities included in the survey were drawn randomly (with re-sampling once it was not possible to maintain the same survey procedure). The sample breakdown was as follows: Yerevan (32 students), Graz (32), Nice (75), Aachen (39), Budapest (62), Chapingo (59), Krakow (76), Coimbra (51), St. Gallen (37) and Kyiv (42). The study was conducted between March 2017 and October 2018. During class, students were asked to fill in a traditional paper questionnaire or, where feasible, to complete its online version. This process was personally supervised by us during a study visit or carried out by an academics who were asked to do so. The sample consisted of 325 women and 180 men. The age of students was between 17 and 37, with the average being 21.3. The majority of students were studying towards their bachelor's degree (372), whereas 133 attended master's courses.

Students were asked to evaluate seven aspects (establishment of personal contacts, creativity, leadership, internships, group work, practical knowledge and theoretical knowledge) in terms of (a) subjective importance and (b) support from the university on a five-point scale. No additional material was supplied defining the features, hence the respondents relied upon their own understanding of "creativity" and other terms. Additional questions focused on other aspects related to the educational process (factors related to students are labelled (a)–(e), while those related to university are labelled (I) and (II) in Table 1) or control variables (age, gender, grades, year of study). Summary statistics of the data are provided in Table 1.

This research focuses on the discrepancy between students' expectations as to the importance of individual factors under consideration and their perception of support provided by university. In order to analyse this issue, differences between the corresponding measurements of importance and support were computed (cf. Table 1). Positive values of gaps indicate that the perceived support from university is not as high as subjective importance of the area. In contrast, negative gaps indicate that the university provides support that is high relative to the subjective perception of importance in the given area. A summary of the results as to values of gaps in the areas under consideration is presented in Table 2.

The results presented in Table 2 indicate that the perception of gaps in two areas (namely that of group work and theoretical knowledge) is different when compared with the other gaps. The share of positive gap assessments in other areas is approximately twice as high. In contrast, positive gaps prevail in the areas of practical knowledge and creativity. Gaps in personal contacts, leadership as well as internships are for the most part positive, though not as large as in the cases of creativity or practical knowledge.

Table 1. The data—basic descriptive characteristics.

	Subjective Importance					Support from University				
	1	2	3	4	5	1	2	3	4	5
Personal contacts	1.21%	5.45%	16.36%	35.15%	41.82%	5.86%	17.37%	34.14%	32.12%	10.51%
Creativity	2.42%	7.47%	18.59%	35.56%	35.96%	7.88%	26.87%	37.78%	23.43%	4.04%
Leadership	1.41%	4.85%	18.38%	36.36%	38.99%	5.45%	17.78%	35.35%	31.52%	9.49%
Group work	2.22%	7.88%	19.19%	37.98%	32.53%	1.41%	8.28%	20.61%	37.17%	32.53%
Internships	1.62%	6.26%	16.77%	29.09%	46.26%	11.92%	18.38%	29.29%	25.66%	14.75%
Theoretical knowledge	1.62%	9.70%	25.05%	38.18%	25.45%	1.82%	7.27%	21.21%	48.08%	21.62%
Practical knowledge	1.21%	1.62%	7.68%	23.84%	65.66%	7.27%	20.81%	29.49%	31.72%	10.71%
Grades	1.21%	3.84%	24.65%	41.21%	29.09%	Binary variables				
(a)	8.08%	8.89%	25.66%	33.13%	24.24%				Y (1)	N
(b)	6.06%	8.48%	21.62%	42.42%	21.41%	**(II) Contact with firm**			38.38%	61.62%
(c)	3.23%	4.65%	20.61%	39.60%	31.92%				F (1)	M
(d)	2.63%	3.64%	17.98%	37.37%	38.38%		**Gender**		63.84%	36.16%
(e)	4.85%	15.35%	45.25%	30.71%	3.64%				B	M (1)
(I)	7.47%	19.39%	37.37%	29.09%	6.46%		**Type of study**		26.87%	73.13%

(a) degree of interest in writing a diploma thesis aimed at solving a specific problem in a company; (b) degree of interest in cooperating with a group of students of different specializations who together, for one year, would prepare a dissertation to solve a pre-defined problem in a company; (c) degree of interest in a student internship in the company for which the dissertation is prepared. (d) Determination to seek employment in a firm/institution corresponding to degree; (e) degree of relevance of experiences of study to previous expectations; (I) level of university support to students and graduates in the search for employment; (II) contact with a firm related to the profile of the study oriented to solve a specific problem within this firm.

Table 2. Gaps between students' expectations and their satisfaction with the university's performance in the selected areas.

Gap in Points	Personal Contacts Gap%	Creativity Gap %	Leadership Gap %	Group Work Gap %	Internships Gap %	Theoretical Knowledge Gap %	Practical Knowledge Gap %
Positive gap (from 1 to 4 points)	60.91	67.86	56.89	33.40	62.03	28.77	73.71
4	2.38	2.18	2.00	0.40	4.57	0.40	5.58
3	6.35	9.92	7.19	2.58	9.54	2.58	13.15
2	18.06	22.62	18.76	7.55	20.68	4.76	21.51
1	34.13	33.13	28.94	22.86	27.24	21.03	33.47
0	30.16	23.21	34.53	34.99	26.04	38.10	21.71
−1	7.14	7.74	7.39	21.47	9.15	24.60	3.78
−2	1.59	0.99	1.00	7.16	2.39	7.14	0.80
−3	0.20	0.20	0.20	2.19	0.40	0.99	0.00
−4	0.00	0.00	0.00	0.80	0.00	0.40	0.00
Negative gap (from −4 to −1 points)	11.31	8.93	8.58	31.61	11.93	33.13	4.58

Further analysis of the data is a two-step process. Firstly, preliminary investigation of basic data features was performed using standard statistical techniques of univariate analysis. Secondly, the systemic two-step approach was taken, where all the gaps were analysed jointly using the full set of regressors and the data was transformed prior to analysis. The two-step procedure consists of the following stages. Firstly, all the ordinal variables are analysed separately, using individual probit-type models. Two models are used for each feature considered (one for importance measurement and one for actual support measurement), while the explanatory variables are the same for all the models and gaps: they include a university-specific individual effect as well as the variables reported in Table 1 (the control variables and factors labelled (a)–(e) as well as (I) and (II). Probit specification was chosen among other alternatives based on a comparison of the information criteria. The purpose of this step is to estimate so-called threshold parameters. The estimates were needed to transform the values of gaps into more meaningful ones, compared with the simple differences between Likert-type variables as analysed in Table 2. Secondly, estimated thresholds were used to construct new numerical estimates for all the gaps under consideration (transformed gaps hereafter). This is because the difference between, for example, 5 and 4 (on five-point scale) may not necessarily be of the same order of magnitude as the difference between 2 and 1. Consequently, thresholds from two probit models for any given area were estimated (one model for subjective importance data and one for university support data), and then the average of the resulting thresholds estimates was computed. One extra value was extrapolated for the lowest threshold, and transformed gaps were computed as differences between untransformed scores mapped into such values. It was assumed that the resulting variables are approximately continuous in order to apply multivariate Gaussian model with correlated errors.

3. Results

Creativity ranked lowest (average aggregate score 2.88) in terms of university support provided for job seekers, whereas group work and theoretical knowledge scored the highest (3.89 and 3.79, respectively). In the case of averages, the responses of women and men differ significantly with regards to the importance of internships ($p = 0.00$). Women graded their importance at 4.24, whereas men at 3.89.

In the study group, a weak positive (but statistically significant) correlation can be observed between the grades obtained by students and their opinions on university support across all dimensions of their development. The strongest relationship in this respect, as measured by Kendall's tau coefficient, concerned improving theoretical knowledge (0.21), group work (0.16), practical knowledge (0.14) and creativity (0.13).

For 30% of respondents, there is no gap (in other words, the university fully meets their expectations), whereas for about 9%, what the university provides actually exceeds their expectations. However, as many as 61% of those surveyed indicate that universities do not meet their expectations, and for 2.38%, the gap is the maximum gap (i.e., expectations scored 5 points, whereas the realisation scored 1 point). The highest percentage of students for whom expectations coincide with the university's offer concerns theoretical knowledge (38%), group work and leadership (in both cases, ca. 35% each). Students' expectations regarding creativity are met in 23% of cases. The largest gap concerns practical knowledge—as many as 74% of respondents had higher expectations than what their universities offer, followed by creativity, where the percentage was 67%.

The average gap between rated importance and university performance on a national scale is the highest in the Portuguese and Armenian groups (1.33 and 1 point, respectively). Smaller gaps were found for Polish (0.91) and Ukrainian (0.82) students. The lowest gap between students' expectations and what is delivered by universities was found among Austrian (0.15) and Swiss (0.35) students. In the case of creativity, the highest gap is present among Portuguese (1.65) and Armenian (1.47) students, whereas the lowest gaps appear among German (0.85) and Austrian (0.25) students. The highest gap in leadership was indicated by Portugal (1.53) and Hungarian (1.1) students, while the lowest by Austrian (0.31) and Swiss (0.25) ones.

Contact with a company (or lack thereof) during the education process as a variable revealed statistically significant differences between the average gaps between students' expectations and their satisfaction. In the case of students who declared that they had contacts with a company compared with those who had no such experience, the gap was the highest in the case of group work and amounted to 0.63 points on a five-point scale (in the group of students who had had the opportunity to work for a company, group work was rated on average 0.37 points higher than their expectations). For these two groups of students (i.e., with and without contacts with a company), the gaps between students' expectations and their satisfaction with the university in terms of internship were of a similar order (0.61). A smaller gap between expectations and university offer in terms of creativity was also identified in students who had had contact with companies (−0.79) in comparison with those who had no such contact (−1.24).

3.1. National Context of Students' Satisfaction

Average student satisfaction levels with the given university's offer differ significantly by nationality ($p = 0.00$). The average ratings, however, did not differ by gender. The highest mean rating for university support was given to personal development and was noted in Austrian (4.03) and Swiss samples (3.58), whereas the lowest were given by Polish and Portuguese students (both 2.98). Support for personal contact on the part of the university scored highest among Austrian (3.91) and Armenian (3.84) students, whereas the lowest scores were given by Polish (2.92) and Portuguese (2.86) students. Interestingly, in the evaluation of university support in the field of creativity, the highest scoring institutions came from less-developed countries, often those with a communist past. At the top of this ranking are Ukrainian (3.28), Armenian (3.28), Mexican (3.22) and Hungarian (3.18) universities. It could be explained by the fact that the economies of shortage generate pressure to be more creative in solving problems in a historical context of limited available funds or materials. The top four countries where universities offer the highest levels of support in the area of practical learning are the three German-speaking countries (or German language-dominant areas of Switzerland), namely Austria (4.25), Switzerland (4) and Germany (3.28). Among the lowest raked were mainly universities in post-communist or post-authoritarian countries, specifically Armenia (2.94), Ukraine (2.93), Portugal (2.73) and Poland (2.5). Austrian and Swiss universities scored highly ranked top in group work (4.91 and 4.62, respectively), and leadership (4.03 and 3.78, respectively).

3.2. The Role of Contact with Companies and Level of Interest in Addressing Their Needs in the Preparation of Graduation Theses

More than 38% of respondents had an opportunity to address genuine company problems as part of their internship programmes (Figure 1). There is a correlation between respondent nationality and frequency of such contacts (Cramér's V of 0.53). Internships of this kind were the most common at Swiss and Austrian universities, where over 90% students declared participation in this kind of experience, whereas the least common (as few as single percentage points) among Polish and Portuguese students.

Average ratings of the extent to which universities support the individual student development dimensions (except for the development of theoretical knowledge) differ significantly ($p = 0.00$) due to the fact that the university had previous contacts with the company in solving its problem. Students who had such contacts rated their university's support in all dimensions of their development higher (group work by 0.55 points, leadership by 0.54 points, and practical knowledge by 0.53 points).

The average level of interest in preparing a graduation thesis aimed at solving the problems of selected companies was 3.56. Student scores differ significantly ($p = 0.00$) depending on nationality. Among the four nationalities with the highest level of interest in this kind of graduation work, apart from Armenia (mean score 4.19), as many as three come from German-speaking countries (Switzerland 4.46, Germany 3.84 and Austria 3.81). The lowest level of interest in this kind of graduation work was shown by French (3.27) and Polish students (2.88).
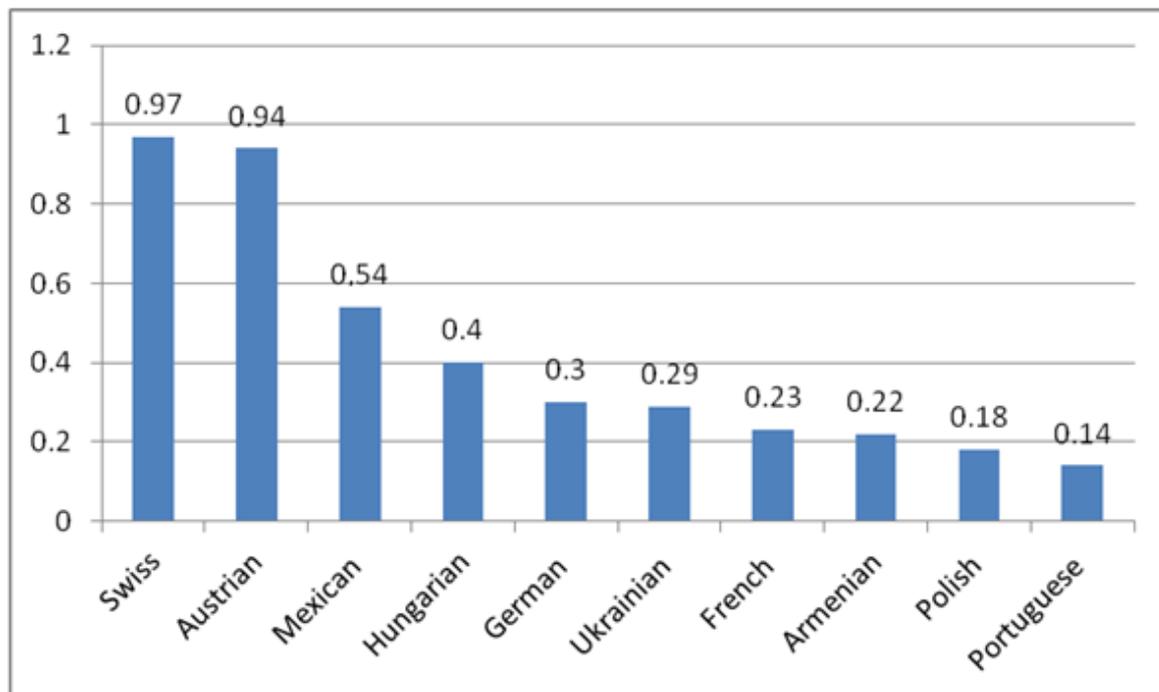
Figure 1. Share of students who had an opportunity to address company problems (by nationality).

Students were also asked about their interest in internships in companies in conjunction with writing their graduation theses. Here, they rated the level of interest at 3.92 on a five-point scale, where 1 means no interest and 5 means a great deal of interest. The scores significantly differ ($p = 0.00$) by nationality. The highest interest was declared by Armenian (4.47), Austrian (4.19) and Mexican (4.08) students. Interestingly, Switzerland (3.84) and Germany (3.76) were among the three nationalities with the lowest level of interest, alongside the French ones (3.39). In the latter two cases, however, it may be due to already established contacts with companies or the overall lack of student interest in the specific sample to pursue such contacts. Students show a fair amount of interest in finding employment in companies/institutions in accordance with their educational profile. The mean was 4.02, but the responses again differ significantly ($p = 0.00$) by nationality. The highest mean scores were given by Armenian (4.28), Hungarian (4.35) and Swiss (4.32) students, whereas Polish (3.91), French (3.88) and German (3.38) students were relatively less interested in finding employment in those companies that matched their educational profiles. In general, university support in finding a job is rated quite poorly. The mean score in this respect was 3.07 for the whole group. These job-support-related responses do not differ significantly by nationality.

3.3. Analysis Using a System Approach: Methods and Results

In this survey, the subjective importance and actual support provided by university with respect to various aspects under consideration are measured as ordinal variables (using a Likert scale). Analysis of differences between such variables implies rather complicated properties, especially within joint, multivariate setup. Crucially, as the purpose was to analyse all the gaps concurrently, it turned out that a fully formal approach of multivariate categorical analysis was practically unfeasible, among others due to its high dimensionality. Therefore, an approximated two-step method was devised, which provided approximate results but allowed for a systemic (joint) analysis.

The set of explanatory variables in the multivariate model is the same as in individual probit models, though individual university-specific random effects are replaced by university-specific dummy variables. One interaction term was also introduced, which turned out to be significant for the creativity gap and which is of particular interest from the viewpoint adopted for the study. The results

of unrestricted maximum likelihood estimation of the multivariate Gaussian model of the second stage are provided in Table 3.

Table 3. Maximum likelihood estimates of systemic model for transformed gaps.

	(Transformed) Gaps in:						
	Personal Contacts	**Creativity**	**Leadership**	**Group Work**	**Internship**	**Theoretical Knowledge**	**Practical Knowledge**
Dummy variables/intercepts	not reported due to space constraints						
Type of study	−0.28	−0.09	−0.18	−0.23	0.05	−0.61 **	−0.40 *
Year of study	0.06	−0.02	0.02	0.02	−0.06	0.15	0.12
Age	0.03	0.06 *	0.06 *	0.01	0.00	0.06	0.06 *
Gender	0.31 **	−0.22	0.02	−0.07	0.10	−0.01	0.00
Grades	0.09	0.04	0.13 *	−0.10	0.03	−0.05	−0.05
(a) Interest in applied diploma	0.03	0.07	−0.02	0.08	0.01	0.06	0.01
(b) Interest in collective applied diploma	0.08	−0.01	0.11	0.14 **	0.04	−0.06	0.02
(c) Interest in internship	−0.06	0.08	0.04	−0.04	0.10	0.12	0.11
(d) Job determination	−0.05	−0.16 **	0.00	0.06	0.15 **	0.02	0.05
(e) Accordance with previous expectations	−0.12 *	−0.15 *	−0.12	−0.15 **	−0.08	−0.20 ***	−0.25 ***
(I) Employment support	−0.33 ***	−0.34 ***	−0.23 ***	−0.13 *	−0.29 ***	0.15 *	−0.18 **
(II) Contact with firm	−0.54	−1.23 ***	−0.67	−0.86 **	−0.46	0.53	0.12
(I)*(II)	0.11	0.29 **	0.09	0.18	0.05	−0.17	−0.11

* significance at 0.1 level, ** significance at 0.05 level, *** significance at 0.01 level.

The results indicate that the most important explanatory factors, being significant across almost all the gaps, are variables labelled (e) and (I), that is, accordance with previous expectations and employment support provided by the university. Both factors tend to decrease the gaps (except for (I), in the case of theoretical knowledge)—the estimates range from −0.25 to −0.08 and −0.34 to −0.13, respectively. High scores in (e) might be characteristic of well-informed students who formulate realistic expectations, explaining the negative influence upon gaps. The employment support from university might be a proxy variable indicating universities that care a lot about satisfaction of their students. The most important factor affecting the creativity gap (and to some extent also the group work gap) is variable (II). An interaction term corresponding to the co-dependence between factors (I) and (II), which is significant in the case of the creativity gap, was also introduced. The co-dependence mitigates the strong negative influence of (II), especially in cases with high employment support.

As to the influence of control variables, the type of study seems to decrease gaps on average (i.e., master students report smaller gaps), except for the internship gap. However, that factor is only really significant for theoretical and practical knowledge. Gender affects the gap in personal contacts in a significant way (with female students reporting higher gaps). Better grades coincide with slightly larger gaps, except for group work and knowledge—though the effect is too weak to be judged significant. Job determination affects (negatively) the gap in creativity and positively affects the gap in internships.

Table 4 contains the estimations of conditional correlations (i.e., those adjusted for the influence of all explanatory variables) between gap-specific equations: almost all estimates are positive and

significant. The only exception is the theoretical knowledge gap, which shows a significant positive relationship with group work only (other correlations involving theoretical knowledge are negative or close to zero and hence insignificant). Linear dependence is strongest between gaps in creativity, leadership, and personal contacts.

Table 4. Conditional correlations across (transformed) gaps.

	Personal Contacts	Creativity	Leadership	Group Work	Internship	Theoretical Knowledge	Practical Knowledge
Personal contacts	1	0.32 ***	0.33 ***	0.11 *	0.30 ***	0.04	0.22 ***
Creativity		1	0.41 ***	0.17 ***	0.21 ***	−0.03	0.28 ***
Leadership			1	0.22 ***	0.20 ***	−0.05	0.29 ***
Group work				1	0.16 ***	0.13 **	0.17 ***
Internship					1	0.08	0.29 ***
Theoretical knowledge						1	0.05
Practical knowledge							1

* significance at 0.1 level, ** significance at 0.05 level, *** significance at 0.01 level.

4. Discussion and Conclusions

The present study was undertaken with a view to exploring the gap between what students expect from universities and their opinions on what they actually receive. Students' opinions should be analysed in the wider context of consumerism, which, given the promotion of expectations, tends to reflect a focus on formally protecting students' "consumer rights" [62]. The findings of the study demonstrate that expectations in all the aspects taken into considerations (except theoretical knowledge and group work) exceed what is actually delivered. The findings thus correspond with the findings of research conducted among German students [8]. The highest gap was noted in practical knowledge. However, the rapid changes in service production and delivery systems require not so much practical competences as flexibility, a capacity to permanently upgrade one's qualifications and openness to creative problem-solving. The findings undermine the calls for more attention to the development of practical skills at the expense of other aspects of education.

The main empirical findings demonstrate that

- The main variables negatively correlated with the size of the gaps are employment support (on the part of universities) and correspondence with expectations (on the part of students);
- The main factor that negatively correlates with the size of the creativity gap is ensuring contact with a company by the university. The creativity gap most strongly correlates with the leadership gap and with practical knowledge.

A more worrying phenomenon is the gap (the second highest in the ranking) between students' expectations and what universities deliver in terms of creativity, which is treated as a crucial life force [40]. Although students appreciate the role of creativity and see the gap between their expectations and the approach of universities in this respect, their interest in preparing graduation theses which would address selected problems faced by a given firm or institution can at best be described as moderate. The highest interest was declared by Armenian and German-speaking students. Since contacts with companies and their real-life problems diminishes the gap between expectations and delivery in the field of creativity, such actions should be promoted as good practices and included in the

curricula. This would satisfy the requirement of active involvement in knowledge generation by students who wish to acquire the tacit knowledge that underpins soft skills [14]. The practice of addressing specific challenges facing companies by students in their graduation theses makes this process more individualised, facilitates students to believe in their own skills and expand and build upon on their theoretical knowledge. In the longer term, it could boost the overall national level of creativity [63,64]. The involvement of external stakeholders in the educational process fits in with the concept of multiversity [4], which covers different kinds of communities inside and outside the university sphere. More support in the area of creativity development offered by universities in post-communist countries could be explained by the necessity to solve problems in non-standard ways under the conditions of shortage economies, as defined by Kornai [65]. Significant discrepancies between students' expectations and what universities actually offer suggest that the former should be more actively involved in the discussion on curriculum development. These activities should include all the types of co-creation identified by Bovill and Woolmer [66], including reviewing the existing modules/programmes and designing courses from scratch. The role of creativity will increase, among others, due to the consequences of introducing three-dimensional printing together with re-localisation of de-localised production from low-paid-labour countries to developed ones, named re-de economy [67].

5. Limitations and Future Research

Any international comparative analysis of such features as creativity could be distorted to a certain extent by the different ways in which the term is understood depending on the cultural context. For example, in post-communist countries it tends to denote the capacity to devise non-standard solutions to problems typical of a shortage economy. Future research could cover a wider range of countries as well as other kinds of universities besides those that specialise exclusively in economics, including, in particular, engineering, where the issues of cooperation with industry are of key importance. Moreover, further studies may attempt to complement the survey with benchmarks with a view to unifying the understanding of the terms used throughout. Finally, the research reported above is based on a limited number of qualitative variables. For this reason, it may be beneficial to expand the set of such explanatory variables in future studies.

Although comparing students' expectations with their opinions about the quality of education as delivered by their universities has an important role to play in changing the methods and aims of teaching, it is necessary to additionally compare them with the opinions held by graduates. The perspective of such graduates with current professional responsibilities could attest to the usefulness of skills and knowledge acquired at university.

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