Environmental Education in the Preparation of Students of Tourism and Finance and Management in the Czech Republic

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Abstract: Higher education includes space for creating cross-cutting competence profiles of future professionals aimed at addressing key sustainability challenges in increasingly complex and global contexts. The research seeks to identify and evaluate the level of engagement in environmental education in study programmes at a career-oriented higher education institution in the Czech Republic. The research sample consisted of 3680 students of the Tourism and Finance and Management study programmes of the College of Polytechnics Jihlava, who participated in work placements in the course of their studies. An educational analysis was applied for qualitative research and evaluation of the level of implementation of the environmental educational component. Quantitative research was based on a questionnaire method, with tests to verify hypotheses being performed at a significance level of 5%. It was proven that the inclusion of an environmental component was influenced by the study programme. This influence was confirmed for the Tourism study programme, while for Finance and Management it was not verified. The environmental component in the Tourism study programme is developed through work placements; however, with regards to major study subjects taught, qualitative research analysing the inclusion of environmental aspects in these subjects proved the opposite. The Finance and Management study programme does not currently use the potential for environmental education development. The research revealed certain drawbacks and uncovered the potential to streamline environmental education at the career-oriented higher education institution.

Keywords: environmental education; tourism; finance and management; study programmes; work placement; career-oriented higher education institution

1. Introduction

The functional integration of environmental education as a relevant sustainability and public health factor fully integrated into the educational system cannot be achieved without a significant paradigm shift beyond the usual boundaries of educational institutions. Seema [1] developed a total of 17 sustainable development goals, with each aspect of the natural, social and economic sector being systemically addressed from a sustainable viewpoint at local and global levels. The authors conclude

that communication and cooperation, healthcare and sustainability promote peace worldwide and strengthen social efficiency, synergies and accountability at an institutional level. Education serves as the basis for sustainable development, because through environmentally focussed education it is possible to create global citizens who have acquired competences for sustainable development for the present and the future. Education for sustainable development requires coordination and cooperation in all areas of social life and all these areas have to support education.

It is obvious that the need for functional integration of economic, social and environmental aspects in education and public health is currently the biggest challenge for global sustainable development. In this regard, the role of higher education is irreplaceable in terms of preparation of future qualified professionals competent to provide systemic solutions to sustainability problems in increasingly complex and global contexts. Therefore, for some time now, many authors have been trying to define key competences and learning outcomes relevant to sustainability. Consequently, Eizaguirre et al. [2] tried to single out and define key sustainability competences with regard to geographical regions of Europe, Latin America and Central Asia, from the perspective of four stakeholders (graduates, employers, students and academics). Given the current development of education in the world, it can be assumed that universities are and will be one of the key and prospective providers of education, and therefore the integration of sustainability principles into their curriculum documents can provide students with knowledge and skills on the shifts, systems and requirements of the new paradigm, a new business model based on sustainability principles. The identified sustainability factor in each of the above regions represents elements related to environmental and social aspects. At present, academics agree in principle on a three-way view of sustainability, which includes economic, environmental and social elements. This is also reflected in the results of the research in question, where environmental protection elements are the most noticeable, followed by the social aspects of sustainability, such as human rights in general, women's rights, respect for others and other sociocultural aspects. It is worth pointing out that the economic elements of sustainability are hidden only in specific competences and are not so evident in general terms at first glance. There has been no consensus as of yet in terms of which specific sustainability competences should be included in the curriculum of study programmes in tertiary education. Most authors agree globally that systemic thinking, critical thinking, strategic thinking or empathy, and the ability to cooperate with others are the decisive key competences in the context, but there is no universal list or a generally accepted agreement relating to the definition and implementation of these competences in educational practices. Such a specification could help universities and educators better set educational objectives and procedures aimed at sustainable development aspects. Finding appropriate competence models based on how various stakeholders perceive these can help identify the main competences that educators should develop in their students, taking into account not only their own opinions and experience, but also those of stakeholders.

In view of the importance of the identification of the most important key competences in terms of sustainability, the authors carried out a thorough didactic analysis and presented the following regionally differentiated key competence proposals [2]:

The most important key competences (Europe):

1. Capability of protecting the environment
2. Ability to deal with social responsibility and civic awareness
3. Ability to demonstrate awareness of solidarity, equality, including gender issues
4. Ability to act on the basis of ethical reasoning
5. Ability to address safety issues
6. Appreciation and respect for diversity and multiculturalism

The most important key competences (Latin America):

1. Ability to develop their own sociocultural environment
2. Attitude towards environmental protection

3.　Social responsibility and citizenship
4.　Respect for diversity and multiculturalism
5.　Ethical commitment

　　The most important key competences (Central Asia):

1.　Ecological and environmental responsibility
2.　Ability to prevent and resolve conflicts
3.　Healthy lifestyle
4.　Time organization
5.　Tolerance and respect for others
6.　User-oriented approach
7.　Social responsibility
8.　Flexibility
9.　Patriotism and preservation of one's own cultural values
10.　Ability to process information
11.　Ability to apply knowledge in practical life

　　When analysing and optimising competence profiles, it is also important to take into account employers' viewpoints. Dorozynski et al. [3] analyse employers' opinions on competences which employers expect from graduates of economic courses that functionally integrate environmental aspects. The authors dealt with this phenomenon as part of the project of new curriculum development at the Faculty of Economics and Sociology of the University of Łódź. Their study showed that employers were interested in graduates of economic faculties with integrated environmental protection elements, where the set hypothesis of objectives and didactic means for courses related to economics and environmental protection being of the equal weight was not rejected. Other fields of education are also considered useful, especially those that provide practical knowledge and skills: writing business plans, the basics of commercial law and financial analysis in enterprises. Similarly, the basics of ethics have been rated as equally important. Respondents identified not only the basics of environmental science but also environmental innovation and economy of renewable energy sources as the preferred areas of environmental protection education.

　　Therefore, the authors of this article consider it truly elementary to analyse, consistently and in an international context, the perspectives of master's degree students in terms of the determinants of sustainable education and practical training at universities, since higher education institutions have the task of training future managers and especially responsible citizens, aware of their role in society.

　　Pessotto et al. [4] report on the educational results of interactive lectures on entrepreneurship, where students and a teacher discussed a sustainable university. The research model was conceived on the basis of qualitative, descriptive, exploratory and cross-cutting research. Implemented with 18 students from the Business postgraduate programme at the University of Southern Brazil, the research applied methods involving an observation of participants and an analysis of documents. The subsequent didactic analysis concluded that students' knowledge developed ideally when it integrally covered environmental, social and economic aspects of the sustainable development concept. Students prepared short-term and long-term action plans for implementation at the university and set indicators which allow the university to monitor the development of sustainable practices. These results are an example of good practice, showing how effectively it is possible to use, in educational practice, students' discussions on the importance of involving all spheres of the university and the community in sustainability debates.

　　Sustainable development consists of three core dimensions related to quality of life: social, economic and environmental. A study reported on the current perception of environmental aspects and attitudes towards sustainable development among Malaysian undergraduates [5]. The questionnaire-based study was conducted with 154 respondents from five universities in Malaysia and it examined their

perception and attitude towards sustainable development. The analysis showed that the respondents had positive perceptions and attitudes towards the examined sustainability dimensions-except for economic and social issues. These findings suggest that educators involved in sustainable development education need to focus more on economic and social aspects. Overall, the findings showed that sustainable development education at higher education institutions created a reasonable sense of responsibility for sustainability among the target group, and in line with the above research results, the authors recommend reviewing the current education paradigm from the perspective of sustainable development by involving other stakeholders. The study demonstrated positive perceptions and attitudes towards sustainable development in students in Malaysian higher education. The dimensions connected with economic and social issues recorded a relatively low average score, which suggests that the teaching content presented by educators should expose students to related problems at a larger degree. The right knowledge, skills and values gained through sustainable development education are of key importance in shaping perceptions and developing attitudes towards sustainable development and they ultimately contribute to achieving a vision of sustainable development.

Tolochko [6] focuses her educational research on economic and social aspects of sustainability in relation to competitiveness. The starting point for the examination is the fact that education for business or economic development and education for environmental sustainability or sustainable development are now considered as the main arguments in education reforms. However, teachers face a number of other and equally important challenges in their work, such as youth education regarding insecurity, tolerance, new technologies, peace and active citizenship. Competitiveness is associated with intellect and capital, and is driven by knowledge and innovation. Sustainable development requires comprehension of the global ecosystem complexity and creative problem solving in attempting to find consistency of economic activity with a sustainable environment. With this in mind, the author sets out the following key needs: to make the concept of interdependence more visible (how closely one part of the ecosystem is interconnected and dependent on other entities), to raise humanity's awareness of its own fragility on this planet, to emphasise the role of international cooperation in solving global challenges and to develop the concept of the global public good. On this basis, she defines three main factors to increase economic competitiveness: a new concept of knowledge, innovation and intellectual capital [6].

Moreover, intellectual capital and the knowledge economy are also considered significant for sustainability [7]. The authors demonstrate that appropriate forms of environmental education promotion in an organisation could help its members develop environmental knowledge, optimise environmental attitudes and increase environmental professional performance. The results of their research present statistically significant correlations between knowledge management and environmental education, as well as between environmental education and professional performance, and finally between knowledge management and professional performance. They demonstrate that the implementation of environmental education in eco-tourism enterprises could lead to employees' positively acquiring, transforming and applying environmental knowledge, reinforcing the environmental professional knowledge and environmental professional skills as well as showing good professional environmental attitudes. They conclude that employees in eco-tourism enterprises place an emphasis on acquiring, transforming, applying and sharing environmental knowledge in order to reinforce their environmental professional capacity and performance. The authors propose that in the interest of mastering the work in a knowledge-based society, it is expedient to reinforce and cultivate learning abilities and expand environmental education in order to develop key competences for achievement of all-round learning.

Environmental education and organisational learning have a positive impact on the development of proactive environmental strategies in tourism [8]. Companies currently operating in tourism are in a highly dynamic environment and turbulent time, where innovations are becoming a determining factor in competitiveness. Based on an analysis of a sample of 252 companies using structural equation modelling, the authors concluded that innovativeness is a prerequisite for the

implementation of environmental education and organisational learning in the tested companies and that environmental education offers the same effective method as organisational learning. Managers should take these findings into account in deciding what mechanism to apply when trying to achieve environmental proactivity.

Furthermore, another conducted study focused on monitoring of how residents living near tourist sites shape their environmental behaviour by merging the norm activation model and the cognitive-affective model into a single theoretical framework [9]. The results of the structural analysis based on a sample of 642 residents showed that residents with greater awareness of environmental positives and disaster prevention will clearly be more involved in environmental protection and management in attractive tourist sites, which are always more vulnerable from the perspective of sustainability. Residents will develop an active interest in the quality of the local environment and participate in its protection if they recognise that protecting the local environment will benefit their lives, especially if the benefits are of an economic nature or if the potential consequences of the threatened sustainability could negatively affect their lives and interests. Currently, both the government and individuals in China prioritise an industry-based economy, but tourism offers not only an opportunity to develop the local economy, but also provides direct and indirect jobs for the population. Environmental policy focused on environmental education, public awareness, public participation, increased financial expenditure on local environmental management and purposeful environmental planning with public support are the most effective measures on a long-term basis.

Environmental education with a comprehensive focus on sustainable development requires numerous adjustments in the interpretation and implementation of the educational programme concept, and in addition it is based on a balanced, harmonious life model in full accord with the environment. In this context, some authors set criteria that inspire modern approaches to education: anthropocentrism, a style of thinking based on biocentrism, a new paradigm of taking into account chance and uncertainty, practical training with embedded environmental values on a diversity basis (ecological and cultural) with the optimal functioning of ecosystems, sustainable measures at local and global levels, social justice and solidarity between generations, an educational system with the support of institutions and the participation of society, multidisciplinarity in EU programmes, as well as science and research support [10].

As public concerns about environmental quality and sustainability have increased and young people tend to lean towards ecology and sustainability, a number of universities around the world have introduced environmental engineering programmes. Moghaddam et al. [11] analyse environmental engineering programmes in Iran, charting their development from 1990. Currently, the country has ten universities with environmental engineering study programmes. In view of the fact that environmental engineering challenges are becoming more and more complex, the authors consider it necessary to define a new innovative range of environmental engineering, especially in developing countries, so that it is possible to face environmental and sustainable development problems. In such parts of the world these problems are the most pressing and most critical. The authors propose to extend the curriculum with several special courses such as "green chemistry", "energy management", "environmental legislation", "environmental economics", as well as "environmental ethics and philosophy", "environmental sociology" and "sustainable development".

An environmental component also influenced the development of the scientific discipline of accounting. In 1970–1980, the earliest green shoots of environmental accounting as a new field appeared, at that time being of a descriptive character. This discipline began to develop into specific activities and tasks related to the environment, which brought about a boom in environmental accounting research and also increased the number of social accounting research studies. Science and research also contributed to the expansion of an environmental component in auditing [12]. An article published in 2010 presented diagrams of the environmental accounting structure and of environmental accounting approaches [13]. It is evident from these findings that the environmental component is gaining in

importance and is intensively being put into practice, which education should respond to. It can be noted that the environment affects various scientific disciplines on an interdisciplinary scale.

The Baltic states have also been paying attention to the integration of environmental aspects into educational programmes for some time. This is demonstrated by Klavins et al. [14] with an example of the curriculum of the study subject "Environment and sustainable development in the Baltic Sea region", containing integrated themes of the environment, economics, sustainable development, interaction of the economy and the environment, environmental impacts, the environment as specific capital, environmental economy and market mechanism, competition, market failures, externalities, pollution reduction methods, environmental economic value, common economic value and methods of economic environmental assessment, cost-benefit analysis, discounting, insurable risks, environmental policy, financing and implementation of environmental projects, searching for environmental protection and economic growth balance. Gradually, a stage was reached where, according to the authors, after the first phase of the "greening" of the study plans and efforts to integrate sustainable development into study programmes, the approaches of higher education institutions in the Baltic States can be characterised as education for sustainable development [15]. While the environmental dimension is stressed, holistic and interdisciplinary approaches are often missing. Academic staff are the bearers of changes promoting the sustainability of university structures, therefore it is advisable to develop activities aimed at academic staff training and interdisciplinary involvement in sustainable development ideas. It was also found that the economic and social aspects were not sufficiently emphasised in the given context. However, academics teaching economics who do not teach sustainable development courses at the time being are willing to improve their knowledge in courses, seminars and in cooperation with entrepreneurs.

The need to strengthen the social nature of education, the necessity for quality environmental didactic teacher training and the improvement of methodological work as the key method of managing the quality of higher vocational education are emphasised in a research paper, where the author points out that further systemic improvement of the environmental education methodology is a strategic and valuable resource that will face the challenge of becoming a transformational process of sociocultural scenarios [16]. In the context of preparation of students for direct environmental education, it was possible to verify the results and evaluate aspects of continuous improvement. The result of the evaluation of environmental education in teaching professions made it possible to confirm the role of methodological work as the key method of managing the quality of higher vocational education and the role of evaluation as research towards improvement.

Another interesting point of view is contained in a study of Cifuentes-Faura et al. [17] looking into gender differences in knowledge, attitudes and behaviour in relation to sustainable development. The research was carried out using a sample of secondary school students in economic disciplines and included environmental, social, cultural, economic and political aspects covering three dimensions of sustainability: social, economic and environmental. Girls were found to have relatively greater knowledge of environmental issues, showed greater environmental sensitivity and a greater commitment to actively adapting their real lifestyle to sustainability ideas. Although the social sphere was rated as important for girls and the economic sphere for boys, both of these dimensions remained in the background compared to the environmental dimension that was most relevant to all. Girls showed more favourable tendencies in behaviour in relation to sustainability (concerning environmental aspects) than boys in all the issues examined. Therefore, statistically significant gender differences were identified, with the girls always showing better results. Subsequently, the authors recommended a greater interconnection between the economic content and sustainable development as well as the idea of studying the impacts that certain economic decisions will have on the planet. These recommendations will be reflected in the relevant adjustment to the teaching contents.

Gender differences were also addressed by Ibáñez et al. [18] in a study which aimed to analyse and evaluate the attitudes, knowledge and environmental behaviour of university students of various faculties, study programmes and higher education levels. The results have shown that most of the

students believe that a quality environmental education is necessary for solving the environmental problems that affect them. The authors demonstrate that key factors in attitudes become essential elements for their change. They also confirm the differences between gender and study specialisation, which manifest themselves particularly in the attitudes of students (cognitive and emotional levels). The descriptive, cross-sectional and quantitative methodology used by the authors in their study enables the collection and deep analyses of student data concerning their attitudes and knowledge in relation to the environment. The data obtained made it possible to evaluate and interpret differences in environmental knowledge and behaviour, including the gender variable on one hand and the variable of higher education degrees obtained on the other. Students from universities in Seville, Malaga, Granada, Córdoba and the Faculty of Education in Ceuta (University of Granada) participated in the research. In total, 1471 students were involved in the research. Statistically significant differences and markedly different views between men and women in attitudes and knowledge were established. While men showed a relatively higher level of knowledge about sustainable development, women were more critical and were certain that the current model of development was not sustainable for the environment. Furthermore, it is interesting that women think that education is a useful tool for raising people's awareness of the need to protect the environment. In addition, they are also more aware that human behaviour affects the planet, and changing people's approach to the environment could prevent and solve environmental problems.

Schönfelder et al. [19] report that environmental attitudes play a key role in environmental education, as positive values are a prerequisite for pro-environmental behaviour. Their study aimed to evaluate the potential relationship between the motivation to learn science and environmental values in the context of possible synergies between science and environmental education. High value preferences towards nature are associated with a high level of motivation to learn science. This relationship indicates potential promising synergies between natural science and environmental education. The research involved 429 Irish schoolchildren with an average age of 14.65. The students completed a questionnaire that was structured into five subscales: intrinsic motivation, career motivation, self-determination, self-efficacy, and grade motivation. It was ascertained that girls and boys differed significantly in terms of intrinsic motivation and the level of self-efficacy, with boys having higher scores than girls. The girls showed significantly lower intrinsic motivation to learn science. However, the authors urge caution in the generalisation of the results, as the possible reason for such a finding may have been an imbalance between the numbers of girls and boys participating in the study or the fact that it was a younger age group.

On a global scale and in terms of wider social significance, it is essential to make students aware and influence them in their training for future professions from the environmental point of view, pay attention to education covering social, economic and other impacts on the environment, and mould a positive, responsible and creative relationship with the environment. Therefore, the aim of this study is to identify the level of engagement in environmental education in the Tourism and Finance and Management study programmes at a career-oriented higher education institution in the Czech Republic. Given that the College of Polytechnics Jihlava implements two forms of study (full-time and combined form), it was desirable to assess the preferences of job positions with an environmental component also in terms of forms of study. The result will help to innovate curricula as well as teaching materials, which are to some extent different according to study programme and forms of study. Due to the individualism of education, it is necessary to find out the preferences of job positions with environmental issues from the point of view of gender.

The inclusion of an environmental education component in both courses was analysed applying a six-year time series according to the curriculum content of major subjects and according to job positions held by students during their continuous work placement in the course of their study.

The said objective has given rise to the following hypotheses that are to be verified:

Hypothesis 1 (H1). *An environmental component is contained in the major subjects of the Tourism study programme.*

Hypothesis 2 (H2). *An environmental component is contained in the major subjects of the Finance and Management study programme.*

Hypothesis 3 (H3). *The extent of the environmental component integration in individual job positions depends on the gender of the students participating in a work placement.*

Hypothesis 4 (H4). *The extent of the environmental component integration in individual job positions depends on the study programmes within which a work placement is carried out.*

Hypothesis 5 (H5). *The extent of the environmental component integration in individual job positions depends on the form in which students participate in the study programme and work placement.*

2. Materials and Methods

2.1. Participants and Procedure

The research was carried out under the conditions of the career-oriented establishment, College of Polytechnics Jihlava. This school was selected due to the fact that since the beginning of its existence in 2004 it has been implementing continuous work placement at the duration of 12–18 weeks and has been intensively involving practitioners in teaching. As the importance of environmental education is ever increasing both in theory and practice, the article illustrates whether the vocational higher education institution has succeeded in following this trend progressively in both theoretical and practical terms.

The research builds on the study of Kuncová et al. [20], which focused on the work placement evaluation at the College of Polytechnics Jihlava with respect to job positions, sectors and student satisfaction with work placement over the last four years. Internationally, the research was inspired by the study of Restrepo et al. [21] conducted on the basis of qualitative research supported by an analysis of descriptive statistics. It focused on examining the progress of 60 higher education institutions in Colombia from the point of view of their engagement in environmental education. Similar research was published in the study of Gutierrez et al. [22], which concentrated on the evaluation of environmental education and training at a master's degree programme in higher education.

The present research sample consists of 3680 students of the Tourism and Finance and Management study programmes who in the course of their study participated in a work placement and completed a questionnaire posted on the Work Placement website. It concerned bachelor's degree students of full-time and combined study programmes in their third, i.e., last year, aged between 22 and 45 years. The sample was disaggregated by students' gender, study programme and form of study (Table 1). The data were analysed applying these parameters. The sample was created by purposive sampling. The research analysed the situation over the last six years from 2014 to 2019. This time series was selected for the up-to-datedness of these data, as they were collected from 2014 through the Work Placement website, which is used for work placement evaluation and thus it is possible to discover what type of job positions students held during their work placement. Only the year 2019 fails to capture the full number of students and consequently also their complete answers regarding the work placement they participated in, because this information was not fully available at the time of collection and analysis. The Work Placement website is first processed by the college management and then the data are made available to specialist departments that guarantee work placement. Subsequently, there are time delays in terms of data collection. Despite these 2019 data being incomplete, they were included because the 2019 sample represents the main part of the data. Its supplementation with an additional number of students will not have a significant impact on the overall results of this study, as is apparent from analyses of previous years. The reason for selecting the Tourism study programme was the fact that it could meet the requirement for environmental engagement of the

higher education institution in education at the highest degree. The Finance and Management study programme was included in the research because environmental issues are very strongly becoming a part of corporate finance and corporate management from a practical point of view, as well as a part of accounting, due to the newly created concept, or more precisely the scientific discipline of environmental accounting [12,13]. Both study programmes also have the highest numbers of undergraduates at the College of Polytechnics Jihlava.

Table 1. Profiles of respondents (*n* = 3680).

Variable	Frequency	Percentage
Gender		
Male	510	13.9
Female	3170	86.1
Study Programme		
Tourism	3050	82.9
Finance and Management	630	17.1
Form of Study		
Full-time	3473	94.4
Combined form	207	5.6

Only those students who completed their work placement participation and filled in the evaluation questionnaires through the official school Work Placement website were included in the research sample. The students reported in the questionnaire which job positions they had chosen for their work placement and characterised the job description. For this reason, it was possible to determine whether the selection of a job position with an environmental component had been influenced by gender, form of study or study programme.

This questionnaire is not anonymous. Students agree to the processing of their personal data and their use for other purposes. For this research, all of the data that could lead to the identification of the student have been encrypted or deleted.

2.2. Data, Research Sample

Data (gender, study programme, form) are of a nominal nature and have been subjected to the categorical classification. Years are ordinal data which have been classified by time intervals expressed chronologically in calendar form determining the work placement commencement. The number of students for each year is presented in Table 2.

Table 2. Number of students in the analysed years.

Year	Frequency	Percentage
2014	1041	28.3
2015	844	22.9
2016	618	16.8
2017	520	14.1
2018	426	11.6
2019	231	6.3
Total	3680	100.0

The next variable was the category with the codes A–F, representing groups of job positions that students held during their work placement in the course of the analysed years. The job positions over the six studied years often repeated themselves, so it was possible to create these six categories below (Table 3).

Table 3. Number of students in job positions within the period from 2014 to 2019 (*n* = 3680).

Category	Description	Frequency	Percentage
A	Environmental management	599	16.3
B	Accounting assistant	142	3.9
C	Administration	1771	48.1
D	Receptionists	309	8.4
E	Services of tour guides	670	18.2
F	Waitress/waiter	189	5.1

Category A represents job positions with the occurrence of an environmental component. These were most often jobs related to the environment in the area of finance and management, as well as tourism. Students also participated in work placement abroad, with an environmental component abundantly present. Category B was an activity related to invoicing, document circulation or bookkeeping. This category appeared most frequently with Finance and Management students. Scoring the highest number of cases, category C represents all administrative activities relating to both Tourism and Finance and Management. Category D was made up by job positions of a receptionist in a hotel or different accommodation facility. Students carried out work activities not only in the Czech Republic, but also in other European countries (specific countries were not given in the answers). Category E covered services provided by tour guides without a link to the environment in the Czech Republic and other European countries. Category F represents job positions of a waitress or waiter in a hotel or different accommodation and catering facilities or bars.

Students are placed for their practical training in general government institutions, organisations active in financial markets and in product and service markets, where they hold the following job positions: trainee, ordinary worker without subordinates, head of a small unit to 3 subordinates, middle management, top management [20].

2.3. Methods

Two methods were chosen for quantitative and qualitative research. Qualitative research was to verify hypotheses H1 and H2. Quantitative research was applied to verify hypotheses H3–H5.

Educational analysis of study programmes was applied for qualitative research and determination of the extent of the environmental educational component integration in the Tourism and Finance and Management study programmes. This method is not based on the explicitly excluded categories of phenomena that have been processed numerically. The inclusion of the environmental component in the major subjects was analysed according to the keywords contained in the subject curricula and based on the teaching experience of the guarantors who are directly involved in the teaching. The occurrence of an environmental component was evaluated by guarantors on the basis of their previous teaching experience, using the scale "Totally", "Partially", "Not at all". The value "Totally" was defined as the occurrence of an environmental component in the form of keywords greater than 50% in the subject curriculum. The value "Partially" was defined as the occurrence of this component under 50%. The value "Not at all" was defined as the 0% occurrence of the environmental component in the curriculum of major subjects of the study programmes analysed.

The major subjects of the Tourism study programme with a possible emphasis on environmental issues that have been analysed include:

1. Cultural heritage and tourism
2. Geography of the population and settlements for tourism
3. Methodology of tour guide services
4. Geography of tourism 1
5. Geography of tourism 2
6. Sustainable tourism

These are compulsory subjects included across the bachelor's study programme.

The major subjects of the Finance and Management study programme with a possible emphasis on environmental issues that have been analysed include:

1. Management
2. Business economics
3. Financial accounting 1
4. Financial accounting 2
5. Management accounting

These subjects rank among major, compulsory subjects. Their more detailed description and the occurrence of an environmental component can be found in the Results section herein.

Quantitative research was carried out on the basis of a survey via a web questionnaire available on the Work Placement website of the College of Polytechnics Jihlava. This questionnaire was created by the college management in accordance with the basic vision, mission and strategic objectives, which are part of the document—Plan of Implementation of the Strategic Concept of Educational and Creative Activities of the College of Polytechnics [23], and taking into account the following parameters:

1. Gender
2. Study programme
3. Form of study
4. Time period of participation in work placement
5. Job positions
6. Brief description of job responsibilities
7. Classification of job positions into categories A–F according to the job description

Since the concept of the questionnaire is based on the strategy of the college top management, the questionnaire was not tested for validity and reliability at the time of the research.

2.4. Statistical Analyses

Relationships of two categorical variables with one of them being students' gender, study programme, form of study or a job position category and the other one—environmental component occurrence, are described using a contingency table. In addition, it is apparent that these are predominantly alternative variables, so one can speak specifically about an association table that has only two rows and two columns and therefore contains four combinations of two variables of the two mutually assessed statistical characters.

This concerns a table of absolute frequency distribution displaying the occurrences of these four combinations referred to as n_{ij}, this text predominantly contains only tables of derived relative frequency distribution, referred to as p_{ij}„ where the row index i and column index j take only the values 1 and 2.

In order to assess the level of dependence between these two statistical characters, the table of the observed frequency distribution needs to be complemented with the distribution table of expected frequencies, which would appear in the table in an ideal case if the characters in question were completely independent. Two phenomena are independent if the probability of their intersection is equal to the product of the probabilities of the partial phenomena. This fact will be used in the construction of the expected frequencies.

When keeping to the sums of row and column relative frequencies p_{1*}, p_{2*}, p_{*1} and p_{*2}, the total relative frequency of the value of 1 will be distributed artificially in the association table as if it were a division of the frequency of two completely independent phenomena. Put simply, the expected relative partial frequencies are calculated according to the formula resulting directly from the definition of independence between two phenomena $p'_{ij} = p_{i*}.p_{*j}$. The table of expected absolute frequencies

is derived by multiplication by the sample size n, i.e., by the number of respondents, applying the formula $n'_{ij} = p'_{ij}.n$.

The null hypothesis H_0 is worded in general terms in the tests performed as follows: two categorical characters are independent, the alternative hypothesis H_1 is worded as follows: two categorical characters are dependent. All tests have been performed at a significance level of 5%.

The Pearson test, also referred to as the chi-squared test of independence was used to test independence of two categorical characters. The test may be used if the expected absolute frequency for each combination of variables is equal to at least five occurrences. The Pearson test is based on determining whether the observed frequencies are statistically significantly different from the frequencies expected in the instance of independence. Therefore, for each combination of categories, the square deviations of the observed absolute frequencies from the expected absolute frequencies were calculated, and then they were standardised by dividing them by the appropriate expected absolute frequency. This will provide a table of standard square deviations.

$$r^2_{ij} = \frac{\left(n_{ij} - n'_{ij}\right)^2}{n'_{ij}} \tag{1}$$

To calculate the p-value of the Pearson test, it is necessary to determine the number of degrees of freedom according to the formula:

$$df = (r-1)\cdot(s-1) \tag{2}$$

which will always be equal to one for two-by-two association tables. Subsequently, the statistical software to set the p-value will be used. The null hypothesis of independence of the two categorical characters H_0 is tested against the alternative hypothesis of their dependence H_1. If the p-value is greater than 0.05 or 0.01, the hypothesis H_0 will be accepted at a significance level of 5% or 1% respectively. Otherwise, the hypothesis H_0 will be rejected and the alternative H_1 hypothesis will be accepted.

In association tables where statistically significant dependence is established it is possible to carry out an even deeper analysis of standardised residuals, which will provide further information on the relationships between the individual categories. The standardised residuals can be obtained from the formula:

$$r^2_{ij} = \frac{n_{ij} - n'_{ij}}{\sqrt{n'_{ij}}} \tag{3}$$

and their values can be interpreted as a z-score. Values below -3 indicate a much lower occurrence of the appropriate combination of variables of the assessed characters than expected if they were independent, while values higher than 3 indicate a much higher occurrence of the appropriate combination of variables of the assessed phenomena than expected if they were independent.

In the instance of the proven occurrence of a time-dependent environmental component, it is possible to use an expression based on the time series, where the time is the independent variable and the monitored occurrence is the dependent variable. To make matters clearer, tables are supplemented with corresponding charts. When expressing this occurrence in absolute frequencies, it seemed that these were periodic time series with a half-year periodicity, but the frequency expressed in a relative manner confirmed the proportional relationship between the monitored occurrence of an environmental component and the number of students who started a work placement in the given academic term. Therefore, the half-yearly division was abandoned and an annual division was adopted with an interval of the width of one calendar year.

Applying the least squares method, the equations of trend lines depicting linear and quadratic trends were developed. The equation of the trend curve in question is obtained through common statistical software, including its statistical significance. The coefficient of determination is used as a quality criterion of the established regression model described above, in this case the trend line.

Denoted as R^2, it takes values between 0 and 1, and expresses in a relative way what percentage of the dispersion of the dependent variable is explained by this model and how much variability remains unexplained by it and is therefore due to other influences. The higher the coefficient of determination, the better the model, and thus the more reliably it can be used for possible prediction with the sufficient duration of the time series.

The following three null hypotheses were verified using the statistical apparatus:

Hypothesis 0-3 (H_{0-3}). *The extent of the environmental component integration in individual job positions does not depend on the gender of the students participating in a work placement.*

Hypothesis 0-4 (H_{0-4}). *The extent of the environmental component integration in individual job positions does not depend on the study programmes within which the work placement is carried out.*

Hypothesis 0-5 (H_{0-5}). *The extent of the environmental component integration in individual job positions does not depend on the form in which students participate in the study programme and work placement.*

The data were analysed in the SPSS program.

3. Results

3.1. Verification of Hypotheses H1 and H2

Tables 4 and 5 below show the results of a qualitative analysis of the occurrence of an environmental component in major subjects of the Tourism and Finance and Management study programmes [24]. The occurrence is expressed with the following scale: Totally; Partially; Not at all.

Table 4. Qualitative analysis of the occurrence of an environmental component in major subjects of Tourism.

Subject	Description	Occurrence
Cultural heritage and tourism	The course aims to present an introduction to the history of art. The initial insight into the subject will provide students with information relating to the history of fine art from prehistoric times to the present, focusing on architecture, sculpture, painting and applied art.	Not at all
Geography of the population and settlements for tourism	Basic information about the population figures on Earth, patterns of population distribution and its structure and dynamics and as well as settlement structures. Explanation of causes of regional differences in population density, differences in economic and cultural characteristics based on a comprehensive analysis in relation to the geographical environment.	Partially
Methodology of tour guide services	Introduction to terminology, legal conditions, work activities of a local guide and tour guide, learning about individual stages of a tour's preparation, its implementation, evaluation and accounting. Part of the course is field based—carried out in the form of a package tour.	Partially
Geography of tourism 1	The aim is to prepare students so that they are able to understand the causes and patterns of tourism distribution on Earth in areas of diverse sizes and significance. Explanation of the context of economic and geographical phenomena, in particular. The knowledge acquired is applied to the conditions of tourism in the Czech Republic. In the form of exercises, students learn to analyse the impact of geographical phenomena on tourism development and deduce possible consequences of these phenomena for tourism on a planetary scale.	Partially
Geography of tourism 2	The aim is to prepare students so that they are able to understand the causes and patterns of tourism distribution in Europe and other continents in areas of diverse sizes and significance. Detailed explanation of tourism issues in European countries (outside the Czech Republic) and comprehensive explanation of the distribution and development of tourism in the main non-European tourist areas. Emphasis is placed on the character of the contemporary world and on the impact of tourism on the sustainability of further development.	Partially
Sustainable tourism	The aim is to integrate students' knowledge of entrepreneurship, marketing, planning and tourism management, acquired so far, into the conditions of sustainable and competitive tourism as the only promising approach towards its development. A comprehensive view of the alternatives to sustainable tourism planning and management, also providing a broad overview of the impacts of tourism on the natural and socio-cultural environment of the destination.	Totally

The qualitative analysis of the major subjects of the Tourism study programme shows that the subjects include environmental issues sporadically. The study programme does not contain a separate subject that would relate to issues with a purely environmental focus in the context of tourism.

Table 5. Qualitative analysis of the occurrence of an environmental component in major subjects of Finance and Management.

Subject	Description	Occurrence
Management	The aim is to teach students the basics of management of organisations (whether these are profit-making or not, or whether small, medium or large) and to create prerequisites for their further development. Lectures are focused on individual managerial positions, individual management styles and other knowledge related to corporate governance.	Not at all
Business economics	The aim is to teach students basic economic concepts and categories that will enable them to understand economic relations that appear in enterprises (business entities—physical and legal persons). Students are able to analyse corporate relationships and links and on their basis to create and design the correct form of business entity, asset and capital structures of an enterprise, financial results of an enterprise, methods of financing business activities and cash flows in the enterprise.	Not at all
Financial accounting 1	Knowledge of accounting basics, interpretation of word problems, acquisition of the ability to use accounting in business decision making, accounting treatment of individual accounting cases, accounting of business entities.	Not at all
Financial accounting 2	Knowledge of financial accounting of entrepreneurs, ability to apply financial accounting results in a basic accounting information analysis, ability to organise accounting in an accounting unit, basic knowledge of links to company management and economic analysis of a company in business decision making.	Not at all

The major subjects of the Finance and Management study programme, which are compulsory and of key importance under the programme, do not cover environmental issues.

3.2. Verification of Hypotheses H3–H5

The following section of the article describes the distribution of the frequency of the environmental component occurrence by the examined variables represented by job positions that students perform within their work placement. (The column titled "Enviro" includes job positions with the environmental component occurrence; the column titled "No" refers to job positions without an environmental component.)

The value of the test criterion $\chi^2 = 0.415$, $p = 0.519$ is greater than 0.05, therefore the hypothesis $H_{0\text{-}3}$ of independence of variables at the significance level of 5 % is not rejected. This means that the occurrence of an environmental component is not dependent on gender (Tables 6 and 7). All the standardised residuals r_{ij} are within the interval of −3 to 3, so no category differs significantly from the values expected in the instance of independence of statistical characters.

Table 6. Observed and expected relative frequencies—gender dependence.

STUDENT GENDER	Observed Relative Frequencies			Expected Relative Frequencies		
	Enviro	No	$\sum p_{ij}$	Enviro	No	$\sum p'_{ij}$
Male	0.024	0.115	0.139	0.023	0.116	0.139
Female	0.139	0.723	0.861	0.140	0.721	0.861
$\sum$	0.163	0.837	1.000	0.163	0.837	1.000

Table 7. Standard square deviations and standardised residuals–gender dependence.

STUDENT GENDER	Standard Square Deviations			Standardised Residuals r_{ij}	
	Enviro	No	$\sum r^2_{ij}$	Enviro	No
Male	0.300	0.058	0.358	0.547	−0.241
Female	0.048	0.009	0.058	−0.220	0.097
$\sum$	0.348	0.068	0.415	X	X

Tables 8 and 9 show the results of the environmental component occurrence in relation to the study programme.

Table 8. Observed and expected relative frequencies—study programme dependence.

STUDY PROGRAMME	Observed Relative Frequency			Expected Relative Frequency		
	Enviro	No	$\sum p_{ij}$	Enviro	No	$\sum p'_{ij}$
T	0.162	0.667	0.829	0.135	0.694	0.829
FM	0.001	0.170	0.171	0.028	0.143	0.171
$\sum$	0.163	0.837	1.000	0.163	0.837	1.000

Table 9. Standard square deviations and standardised residuals—study programme dependence.

STUDY PROGRAMME	Standard Square Deviations			Standardised Residuals r_{ij}	
	Enviro	No	$\sum r^2_{ij}$	Enviro	No
T	19.960	3.881	23.841	4.468	−1.970
FM	96.634	18.787	115.421	−9.830	4.334
$\sum$	116.594	22.668	139.262	X	X

The value of the test criterion $\chi^2 = 139.262$, $p = 0.0039$ is less than 0.05, therefore the null hypothesis H_{0-4} of independence of variables at the significance level of 5 % is rejected. This means that occurrence of an environmental component is dependent on the study programme.

Consequently, it is worth proceeding with a post-analysis of standardised residuals, which demonstrates that the Finance and Management category has significantly fewer job positions with the environmental component occurrence than would be expected in the instance of theoretical independence (the z-score comes to −9.830 in this case).

Tables 10 and 11 show the results of the environmental component occurrence in relation to the form of study.

Table 10. Observed and expected relative frequencies—study form dependence.

FORM OF STUDY	Observed Relative Frequency			Expected Relative Frequency		
	Enviro	No	$\sum p_{ij}$	Enviro	No	$\sum p'_{ij}$
Combi	0.008	0.048	0.056	0.009	0.047	0.056
Full-time	0.155	0.789	0.944	0.154	0.790	0.944
$\sum$	0.163	0.837	1.000	0.163	0.837	1.000

Table 11. Standard square deviations and standardised residuals—study form dependence.

FORM OF STUDY	Standard Square Deviations			Standardised Residuals r_{ij}	
	Enviro	No	$\sum r^2_{ij}$	Enviro	No
Combi	0.654	0.127	0.781	−0.809	0.357
Full-time	0.039	0.008	0.047	0.197	−0.087
$\sum$	0.693	0.135	0.828	X	X

The value of the test criterion $\chi^2 = 0.828$, $p = 0.3629$ is greater than 0.05, therefore the hypothesis H_{0-5} of independence at the significance level of 5 % is not rejected. This means that the occurrence of an environmental component is not dependent on the form of study. All the standardised residuals r_{ij} are within the interval of −3 to 3, so no category differs significantly from the values expected in the instance of independence of statistical characters.

It can be noted that students, particularly in the Tourism study programme, encounter environmental issues thanks to their work placement much more than in theoretical preparation during their studies (see the results of the qualitative analysis of the study programmes).

3.3. Time Series

In assessing the environmental component occurrence against time, it was necessary to factor in the basic sample according to the study programme. The environmental component in the Finance and Management programme was virtually zero and therefore the next analysis focused exclusively on students of the Tourism study programme. Table 12 shows the relative numbers of students whose work placement included an environmental component.

Table 12. Proportion of the environmental component occurrence in individual years 2014–2019.

Year	Enviro
2014	0.0287
2015	0.2423
2016	0.2353
2017	0.3243
2018	0.2648
2019	0.2527

For reasons of simplicity, linear and quadratic regression models were used. The coefficients of their equations, including the relevant *p*-values of these coefficients and the value of the coefficient of determination, were obtained applying the SPSS program. Table 13 provides a complete overview of the results.

Table 13. Complete overview of linear and quadratic regression results.

EQUATION	Model Summary					Parameter Estimates		
	R Square	F	df1	df2	Sig.	Constant	b1	b2
Linear	455	3.339	1	4	0.142	−7329.862	3.646	
Quadratic	872	10.214	2	3	0.046	−12.599	20.376	−2.390

All of the parameters of both regression models are statistically significant (*p*-value for linear model is 0.142 and *p*-value for quadratic model is 0.042). The obtained linear model explains 45% variability of the dependent variable as a result of the variability of the independent variable, with the quadratic model accounting for as much as 87% of this variability. The mean occurrence value ranges around 22.5% of students from the total figure. The linear model slope y = 0.0365x − 73.2987 can be interpreted as an average year-on-year increase of 3.7% of the Tourism students participating in work placement containing environmental components. This model is illustrated in Figure 1. The observed values are represented by a connected line graph in bold, while the trend line slope is depicted by a dotted line. The quadratic model y = −0.0239 × 2 + 0.2038x − 0.1259 indicates that the original growing trend from 2014 ends in 2017, where it reached the highest point of the parabola. Subsequently, there was a decline, which however slowed down in 2019. This model is illustrated in Figure 2. The observed values are again represented by a connected line graph in bold, while the trend parabola slope is depicted by a dotted line. It should be noted that the data for 2019 are incomplete and that the six-year time series is too short to generalise these conclusions with a prediction. Admittedly, the parabola describes the observed values better; nonetheless, this trend may only be imaginary.
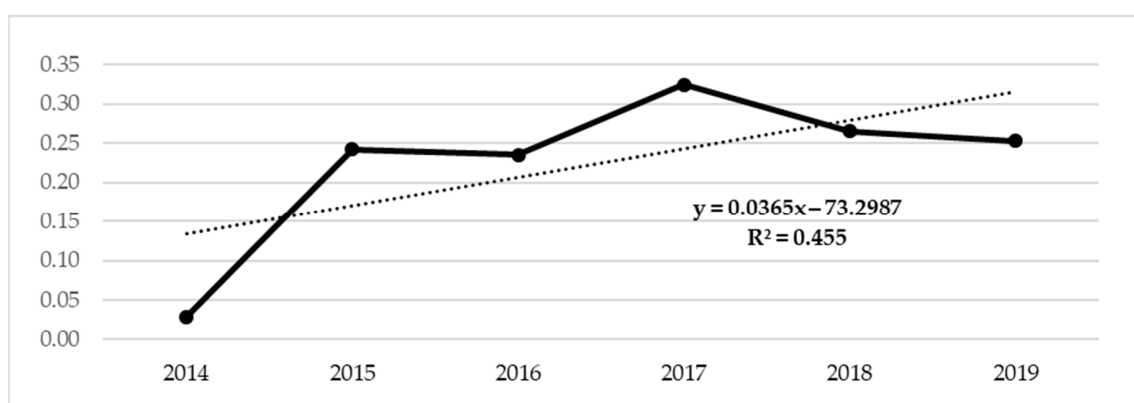
Figure 1. Trend line of the proportion of the environmental component occurrence in 2014–2019 with relation to students of the Tourism study programme.
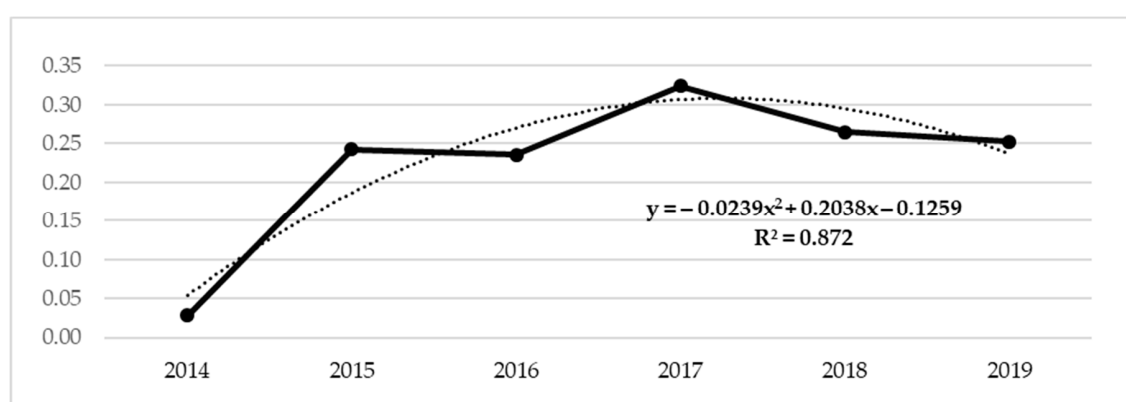

Figure 2. Trend parabola of the proportion of the environmental component occurrence in 2014–2019 with relation to students of the Tourism study programme.

4. Discussion

The research focused on the identification of factors influencing the engagement of an environmental component in the Tourism and Finance and Management study programmes at a career-oriented higher education institution in the Czech Republic, and showed several key findings. However, it should be noted that this research has been limited by the uneven representation of men and women, as well as by the selection of job positions that may differ in other countries. The methods of qualitative research are founded on the own teaching experience of the guarantors of the major subjects analysed.

Based on a sample of 3680 students, the research has significantly established that the inclusion of an environmental component is influenced by the study programme. This influence applies to the Tourism study programme, but not for Finance and Management. The environmental component in the Tourism course is developed through a work placement that students participate in during their studies. Qualitative research analysing the inclusion of environmental aspects in major subjects taught proved the contrary. This finding is in line with the generally applicable argument on the development of tourism environmentalism, which as of yet is not that well established either in the Czech Republic or globally. The research shows that work placements are essential for the development of environmental education [25]. Environmental education positively influences the development of proactive strategies in tourism. It is necessary to employ innovation and integrate environmental education into the learning process [8]. The expansion is considerable at the level of practical training, as it contains plentiful environmental values based on diversity in the optimal functioning of ecosystems, accompanied by sustainable measures at local and global levels, etc. [10]. This fact is also demonstrated by the average

year-on-year increase of 3.7% in Tourism students at the College of Polytechnics Jihlava, participating in work placement with an environmental component.

The Finance and Management study programme guaranteed by the career-oriented higher education institution does not have the potential for development of environmental education for the time being, although there is, for example, a scientific discipline of environmental accounting, which has a relatively long history [12,13]. This result has been demonstrated by quantitative research, where the programme (Finance and Management) under which students participate in work placements does not influence the inclusion of an environmental component in education. Similarly, this component is not present in the major subjects taught [26]. They stress the necessity to newly interpret and practice economics, with a reasonable emphasis placed on economic, social and environmental aspects. Therefore, higher education institutions must assume moral responsibility and contribute to sustainable development because of the urgent social and environmental needs of a contemporary society, so as to prevent the accumulation of environmental and social debt. In order to make sustainability a cornerstone of education at universities, interdisciplinary knowledge and research must focus on achievement of certain objectives, which also include a type of education that stimulates society's conscience. Despite its ambiguity and a global consensus not having been fully reached, the paradigm of sustainable development has enhanced teaching with new approaches that force one to redefine the educational culture and better describe the following characteristics of education: educational strategies, the role of a teacher, curriculum, the role of all stakeholders involved in education, the institutional position of universities, etc. This type of transformation can influence ecological behaviour and create a culture harmonising with nature, strengthening the relationship between theory and practice in favour of the environment and a sustainable way of life. In general, it will be necessary to focus environmental education more on understanding the complexity, interconnectedness and synergy of various disciplines in environmental sciences, to develop skills of balanced discourse and the ability to face consumer thinking, to see developments as a path to justice, to create a compatible system of meeting needs and protecting the environment.

The increasing pressure on the need to address sustainable development in environmental education is also perceived by Gomez et al. [27], who, in agreement with the above named and quoted authors, emphasise the interconnectedness of economic, social and environmental aspects, justifying sustainability. Sustainability proposals in university education are diverse: renewable energy systems, reduced consumption, rational waste management, promotion of environmental ethics and more support for research into promoting sustainable development. The authors of this article agree with the views of García et al. [26] relating to system transformations that require a new perspective on productive activities related to consumerism and also emphasise the green economy, because it is a discipline that considers economics to be a reality associated with the environment and society.

In connection with this interdisciplinarity, which the authors of this article consider essential for the development of environmental education at higher education institutions, one could mention the introduction of several special courses at higher education institutions, such as environmental legislation, environmental economics, ethics, sociology, etc. [11]. These courses can be considered as inspiring for educational improvement in the Czech Republic through interdisciplinarity in the context of environmental education. The example of the College of Polytechnics Jihlava has demonstrated that there is potential for the development of these courses. It will also be necessary to ensure quality training of educators so that the model of environmental education is functional. The role of methodological work is essential for the quality of higher vocational education and evaluation [16]. Teaching strategies related to education are presented in a comprehensive way, resulting in the environment becoming an indispensable aspect in each of the essential roles of an educational institution: its academic and research functions as well as the interconnection with society and pre-professional procedures. From an academic point of view, they stress that each study subject must take into account disciplinary, interdisciplinary and multidisciplinary aspects and, in particular, it must be functionally linked to environmental education. In this model of education students integrate their attitudes and abilities

related to environmental education into a healthy and sustainable lifestyle. The strategy is in line with the ecological model used at the university, where it aims at involving teachers and students in topics that interest the entire population [28].

Bonin et al. [29] have developed a similar model, presenting original tools and methodologies aimed at integrating the environmental dimension in an interdisciplinary manner into different teaching levels and methods, and transferring knowledge, technology and information relating to environmental topics. They recommend implementing environmental education in research groups, exploring various lines of research, via projects and disciplines, with the aim of identifying productive trends and affinity between different programmes and stimulating socialisation of knowledge in favour of the sustainable development of various sectors of society. In the context of development of teaching strategies, it should be pointed out that the occurrence of an environmental component in terms of the job positions performed by students during their work placement ($n = 3680$) is not influenced by gender or the form of study (full-time and combined). The impact of gender contradicts the studies of Ibáñez et al. and Schönfelder et al. [18,19] that highlight the importance of gender differences in environmental education. This result may be due to the uneven representation of women and men in our sample, as well as cultural differences.

5. Conclusions

The research has clearly demonstrated the importance of the conceptual preparation of the curriculum of career-oriented study programmes, which, taking into consideration sustainability education, should be interdisciplinary, focused on practical skills and practical training, while functionally interconnecting environmental aspects, in particular. Exploratory methods of examination applied for two career-oriented study programmes, namely Tourism and Finance and Management, with a research sample of 3680 respondents, showed causal connections and revealed gaps and opportunities for improvement. The Tourism study programme promotes sustainability through work placement implicitly; qualitative educational research has identified gaps in the curriculum content, which need to be supplemented with interdisciplinary topics and courses oriented towards sustainability. It is necessary to emphasise teamwork, creativity, innovation and critical thinking of learners in order to make them prepared for tourism challenges based on the competence to develop proactive management strategies. Despite partial efforts of innovation (inclusion of the study subject of environmental accounting), the Finance and Management study programme has clearly been affected by technocratic "economism", where the conducted educational analyses and quantitative research have revealed a lack of cross-cutting themes and of a comprehensive sustainability-oriented curriculum. Simultaneously, it has been proven that unlike the Tourism study programme, even the system of work placement that students participate in does not influence the occurrence of an environmental component and that this component is also deficient in the curriculum of the integrated major subjects.

This opens the way for curriculum innovation and for the streamlining of the whole concept and focus of practical training. It is strictly necessary to complement and redefine educational objectives and values in tertiary education towards the implementation of environmental economics, sustainability, externalities, assessment and integration of environmental impacts of all human activities, including the sphere of attitudes, in which ethics, morality and responsibility belong. In due course, this research will be steered toward quality management of teaching in relation to environmental education, based on the established results of this study and pedagogical trends.

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