

**SZENT ISTVÁN
EGYETEM**

GÖDÖLLŐ

**Analysing competence needs in the context of vocational training and the
labour market, in the North Hungarian region**

DOCTORAL (PhD) DISSERTATION

Theses

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1. Antecedents, objectives to be met

The aim of my research is to find out the interrelations between the school-based vocational training, the world of work and the young career starters based on the experiences of Borsod-Abaúj-Zemplén, Heves and Nógrád county. I look at competency requirements for young skilled workers and their changes based on a comparison of vocational training schools, prospective jobs and young workers. During the research I analyse the characteristics of the labour market demand for competence. An important part of my dissertation is the development of competence-based human resources development and the human resource-related expectations of the world of work. The question is, nowadays, that professional training meets the needs of the workplace directly, and/ or that it is adapted to long-term objectives. Practice-oriented training is a priority, and / or general intelligence and creativity.

With the research, I want to contribute to making vocational education and training (VET) more effective and attractive in the examined North-Hungarian region. The analysis builds on secondary and primary research. In empirical research the needs of the labour market have been assessed in the counties of Northern Hungary.

In the dissertation I defined the following objectives:

- C1** Explore the degree of awareness of the choice in VET in the North-Hungarian region surveyed.
- C2** Find out how much theory- and practice-oriented the training of vocational education is in the area.
- C3** Determine whether the vocational training activities of the vocational schools in the counties of the region meet the students' and employers' expectations.
- C4** Assess the static or dynamic nature of vocational training in the region.

C5 Find out what competencies the employers consider important when choosing their career path.

The following hypotheses were formulated during the research:

H1 In the three counties of Northern Hungary, the application for vocational training, the career choice is not a deliberate choice, but the opinions of the family, friends and acquaintances are decisive.

H2 Vocational training is stronger in vocational theoretical education, with little practical training whose intensity is not enough.

H3 The preparatory activities of vocational training for a workplace meet the requirements of career starters and employers.

H4 There is a need for schools, employers and start-ups to make vocational training more dynamic and renewed from time to time in line with labour market needs.

H5 The competencies expected by employers differ from the competencies considered important by vocational training schools and start-ups.

2. Material and methods

The research covers the administrative areas of Borsod-Abaúj-Zemplén, Heves, Nógrád counties, the North-Hungary planning and statistical program region. In a European comparison, but also within the country, the region is characterized by a continuous decline in the competitiveness index, and without major improvements, the downturn process seems to be unstoppable in the foreseeable future.

In the primary data collection three questionnaires were prepared: one for employers, one for vocational training institutions, the third for career starters. The data collection was done by the questionnaire method. Questionnaire questions were clarified after a test evaluation. All three measuring instruments consist of three parts. In the first part, there is general information about the employers, the school and the beginner. In the second part, I examined the competencies and the skills of the labour market from the skilled career starting workers. In the third part, I mapped out how satisfied the stakeholders are with the situation, and where the main points of the tasks to be solved are. When editing the three questionnaires I took into consideration the criterion of comparability.

Questionnaire data was collected in the fourth quarter of 2016 and in the first half of 2017. The basic population was basically given by the databases of the Chamber of Commerce and Industry of Borsod-Abaúj Zemplén, Heves, and Nógrád counties. In the three questionnaire surveys, 172 young career starting skilled workers were interviewed with 127 employers and 107 vocational school leaders. The questionnaire used in the research was conducted in mixed form P2P and CAPI.

A total of three semi-structured focus group interviews were carried out in August and September 2017. From Nógrád county 6 people, Heves County 7, and Borsod-Abaúj-Zemplén county 8 people attended the interview. Participants include industry, agriculture and service sector workers, representatives of large companies, micro, small and medium-sized enterprises, HR specialists, and those working in the field of practical education, vocational and general education. In the interview, I emphasized the “focal points” based on the processing of questionnaire research. The semi-structured focus group interview proved to be a good method for forming a response that was accepted by the majority on a specific issue, helping to clarify the answers to the questionnaire as well as to determine trends and processes.

3. Results

3.1. The correlation between the satisfaction of young graduates, vocational training institutions and employers in vocational training

In the focus group semi-structured interviews, it turned out that the opinions of the career starting skilled workers, schools and employers' representatives are not far from each other. For the employees of the future, one of the leaders of an industrial training institution claimed that a student entering “training” should have the “basic skills to be cooperative” referring to the lack of basic knowledge and motivational deficiencies of VET students. This is how the next opinion came from an instructor: “Tuning young people better on training and being more active. As there are many absences, there is still one third who drop out. “The next point was made by an HR manager, who referred to the lack of professionals, who considered it important to point out that” we are waiting for OKJ graduates, even if their profession is not the one we need, we will retrain them.”

In the next part school education was examined. The representative of the prospective employees, after graduating from a post-graduate school and having completed an outstanding academic achievement in 2017, said: “The school should be flexible, understand our problems, there are some of my companions who are family supporters” sensing the difficult situation of students and the fact that people here need not only professional competence, but also social competence development. With regard to vocational training, he said that “I got professional training, so I could achieve outstanding results in my profession”. This, in turn, shows that where appropriate personal and material conditions are available and are committed students, Hungarian vocational training can deliver outstanding results.

From an employer's point of view, a micro-entrepreneur addressed the school as follows: “The school bases practical training and career building”. In fact, this is not a minor task than acquiring experiential learning at professional schools and preparing for retraining and change. The aforementioned prospective employee said, “The employer should provide competitive pay, appropriate working conditions and progress” as a requirement. This idea also shows that the situation and integration of young people in addition to the qualification is influenced by a number of factors. These may include working conditions, remuneration, and what perspectives the job offers. Is there a decent job in the living environment, or should they go to another location in the country or look for success abroad?

A head of a private school specializing in commerce and hospitality considered it important to highlight the following: “The employer should educate the entire spectrum of the profession according to the Professional Examination Requirement (SZVK) and not just a narrower section of the profession requirements”. This also indicates that not all vocational training providers have the condition of completeness of practical training. Even so, the opinion of an employment specialist in the administrative field is underlined: “All three factors that determine the vocational training start from their own aspect. The career starter wishes to position himself in the profession. The school wants to train in a profession that has the most personal and material conditions in which it is the best. The employer is ready to get a new workforce, starting from his current needs. “This opinion is related to the opinion of a deputy director of an agricultural school:” There is no meaningful, but formal communication among stakeholders in many cases.” The earlier statements also reveal that substantive issues are not settled, decentralized, but centrally, to which regional actors have minimal influence. I originally thought that the level of vocational training in our region is not worse than the vocational training in

other parts of the country. Yet, it was surprising to me that the vocational training in the three counties was compared to the different regions in a very convincing way with experts of vocational training with decades of experience. Sixteen (76.2%) of the twenty-one opinion-forming experts said that the school and student performance of the vocational training system in the counties of Northern Hungary is no worse compared to other regions. Five (23.8%) judged the quality of training in the lower level.

3.2. Applying for vocational training and career choice are not the result of a conscious choice, the opinions of family, friends and acquaintances are decisive.

The entire system of VET is affected by the fact that in the three counties of Northern Hungary, vocational training is not chosen by young people on the basis of a conscious career building. That is why the motivation of young graduates is low. Choices of parents, friends, acquaintances are of decisive importance in career choices. This is said by eighteen people (85.7%) and three (14.3%) did not share that opinion in the semi-structured focus group interview.

In the questionnaire study, I first examined how the job-search habits of career starters develop. When starting their career choices, career starters identified the family, friends and acquaintances as the primary source, while the lowest proportion indicated counsellors.

Examining the ways how young people start looking for a job, I found that, based on the answers given, the job opportunities found by friends and friends were extremely high. The deviation of the answers ranged from 2 to 5, all of which gave two people a value of 2, which meant that it was less typical. As shown in Figure 1, the lowest value was received by personnel consulting firms. And the likelihood of consulting a career centre is similarly low.

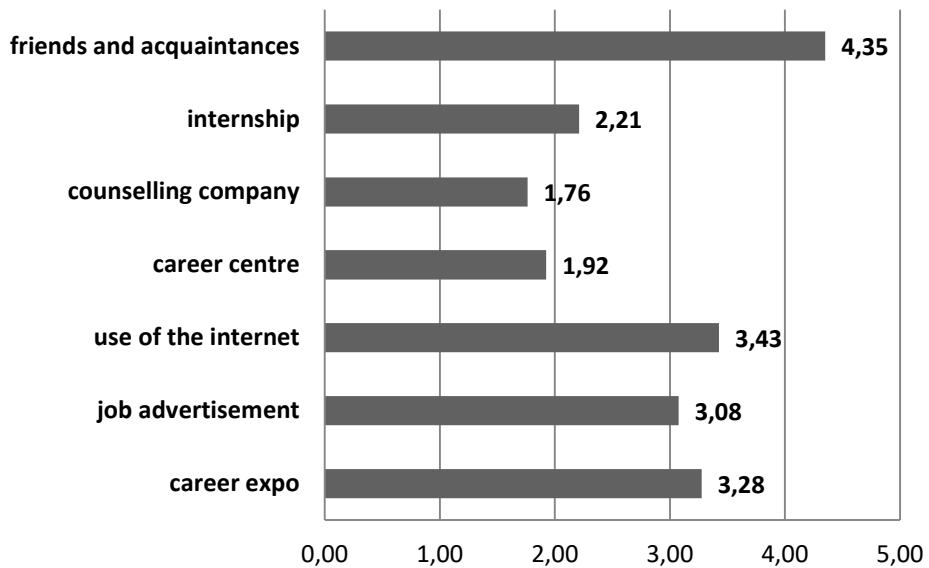


Figure 1: Job-seeking opportunities that are considered effective by young graduates

Source: author's own research and editing, 2018

Overall, in the counties concerned, young career starters and employers are more confident in recommendations given by acquaintances than in trainee jobs or in contacting career-, or even staffing consultants.

3.3. Vocational training is stronger in theoretical education, there is little or no practical training whose intensity is not adequate, either.

Using a frequency cross-table analysis, I looked at what was to be developed by the interviewees in the following study. The five-point responses received the least value, the less they considered them to be developed. I compared the averages for the analysis. As shown in Figure 2, all three groups were most satisfied with common knowledge training: they say that this should be the least developed. Although the ratio of averages per group changed, the sequence was everywhere the same.

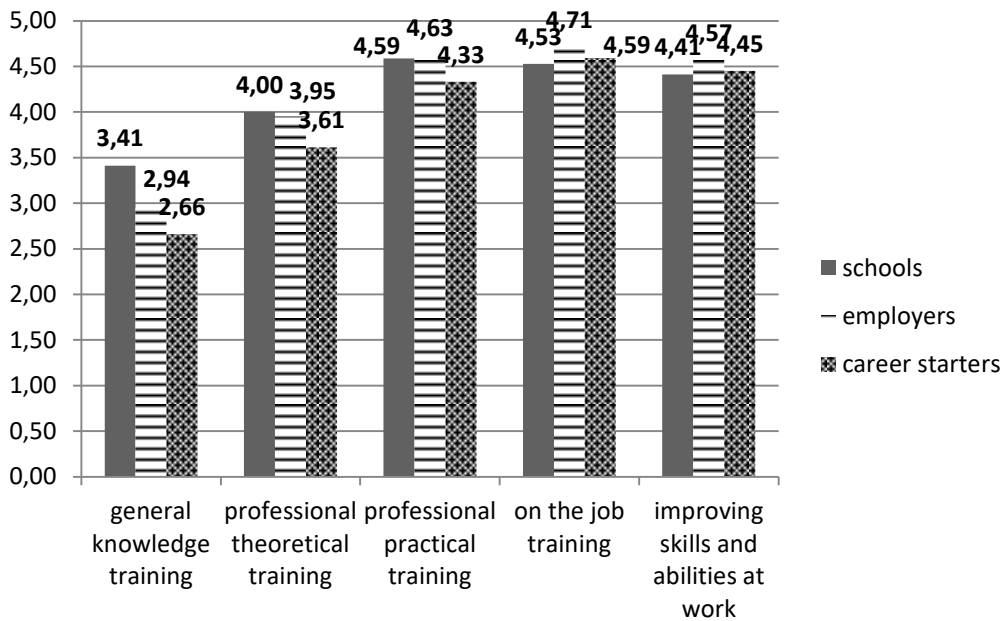


Figure 2: Areas that should be developed most

Source: author's own research and editing, 2018

The highest value was training at the workplace, which is challenging because such partner practical training places are necessary where students can work on the job. The next area to be developed is vocational training, which is a similar problem. Here the schools assign a higher value to it rather than the on the job training. This may be because schools are aware of the everyday problems of practical training and still have to look for such practical places. Organizing internships, that is to say, school workshop tuition seems to be a simpler task. But the schools themselves say that because they do not have enough resources, it is difficult in many cases to involve properly trained practitioners in the training. The assumption in this regard is that vocational training is mainly theoretical; this was also supported by the fact that the theoretical training is the last area to be developed.

3.4. Employers consider the activity of vocational schools to be moderate.

To make comparisons, I asked for opinions on a five-grade scale, where the higher score means better results. Table 1 shows that there are significant differences between the mean values measured in each country. Employers consider the performance of schools to be inferior to their expectations. i.e. moderate. In B-A-Z county, they were rather dissatisfied with training institutions, and both in Heves and Nógrád, this was slightly more positive and Heves was more satisfied with its schools. The average distribution is higher in these two counties, so the respondents' opinions are more different.

Table 1: Employers' satisfaction with the performance of VET schools

County	Average	Items	Deviation
Heves	3.44	62	0.969
Borsod-Abaúj-Zemplén	2.99	91	0.707
Nógrád	3.21	29	0.819
Total	3.19	182	0.850

Source: author's own research and editing, 2018

I also studied the correlation with the counties and the answers given, but I did not find a demonstrable correlation between them. The Chi-square test is 0.04 ($p = 0.01$), meaning there is no correlation between it.

3.5. There is a need for schools, employers, and start-ups to make vocational training more dynamic, renewing from time to time in line with labour market needs.

I asked what tasks they think in the region there are in terms of renewing the relationship between vocational training and the labour market. Among the values on the five-grade scale, as shown in Figure 3, the smallest result would be a quantitative increase in vocational training. Teachers, trainers, administrative specialists and skilled workers in higher education should consider quality improvement to be important while maintaining a harmonious relationship with the prospective employers in secondary education, training in

the labour market and improving the conditions of vocational training is also a must.

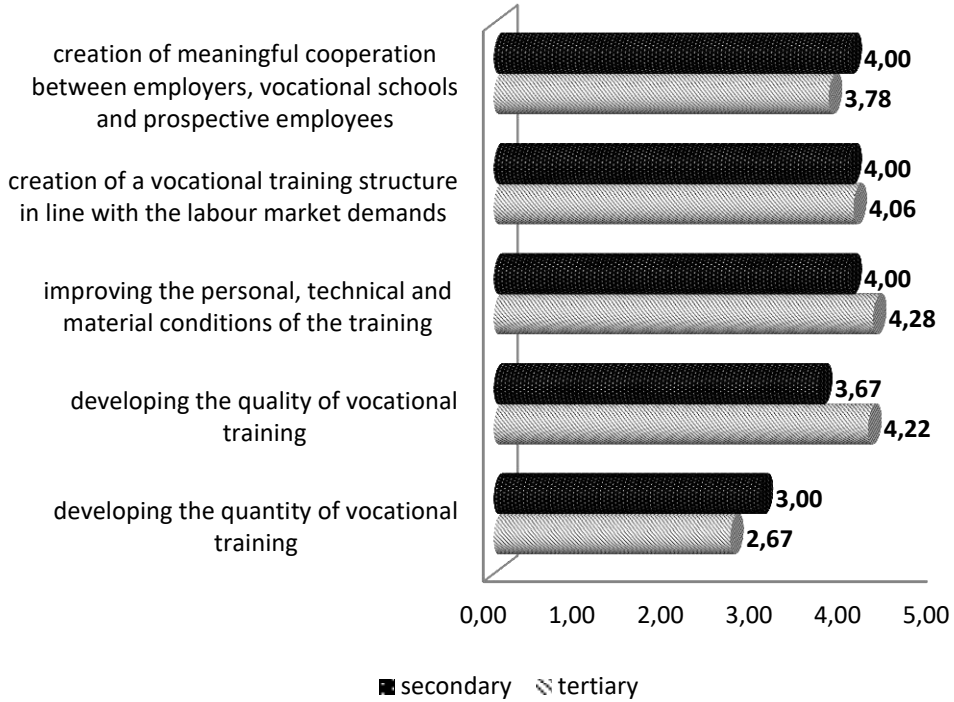


Figure 3: Respondents ‘opinion about the renewal of vocational training

Source: author’s own research and editing, 2018

In the field of labour market training, there is a strong renewal demand for all participants in vocational training. The difference in opinion is how far this is to be. Respondents see the development of the quality of vocational training in the region as viable with the economic development of the region. Improving the personal and material conditions of the training and the development of practical training are considered to be a top priority, as well as the creation of meaningful cooperation between employers, vocational schools and prospective employees.

3.6. The competencies expected of employers differ from the competencies that are considered important by vocational schools and start-ups.

I was looking for answers to the differences between the expectations of each of the examined groups in terms of skills, i.e. how important the skills they have are in the field of career starting skilled workers. The visual (Table 2) examines the priority order of individual skills. What all three groups have chosen with the slightest importance is foreign language knowledge. The most important is work discipline.

Table 2: The order of the skills considered important during the work

	School	Career starter	Employer
1	work discipline	work discipline	work discipline
2	professional practice	professional practice	work independently
3	problem solving ability	problem solving ability work independently	cooperating skills
4	cooperating skills		problem solving ability professional practice
5	work independently	cooperating skills	
6	ability to learn	ability to learn	ability to learn
7	professional theory	professional theory	professional theory
8	communication skills	organisational skills	organisational skills
9	IT skills	decision making ability	communication skills
10	decision making ability	communication skills	decision making ability
11	organisational skills	IT skills	IT skills
12	foreign language skills	foreign language skills	foreign language skills

Source: author's own research and editing, 2018

Work discipline was the first place in all three cases. In the second place there was a discrepancy, while in the case of school and career starters, professional practice is the second most valued skill; this only coincides with the employer's problem-solving ability in the 4th place. Employers considered cooperating skills more important than problem solving ability. In the case of career starters, there is a greater similarity with the school, while in the other cases, the ranking of skills and competences is more similar to the employers' opinion.

During the course of the examination, I also performed a factor analysis. I distinguished three factors based on the competencies.

The three factors obtained in factor analysis can be grouped as:

- 1. leading, organizational factors,*
- 2. factors for good work,*
- 3. factors of school competences.*

3.7. Internship is an important element of the individual VET model.

In my dissertation, I developed an individual idealized model which is based on the current training structure and this is complemented by competence-based vocational training. The student enters the first level where he meets the general knowledge that includes writing, reading, texting, reading comprehension, counting, and information and communication technologies (ICT). During primary school education, young people learn basic and key competences. Lack of basic competency hinders the living of employees, and those who are behind the training will select one of the forms of school-based (academic) and adult-related trainings. Building on the knowledge of general education, the competence development is further expanded with competence and practical training, where the knowledge of the student is supplemented with competence and competency. During your company practice and internship, you will gain knowledge and expertise that is useful in your work, helping you acquire the ability to work independently. An important part of the model is the traineeship - which I consider to be appropriate for the introduction, as a model of tertiary education, to assist in the integration of work and labour. After the secondary vocational training, the introduction of the internship program is justified by the fact that the knowledge acquired during the vocational training of the school is not yet complete in this profession. Pupils entering the labour market have competencies and practical skills that will not only replace their position in the

given training structure but can later be used in the long run to develop skills in many areas that can flexibly adapt to future challenges. This model is shown in Figure 4.

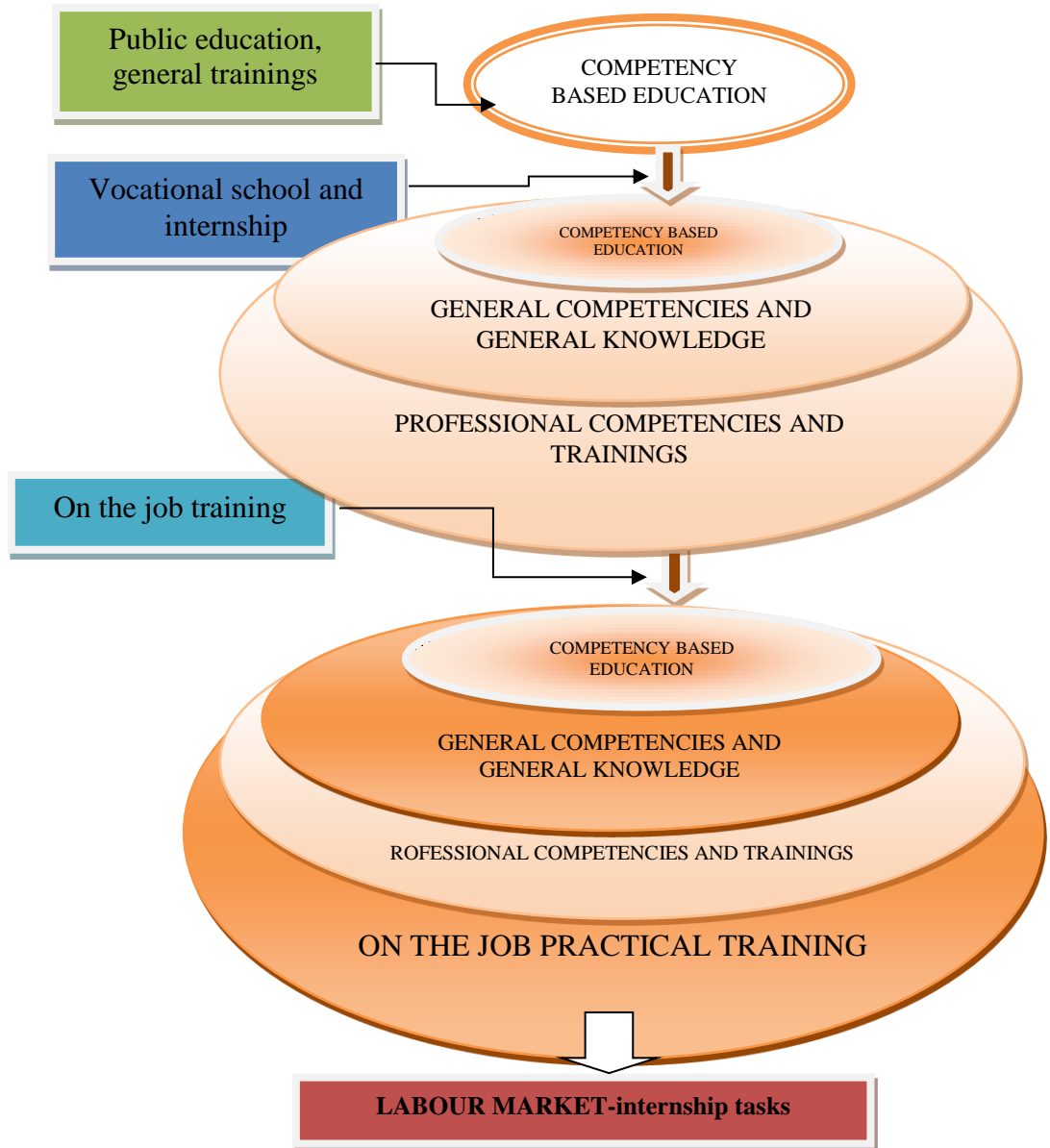


Figure 4: Individual vocational training model

Source: author's own research and editing, 2018

4. New and novel results of the research

The exploration of the new and novel results of the research (R1-R5) is based on my own research as well as primary and secondary research; not only the opinions of the representatives of vocational training institutions and employers, but also that of the career starting skilled workers, together with the young people concerned are compared with the examination of competency needs in the context of vocational training and the labour market.

R1 My research demonstrates that there is a fundamental contradiction in the training practice of vocational training, **the principle according to which students choose to study the profession that best suits them does not prevail**. The career choice decisions that significantly influence the career path of students in vocational training are less a result of a conscious process, but the financial situation of the family and the lack of mobility are of decisive importance; and the low level of primary school achievement is the result of the “leftover principle” of the students being selected in the course of the VET.

R2 My examinations show that **theoretical training is dominant in the education of professions, and this form of education has mostly the personal and material requirements available**. Primarily, practical vocational training and practical training at the workplace is required as general and vocational theoretical training has improved its conditions and practices.

R3 None of the participants in the structured interview evaluated **the quality of VET in the school, which is considered to be moderately high**.

The examination also highlighted that there is a demand and intent from all the three groups of school leaders, representatives of the workplaces and career starting young people to renew the vocational training, better adapt to the labour market conditions and meet the needs of higher standards.

R4 The situation of VET is shown by the fact that the importance of other competences is significantly different from the three parties although all the three agree on the most important key competences (work discipline) and the least important (foreign language knowledge) key competences. **This leads to the fact that work discipline, which is a prerequisite for training and work, is a goal today,** which requires a considerable effort from those in vocational training. **Foreign language knowledge and IT skills have not yet gained ground, so these two competencies would deserve more attention.** Schools need to meet not only the momentary expectations, but also to train their students for a longer period of time, and therefore look at the skills and abilities they consider important.

R5 **The results of the research help to improve human resource development in the North Hungarian region and coordinate supply and demand related to vocational training and labour market competences.**

I proved my first hypothesis in the evaluation of research issues as there is a detectable relationship between all job seekers' techniques, choices of family members, friends and acquaintances in all three counties of the North Hungarian region. Based on the results of the survey it can be stated that there is a difference in the evaluation of job seeking methods in the region, young career starters and employers are more confident in recommendations given by acquaintances than in institutionalized career choices and consultants.

I also proved my second hypothesis. Both career starters and employers have stated that practical training is more important than professional theoretical training, and this is supported by my cross-tabulation analysis. Schools also consider practical training important, but employers and career starters considered them to be of paramount importance. Indeed, my hypotheses are indirectly justified by the fact that all three groups I interviewed are more likely

to develop practical training (including on the job training) than professional theoretical training.

I rejected my third hypothesis. The cross-tabulation and correlation analysis of the research clearly demonstrated that career starters were somewhat more satisfied with the training of VET schools than employers, but they did not reach the medium level. In my research, I conclude that the expectations of employers are far behind the performance of schools.

My fourth hypothesis was accepted. Structured interviews demonstrated the need for renewal for all the three stakeholder groups in the three counties, each participant considered it important to meet changing needs and respond to the challenges as quickly as possible. In the direction of development, there is basically agreement, the proportions show a minor deviation. All participants in the research suggest that improving the material, technical and personnel conditions of vocational training is the most important task.

I have partly accepted and partly rejected the fifth hypothesis. There is no marked difference of opinion in the course of competency sequence, the most important and the least important values are the same from the three examined points of view.

The first and most important competency is work discipline, and in the three respondent groups, professional skills, working independently and problem-solving skills follow. Interestingly, it is more alarming that language skills can be found at the end of the order of importance in the ranking while IT skills are ahead of them. This requires changes in the field of vocational training, as it is necessary to prepare students for a longer period of time.

The new and novel results of my research are presented in Table 3.

Table 3: Summary of the objectives, hypotheses and results of the research

Source: author's own research and editing, 2018

objective	hypothesis	accepted	rejected	new and novel research results
1. Explore the degree of awareness of the choice in VET in the North-Hungarian region surveyed.	In the three counties of Northern Hungary, the application for vocational training, the career choice is not a deliberate choice, but the opinions of the family, friends and acquaintances are decisive.	A	-	In the career choices of young people, formal, institutionalized career choices and instruments that require significant resources play a secondary role. In particular, informal relationships are dominant, family members, friends and acquaintances are the decisive factors in the decision-making process.
2. Find out how much theory- and practice-oriented the training of vocational education is in the area.	Vocational training is stronger in vocational theoretical education, with little practical training whose intensity is not enough.	A	-	Vocational training is mainly carried out on the theoretical side with a slighter degree of practical training, which is proven by examining the question and the hypothesis was justified by the data. Schools, employers, and career starters also gave a preliminary view that the area to be developed is vocational practical training and practical training at the workplace.
3. Determine whether the vocational training activities of the vocational schools in the counties of the region meet the students' and employers' expectations.	The preparatory activities of vocational training for a workplace meet the requirements of career starters and employers.	-	R	My research proved that the students were more satisfied with the training of vocational schools than employers. But both sides felt that there was a need to develop vocational training.
4. Assess the static or dynamic nature of vocational training in the region.	There is a need for schools, employers and start-ups to make vocational training more dynamic and renewed from time to time in line with labour market needs.	A	-	Structured interviews have shown that all the three stakeholder groups in the three counties have a desire and intent to continuously renew their adaptation to higher standards of labour market expectations.
5. Find out what competencies the employers consider important when choosing their career path.	The competencies expected by employers differ from the competencies considered important by vocational training schools and start-ups.	A	R	My hypothesis reflected that the competencies expected by the employers differ from those of the VET institutions, but also from the career starters. In the examination, I have only partially proved that there is a difference between the examined groups, as the expectations of career starters are more similar to those of the employers rather than the schools. The differences are more likely to be less weighty. Based on these, the hypothesis was partially accepted and partially rejected.

5. Conclusions and recommendations

The objective of the research was to reveal the extent to which the competency supply of vocational training in vocational education and training meets its labour market demand in the three counties of Northern Hungary; the extent to which training can contribute to the ever-changing needs of businesses in the region and the human resources development of business units in the region.

During my hypothesis studies based on my research objective, I have shown that in the vocational education of Northern Hungary, young people do not choose vocational training on the basis of a conscious career building process, so there is very little motivation for vocational training of young people, and the prestige of vocational training is slight. Based on this and the hypothesis tests, two suggestions are made: one is **a scholarship scheme for all the young people in a vocational school education**, guaranteed for those to be trained in a job where there is labour shortage, whose amount is currently between 30,000 and 80,000 HUF, and the other is introducing **a career model for career starting skilled workers**. The main point of the proposal is that based on their theoretical and practical performance, young people will benefit from the academic scholarship, as opposed to the current incentive scheme, where only students preparing for a job where there is shortage of labour are highly favoured, those in such training receive a higher amount scholarship while other young people with a student contract are employed for a significantly lower, less incentive amount. The vocational training model could operate on principles similar to those of life-cycle models of tertiary graduates, an extension of the internship system to the students of secondary education and the profession. This is justified by the fact that young people have gained vocational qualifications based on the National Qualifications Register (OKJ) and have no professional and company-specific knowledge after the exam. The

individual vocational training model (Figure 4) includes how crucial internship is when career starting skilled workers start a professional career. The career model would be able to integrate the various forms currently in existence, such as the system of master exams and, in particular, multinational and large-scale vocational training and retraining courses, which could be supplemented - from labour market sources - to the training and retraining of active employees funded either by the state or by corporate support mechanism.

My third suggestion is that **school-based vocational training and on the job training should be more practical**. This is currently the case in the opinion of the schools, employers and career starters who are young people who state that vocational education starts from an overly theoretical point of view. The limitation of dual workplace training in vocational training - except multinational and large companies - is that professional training is limited to areas corresponding to the profile of the company and does not cover the entire vocational examination requirement (SZVK). Based on the results of the second hypothesis, in the workplaces where there is no requirement to fully acquire professional basics, it is advisable to involve young people more fully in the training course covering the full vocational system of the profession.

As the hypothesis test revealed that the performance of schools and the preparedness of young people were lower than expected by the employers, it would be worthwhile to familiarize the results of my examination with VET schools.

According to the findings of my research, the consistency between vocational training supply and labour market demand is only partially realized and only temporarily. Therefore, based on my hypothesis examining the limitations of the VET system, my fourth recognition is that **the dynamism of adult education is indispensable** in complementing school-based vocational

training and creating a relative balance between labour market competences and vocational training as well as in re-trainings and further trainings to meet the labour market needs. In the framework of adult education, the function that replaces the basic knowledge essential for a career, continuous vocational training, and supplementary language and IT skills training for employment can be realized.

On the basis of labour market training, the stakeholders involved in VET regard the intention of renewal as important, so it is worthwhile to use the results of the research for that purpose. In this context, I recommend the decentralization of operational and decision-making mechanisms in the fifth proposal, the need for **greater autonomy of vocational training institutions**, which would cover setting vocational guiding points and enrolment rates in the county, and the establishment of a more practical relationship with employers. At present, however, the possibilities of renewing vocational training in schools are affected by the central and highly regulated training processes for VET schools. The Professional Exam Requirements (SZVK) are governed by the law, the training curricula are also the same, and this also applies to the enrolment rates.

Within the vocational training, employers and schools also consider the work discipline to be the most important competency to be developed, as it is also proven by the hypothesis tests. Work discipline, which should be a prerequisite for training, is an objective to be achieved today, and this requires considerable effort from the vocational training providers. In my sixth proposal, I suggest that **VET teachers, vocational trainers should receive their innovative methodological knowledge through training and further training to improve the effectiveness of vocational training.**

In addition to the employers' interests, VET schools must strive to deliver the knowledge necessary to meet the challenges of the modern age so that young people with good professional backgrounds and qualifications should leave the labour market. The important task of professional training - apart from directly meeting the needs of the workplace - is to adapt to future labour market changes. Therefore, according to my seventh proposal, in addition to the challenges posed by employers, **vocational training** - based on the results of the hypothesis - **needs to develop foreign language knowledge and IT skills.**

6. Scientific publications on the topic of the dissertation

6.1. Journal articles in Hungarian

Sós T. (2017): Az OKJ-s szakképzés irányai és arányai a munkaerőpiaci kereslet regionális megközelítésében. *EDU Szakképzés és Környezetpedagógiai Elektronikus Szakfolyóirat*, 7 (1) pp. 116–127.

Folyóiratcikk/Szaccikk/Tudományos, ISSN: 2062-3763

Sós T. (2017): Kor- és kórtörténet a hazai közoktatásról, szakképzésről. *Közléteések - ZSKF* 3 (3–4. szám) pp 140–145.

Folyóiratcikk/Recenzió/kritika/Tudományos, ISSN: 2498-7816

Sós T. (2016): A hazai szakképzés perspektívája, sajtóelemzés alapján. *EDU Szakképzés és Környezetpedagógiai Elektronikus Szakfolyóirat* 6 (1.) pp 54–60.

Folyóiratcikk/Szaccikk/Tudományos, ISSN: 2062-3763

Sós T. (2015): Az átalakuló szakképzés és a munkaerőpiac kereslet-kínálati folyamatai Észak-Magyarországon. *Opus et Educatio: Munka és Nevelés* (3) pp 88–95.

Folyóiratcikk/Szaccikk/Tudományos, ISSN: 2064-9908

Sós T. (2015): Nagy gyárak és iskolák a kezdetektől 1945-ig: Egy település szakképzésének alakulása. In: Tölgyesi József (szerk.) *Magánkiadás* pp 155–159. Magyarország Neveléstörténet. A Székesfehérvári Kodolányi János Főiskola Folyóirata. 12 (1–2) Egyéb/Ismertetés/Katalógus/Tudományos

Sós T. (2010): A szakképzés helyzete az észak-magyarországi régióban a rendszerváltástól napjainkig. *Comitatus: Önkormányzati Szemle* 20 (7) pp 53–71. Folyóiratcikk/Szaccikk/Tudományos, ISSN: 1215-315X

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