

ENHANCING ATTRACTIVENESS OF SECONDARY AGRICULTURAL EDUCATION IN THE CZECH REPUBLIC

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ABSTRACT

Introducing innovative teaching methods at agricultural high schools is linked to enhancing their attractiveness for students. The article aims to contribute to addressing this issue. Its framework is the discourse on the knowledge society. Students, who at the same time educate other people, presented their suggestions and ideas about inspired teaching in a questionnaire survey, including lifelong and community education at agricultural high schools. In particular, they emphasized the introduction of new trends and topics that are related not only to agricultural but also to other activities in the management of natural resources. They singled out teaching using practical and activation methods. They considered lifelong and community education in the framework of agricultural high schools as a possibility and as beneficial. The results achieved in the research can also be used in teaching at the Institute of Education and Communication (IVP) at the Czech University of Life Sciences Prague (CULS Prague).

KEYWORDS

Agricultural education, innovations, knowledge society, lifelong learning, school community function

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Highlights

- Secondary agricultural schools have the same position as other secondary schools.
- Necessity to interconnect specific subjects with practice, introducing new topics related to nature and its management.
- The lifelong learning is perceived as very important for secondary agricultural schools as well as their role of community centres.
- A possibility to improve the position of secondary schools could consist in a replacement of the existing school funding system.

INTRODUCTION

Two streams are apparent in the discourse about the knowledge society. The first one can be called rationally optimistic and its main representatives are the authors from the initial periods of the said discourse (Blau and Duncan, 1967; Bell, 1973). Their optimism incorporates the belief that knowledge will push ideological and political prejudices away from the development of society, thus freeing the way for technology as the main factor of economic development. Authors, who also included the social dimension in the development, problematized this point of view. They introduced a different view stating that access to higher levels of education does not necessarily result in a reduction of social inequality (Boudon, 1973; Bowles and Gintis, 1976).

They incorporated broader social and cultural environment in the relationship between education and the ability to utilize it (Willis, 1977; Goleman, 1996). At the same time, a group of critics formed in the second stream, pointing out to the functioning of schools as organizations supporting the existing order in society, and thus also the reproduction of inequalities (Bourdieu and Passeron, 1970; Illich, 1973). The critique of education systems in contemporary society has consequently been established. It focuses primarily on the concepts and processes of devaluation, commercialization and market orientation of education (Lohmann and Rilling, 2002). The critical stream culminates in Liessmann's "Theory of Miseducation" (Liessman, 2009).

The abovementioned discourse about education society

reflects general trends in the development of contemporary society, connected with the globalized economy, troubles the welfare state is facing, shifts in the nature of labour and conditions on the labour market caused by computerization, stagnation and so-called loosening of the middle class. Due to these and other changes, education has lost the ability to ensure a good job and career. The phenomenon of education, deprived of this former advantage, is trying hard to establish its “utility value”. However, we cannot altogether give up on high quality education and the increase in the number of educated people. Education is considerable important for the whole society. As stated by Jiménez Bandala and Andrade (2017: 102) ‘education is an instrument by which a society is reproduced socially through their ideals, values and habits’. The subject matter of this paper falls within these issues.

European agriculture is currently facing a number of challenges as evident from many official EU-documents (European Commission, 2010). Whether it is using up-to-date knowledge and technology, or solving the impact of climate change, it is evident that farming practices will increasingly need to be developed at all levels by appropriately educated professionals who will be able to reflect current development. On the other hand, it is necessary to see that agriculture is currently not a prestigious and sought-after profession. That is why raising the attractiveness of secondary education should be a societal priority, as it ultimately affects strategic objectives such as food security and self-sufficiency or sustainable economic growth. The need to put an accent on new approaches leading to sustainable farming results from several recent studies, e.g. The Sustainability in European Agricultural firms (Dos-Santos and Mota, 2018). There is evident that agricultural education, its performance, effectiveness as well as attractiveness is an important stabilizing factor for rural society which results for instance from European Economic and Social Committee opinion (European Economic and Social Committee, 2018).

On a practical level, countries with high number of university students among their population are usually considered education societies. In this respect, the Czech Republic falls behind other European countries. If we take the whole educational structure as an indicator, though, the Czech Republic will move to a better position as it only has a very low number of people with only basic education and one of the highest shares of secondary school students compared to other European countries. In 2014, the percentage of people with the level of education ISCED 0-2 was 6.9%, with the level of education ISCED 3-4 it was 71.1% and with the level of education of ISCED 5-8 it was 22%. For comparison, the average values for EU countries are for ISCED 0-2: 23.6%; ISCED 3-4: 46.4%; and ISCED 5-8: 30%¹ (Eurostat, 2019). Compared to OECD countries, the Czech Republic spends a smaller share of the GDP on education (4.4% vs. 5.3% – the average in OECD countries) and of total government spending

1 According to ISCED 2011, a standard classification of education, ISCED 1-2 corresponds to basic level of education (i.e. primary and lower secondary education), 3-4 corresponds to higher secondary and post-secondary education, which in the Czech Republic means earning a “maturita” degree or a certificate of apprenticeship, and the 3rd ISCED group 5-8 comprises tertiary education (in the Czech Republic this also includes higher vocational schools).

(8.9% vs. 11.6% – the average in OECD countries). As far as unemployment rates by education level are concerned, the Czech Republic ranks among countries with the most favourable results. At the same time, teachers’ salaries at different levels of education are monitored and compared to average wages of workers with similar education as teachers. In this respect, the Czech Republic shows results that indicate that the country does not appreciate the teaching profession appropriately (MŠMT, 2019a).

In the framework of the discourse on contemporary education at theoretical and practical levels, lifelong learning is also a fundamental point. This is true for Liessmann (2009) as a representative of theoreticians as well as for the so-called Bologna Process. It can also be found in the national strategic papers on education and education policy, like the Strategy of Educational Policy of the Czech Republic till 2020 and Long-Term Plan for Education and Education System Development of the Czech Republic 2015-2020 (MŠMT, 2019b, 2019c). For this reason, the article also focuses on lifelong learning. The 2015-2020 Long-term Plan for Education and Education System Development of the Czech Republic 2012-2020 could be an opportunity for schools to re-establish their role as important actors. The traditional existence “brick and mortar” schools provides them with an opportunity to become a central place of so-called community-based learning in various forms and segments of educational activities, including lifelong learning programs (MŠMT, 2019b). In other words, they should also play a role of community education. According to Biriescu and Babaita (2014), the priority of community education should be to develop new skills and communication skills and to cooperate with educational institutions within rural communities – e. g. local authorities, local action groups, entire families and various local associations and organizations. Such activities are often implemented within EU-Leader programmes (European Network for Rural Development, 2011).

We can find many examples showing the role of schools as community centers. According to the National Clearinghouse for Educational Facilities (Bingler, Quinn, Sullivan, 2003), schools are being built in shopping malls, in zoos, or in storefronts. Some are reaching out to homeless and sharing space with social service agencies. Some schools are forging partnerships to share facilities with museums, community colleges, Boys and Girls Clubs, artistic groups, and municipalities. Many communities are also developing large multipurpose community facilities that include schools, recreational facilities, and performing arts centers (Sullivan, 2002). The concept of schools as community centers and their role is analyzed also in many research projects. In the United States, this idea has been developed, for example, by Kappagoda and Kuhlmann (2013) in the case of the project Smart School Siting: How School Location Can Make Students Healthier and Communities Stronger.

Many innovative approaches, how schools can be built to provide not only classical teaching and learning but also to strength links to the community, appeared during last decade, as mentioned above. This fact points out that the role of schools as community centers is topical worldwide.

An example may be an approach of the American National Clearinghouse for Educational Facilities: According to Binger, Quinn and Sullivan (2003: 3) ‘If the school of the future needs to be designed as a learning center for the entire community, its development must begin with a planning and design process that includes community members and reflects their needs. The idea of citizen participation reflects John Dewey’s assertion that we not only need education in democracy, but democracy in education. By engaging students, parents, educators, and a wide variety of citizens in planning and designing schools as centers of community, the best aims of a democratic society are served by both process and product’.

Inspirational examples can also be found in Europe. For example in Italy, the law enables to create networks including schools, local authorities and other public or private bodies which can tackle educational issues. It creates environment for new initiatives to promote social inclusion at a local area level. Innovative approaches in education are typical for Finland. The project “Lighthouse” was recently launched to support municipalities’ strategic planning and national development of basic education. The project is focused on early childhood education, but also on upper secondary education (European Commission, 2018).

The article limits its scope to secondary education and specifically to secondary agricultural education in the Czech Republic. These processes are framed by the topic of so-called education for sustainable development. Its aim is to provide information that systematically supports the planned realization of the main research event as part of the empirical part of a PhD thesis focused on the process of decentralization, optimization and improvement of secondary agricultural education in the Czech Republic. Expert interviews will make use of the findings about the possible enhancement of the attractiveness of secondary agricultural education. Attitudes, suggestions and recommendations from the representatives of “informed public opinion” will be compared to attitudes, suggestions and recommendations of experts, who will be able to look at them through the lens of their possible realization in relation to the conditions and needs of an institutional solution.

The secondary objective was to assess the findings about Teaching of Practical Subjects (hereinafter as UPV) and Teaching of Specialized Subjects (hereinafter as UOP) students at IVP at the Czech University of Life Sciences Prague, which may contribute to the improvement of how these fields of study are taught, with respect to the fact that these fields of study fall into the Specialization in Pedagogy group, but are taught at an agricultural university.

MATERIALS AND METHODS

The material that was gathered and processed for the purpose of this article forms a basis of a contribution aimed to re-establish the prestigious position of secondary schools that specialize in agricultural education in the above-mentioned context. According to the Registry of Schools and Educational Facilities, there are 185 schools and educational facilities in

the Czech Republic that offer disciplines from the group of specializations No. 41, Agriculture and Forestry (MŠMT, 2019d).² As part of network optimization, secondary schools merged in the 1990s and the process is currently being evaluated. The mergers affected also agricultural high schools. As a result, relatively complicated educational complexes emerged that offer a variety of fields and levels of education.

1. Secondary schools offering predominantly agricultural fields of study

- 10 secondary schools and vocational schools (hereinafter as SOŠ and SOU) offer exclusively the fields of study in the group 41 (Agriculture and Forestry).
- 21 SOŠ and SOU offer predominantly the fields of study in the group 41 and at the same time offer 1 - 2 groups of related fields, most often (in the order of) Ecology and Environmental Protection, Veterinary and Veterinary Prevention, Entrepreneurship in the Fields, Branches, General Vocational Training, Business, Mechanical Engineering and Engineering Production, Construction, Gastronomy, Hotels and Tourism, Transportation and Communications.
- Four of these schools have also been accredited as educational institutions – higher vocational schools (hereinafter as VOŠ).

2. Secondary schools where agricultural fields of study are offered along with other fields of study

- 48 SOŠ and SOU offer the fields of study in the group 41 along with other 2 to 5 other fields of study. One of these schools offers instruction as part of VOŠ and in 7 cases the SOŠ or SOU in question has merged with a primary school – hereinafter as ZŠ. In case of these schools, agricultural fields of study have an equal status as other disciplines.
- 96 SOŠ and SOU offer the fields of study in the group 41 along with more than 5 other groups. One school also acts as VOŠ and 8 schools have merged with primary schools. At these schools, the fields of study in the group 41 are deemed less important.
- 10 schools provide both vocational and general education as in this case SOŠ and SOU have merged with grammar schools.
- In one case, the school has also merged with a primary school.

The data for this article were collected by means of a questionnaire survey. The questionnaire research was focused on gathering attitudes, suggestions for solutions and recommendations aimed at increasing the attractiveness of secondary agricultural education. The specific research sample consists of people who have a stake in the subject matter of the study UPV and UOP in part-time form of study at the Institute of Education and Communication (hereinafter as IVP) at the Czech University of Life Sciences Prague. These people are self-educated and, at the same time, have certain experience in educating others and follow public affairs concerning education

² As of 1 January 2009, the Ministry of Education, Youth and Sports CR took responsibility for the Classification of Basic Fields of Study (KKOV). From KKOV results the numbering of fields of study at primary schools, secondary schools, music schools and higher vocational schools (the AKSO numbering) and the numbering of fields of study at universities (AKVO).

and schools. A total of 141 questionnaires were distributed between 17 March and 22 April 2018 to 104 UPV students and 37 UOP students. These students attended a consultation session, where 87% UPV and 100% UOP students were present. The return rate of the questionnaire was 100%.

In order for the questionnaire research to guide authors towards the goal of becoming an inspiration for the following core research, attention was focused on gathering attitudes, suggestions for solutions and recommendations aimed at increasing the attractiveness of secondary agricultural education by improving the quality of vocational education at secondary schools together with its decentralization.

In addition to identification questions allowing such critical assessment, the questionnaire survey focused on key questions grouped into four blocks:

- assessment of the position of agricultural high schools (hereinafter as SZeŠ) in the framework of secondary vocational schools,
- recommendations for enhancing SZeŠ attractiveness,
- attitudes and suggestions for providing lifelong learning at SZeŠ,
- attitudes to the role of SZeŠ as community centres.

Particular attention was also given to the analysis of so-called neutral answers (“I don’t know, I’m not able to say” – to questions belonging to blocks 2, 3 and 4), as they express the level of respondents’ cluelessness where innovative teaching forms and methods are concerned, as described in strategic papers, whose aim is to improve vocational education at secondary level, with enhancing the attractiveness for students as an accompanying effect.

The data obtained from the questionnaire survey were processed by statistical methods of the 1st degree (absolute and relative frequency). For some questions the dependence between UPV and UOP students’ responses was assessed by contingency table using chi-squared test, the Pearson’s contingency coefficients.

Chi-square test, also known as Pearson’s chi-square test, is a nonparametric or free distribution test, considered as one of the most useful statistic methods (McHugh, 2013). Chi-square test assesses whether an association exists between two variables by comparing the observed frequency and to the frequency that would be expected if the variables are independent of each other.

The test is represented as follows:

$$\chi^2 = \sum \frac{(f_0 - f_e)^2}{f_e} \quad (1)$$

where χ^2 is the chi-square value, f_0 is the observed frequency, f_e is the expected frequency.

The initial conditions were as follows:

- H0: the variables are independent,
- H1: the variables are dependent,
- Selected level of significance: $\alpha = 0.05$.

Descriptive characteristics of the mean and the median were observed for cardinal characteristics. More complex statistical procedures were not used for two reasons. Firstly, the research sample is not very large and secondly, the results of the questionnaire survey are not supposed to be used for verification of hypotheses, but as an inspiration for the follow-up expert interviews that will study the subject matter in depth. The findings will be used in a follow-up qualitative research

(expert interviews with secondary school managements) with the aim to deepen the knowledge of the given subject. These interviews will be deeper performed with regard to findings about the possible enhancement of the attractiveness of secondary agricultural education. Attitudes, suggestions and recommendations from students will be compared with, attitudes, suggestions and recommendations of experts, who will be able to look at them through the lens of their possible realization in relation to the conditions and needs of an institutional solution. Such interviews will take place at secondary schools, where the agricultural education prevails or is equal to other teaching programmes.

RESULTS

The results are divided into six sections - description of the sample (profession, experience with educating other persons and with agricultural education), evaluation of SZeŠ position (among other fields of study and including fields of study with a better and worse position), recommendations how to increase SZeŠ attractiveness, attitudes and ideas about providing lifelong education at SZeŠ, attitudes and ideas about the role of SZeŠ as community centres, comparison of “I don’t know” answers to questions expressing attitudes. The results offer a sufficient basis for discussion and drawing conclusion. The discussion focuses on methodological aspects and knowledge for a follow-up research event, as well as for pedagogical purposes at IVP.

SAMPLE DESCRIPTION

Sample description

The share of pedagogical and non-pedagogical staff in the sample is not even, with employees in fields other than education dominating the sample. The ratio is more even in case of students of the UPV field of study.

Profession	UPV	UOP	Total
Teacher	45 (43.3%)	13 (35.1%)	58 (41.1%)
Other	59 (56.7%)	24 (64.9%)	83 (58.9%)
Of which:			
- clerk	15 (25.4%)	13 (54.1%)	28 (33.8%)
- policeman	15 (25.4%)	0 (0.0%)	15 (18.1%)
- educator	6 (10.2%)	0 (0.0%)	6 (7.2%)
- businessman	4 (6.8%)	1 (4.2%)	5 (6.0%)
- adviser	3 (5.1%)	0 (0.0%)	3 (3.6%)
- other	16 (27.1%)	10 (41.7%)	26 (31.3%)
Total	104 (100.0%)	37 (100.0%)	141 (100.0%)

Table 1: Respondents’ professions

Students of teaching disciplines at IVP are often people who seek to obtain a university degree this way regardless of the field of study. As Table 2 shows, these people also have experience with educating others.

Experience with education	UPV	UOP	Total
Yes – primary school or nursery	25 (24.0 %)	8 (21.6 %)	33 (23.4 %)
Yes – high school	45 (43.3 %)	15 (40.5 %)	60 (42.6 %)
Yes - university	1 (1.0 %)	2 (5.4 %)	3 (2.1 %)
No	33 (31.7 %)	12 (32.4 %)	45 (31.9 %)
Total	104 (100.0 %)	37 (100.0 %)	141 (100.0 %)

Table 2: Experience with educating other people

Most respondents (78.1%) have experience with educating other people; 62.5% of them at secondary schools. With regards to subsamples, the results differ neither in respect to absence of experience nor in respect to the prevalence of experience with education at secondary schools (this always concerns the majority of those who do have the experience).

Field of study	UPV	UOP	Total
Out-of-school activities	26 (25.0 %)	0 (0.0 %)	26 (18.4 %)
Agricultural	7 (6.7 %)	10 (27.0 %)	17 (12.1 %)
Gastronomy	13 (12.5 %)	0 (0.0 %)	13 (9.2 %)
Mechanical engineering, engineering	8 (7.7 %)	3 (8.1 %)	11 (7.8 %)
Beautician, hairdresser	6 (5.8 %)	0 (0.0 %)	6 (4.3 %)
Environmental	0 (0.0 %)	6 (16.2 %)	6 (4.3 %)
Other	10 (9.6 %)	6 (16.2 %)	16 (11.3 %)
None	34 (32.7 %)	12 (32.5 %)	46 (32.6 %)
Total	104 (100.0 %)	37 (100.0 %)	141 (100.0 %)

Table 3: Fields of study that respondents have experience with

Respondents who have experience with educating other people have gained this experience primarily in the fields of study agriculture, gastronomy and mechanical engineering. They gained the experience at secondary schools and higher level schools. Respondents who reported having worked at elementary schools were involved in out-of-school activities for pupils. This applies exclusively to UPV students. On the other hand, compared to UPV students, UOP students showed a relatively high level of utilization of experience connected to work in agriculture. However, as Table 4 shows, this finding is not reflected in the evaluation of their personal experience with agricultural schools.

Indicator	UPV	UOP	Total
Mean	4.2	3.8	4.0
Median	4.8	4.0	4.4

Note: In self-evaluation, respondents used a scale from 1 (a lot of experience) to 5 (no experience).

Table 4: Experience with agricultural schools

Evaluation of SZeŠ among other fields of study indicating better and worse fields of study

Most respondents agree that the position of SZeŠ is the same compared to other secondary schools. No respondents claimed it was better. UOP students were far more critical while at the same time they had more experience with agricultural schools and also often had experience with educating others in agricultural disciplines.

Position	UPV	UOP	Total
Same	77 (74.0 %)	17 (45.9 %)	94 (66.7 %)
Worse	27 (26.0 %)	20 (54.1 %)	47 (33.3 %)
Better	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)
Total	104 (100.0 %)	37 (100.0 %)	141 (100.0 %)

Table 5: Position of SZeŠ among other secondary schools

In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.25). Therefore, the hypothesis H_0 about the independence of the variables has not been rejected and there can be concluded that no dependence exists between whether the respondents study the field of UPV or UOP.

Field of study	UPV	UOP	Total
Business schools	13 (36.1 %)	14 (41.2 %)	27 (38.6 %)
Engineering and mechanical engineering	6 (16.7 %)	10 (29.4 %)	16 (22.9 %)
Grammar schools	5 (13.9 %)	10 (29.4 %)	15 (21.5 %)
Apprenticeship	8 (22.2 %)	0 (0.0 %)	8 (11.4 %)
Medical schools	2 (5.5 %)	0 (0.0 %)	2 (2.8 %)
Teaching schools	2 (5.5 %)	0 (0.0 %)	2 (2.8 %)
Answers total	36 (100.0 %)	34 (100.0 %)	70 (100.0 %)

Table 6: Fields of study occupying better positions than SZeŠ

The result show, that business schools have achieved the best position, at the second and third place, there are engineering and mechanical engineering and grammar schools, and at the bottom apprenticeship and teaching schools. The relationship between the UPV and UOP students' responses was not confirmed (the Pearson's coefficient of contingency 0.49). Therefore, the hypothesis H_0 about the independence of the variables was not rejected. There can be concluded that no dependence exists between whether the respondents study the field of UPV or UOP.

Recommendations to enhance attractiveness of SZeŠ

The answers presented in Tables 7-11 clearly show that a large portion of respondents replied the answer "I don't know" (see Section 6 of the Results and Discussion). This is in line with the results outlined in Table 4, where respondents informed about the little experience they had with this secondary school specialization. Tables 7-11 include answers of only

those respondents who have given some recommendations. For this reason, their numbers vary in different tables and subsamples.

Recommendation	UPV	UOP	Total
New trends, topics	22 (44.0 %)	13 (50.0 %)	35 (46.0 %)
Better connection to practice	12 (24.0 %)	10 (38.5 %)	22 (29.0 %)
No need to change anything	3 (6.0 %)	0 (0.0 %)	3 (4.0 %)
Other	13 (26.0 %)	3 (11.5 %)	16 (21.0 %)
Total	50 (100.0 %)	26 (100.0 %)	76 (100.0 %)

Table 7: Recommendations to enhance attractiveness – content of lessons

Regarding the content of lessons, respondents often suggested attractiveness could be enhanced by following new trends (mainly using the latest technological findings) and topics (most often organic farming, floristry, fishkeeping) and better connection to practice. In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.25). Therefore, H_0 about the independence of the variables has not been rejected. Therefore, it can be concluded that no dependence exists between whether the respondents study the field of UPV or UOP.

Recommendation	UPV	UOP	Total
More practical methods	24 (52.2 %)	15 (53.6 %)	39 (52.7 %)
More activation methods	20 (43.5 %)	13 (46.4 %)	33 (44.6 %)
No need to change anything	2 (4.3 %)	0 (0.0 %)	2 (2.7 %)
Total	46 (100.0 %)	28 (100.0 %)	74 (100.0 %)

Table 8: Recommendations to enhance attractiveness – teaching methods

Respondents would welcome the use of more practical methods, such as methods that lead to acquiring skills (demonstration and observation, instruction, manipulation, laboratory work, experiments) and activation methods such as heuristic, discussion, stage and didactic games. In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.28). H_0 about the independence of the variables has not been rejected. That means, no dependence exists between whether the respondents study the field of UPV or UOP.

Recommendation	UPV	UOP	Total
Better equipped classrooms	30 (58.8 %)	10 (41.7 %)	40 (53.3 %)
Better equipment for practical lessons	7 (13.7 %)	7 (29.2 %)	14 (18.7 %)
New textbooks, materials	6 (11.8 %)	5 (20.8 %)	11 (14.7 %)
No need to change anything	8 (15.7 %)	2 (8.3 %)	10 (13.3 %)
Total	51 (100.0 %)	24 (100.0 %)	75 (100.0 %)

Table 9: Recommendations to enhance attractiveness – teaching conditions

Respondents believe that it would be helpful if classrooms were better equipped (they most often mentioned equipment for interactive teaching) and if schools had more equipment for practical lessons such as well-equipped specialized facilities (laboratories, workshops, school management, training plots, or contracts with companies for practical lessons). In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.24). Therefore, H_0 about the independence of the variables is not rejected and there does not exist any dependence between whether the respondents study the field of UPV or UOP.

Recommendation	UPV	UOP	Total
Connect lessons and practice	33 (62.3 %)	15 (55.6 %)	48 (60.0 %)
Continuous education	17 (32.1 %)	2 (7.4 %)	19 (23.8 %)
Organize excursions, internships	0 (0.0 %)	5 (18.5 %)	5 (6.2 %)
Use specialists from practice	0 (0.0 %)	5 (18.5 %)	5 (6.2 %)
No need to change anything	3 (5.6 %)	0 (0.0 %)	3 (3.8 %)
Total	53 (100.0 %)	27 (100.0 %)	80 (100.0 %)

Table 10: Recommendations to enhance attractiveness – work of teachers as educators

According to the recommendations of the respondents, teachers as educators should be more focused on interconnection of classes with practice. This is in accordance with other relevant suggestions – to organize more practical excursions, field trips and internships, and continuous education. The relationship between the UPV and UOP students' responses can not be confirmed (the Pearson's coefficient of contingency is 0.49). That means, H_0 about the independence of the variables is not rejected and there is no relationship whether the respondents study the field of UPV or UOP.

Recommendation	UPV	UOP	Total
Out-of-school activities (trips)	27 (62.8 %)	7 (33.3 %)	34 (53.1 %)
Organize excursions	7 (16.3 %)	4 (19.1 %)	11 (17.2 %)
Better motivation of students	6 (13.9 %)	5 (23.8 %)	11 (17.2 %)
Other	3 (7.0 %)	5 (23.8 %)	8 (12.5 %)
Total	43 (100.0 %)	21 (100.0 %)	64 (100.0 %)

Table 11: Recommendations to enhance attractiveness – work of teachers as instructors

At the level of higher secondary education, teachers are also instructors, which, according to the respondents, means that they should take interest in their students also outside classes by organizing out-of-school activities and field trips. There was also an opinion that teachers should better motivate students and improve communication with them. In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.30). Therefore, H_0 about the independence of the variables has not been rejected and there exists no dependence between whether the respondents study the field of UPV or UOP.

A more synthesizing perspective can be achieved by comparing the results in Tables 7-11. Most recommendations on how to contribute to enhance the attractiveness of SZeŠ concern teachers' work as educators. Fewest recommendations were then recorded also in personnel, though in this case it concerned work of teachers as instructors. Regarding the areas focused on the course of lessons, or their content, methods and equipment, the number of suggestions is even. In all the observed areas, relatively more recommendations were given by UOP students. In particular, this concerns recommendations about innovative content of lessons and the active participation of teachers in connecting lessons to practice. This is probably also linked to frequent recommendations concerning better equipment in workshops, while on the other hand UPV students put relatively more focus on the need to improve equipment in classrooms. It is also interesting to take note of the results of comparing the two subsamples with respect to their recommendations concerning increasing students' motivation. UOP students directed their recommendations relatively more often to the teaching process and the role of teachers as educators while UPV students were more likely to make a link between motivation and joint participation of teachers and students in out-of-school activities (they were more susceptible to the community aspect of education).

Taking into account above mentioned results, it is worth to note that appropriate education, motivation and enthusiasm of teachers will be needed to achieve desired improvements. For this reason, extension education offered to teachers at secondary schools plays an important role. 'Post-secondary agricultural education programs should examine their role in providing researched-based professional development events that reengage teachers in the profession and influence implementation of work-life balance strategies' (Crutchfield, Ritz and Burris, 2013: 10). Some authors also note that persistent stereotypes concerning teachers' motivation provide negative images that do little to

attract and retain teachers (Watt and Richardson, 2012). This just confirms that an attractiveness of SZeŠ cannot be enhanced without an accent on quality teaching staff. Enabling teacher to continue to grow, learn and be excited about their work depends on both ongoing high-quality learning opportunities and career opportunities that enable them to share their expertise in a variety of ways (Darling-Hammond, 2017).

Attitudes and suggestions for realization of lifelong learning at SzeŠ

On a 7-point scale (1 = very important, 7 = totally unimportant), respondents assessed whether SZeŠ should be involved in lifelong learning, which is gaining momentum.

Indicator	UPV	UOP	Total
Mean	2.5	2.3	2.4
Median	2.2	2.5	2.3

Table 12: The role of SzeŠ in organization of lifelong learning

Respondents' answers make it clear that the prevailing opinion is that lifelong learning is of importance. No differences were observed among the studied subsamples.

Activities	UPV	UOP	Total
Presentation of new trends	18 (27.7 %)	1 (4.0 %)	19 (21.1 %)
Organizing visits to farms	8 (12.3 %)	9 (36.0 %)	17 (18.9 %)
Offering part-time study programmes	10 (15.4 %)	3 (12.0 %)	13 (14.5 %)
Passing findings from practice	12 (18.4 %)	0 (0.0 %)	12 (13.3 %)
Courses of farming and breeding of animals	6 (9.2 %)	4 (16.0 %)	10 (11.1 %)
Presentation of environmental topics	5 (7.7 %)	2 (8.0 %)	7 (7.8 %)
Organization of foreign stays, courses	2 (3.1 %)	3 (12.0 %)	5 (5.6 %)
Extending qualification, driving lessons	4 (6.2 %)	0 (0.0 %)	4 (4.4 %)
Other	0 (0.0 %)	3 (12.0 %)	3 (3.3 %)
Total	65 (100.0 %)	25 (100.0 %)	90 (100.0 %)

Table 13: Possible activities at SzeŠ in the framework of lifelong learning

In the context of lifelong learning, respondents most often recommend that SZeŠ should present new trends in agriculture and food industry. It is interesting to note that this topic is particularly emphasized by UPV students (while the introduction of the same topics into standard secondary education is emphasized by UOP students). Other possible activities in the order as given in Table 13 are usually emphasized either by one or the other group of students. Also in

this case, no relationship between the UPV and UOP students' responses was proven (the Pearson's coefficient of contingency is 0.49). Therefore, H_0 about the independence of the variables is not rejected. There exists no relation between whether the respondents study the field of UPV or UOP.

Activities	UPV	UOP	Total
Agricultural enterprises, farms	32 (47.8 %)	15 (48.4 %)	47 (47.9 %)
Environmentalist and other relevant NGOs	16 (23.9 %)	8 (25.8 %)	24 (24.5 %)
Institutions (Ministry of Agriculture, research institutes)	6 (8.9 %)	7 (22.6 %)	13 (13.3 %)
Local organizations	9 (13.4 %)	1 (3.2 %)	10 (10.2 %)
Other secondary schools	4 (6.0 %)	0 (0.0 %)	4 (4.1 %)
Total	67 (100.0 %)	31 (100.0 %)	98 (100.0 %)

Table 14: Possible cooperation for SZeŠ in the framework of lifelong learning.

Respondents see a possibility in SZeŠ cooperation with local agricultural enterprises, family farms and environmental or other relevant NGOs (they often mentioned Greenpeace), with no difference between UPV students and UOP students. They further mentioned possible cooperation with the Ministry of Agriculture and research institutes, a possibility emphasized by UOP students, while UPV students saw more possibilities in cooperating with local organizations. It may be of interest that the least mentioned option was a cooperation with other schools. In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.26). H_0 about the independence of the variables is not rejected and there exists no dependence between whether the respondents study the field of UPV or UOP.

It is evident that modern and professional training within lifelong learning is desired. However, modern and professional adult training must be based on modern methods improving organizational and individual performance creative ability and motivating staff (Dimitrescu, Sârbu and Lacroix, 2015).

Attitudes and suggestions concerning SZeŠ as community centres

On a 7-point scale (1 = very important, 7 = totally unimportant), respondents assessed whether SZeŠ can serve as community centers.

Indicator	UPV	UOP	Total
Mean	1.8	1.7	1.7
Median	2.0	2.0	2.0

Table 15: SZeŠ as community centres

Students in both subsamples support the claim that SZeŠ should take over the role of community centres (mean 1.7; median 2.0). Similar findings are reached by Husák and Hudečková (2016), who accent an importance to determine a main actor to cooperate with

local actors and coordinate all participants in education in local municipalities.

Activities	UPV	UOP	Total
Organizing courses linked to nature, agriculture	29 (41.4 %)	16 (48.5 %)	45 (43.6 %)
Sports and cultural events at the school premises	29 (41.4 %)	12 (36.4 %)	41 (39.8 %)
Working in the garden, weekend workshops	2 (2.9 %)	3 (9.1 %)	5 (4.9 %)
Organizing camps, trips	4 (5.7 %)	0 (0.0 %)	4 (3.9 %)
Organizing farmers' markets	3 (4.3 %)	0 (0.0 %)	3 (2.9 %)
Other	3 (4.3 %)	2 (6.0 %)	5 (4.9 %)
Total	70 (100.0 %)	33 (100.0 %)	103 (100.0 %)

Table 16: Possible activities for SZeŠ as community centres

Suggestions for possible SZeŠ activities as community centres often included the idea that schools could act as organizers of courses related to the particular field of study, which was emphasized by UOP students, while UPV students more often hinted at the possibility of providing space for various sports and cultural activities for the public, which are activities not related to the school's specialization. Also in case of evaluation of new roles discussed and the co-operation of SZeŠ with other types of organizations, UPV students are considerably more clueless in all three of the observed areas. When compared to UOP students, the smallest difference was observed in the area for which the highest support was expressed, i.e. adopting an active role on the part of SZeŠ in providing lifelong learning. In this case, the dependence between the UPV and UOP students' responses has not been proven (the Pearson's coefficient of contingency is 0.25). Therefore, the hypothesis H_0 about the independence of the variables has not been rejected, meaning that no dependence exists between whether the respondents study the field of UPV or UOP.

Comparison of "I don't know" answers

Activities which are seen as having a potential to increase the attractiveness of SZeŠ are ordered in the table from the highest to the lowest level of respondents' cluelessness.

Recommendation	UPV	UOP	Total
Work of teachers as instructors	61 (58.7 %)	16 (43.2 %)	77 (54.6 %)
Teaching methods	58 (55.8 %)	9 (24.3 %)	67 (47.5 %)
Conditions for education	53 (51.0 %)	13 (35.1 %)	66 (46.8 %)
Content of lessons	54 (51.9 %)	11 (29.7 %)	65 (46.1 %)
Work of teachers as educators	51 (49.0 %)	10 (27.0 %)	61 (43.3 %)

Table 17: Comparison of the frequency of neutral answers in recommendations to enhance attractiveness of agricultural high schools

UPV students showed an above-average rate in almost all areas of recommendation. UOP students are approaching such a level of cluelessness only in the first group of activities included in the table and they are far better informed when it comes to the other four groups. The difference is evident especially in teaching methods. In this case, the dependence between the UPV and UOP students' responses is not proven if the level of significance was set 0.05 (Pearson's coefficient of contingency is 0.07). However, setting the level of significance at 0.1 would lead to a conclusion that a relationship would have been proven.

Possible activities for SZeŠ	UPV	UOP	Total
In the framework of lifelong learning	39 (37.5 %)	12 (32.4 %)	51 (36.2 %)
In cooperation with other organizations	37 (35.6 %)	6 (16.2 %)	43 (30.5 %)
As community centres	34 (32.7 %)	4 (10.8 %)	38 (27.0 %)

Table 18: Comparison of the frequency of neutral answers concerning possible activities or SZeŠ in the framework of lifelong learning

In the table, groups of new roles that SZeŠ could take on are once again ordered from the highest to the lowest level of cluelessness. Also in case of evaluation of new roles discussed and the co-operation of SZeŠ with other types of organizations, UPV students are considerably more clueless in all three of the observed areas. When compared to UOP students, the smallest difference was observed in the area for which the highest support was expressed, i.e. adopting an active role on the part of SZeŠ in providing lifelong learning. In this case, the dependence between the UPV and UOP students' responses has not been proven again (the Pearson's coefficient of contingency is 0.15). Therefore, H_0 about the independence of the variables is not rejected and there can be concluded that no dependence exists between whether the respondents study the field of UPV or UOP.

DISCUSSION

The results make evident that education and regional development issues have not always been coordinated sufficiently. This concerns also the development of secondary education, including agricultural secondary education, which has a specific importance from regional perspective. As mentioned above, many countries all over the world are facing similar problems and many authors are concerned with this issue (e.g. Dos-Santos and Mota, 2018; Watt and Richardson, 2012). Similar findings, that rural community centres are only partly in accordance with rural development activities, presented also Husák and Hádková (2015). The results of the survey presented in the article have therefore an ambition to contribute to this field of research taking into account specific conditions of the Czech secondary agricultural education system.

The results of the survey also detected recommendations and

ideas, which have a potential to enhance an attractiveness of secondary education in the Czech Republic. It is evident that the respondents would welcome greater interconnection of specific subjects with practice (greater inclusion of practical part or training into classes). The survey also shows that topics related to nature and its management as an environment where people live (agriculture oriented towards careful handling of natural resources, production of healthy food, floristry, fishkeeping, zoo therapy, activities related to keeping pets, etc.) are desired. Processing these topics should be more oriented towards the use of practical and activation methods. It is possible to conclude that such changes in current educational system would require building a partnership of secondary schools with representatives of municipalities, business and other relevant organizations. Survey result make also clear that the lifelong learning is perceived as very important for secondary agricultural schools as well as their role of community centres. This is becoming a challenge for all relevant actors in local communities. The authors are identified with the statement of Harkavy and Blank (2002: 52): that 'a community school is not just another program being imposed on a school. It embodies a way of thinking and acting that recognizes the historic central role of schools in our communities – and the power of working together for a common good. Educating our children, yes, but also strengthening our families and communities so that, in turn, they can help make our schools even stronger and our children even more successful.' The authors can confirm the findings of Husák and Hudečková (2017) that acknowledge that local networking, partnership and collaboration with the local municipality, parents and other local people are becoming more and more important.

The results indicate a possibility to improve the position of secondary schools, including agriculture ones. This improvement could consist in a replacement of the existing school funding system. Current funding is based on national norms, which determines the average student expenditure per unit (student). This financing method favors schools with a higher number of students. Schools thus accept students who do not have the prerequisites to study or the motivation, just to secure their funding. The change in funding should guarantee financial resources based on the number of classes taught by the curriculum, starting in January 2020. In such case, school directors will not have to persuade students with no interest in studies, which could increase the quality level of secondary schools. Similar needs have also been defined in Slovakia. Zaf'ková and Ambrozy (2019) point out that the Slovak education system is still substantially based on the Czechoslovak system as established by a fundamental reform from the 1970s. Changes in teaching methods and introduction of new topics will be better implemented in such schools where students are highly motivated, with a real interest in education. All the above-mentioned problems have one common denominator. To implement recommended ideas and changes resulting from the research will require an involvement of both local and national (respective European) level. At the local level, closer links and cooperation of schools with local actors will be a necessary condition to enhance attractiveness and quality of agricultural education, however legal conditions

and support given by national authorities is no less important. Therefore, an incorporation of educational issues into regional policy aims can become an important factor how to create environment suitable for offering quality and attractive agricultural education which, on the other hand, will contribute to economic, social and environmental sustainability of rural agricultural areas.

CONCLUSION

With regard to provided research and discussion, there can be concluded that education and regional development issues have not always been coordinated sufficiently. The current

state will therefore require better and more coordinated approaches. The results of the survey also detected some recommendations and ideas, like greater interconnection of specific teaching subject with practice or closer cooperation of actors at local level, which have a potential to enhance an attractiveness of secondary education in the Czech Republic. A possibility to improve the position of secondary schools, including agriculture ones, could consist in a replacement of the existing school funding system to allow schools to adapt more easily to new challenges. An overall conclusion points out that an implementation of recommended ideas and changes resulting from the research will require an involvement of both local and national (respective European) level.

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