

SLOVAKIA CATCHING-UP REGIONS

MINDING THE SKILLS GAP AND
MISMATCHES: A REPORT ON SECONDARY
VOCATIONAL EDUCATION IN THE PREŠOV
REGION OF THE SLOVAK REPUBLIC



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SECONDARY VET SCHOOL PROJECT

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ACRONYMS AND ABBREVIATIONS

CCB	Central Coordination Body	MA	Managing Authority
CF	Cohesion Fund	MC	Monitoring Committee
CPR	Common Provisions Regulation	MRC	Marginalized Roma Community
CSF	Common Strategic Framework	MS	Member States
EAFRD	European Agricultural Fund for Rural Development	NGO	Non-Governmental Organization
EC	European Commission	NP	National Project
EC-DG REGIO	European Commission Directorate General for Regional and Urban Policy	OECD	Organisation for Economic Co-operation and Development
EMFF	European Maritime and Fisheries Fund	OP	Operational Programme
ENPI	European Neighbourhood and Partnership Instrument	PA	Partnership Agreement
ERDF	European Regional Development Fund	PPA	Agriculture Paying Agency, Paying Agency
ESF	European Social Fund	PSK	Prešov Self-Governing Region
EU	European Union	PSK-ED	PSK Education Department
EQAVET	European Quality Assurance for Vocational Education and Training	R&I	Research and Innovations
HP	Horizontal Priority	RDA	Regional Development Agency
IP	Investment Priority	RIS3	Regional Innovation Strategy
IPP	Investment Package of Projects	SBA	Slovak Business Agency
IROP	Integrated Regional Operational Programme	SIOV	The State Institute for VET
ITI	Integrated Territorial Investment	SME	Small and Medium Enterprises
LLC	Long Life Consulting	SO	Specific Objective
LLL	Long Life Learning	SR	Slovak Republic
		SSEE	Subject of Social Economy Enterprise
		TBM	Temporary Balancing Measurement
		VET	Vocational Education and Training

INTRODUCTION

BACKGROUND AND OVERVIEW: SLOVAKIA CATCHING-UP REGIONS INITIATIVE

This report conducted in the Prešov region of Slovakia is part of the Slovakia Catching-up Region Initiative (CURI) joint cooperation program between the European Commission Directorate General for Regional and Urban Policy (EC-DG REGIO) and the World Bank. It is focused on the Prešov region in the far northeastern section of Slovakia. The CURI program in Slovakia is supported through cooperation between four main parties, namely the European Commission (EC), the Deputy Prime Minister's Office for Investments and Informatisation, the Prešov Self-governing Region (PSK), and the World Bank.

The CURI targets and seeks to address the development challenges of 'low income regions', clustered in the Eastern periphery of the European Union, in which regional GDP per capita, although on the rise, still remains below 50 percent of the European Union (EU) average. Two main concerns exist within these low-income regions: 1) the long-term sustainability of their growth and 2) the need to avoid the development trajectory of the low growth areas.

There are three overall objectives of the Slovakia CURI program. It will explore and promote regional development opportunities in the Prešov Region; focus on assisting and building capacity in Prešov to pursue financial support from the European Structural and Investment Funds; and encourage the competitiveness of businesses in the region.

These objectives are pursued through the following four main components of the initiative, which were identified and designed jointly between all four initiative partners:

- **Energy Efficiency**—the focus is on finding and reducing levels of energy loss and waste in public and buildings.
- **Tourism Development**—the initiative will study the needs of, and ways to strengthen, the endogenous potential of tourism development in the Snina district.
- **Geographic Information System (GIS)**—the project identified the need to improve GIS in the region by establishing a GIS department in PSK and thus enhancing regional and urban management capacity in the region.
- **Secondary Vocational Education & Training (VET)**—which is the focus of this report—the project will concentrate on better understanding and improving the link between firms and VET providers in the Prešov region for the purpose of reducing the skills mismatches.

OVERVIEW: SLOVAKIA VET PROJECT

The misalignment between the supply and outcomes of secondary VET education and the requirements of the labour market has been one of the significant challenges to Prešov's regional development efforts. International experience has shown that mismatches are often due to many factors including a lack of information on the demands and needs of employers, as well as employees

and graduates; little interest in retraining courses; and the modernization needs of vocational schools to be able to offer professional training that meets employers' current demands. Therefore, as part of the Slovakia CUR1 program, the "Improving Secondary Vocational Education" (VET) project was agreed upon and designed for the Prešov region with the overall objective of assisting the PSK Education Department (PSK-ED) to improve the quality and relevance of secondary VET schools to meet labour market needs in Prešov, and to effectively identify and pursue EU funds to make the necessary secondary VET reforms.

The Secondary VET School Project has three main activities:

Activity 1 is an Employer Study consisting of an assessment of the Prešov region labour market's needs for VET graduates through 50 in-depth firm interviews, and two regional focus groups (based on four main sub-regions) with a representational group of employers, business associations, civil society organizations, and VET school representatives in Prešov. Firms were selected for the Employer Survey in a way that represented twenty-four key "strategic" and twenty-six other "randomly-selected" employers in the Prešov region. The survey analysis included data from in-depth, structured interviews to assess the causes, nature, and scale of the potential skills mismatches and employers' views about the quality and relevance of secondary VET in the region. The survey is supplemented with qualitative data from regional focus groups to provide more detailed information regarding the survey findings and the views of additional stakeholders. The final report focuses on labour market needs in the Prešov region summarizing firms' perceptions about the existing VET system, the current skills it produces, and suggestions for its reform.

Activity 2 will be a Secondary VET Schools Study to assess the reform needs of the 73 secondary VET schools in the region, including public, private, and religious schools. The Bank will review and assess the current curriculum offered at the schools by identifying major mismatches between the existing curriculum and demanded skills; gathering basic data about numbers of students, teachers/instructors, and programs by vocational type; and producing a list of over and under subscribed courses. A final report will be produced mapping the key features existing secondary VET programs; the teacher qualifications and other school and student characteristics; and existing study programs in Prešov secondary VET schools, including initial recommendations for altering the current offering of study programs to better match labour market needs.

Activity 3 will be Development of Investment Packages, in which the Bank, in conjunction with PSK-ED, will use the results from the previous two activities to examine and determine the investment needs of approximately five prioritized secondary vocational schools and develop investment packages accordingly. The analyses will produce a report and "investment package" for each of the five prioritized schools that will identify the changes required to: (i) update the schools' curriculum to better meet market needs; (ii) upgrade teaching facilities and improve the qualifications of teachers; and (iii) estimate the costs of and identify potential funding for implementing the identified modifications. This process will serve as a demonstration of what PSK-ED could do further with other VET schools in the future, and the overall region-specific recommendations will start the reform process to improve matching between existing VET study programs and current and future labour market needs.

BACKGROUND: VET IN SLOVAKIA

The Slovak Republic vocational education and training (VET) system is built on a strong and long tradition. VET constitutes a large part of the Slovak education system with the share of vocational students in upper secondary education among the highest in OECD countries. On average across OECD countries, around 50% of young adults are expected to graduate from upper secondary general programmes before age 25, compared to 31% for vocational programmes. However, the Slovak Republic is one of eight OECD countries—along with Austria, the Czech Republic, Luxembourg, the Netherlands, Slovenia, Turkey and the United Kingdom—where first-time graduation rates are higher in vocational programs (OECD, Education at a Glance 2018: OECD Indicators, 2018)

Vocational education is offered by secondary vocational schools (stredná odborná škola—soš), an umbrella term covering a diversity of secondary VET schools that specialize in different fields of study ranging from traditional industrial fields and crafts to economics and management fields. Three main levels of study are offered in the VET system: ISCED 2C (lower secondary vocational education), ISCED 3C and ISCED 3A (upper secondary vocational education). Many of the secondary vocational schools are also accredited within the framework of the non-formal education system. The availability of accredited vocational education and training is ensured in each sub-region of Prešov.

As of September 2017, PSK had authorized and provided legal status for 76 secondary vocational schools. There are 65 public (78.98%), 12 private (15.79%) and four church (5.23%) secondary vocational schools with a total enrollment of 22,750 pupils. There were 19,461 pupils (85.54%) at PSK secondary vocational schools, 2,418 pupils (10.63%) in private secondary schools, and 871 pupils (3.83%) in religious schools. The total number of first year students who entered secondary vocational schools were 6,470 newly-educated pupils: 5,614 pupils (83.29%) to public VET schools, 770 pupils (11.42%) to private and 356 pupils to church VET schools (5.29%).¹

Social partners are formally incorporated into VET governance through national, sectoral, and regional VET councils. In particular, employer associations and professional chambers perform a range of tasks: 1) contributing to decisions on the mix of provision in order to improve labour market matching; 2) designing course curricula in order to keep them up-to-date with labour market developments; 3) directly participating in the award of vocational qualifications through employer representatives school-leaving examinations; and 4) assisting in the process of training in-company trainers.

The cooperation of employers with schools has been limited, primarily focusing on internships and informational and promotional events. As per the most recent EU Education Country Monitoring report, feedback, data, and information to influence the quality of vocational education and training is limited (European Union, Education and Training Monitor 2018, 2018²). This is reflected in the low satisfaction of employers with the quality of graduates.

EXECUTIVE SUMMARY

Overview of Slovakia VET Project:

The catalyst for the Slovakia CUR1 program's "Improving Secondary Vocational Education" (VET) project was the significant challenge to Prešov's regional development caused by the misalignment between VET schools' outcomes and the labour market's needs. The main objective is to conduct an assessment of employers and secondary VET schools and work with the Prešov region Education Department to more effectively pursue EU structural funds to implement needed changes in line with study findings. The Project has three main activities consisting of: in-depth interviews and focus group sessions with a representational group of business stakeholders to assess the potential mismatch (*Activity 1*); an assessment of secondary VET schools to identify gaps between the existing curriculum and demanded skills and produce a final report with recommendations for altering course offerings to match the labour market (*Activity 2*); and an examination of several prioritized secondary VET schools to produce recommendations of the needs and costs to implement major changes and improvements required of the curriculum and infrastructure to meet market needs (*Activity 3*).

The Employer Study

Methodology

The VET Employer Survey and study was based on the employer-related portion of the World Bank's *Skills Toward Employment and Productivity (STEP)* Program, which provides a better understanding of skill requirements in the labour market. The Employer Survey, consisting of five modules, used a modified version of the STEP Questionnaire to better meet the needs of the Study's research questions and for regional appropriateness.

To enrich the survey results, two sub-regional Focus Group (FG) sessions were held with participation from key business stakeholders. Discussions were focused on improvements needed for work-based training and for communication between employers and VET providers, as well as ways to make the VET system more attractive for marginalized groups and their future employers.

The survey sample consisted of 50 firms in the Prešov region, of which, 24 were "strategically selected" due to their importance to the region's economic development; the remaining 26 were randomly selected using a sample frame taken from FINSTATS. The sample was designed to represent four sub-regions, six regionally significant sectors/industry groups, four firm sizes, and previous experience with Dual Education. The Focus Groups were divided into two sessions organized by sub-regions (FG1: *Prešov and Poprad* and FG2: *Bardejov and Humenné*) and consisted of a variety of key stakeholders, insuring a balance of government representatives in each session.

Key Results, Findings

The Employer Survey and Focus Group sessions were framed by an overarching research question: *What are the causes, nature, and scale of the mismatch between what secondary VET schools are supplying and what firms are demanding? And what recommendations do firms have to reduce mismatches?*

The overall inquiry was supplemented by four sub-questions. Each sub-question and the related key results and implications are shown below.

RQ1: *Are there, to what extent, and why are there mismatches in what secondary VET schools are supplying and what firms are demanding?*

RQ 1.1: *Is there a mismatch?*

Based on the findings, there is an apparent mismatch as firms had hiring difficulties because applicants lacked the required skills (81%), lacked the required work experience (74%), expected wages higher than the employer could offer (65%), were difficult to find (53%), and did not like working conditions (17%).

From the analysis, labour factors (such as availability of labour or training) are a slight or moderate constraint for 28% of surveyed firms; 40% perceived that labour factors are a considerable constraint for their business; and 22% believe that labour factors cause severe problems in this area.

RQ 1.2: *What is the nature, and extent, of the mismatches?*

For recent and past hiring, the nature of the mismatch can be summarized by the lack of: specific technical skills relevant to the job (94%), communication or interpersonal skills including teamwork and problem-solving (28%), and ability to use a computer for advanced purposes (16%).

For current employees, the greatest mismatches were related to 21st century skills, such as being able to work well with others, finding new and better ways of doing things, and being able to easily adapt to new situations. Specific job-related technical skills were again found to be an area where there is a large gap between the skills workers have and what is required. On the positive side, it is clear that Prešov employees are committed, deal well with challenges, and have good basic skills. In the area of computer skills, for the occupations with the highest number of employees, the need for computer use is low. In contrast, for occupations that were the hardest to fill, there is a significantly higher need for computer skills with 44% of these occupations requiring moderate, complex, or specialized skills.

For future employees, firms overwhelmingly (84%) stated that specific job-related technical skills will still be the most important skills in demand. The 21st century skills of “problem-solving” and “the ability to interact with others”, as well as light manual labour skills, will also be highly valued.

RQ 1.3: *Why are there mismatches? What are the sources/reasons for the mismatches?*

The results show that only 16% of the sampled firms are providing feedback for curriculum development. Looking at the most common sources of recruitment used by employers—which serves as both a cause and effect of poor communication between firms and VET schools about skill needs—there is a modest use of official mechanisms for interactions between firms and VET schools such the Labour Office (about 60% of firms), whereas there is a high use of informal contacts, internet postings, and other “non-formal” sources, and even 48% of firms report making offers to individuals from other firms. And perhaps most alarmingly, only 52% of firms recruit through direct contact with VET schools themselves. As a result, they are missing opportunities to provide VET schools with valuable knowledge about the types of skills and qualifications they require most from secondary VET school graduates.

RQ2 & 3: *What is, or has been, the firms' experience with dual education (or other Work-Based Learning experiences), and with various types of School-Based Learning/cooperation?*

One source of the supply-demand gap is the level of employers' contact with educational and training institutions. Overall, almost 60% of the surveyed firms report regular contact, but this means that over 40% have no contact with these training institutions. Looking at specific sectors, 74% of Manufacturers and 100% of Health & Social Service firms make regular contact. However, this should be contrasted with Infrastructure firms (firms focused on the sectors of Transportation, Communication, Utilities, Energy, and Water) that have no contact at all with educational institutions (0%).

For those working with educational and training institutions, the type of contact employers make varies and can be very low in important areas. In regard to all the firms, it is encouraging that 52% (90% of firms that report being involved in cooperative learning of some kind) are doing work-based learning. However, only five firms are participating in dual education, even though there is a diversity in the sectors being represented. Attention must be given to the fact that only 26% of firms are reaching out to secondary VET schools for staff recruitment purposes, and just 18% are contacting them for staff and firm training.

RQ4: *How, and how well, are schools/providers structured to adapt to firms' needs over time?*

The results show that companies and VET schools have a great deal of work to do to improve the level of communication and cooperation with each other. Companies, clearly unsatisfied with the skill level of VET school graduates, need to find ways to influence and change the VET curriculum so a wider pool of young, eager, potential employees can be developed from VET schools.

VET schools need to urgently change content and instructional methods to better develop students' 21st century competences and skills. To facilitate this, the PSK-ED needs to prioritize teacher professional development and curriculum reform to improve teachers' ability to teach specific job-relevant technical and 21st century skills.

Implications

RQ I.2: *Top 3 Main Skills to be in Highest Demand in Coming 5 years?*

The secondary VET schools and the PSK Education Department must focus on finding better ways of identifying and adapting content and instructional methods to employers' needs for specific job-related technical skills and 21st century skills. However, as the survey results are from current employers, PSK will need to anticipate the needs of future firms. More and better preparation in specialized computer skills is needed in VET schools to better prepare graduates for the job market.

RQ I.2: *Difference Between Current and Required Skills? (Skills Mismatch?)*

VET schools need to urgently change content and instructional methods to better develop students' 21st century competences and skills. Equally, the PSK Education Department needs to prioritize teacher professional development and curriculum reform to improve teachers' ability to teach to these skill needs.

RQ I.3: *Most Common Recruitment Sources?*

PSK authorities and the business community will need to consider the reasons for the Labour Office being used infrequently for recruiting and what can be done to increase the office's effectiveness in meeting firms' needs? Consideration must also be given to discovering the reasons that more firms aren't recruiting directly from VET schools and what can be done to increase recruitment through these channels.

RQ2 & 3: Regular Contacts with Educational/Training Institutions?

There is a great deal of work that needs to be done to find ways to connect employers and schools. The success of Health and Social Services firms shows the importance of high levels of involvement of government and professional associations. Conversely, the fact that firms from the infrastructure-related sector report having no or very little regular contacts with relevant VET schools shows the negative impact of low government and professional association involvement.

RQ2 & 3: What Types of Contacts with Educational/Training Institutions?

There is a need for more active promotion of dual education and all types of work-based learning. However, a broad mix of different types of work-based learning should be encouraged. Employers and schools will need to pursue better opportunities for cooperation on curriculum development. If low levels of cooperation on VET training continues, there will be many missed opportunities.

Conclusions

What are the nature and scale of the mismatches? There is a large mismatch concerning specific job-related skills and 21st Century skills. Light manual skills and digital competences have a more moderate level of misalignment with the market's skill needs. The good news is that Prešov's employees are committed and work hard, deal well with challenges, and have good basic skills and competences.

Causes of Mismatches? There is weak communication between all stakeholders and little use of existing formal channels for cooperation. Few employers provide curriculum feedback to secondary VET schools and there continues to be weak and unclear signaling of specific labour needs. There is also insufficient cooperation and communication through school and work-based learning and practicums, as well as ineffective interactions and use of formal mechanisms and processes such as the Labour Office.

In order for the evident skills mismatch to be reduced, there are several key recommendations that should be carefully considered and acted upon. Formal feedback opportunities must be strengthened in the region. It is critical to have national and regional government actors and professional associations take an active role in facilitating the connections between local firms and secondary VET schools. Firms must be more open to, flexible with, and more actively involved in supporting PSK and schools when they begin to adapt study programs, instructional approaches, and facilities and infrastructure. Firms need to be more actively involved in working with PSK and VET schools themselves to increase and broaden the types of school- and work-based learning to move beyond Dual Education alone. Lastly, firms should be more actively involved in drawing government actors' attention to the need for introducing quality standards, innovative use of quality improvement practices, and career guidance.

The Secondary VET School Study

Methodology

The VET School Study's purpose was to describe the current status of secondary VET schools in the Prešov region, identify areas preventing schools from achieving a higher quality of education, and pinpoint areas for school improvement. Three data collection approaches were used: in-depth, structured interviews, focus groups and administrative data-capture sheets (including time series data on enrollments and levels of utilized capacity for individual study programs).

The VET School Study was framed by the following overall research question: *How, and how well, are VET schools structured to adapt to companies' needs over time?*

The VET School Survey was based on a modified version of the World Bank's *Training Assessment Project (TAP)* main tool, the *Training Providers Assessment* questionnaire. It identifies conditions and practices under which training providers (mainly TVET institutions) operate and that contribute to good performance. The tool was modified to meet the needs of the research questions and for regional appropriateness.

A Data Capture Sheet (DCS) was created to capture detailed “administrative data” questions to reduce the time required to complete the interviews and to allow for more complete answers to some questions. It was sent electronically to all VET school principals by PSK-ED.

The Focus Groups consisted of school directors and other school officials and were split according to sector groupings. Four Focus Group Sessions were held during a conference in January 2019.

Cooperation and Coordination with Employers

While it would seem that there is a high level of industry representation as exemplified by the fact that all VET schools in the Prešov region reported having a management committee and governance board, the findings show that this is primarily only due to the statutory requirement for such, and that there are actually significant gaps and mismatches between what companies are demanding and what VET schools are supplying. In cases where it is happening, most schools interact with employers through internships. While these programs allow for some level of interaction with employers, it does not give opportunities for more meaningful interaction that will directly affect the content of students' study programs.

Curriculum Development & Teaching and Learning (including Dual Education and Work-based/School-based Learning)

The majority of VET schools are making decisions about the skills to teach in their programs and in designing and implementing end-of-program assessments based solely on compliance regulations, rather than through meaningful and sustained contact with regional employers. There is a heavy reliance on government—rather than industry—requirements, when evaluating students' skill levels and preparedness for the labour market. And the VET School Study results indicate a surprisingly low percentage of schools working with regional firms to provide direct feedback during curriculum development processes.

Even though 99% of schools report their graduates will master the curriculum, less than two fifths indicated that their graduates can perform high-tech processing, indicating a clear disconnect between what programming offers and what the current labour market requires.

Internal School-level Processes

It is true that, although students are provided with required internships and practical training, VET schools do not provide a job guarantee. Despite all of these efforts, specific study programs will fail, if they do not properly reflect the skill needs of the labour market.

Additional VET-related Roles (i.e., Life-long learning)

About 90% of schools have a part-time career counselor with this role mainly performed by educational consultants, psychologists, or teachers. 42% of schools providing counselors state that more than half the students visit career counselors. To improve the availability and quality of career counseling provided to students, there is a need for dedicated career counselors and career/employment centers at each VET school. Likewise, less than 30% of schools reported offering life-long services, even though these courses provide a way for schools to prepare to offer new services and stay innovative and responsive to current labor market demands.

For improving the VET education system, more consideration should be given to the areas of marketing the benefits and purposes of VET schooling; school directors' competences; and new financial models to allow schools to function more flexibly and effectively. One recommendation for improving communication between stakeholders and reducing skills-mismatches is providing a coordinated approach to addressing students' competencies and required skills and knowledge from primary schools.

Are Teachers' Qualifications and Profiles adequate?

The percentage of teachers who hold a certificate is notable and significantly high. Approximately one quarter of teachers in the Prešov region overall have obtained a certificate, while specifically in Humenné and in the 'Other' sectoral grouping, it is even higher with about one third of teachers having a certificate as their highest VET-related qualification. This creates a concern about the quality of instruction and the depth of understanding of the subject matter being taught in these classrooms.

PSK-ED and school administrators will need to take a detailed look at why the higher than average years of teaching experience and industry experience are not necessarily translating into better student outcomes and better responsiveness to employers' skill and knowledge requirements, and what can be done to build more of a sustainable teacher career development pipeline. Though there doesn't appear to be any significant difference between the annual earnings of female and male teachers, school directors will need to look further into whether the overall low level of teacher salaries are contributing to the poor learning outcomes.

What Are the Characteristics of VET Students?

As reported by VET schools, a full quarter of the students who drop out do so because the program was too difficult. This rate is particularly higher for the Prešov and Poprad sub-regions at about 34%. The focus group sessions indicate this could likely indicate that: students are not being adequately prepared with fundamental subject content knowledge and socio-emotional skills in their earlier schooling; and/or the programs are not planned well pedagogically, where, for example, more scaffolding and remedial measures should be integrated earlier on in study programs to give students a stronger base and more individualized attention.

Are Schools' facilities/inputs adequate?

Schools in the Bardejov sub-region are using 30% less of the capacity they have in their classrooms; Humenné schools have the greatest number of special workshops and classrooms (20 workshops per school); and the Industry sectoral grouping has the greatest number of workshops and special classrooms (21 workshops per school). More than 90% of the equipment across all schools is reported to have very good to reasonable functionality. However, only 53% of the schools stated the equipment available is adequate to meet the enrolled student demand.

Which study programs will need to be increased or decreased/closed?

The percentage of schools introducing new study programs in the last three years (51%) is significantly higher than the percentage closing them (12.5%) during this same period. When considering that such a high number of schools are failing to close programs with little or no enrollment, it appears they are unnecessarily opening similar programs and competing with other schools for increasingly limited student numbers rather than specializing in a particular field and developing the quality of existing programs.

Study Programs Enrollment, Capacity, and Analysis

More than 46% of study programs had no enrollment over the last year with a higher than average number of these coming from the Bardejov sub-region and in schools from the Agro-Food/Forestry sectoral grouping. It would be important for PSK-ED and school administrators to ask why these study programs are not being closed. In looking at those schools that have programs with enrollment, those from the Agro-Food/Forestry sectoral grouping report operating at the highest capacity of available spaces, while about half of the schools with programs in the 'Other' sectoral grouping have programs with enrollments but are utilizing a low level of their available capacity for spaces. It appears that schools are competing for students for the same programs causing these programs to work at a less efficient level.

CHAPTER 1

EMPLOYER STUDY REPORT

SECTION 1.1

METHODOLOGY — VET EMPLOYER STUDY

To assess Prešov regional employers' views on the status and quality of secondary VET graduates, their thoughts on the nature and scale of skills mismatches, and their recommendations about how to improve the quality of future secondary VET graduates, we used two main data collection approaches: in-depth, structured interviews and focus groups.

Research Questions (overall and specific)

The Employer Survey and Focus Group Sessions were framed by the following overarching research question:

What are the causes, nature, and scale of the mismatch between what secondary VET schools are supplying and what firms are demanding? And what recommendations do firms have to reduce mismatches?

The main research question was supported by four sub-questions:

1. Are there mismatches in what secondary VET schools are supplying and what firms are demanding? If so, to what extent are there mismatches? And why?
2. What is, or has been, the firms' experience with dual education (or other Work-Based Learning experiences)?
3. What is, or has been, the firms' experience with various types of School-Based Learning?
4. How, and how well, are schools/providers structured to adapt to firms' needs over time?

STEP Survey and Focus Groups Background

Employer Survey

The VET Employer Survey implemented in the Prešov region was based on the World Bank's *Skills Toward Employment and Productivity (STEP) Program's employer-based survey*. The full STEP Skills Measurement Program is the first ever initiative to measure skills in low and middle-income countries. It provides policy-relevant data to enable a better understanding of skill requirements in the labour market, backward linkages between skills acquisition and educational achievement, personality, and social background, and forward linkages between skills acquisition and living standards, reductions in inequality and poverty, social inclusion, and economic growth. The STEP Program's *employer-based survey* is designed with five modules which aim to assess:

- The structure of the labour force;
- Cognitive skills, behavior and personality traits, and job-relevant skills that are currently being used, as well as skills employers look for when hiring new workers;
- Provision of training and compensation by employers;
- The level of satisfaction with the education and skills training available in the local labour market.

The Prešov Employer Study used a modified version of the STEP *employer-based survey* to better meet the needs of the study's research questions and for regional appropriateness, and emphasized:

- Prešov-region, VET-specific industries, Slovak-specific technical VET terminology, priority issues such as declining student and employer base (i.e., skills shortages and hiring difficulties), and employee skills
- Firms' previous experience with Dual Education
- Anticipated short, medium, and long-term hiring and skills needs
- Two prioritized occupations per firm (differently specified for each firm): *the occupation in which it is most difficult to fill vacancies and the occupation with the most employees at the firm.*

The Employer Survey contained the following five modules:

- Module 1: Basic Information and Workforce
- Module 2: Information on New Hires
- Module 3: Skills Used By the Current Workforce
- Module 4: Training and Opinions
- Module 5: Firm Background

Prešov Region Employer Focus Groups

Two regional Focus Group Sessions, which complemented and enhanced the Employer Survey, were held during the conference entitled "Labour Market Needs and the Vocational Education System in Prešov Self-Governing Region" held in October 2018. The following four questions were asked in the Focus Group sessions:

1. What are your proposals related to content and quality improvement of work-based training (co-operation between the schools and firms)?
2. What needs to be done to improve communication between employers and VET providers in order to remove the mismatch between labour market needs and VET graduates' skills?
3. How can VET providers make the vocational education and training system more attractive for marginalized groups and their future employers?
4. What is your top recommendation for the improvement of vocational education and training in Prešov region?

The Focus Groups consisted of a variety of key stakeholders, including officials from the PSK-ED, other government officials, representatives of firms included in the survey sample, and representatives of other essential regionally based firms. There was purposeful effort to ensure that PSK-ED and other government offices were equally represented in each Focus Group session.

Survey Sampling and Focus Group Design

The sample for the Employer Survey, as per the CuRI Steering Committee's guidance, consisted of 50 firms in the Prešov region. The World Bank Team identified 24 "strategically selected" firms for the sample. The "strategic" firms were well known firms which are important to the economic development of the region. These firms were intentionally included to ensure that the results validly represented the views of some of the most important employers in the region. There were six top firms selected from each of the four sub-regions (totaling 24 "strategic" firms). The remaining 26 firms in the sample were randomly selected using a sample frame taken from FINSTATS, which took into account geographic, sector, and firm size heterogeneity.

The Survey Sample was designed to provide a representational balance between:

- Four sub-regions³ (*Prešov, Poprad, Bardejov, and Humenné*) and 13 districts in those sub-regions

- Six sectors/industry groups⁴ (*Forestry, Agriculture, Fishing; Construction; Manufacturing (intermediate & final); Networks & Infrastructure (including transportation); Trade (wholesale & retail); and Services (e.g., health, social services, IT, tourism, finance, and real estate)*)
- Four firm sizes⁵ (*Small [0–50 employees]; Medium [51–250]; Large [251–1,000]; Extra-Large [1,001+]*)
- Previous experience with Dual Education

For further details on the survey sample matrix, see Table 1.1.1 below.

The Focus Groups were divided into two sessions organized by two groupings of sub-regions (FG1: the large sub-regions of *Prešov and Poprad* and FG2: the small sub-regions of *Bardejov and Humenné*).

TABLE 1.1.1 SLOVAKIA CuRI – VET Project Activity 1 – Study Sample Design Matrix

Criteria	Definitions	Actual %
SUB-REGION	Prešov	24% (12 firms)
	- Prešov	7 firms
	- Sabinov	3 firms
	- Vranov and Topľou	2 firms
	Poprad	34% (17 firms)
	- Poprad	7 firms
	- Levoča	3 firms
	- Kežmarok	3 firms
	- Stará Ľubovňa	4 firms
	Bardejov	18% (9 firms)
	- Bardejov	4 firms
	- Svidník	3 firms
FIRM SIZE	Humenné	24% (12 firms)
	- Humenné	7 firms
	- Snina	4 firms
	- Medzilaborce	1 firms
# of Employees:	Small (0 – 50)	30% (15 firms)
	Medium (51 – 250)	34% (17 firms)
	Large (251 – 1,000)	30% (15 firms)
	Extra-Large (1,001+)	6% (3 firms)
	INDUSTRY/SECTOR	6 industry/sector “groups”:
Forestry, Agriculture, Fishing		8% (4 firms)
Construction		8% (4 firms)
Manufacturing		40% (20 firms)
- intermediate & final		
Networks & Infrastructure		12% (6 firms)
- Transportation, communication, utilities, energy, water		
Trade		8% (4 firms)
- Wholesale & retail		
Services	24% (12 firms)	
- Health, social services, IT, Tourism, finance, real estate		
PREVIOUS DUAL ED EXPERIENCE	No DE experience	80% (40 firms)
	Yes DE experience	20% (10 firms)
Strategic Companies		
SPINEA	MILK-AGRO	MECOM GROUP
LPH VRANOV	ELCOM	ANDRITZ SLOVAKIA
SANAS	SANAS	Spravbytkomfort
SAD Prešov	SAD Prešov	MULLER TEXTILES
TATRAVAGÓNKA	TATRAVAGÓNKA	SAD Humenné
GGP SLOVAKIA	GGP SLOVAKIA	FORMA PLAST
CEMOSVIT FÓLIE	CEMOSVIT FÓLIE	STROPTTEL
AQUAPARK POPRAD	AQUAPARK POPRAD	BARDEJOVSKÉ KÚPELE
Podtatranská vodárenská prevádzková	Podtatranská vodárenská prevádzková	2J ANTENNAS
AGROKARPATY	AGROKARPATY	PSS SVIDNÍK
		KAMAX TOOLS
		BIOENERGY BARDEJOV

SECTION 1.2

SKILLS MISMATCHES: DO THEY EXIST? TO WHAT EXTENT? WHY?

In a fast-evolving world, and in particular in a region such as Prešov where the interests and needs of consumers and citizens are growing and changing so fast in response to national, regional, and even international developments, how can we tell how well Prešov region VET schools are preparing their students for the current and future realities? And how well prepared are these graduates to enter into and participate in the regional labour market and beyond? We start by examining the following main question: *Are there, to what extent, and why are there mismatches in what secondary VET schools are supplying and what firms are demanding?*

To further refine our examination of this overarching question, we break this down into four sub-questions: *Is there a mismatch? What is the nature, and extent, of the mismatches? Why are there mismatches? What are the sources/reasons for the mismatches?* We start by presenting background information and data on the 50 firms surveyed for the Employer study to provide contextual background for the analysis. Next, we examine the survey and focus group data for evidence on potential skills mismatches, and where they may exist, we look at the nature and scope of those gaps. And finally, we examine some of the reasons for and possible sources of the mismatches.

Basic Information & Workforce Data on 50 Surveyed Firms in Prešov Region

To situate the study into the current context in Prešov region, and before initiating the more detailed examination of firms' views on the skills of secondary VET school graduates, we begin by presenting basic information and background data on the 50 firms in the employer study.

The firms in the study came from four main sub-regions—Prešov, Poprad, Humenné, and Bardejov—which, in turn, represented 3–4 districts each (see Table 1.2.1), with three fifths of the firms coming from the larger sub-regions of Prešov and Poprad. The study focused on six sectors important to the Prešov region: Forestry, Agriculture, and Fishing; Construction; Manufacturing; Networks & Infrastructure; Trade; and Services (see Table 1.2.2). Reflecting the region's historical economic base under Soviet times, as well as more recent regional specialization, almost 50% of the study's firms are in the manufacturing sector and another quarter are in services.

TABLE 1.2.1 Number of Firms per Sub-Region

Number of Sub-Regions	Total Number of Firms (out of 50)	Total Number of Districts	Districts
Prešov	15	3	Prešov, Sabinov, Vranov and Topľou
Poprad	16	4	Poprad, Kežmarok, Stará Ľubovňa, Levoča
Humenné	9	3	Humenné, Snina, Medzilaborce
Bardejov	10	3	Bardejov, Svidník, Stropkov

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

TABLE 1.2.2 Number of Firms per Sector

Sector	Total Number of Firms (out of 50)	NACE classification
Forestry, Agriculture, Fishing	4	Forestry, Agriculture, Fishing, and Environment
Construction	4	All Construction
Manufacturing	23	Machine Industry, Chemistry, and Food
Networks & Infrastructure	4	Transportation, Communication, Utilities, Energy, and Water
Trade	3	Wholesale and Retail
Services	12	Health, Social Services, IT, Tourism, Finance, and Real Estate

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

TABLE 1.2.3 Average Number of Employees by Firm Size

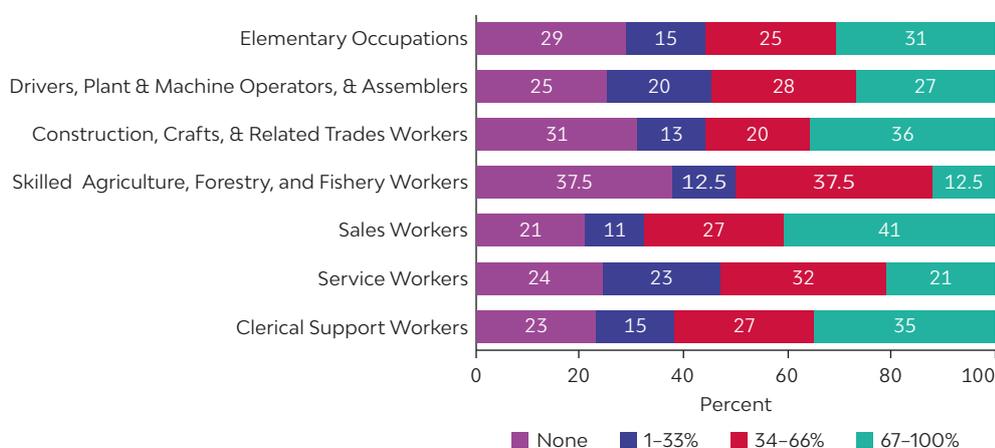
Number of Employees	Total Number of Firms (out of 50)	Ave. Number of Total Employees	Ave. Number (%) of Female Employees
Small Firms (0 – 50)	15	15	3.5 (23.7%)
Medium Firms (51 – 250)	17	143	58.5 (40.85%)
Large Firms (251 – 1000)	15	458	179 (39.2%)
Extra-Large Firms (1001+)	3	1699	759 (44.7%)

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

For the study, firms of four different sizes were included and analyzed: small firms (up to 50 employees), medium firms (between 51–250 employees), large firms (between 251–1000), and extra-large firms (1001 or more employees). When considering the number of employees at the firms (Table 1.2.3), the data reveals that medium, large, and extra-large firms seem to be near or “approaching” gender parity. However, females in the small firms in our study appear to make up less than a quarter of the workforce. As this has implications for the region’s overall female labour force participation rates, this is something that may need

attention in the future VET activities, which seek to foster improved school and firm cooperation and provide VET students with greater work-based learning opportunities.

As seen below, Figure 1.2.1 depicts the proportion of firms in the Prešov Region with varying percentages of female employees by various occupation types. Overall, the occupational type for which participating companies report having the highest proportion of females is for sales workers, where 41% of employers with this occupation type report 67–100% of such employees are female. On the other hand, nearly 38% of participating firms report that the proportion of females in Skilled Agriculture, Forestry, and Fishery Workers is zero and 31% of firms report that they, too, have no females in the Construction, Crafts, and Related Trades Workers occupational category.

FIGURE 1.2.1 Proportion of Firms with Female Employees by Occupation Type

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

When we look at basic measures of different types of occupations over time, as can be seen in Table 1.2.4, firms have recently experienced small but steady growth in the number of managers, professionals, and technicians and associate professionals hired, and anticipate continued growth

TABLE 1.2.4 Total Number of Employees by Occupation — Occupation Types 1–3

	Last Year	Current	Next Year
Managers	245	247	256
Professionals	607	640	673
Technicians & Assoc. Professionals	655	657	663

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

in the number of employees in these occupation types in the coming year. The total number of managers and technicians and associate professionals has roughly stayed the same (increases of two employees overall for both occupation types) from last year. And in the coming 12 months, these firms anticipate they’ll hire nine more managers, and six more technicians and associate professionals will be hired (a fairly modest increase of 3.6% and 1%, respectively).

By contracts, the number of professionals in these firms increased by 5.4%, or 33 employees overall, in the past year; and firms anticipate the same level of growth in the number of professionals they expect to hire in the coming year. This is a basic, initial—but very important—finding as it points to the importance of skilled labour, and, hence, the importance and relevance of the “skills” discussion at the core of this report.

In looking at the remaining seven occupation types considered in the study (Table 1.2.5), firms reported increases in employees from five out of seven occupation types—clerical support workers; service workers; sales workers; construction, crafts, & related trades workers; and elementary occupations from last year, while the number of employees in agriculture, forestry, and fisheries have no change and drivers, operators and assemblers show a small decrease of three workers. By next year, firms predict hiring more clerical, sales, construction, and machine workers. In five years’ time, continued, but uneven, growth is anticipated. Hires of clerical and sales workers will continue steady growth with construction workers predicted to have the largest hiring increase at 351 workers. Firms do not see any room for growth of workers in the service and agricultural/forestry industries. Drivers are predicted to have an uneven growth with most increase seen by the end of next year and then remaining roughly the same after five years. Elementary Occupations also show little increase in hiring numbers over this period.

TABLE 1.2.5 Total number of employees by occupation — Occupation Types 4 – 10

	Last Year	Current	Next Year	5 Years
Clerical Support Workers	745	748 (+3)	754 (+6)	783 (+29)
Service Workers	230	234 (+4)	234 (0)	233 (-1)
Sales Workers	1965	2008 (+43)	2032 (+24)	2116 (+84)
Skilled Agriculture, Forestry, and Fishery Workers	29	29 (0)	29 (0)	34 (+5)
Construction, Crafts, & Related Trades Workers	1669	1824 (+155)	1943 (+119)	2294 (+351)
Drivers, Plant & Machine Operators, & Assemblers	2716	2713 (-3)	2787 (+74)	2790 (+3)
Elementary Occupations	659	689 (+30)	681 (-8)	686 (+5)

Note: Values in brackets show the change in the number of employees from the previous time period (column immediately to the left). Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: From these results, four key observations can be made. First, firms are indicating that hiring is expected to pick up, and, potentially, in general, economic activity, as well. Second, jobs for certain types of skilled workers (i.e. professionals) and occupational types which rely on high levels of “soft skills” (i.e., sales) are among those expected to increase the most in the future. Third, despite the increased demand for “highly skilled” labor, given Prešov region’s continued comparative advantage in construction, crafts, and trade workers, there will still be a strong and sustained increase in demand for “semi-skilled” labor in these sub-sectors to meet the expected regional growth needs. And fourth, and somewhat puzzlingly, despite the region’s comparative advantage and potential for future growth in these sub-sectors, there is no, or very modest, expected growth in skilled workers in agriculture, forestry and fisheries.

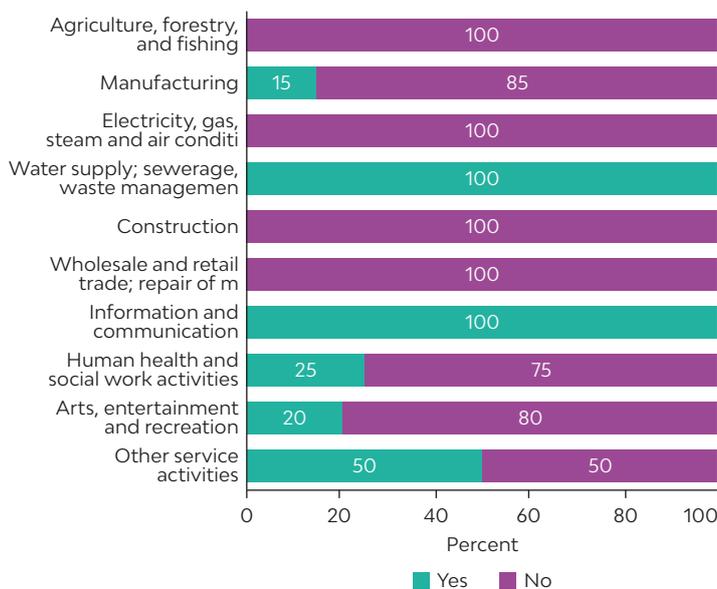
Is There a Skills Mismatch?

We now turn our attention to the main focus of the employer study, better understanding the widely held belief about mismatches between employers’ needs and the outcomes from Prešov’s regional secondary VET schools. We do so by examining recent past hiring practices, employers’ perceptions of the adequacy of the skills of their current employees, and their expectations about the types of skill needs they will have five years from now.

Evidence on Skills from Recent Hiring

In looking back at firms' experiences with hiring over the last three years, in general our analysis shows that firms are, indeed, reporting there are skills mismatches and shortages, and that the skills shortages are a particularly severe obstacle for a high number of firms, mainly those which have introduced new technology and innovations and/or seek to export them to other countries.

FIGURE 1.2.2 Hiring Problem: Applicants Lacked Required Skills (by Sector)



Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

This is clearly seen by looking at the hiring experiences of firms from the previous three years. Overall, a surprisingly high 81% of the firms reported having problems in hiring new workers due to “applicants lack[ing] the required skills” vs. 19% of the firms which did not encounter hiring problems due to a lack of applicants’ skills. As seen in Figure 1.2.2, this issue is pervasive enough that these results were evident for firms from all economic sectors and sub-regions surveyed, with no clear or particularly differential effect in any sector or sub-region, indicating a systemic regional issue.

In examining this stark finding that 81% of firms experienced difficulties hiring over the last three years due to a lack of applicant skills, Table 1.2.6 shows the skills that employers report are most often lacking in newly hired workers, in regards to their employees in the two following occupational categories: *the Occupation with the highest number of employees* (Occupation A) and *the Occupation in which it is most difficult to fill vacancies* (Occupation B). These occupational categories represent a lens into understanding firms’ demands for labour by quantity of skills needed (Occupation A) and by scarcity of skills (Occupation B). By looking at both, we can get a more balanced view of firms’ views regarding skills gaps and mismatches.

TABLE 1.2.6 Lack of required skills by Occupational Categories “Highest number of employees” and “Most difficult to fill vacancies”

Occupation A – Highest number of employees	Occupation B – Most difficult to fill vacancies
Job-related specific skills (94%)	Job-related specific skills (81%)
Communication and Interpersonal Skills (24%)	Communication and Interpersonal Skills (28%)
Advanced IT skills (12%)	Advanced IT skills (16%)

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

In focusing on these two occupational categories, the results show that the top missing skill, which caused problems in recruitment in nearly all firms, were specific technical skills that are job-related (94% / 81%) for both Occupation A and B. This is a significant finding and indicates that nearly all Prešov employers expect that the graduates they hire will need further training to prepare for the specific technical skills they will need to work in their firm. Other skills that were lacking for both Occupation A and B were communication or interpersonal skills (e.g., teamwork), as reported by 28% of firms and the ability to use computers for advanced purposes, as indicated by 16% of firms.

Skills Gaps in the Current Workforce

Employers were then asked to evaluate the status of the skills of their current workforce. When examining firms’ assessment of the differences between specific required skills and the respective actual skills of their current workforce, we see four clear groupings reported by firms (Table 1.2.7).

On the positive side, firms report *virtually no mismatch* in their employees' Slovak language and basic computer literacy skills. Likewise, they indicate a *low mismatch* with respect to the skills of "works well in challenging situations, "calculations and working with numbers, "works well in busy times and situations", advanced computer skills, and "other" foreign languages. However, they report what could be considered a *medium level of mismatch* on reading and writing skills in English and whether workers "can be relied on to get things done." And most strikingly, the *highest mismatches* are reported in the following skills: "can work well/listen to others' views" (46%), "can find new and better ways to do things" (43%), specific job-relevant technical skills (38%), and "can easily adapt to new tasks/changes" (32%).

These results indicate that firms are finding mismatches are largest in the area of soft skills typical for the 21st century (e.g., adaptability, ability to cooperate well with others, and creativity in thinking). And this goes along with the earlier finding on the significant mismatch on specific, job-relevant technical skills which is also very high.

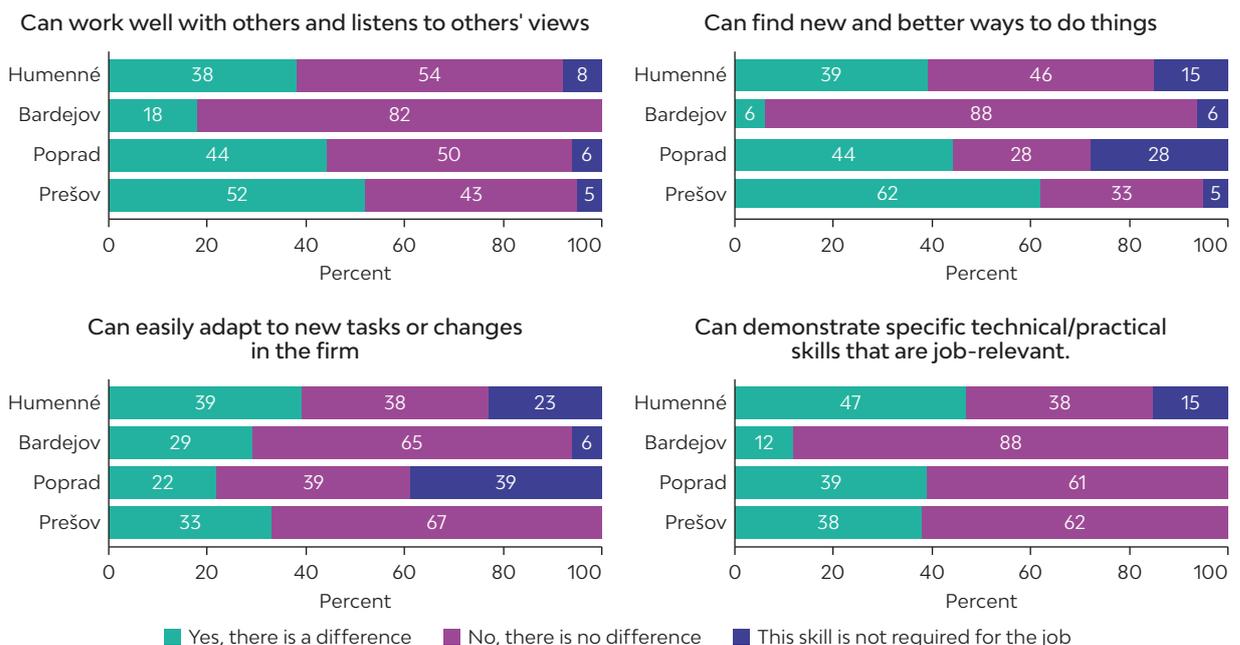
To better understand these most serious mismatches in the current workforce, we next examine the four areas with the highest reported mismatches above and assess whether there are any *sub-regional or sectoral effects*. In looking at responses for the four skills with the highest reported rates of mismatch by sub-region (see Figure 1.2.3), there appear to be a few noteworthy regional effects. First, firms from the Bardejov sub-region report considerably lower levels of skills mismatches (6-18%) on three out of the four highest cited areas of skills mismatches (innovativeness,

TABLE 1.2.7 Current vs Required Skills — Skills Mismatch

GROUP 1: "No" Mismatch	
Slovak Language	1%
Basic Computer Use	2%
GROUP 2: "Low" Mismatch	
Works Well in Challenging Situations	10%
Calculations and Work with Numbers	10%
Work Well in Busy Times & Situations	11%
Advanced Computer Skills	13%
"Other" Foreign Languages	15%
GROUP 3: "Medium" Mismatch	
Read and Write in English	21%
Can Be Relied on to Get Things Done	21%
GROUP 4: "High" Mismatch	
Can Easily Adapt to New Tasks/Changes	32%
Specific Job-relevant Technical Skills	38%
Can Find New & Better Ways to do Things	43%
Can Work Well/Listen to Others' Views	46%

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

FIGURE 1.2.3 Required Skills Mismatch by Sub-Region "Indicate if there is a difference between what is required for the job and the Current Level of This Skill in a Typical Worker"



Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

job-specific technical skills, and cooperativeness) in comparison to the other three sub-regions, who have between 38–62% of the participating firms reporting skills mismatches in these areas. Second, and on the other hand, firms from Prešov and Poprad report considerably higher skills mismatches in their workers' cooperativeness (52% and 44%, respectively) and innovativeness (62% and 44%, respectively). On the skill of adaptiveness, firms in Poprad report the lowest incidence of skills mismatches (22%), but with other sub-regions not being too different. These results clearly point to some kind of regional effect for Bardejov, which would merit further research in the future.

By contrast, when we look at the views of firms on the current skills mismatch **by economic sector**, the study results seem to indicate that, for the most part, there is no or little firm sectoral effect. Although, it should be noted that *within* economic sectors there was not always a 100% consistency of firms' responses to the issue of skills mismatches.

Looking at the results on sectoral effects more closely, the skill for which firms reported the highest mismatch—“**Can work well/listen to the others' views**” (45% of firms)—was perceived as most problematic in the following sectors: Manufacturing; Construction; Information and communication; Human, health, and social work activities; Arts, entertainment and recreation, and other service activities.

In contrast, there are sectors in which firms claim no mismatch in this specific skill. These economic sectors are: Agriculture, forestry and fishing; Wholesale and retail trade; Water supply, sewerage, waste management and remediation act; Transportation and storage; Electricity, gas, steam and air conditioning supply.

The second most common overall skills mismatch reported by firms—“**Can find new and better ways to do things**” (43% of firms)—was seen as particularly problematic in these sectors: Manufacturing; Construction; Wholesale and retail trade; Information and communication; Human health and social work activities; and lastly Arts, entertainment and recreation. As with the previous skills, there are some sectors that seem to not be affected by this mismatch, including Agriculture, forestry and fishing; Electricity, gas, steam and air conditioning supply; Transportation and storage and other service activities.

In regards to the third largest reported overall mismatch—“**Specific job-relevant technical skills**” (38% of firms)—the gap was seen as most serious in five sectors, e.g., Manufacturing; Construction; Wholesale and retail trade; Human health and social activities and other service activities. On the other hand, firms in some economic sectors appear to be better off and don't report a problem with this mismatch, such as Agriculture, Forestry and fishing; Electricity, gas, steam and air conditions supply; Information and communication; Water supply, sewerage, waste management and remediation; Transportation and storage, and other service activities.

The fourth most frequently cited overall mismatch—“**Can easily adapt to new tasks/changes**” (30% of firms)—appears to be having an adverse effect on firms in the following five sectors: Manufacturing; Construction; Wholesale and retail trade; Information and communication; and Art, entertainment and recreation. And as was the case for other reported skills-mismatches, there are some economic sectors where firms are content with the adaptability of their actual workforce. These sectors would include: Agriculture, forestry and fishing; Electricity, gas, steam and air conditioning supply; Water supply, sewerage, waste management and remediation; Transport and storage; Human health and social work activities; and other service activities.

As we have seen above, there are many firms in each sector struggling with skills-mismatches. However, it is interesting to note that the Manufacturing and Construction sector consistently reported important skill gaps for all four of the top mismatched skills. Also, worthy of note, four sectors (Information and communication; Human health and social work activities; Arts, entertainment and recreation; and Wholesale and retail trade) indicated gaps for three of the four top skills-mismatches.

By contrast, some economic sectors are reporting no mismatches in regard to three of the top four skills mentioned, specifically Water supply, sewerage, waste management and remediation. In the

economic sectors of Agriculture, forestry and fishing; Electricity, gas, steam and air conditioning supply; and Transport and storage, there was no mismatch shown in the top four skills areas.

For the economic sectors reporting no or low mismatches in these important skill areas, it would be important in future studies to search in even more detail why firms in these economic sectors in particular perceive that there is no or little gap with the required skills of their workforce. Possible explanations could be the firms' recruitment practices and sources, the nature of their cooperation and interactions with secondary VET schools, among other reasons. This information, then, could be used as a model for ways to reduce the mismatch in more problematic skill areas.

What is the nature, and extent, of the mismatches?

In this section we take the above skills mismatch analysis another level deeper and examine more closely the extent to which the highest reported mismatches are indicative of under- or over-skilling, and the severity of the mismatches.

For the skill **“Can work well/listen to others' views”**, 8.7% of the firms perceive that the workforce is significantly under-skilled (*a large negative difference*) and 19.6% believe their current workers are somewhat under-skilled (*medium negative difference*) in this area. On the positive side, most firms (71.7%) feel that their workforce is only slightly under-skilled (a small negative difference) in the ability to work well with others and listen to differing points of view.

In looking at the mismatch for the skill **“Can find new and better ways to do things,”** 9.3% of firms perceive the workforce as significantly under-skilled (*a large negative difference*) and 14% see employees' skills are somewhat under the required level (*medium negative difference*). On the upside, 72.1% of firms share the opinion that their current workforce is only slightly under-skilled (*small negative difference*). However, just a small share of firms (2.3%) perceived that some workers are over-skilled (*a medium and large positive difference*) when considering this skill for their job.

Concerning the skill **“Can demonstrate specific technical/practical skills that are job-relevant,”** for 13.2% of firms, the perception is that the workforce is significantly under-skilled (*a large negative difference*) and 21.1% of firms think that their workforce is somewhat less skilled than it should be (*medium negative difference*). Again, similar to the previous two skills, a fairly large majority of firms (65.8%) believe that although there is a difference, their workforce is only slightly under-skilled (*a small negative difference*).

In looking at the difference between actual and required skills for **“Can easily adapt to new tasks and changes,”** results show that 18.8% of employers perceive their workforce as significantly under skilled (*a large negative difference*). Only 3.1% of employers think that there is a medium negative difference between actual and required skills, indicating that their workers are somewhat under-skilled. Although the level of skills-mismatch for this particular ability was high (32% of all firms), 78.1% of these firms believe that their workforce is only slightly under-skilled, i.e., the difference is negative, but small.

Overall, the main finding for the top four reported skills mismatches is that, although a large percentage of the employers report a difference between the actual and required skills of their current workforce, for a majority of firms (66–78%) the reported skills mismatches represented somewhat small levels of under-skilling.

Recruitment Practices: Potential Factor Contributing to Skills Mismatches?

The difficulties that firms have in attracting workers with the right skills could be a function of their inability or lack of opportunities to tap into a sufficiently large talent pool or to work through effective mechanisms and sources to provide “signals” to VET providers about their skills needs. According to the survey results, the proportion of employees recruited from the same firm

and from the same sub-region in which the firm is located is as high as 98% and 78% of firms, respectively. This phenomenon may arise because there is relatively scarce information on where suitable applicants can be found and a reliance on informal recruitment channels, such as social networks and personal contacts. This notion is supported by the data indicating that only 26% of firms use private employment agencies and only 10–14% of firms use Dual Education participants when attempting to fill vacancies.

TABLE 1.2.8 Employers Recruitment Sources

Most Common Recruitment Sources	Occupation A: % Highest # of Employees	Occupation B: % Most Difficult to Fill
Informal Contacts	98%	98%
Internet	76%	78%
Other Media	72%	78%
Government Employment/Labour Office	60%	58%
Direct contact with Schools and other Educational Institutions	52%	52%
Offers to Experienced People in Other Firms	44%	48%
Job Fairs	36%	36%
Private Employment Services	26%	26%
Other	14%	14%
Participants in Dual Education	14%	10%

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

The results in Table 1.2.8 further support these assertions showing that the three most common recruitment sources that firms use for hiring new employees are informal contacts (98%), internet (76% for Occupation A [highest number of employees]/78% for Occupation B [most difficult to fill]), and other media (72% for Occupation A /78% for Occupation B).

Three particularly noteworthy results are that about 40% of firms do not use the Labour Office as a source of recruitment, and only approximately 50% of firms use direct contact with schools themselves, while offers to experienced people working in other firms is a fairly common recruitment source (44% for Occupation A/48% for Occupation B). In other words, firms are mostly using informal channels rather than formal channels and mechanisms for their hiring needs, which is indicative of a systemic rather than limited failure.

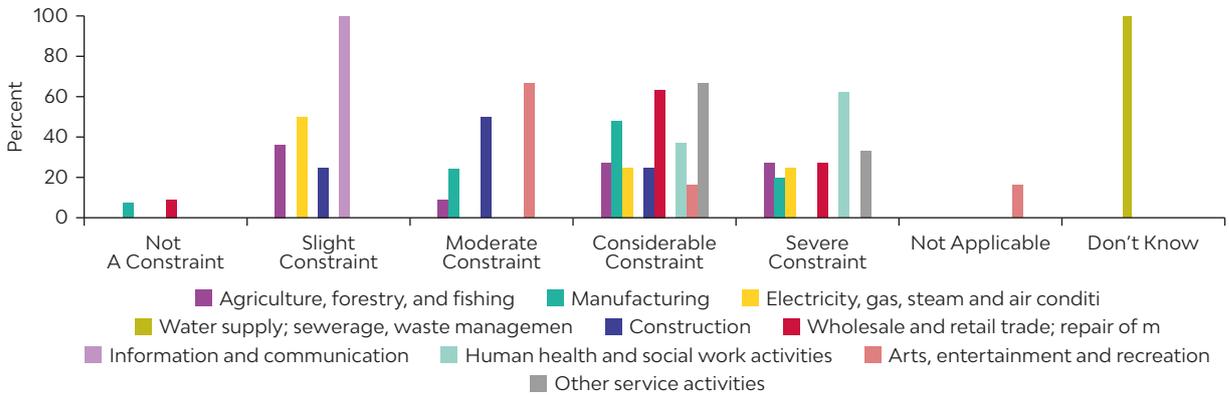
Potential Impacts of Skills Mismatches on Firms' Expected Growth

Given what we've learned about the reported skills mismatches, and firms' practices of hiring through informal and semi-formal channels, to what extent do firms feel this will limit their prospects for growth in the future? Looking at the overall picture, it is noteworthy that 40% of firms report that labour factors (such as availability of labour, training, etc.) will be a *considerable constraint* to the growth of their business, 22% of firms expect they will be a *severe constraint* to their growth, and a further 28% of surveyed firms expected labour factors to be a *slight or moderate constraint* to their future growth.

Unpacking these results from *an economic sector perspective*, as seen in Figure 1.2.4 the results also show that labour factors (for example, availability of labour, labour laws, high turnover, training, wage levels, etc.) are expected to be at least some kind of constraint to future growth for firms in just about every economic sector, except Water supply, sewerage, waste management and remediation (which represents only one firm in the survey). Only in two sectors (Wholesale and retail trade and Manufacturing) were labour factors not expected to be a constraint on future growth.

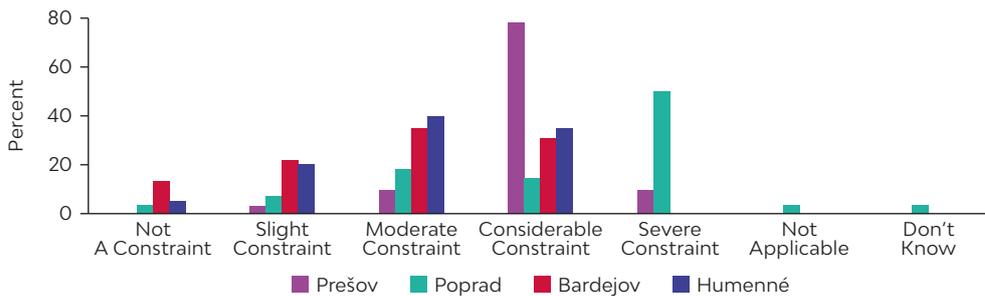
When we look at labour factors from *a sub-regional perspective* (see Figure 1.2.5), we see that this perceived constraint is expected present in all four sub-regions, but at slightly different levels. For the Prešov region, the highest number of firms sees labour as a considerable constraint for doing business. In the Poprad sub-region, most firms see labour-related factors as a severe constraint or moderate constraint. In the Bardejov sub-region, employers view labour factors as slight, moderate and considerable restraints. The situation is somewhat worse in Humenné, where labour factors are seen as considerable or severe.

FIGURE 1.2.4 Labour is a constraint to firm’s growth. The Extent to which Labour Factors (for example, Availability of Labour, Labour Laws, High Turnover, Training, Wage Levels, etc.) Presents a Constraint to Doing Business — by Sector



Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

FIGURE 1.2.5 Labour is a Constraint to Firm’s Growth Regionally. The Extent to which Labour Factors (For Example, Availability of Labour, Labour Laws, High Turnover, Training, Wage Levels, etc.) Presents a Constraint to Doing Business? — by Sub-Region



Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

The educational and training background of employment and hiring in Prešov indicates that employers demand a wide range of skills, ranging from high professional skills to elementary ones. The largest group among new hires are skilled and semi-skilled blue-collar workers (construction, crafts, & related trades workers).

In the near future, employers in the Prešov region report planning to increase employment mainly in blue-collar occupations. Jobs are expected to grow the fastest among operators, assemblers and craft workers, and also sales workers (Table 1.2.9). In contrast, the demand for professionals and technicians seems saturated, with little planned growth in employment.

Filling job vacancies often proves difficult for Prešov employers. This especially refers to hiring blue-collar workers and technicians, but also some service workers. These results may seem surprising given the high unemployment among workers with technical and vocational education in some sub-regions in group of VET graduates.

The lack of required skills is the predominant reason why hiring proves difficult. Roughly, eight employers out of ten that had problems with hiring new workers—technicians, craft workers, and operators—reported the lack of required skills as the main reason. This proportion was lower in the case of hiring sales persons, managers and administrative staff, where a lack of skills was indicated by only four out of ten employers.

TABLE 1.2.9 Employers Find It Difficult to Hire Skilled Workers. Top 7 Occupations with Hardest to Fill Vacancies

ISCO classification	% Highest # of Employees
08.02 CONSTRUCT/CRAFT/TRADE WORKERS: Metal, Machinery, & Trade Workers	10%
09.10 MACHINE OPERATORS/ASSEMBLERS/ DRIVERS: Other Stationary Plant Operator	8%
09.13 MACHINE OPERATORS/ASSEMBLERS/ DRIVERS: Car, van & Motorcycle Drivers	8%
08.05 CONSTRUCT/CRAFT/TRADE WORKERS: Electrical & Electronic Trade Workers	8%
02.03 PROFESSIONALS: Engineering Professionals in Industrial Mining, Construction	6%
02.05 PROFESSIONALS: Health Professionals; Doctors, Nurses, Midwives, Veterinarians	6%
08.02 CONSTRUCT/CRAFT/TRADE WORKERS: Building & Related Trade Workers	6%

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

Job applicants lack not only job specific technical skills, but, apparently, other, presumably 21st century skills. This is evident for all occupation types studied in the survey from managers to elementary occupations. By definition elementary occupations are unskilled occupations, which do not require any job-specific technical skills. This result suggests that employability skills include a wide range of abilities, and are not limited, as it is often assumed, to job-related specific technical skills. This would suggest that there could be tremendous benefit to all future and current workers being trained in 21st century skills, or soft skills.

Prešov employers are quite critical of the quality of workforce skills and the quality of technical and vocational education and training, more so than general education. This is not surprising given the difficulties they face when hiring

workers and their demand for the appropriate technical skills. These results imply that an improvement in the quality of VET education is needed.

SUMMARY & IMPLICATIONS: The top employability skills that new hires lack most often are specific technical skills relevant to jobs, communication or interpersonal skills, and the ability to use a computer for advanced purposes (primarily for professional jobs). Significantly, but not unexpectedly, “innovative” industries report at higher levels than other firms that they tend to experience problems in recruiting staff and are more critical of the current skill-levels of their workers. The largest mismatches between the required skills for jobs and the current skills of their workforce, as perceived by employers, are in regards to the following skills: “Can easily adapt to new tasks/changes” (32%), “Specific job-relevant technical skills” (38%), “Can find new and better ways to do things” (43%) and “Can work well/listen to others’ views” (46%). Overall, the main findings for the top four skills mismatches are that, although employers perceive a difference between the actual and required skills of their workers, for a majority of firms (66-78%) there was a small negative difference; their workforce was perceived as having skills slightly under the required level. Both the incidence and level of complexity of computer use are higher for occupation types 1-5 and the need for required skills increases with firm size, and is evident in all sub-regions and all sectors. It is likely that the combination of these two types of skills could boost the productivity of a firm and make employers more content with their workforce.

SECTION 1.3 WORK AND SCHOOL-BASED LEARNING

With the background and findings on the skills mismatches in mind, what are, or have been, firms’ experiences with dual education or other work-based learning practices, and with various types of school-based learning and cooperation? If the strength and vitality of high quality and well-prepared graduates relies on a rich and dynamic set of relationships and interactions between employers and secondary VET schools, we start our examination of the relationships and cooperation between Prešov employers and secondary VET schools by looking at the firms’ reported involvement various types of practice-based learning.

Overall Extent of Current and Expected Participation in Work-based Learning

In looking at the overall picture, less than 50% of the study's employers report having been involved with any government-sponsored education and employment program, despite the fact that a number of different EU-funded national projects have been implemented and are targeting less developed areas in Slovakia, such as the Prešov region. And this is despite 68% of the firms in the study—across all sectors and sub-regions of Prešov—reporting that the lack of a skilled workforce is one of the major obstacles to their further growth.

When looking more specifically at various types of work-based learning arrangements, last year 26 of the 50 firms in the study provided only 50 places for VET students in the form of internships and practical training in their workplaces. In other words, even the most active half of the firms in the study were still only providing less than two internships or practical training opportunities for secondary VET students. What is perhaps even more surprising is that in the future, more than 50% of those *who currently offer internships to VET students* do not expect the number of VET internships at their firms to increase. And despite the passing of recent legislation (Education Law #51) to increase the financial incentives to schools and firms for work-based learning, approximately one third (32%) of the employers already engaged in these types of cooperation with secondary VET schools believe that the change in legislation will not provide an increase in the number of work-based opportunities for students.

Dual Education Participation

Other changes to the VET system are also planned at the national level. Currently, from the 76 VET schools in the Prešov region, only 20 (26.7%) are involved in the dual education system. In an effort to increase participation in intensive and extended types of work-based learning, SIOV (the State Institute for VET), as part of a national program to increase the quality of VET education in line with EU standards, plans to have 3,500 students per year in the dual education system; this is approximately ten times more than the current annual placement level for the whole country. For example, VET schools have established 247 contracts with employers, and the targets for placements of formal dual education students set by the national authorities and the PSK-Education department for school year 2019/2020 is at 559 actual placements.⁶

According to the information available, the highest number of contracts for cooperation on dual education with employers have been established by technical schools in Prešov with the highest being the Prešov Joint School (13 contracts). The cooperating employers, in this case, are GOHR, s.r.o., Veľký Šariš, Kaufland Slovak Republic, v.o.s., and DM Drogerie Market, s.r.o. One of the reasons is that foreign firms, in particular, support dual and practical education as part of the corporate social responsibility policy. Further analysis will be required in districts such as Humenné, where none of the seven PSK VET schools are involved in the dual education system (see Table 1.3.1). And likewise, further analysis will need to focus on better

TABLE 1.3.1 Number of VET Schools and Employers in Dual System by Sub-Region/District

Sub-region/ District	VET Schools	Employer contracts	Sectors	Notes
Poprad	5	24	Machinery Industry, Tour- ism, Trade	Traditionally strong coopera- tion in Tourism
Kežmarok	2	5	Tourism and Food industry	
Stará Ľubovňa	1	2	Industry	
Levoča	0	0		Health sector provides WBT/PT
Prešov	6	44	Industry, Transport services, Trade, Tourism	
Sabinov	1	6	Industry	
Bardejov	2	8	Industry	
Vranov and Topľou	1	2	Trade	
Svidník	2	3	Industry	
Stropkov	0	0		2 VET Schools
Medzilaborce	0	0		1 VET School
Humenné	0	0		7 VET Schools
Snina	0	0		2 VET Schools
All	20	94		

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

understanding and taking stock of the involvement of Roma and other marginalized students in dual education. Due to the study constraints, it was not possible to see systematically across all VET schools and regional firms how many total Roma students are participating in dual education. However, with proper planning in the future, a case study could be undertaken at the VET school in Čaklov, which has one of the highest proportions of Roma students, to better understand the experience and potential for their involvement in dual education.

Factors Affecting Participation in Work-based Learning

With such relatively weak involvement in work-based learning, *to what extent were various features such as region, sector, or firm size a factor in a firm's level of participation?* Perhaps surprisingly, the survey results show that there is no difference in the participation in work-based learning activities due to the sector in which the firms operate or the sub-region in which they are located. Rather, firms' cooperation with schools, their participation in the dual education system, or their support of other forms of practical education is greatly influenced by the size of the firm. Smaller firms often have more difficulty in the practical management of student participants in the dual education system. For example, 38% of surveyed firms report that they do not have HR departments, which, especially in small firms, are not only responsible for payroll, but also other administrative duties, such as recruitment and training. This reality makes it more difficult for small firms to take on the additional responsibility of managing dual education students.

Remarkably, despite the existence of a new web portal for the promotion of dual education (www.dualnysystem.sk), the information that is available on the portal is somewhat scattered and can't be found in one place. This is especially true for students, one of the targeted groups of intended users. Likely because of this, employers' awareness of the dual education program has largely come through their involvement in specific events sponsored by the Chamber of Commerce and their respective industry associations. However, despite these government and business association efforts, employers report that they do not expect a significant increase in pupils in the dual education system in the coming years.

In addition to the reasons mentioned above, employers reported during focus group sessions that the main reasons for the low levels of participation in school and work-based learning were: (i) overly bureaucratic processes for getting involved in and registering for the program, (ii) normative amounts—i.e., per pupil funding—and other financial incentives that do not fully account for the expenses firms incur in hosting dual education students, and (iii) lack of clarity and confidence in the predictability of funding from the government for hosting dual education students.

It is perhaps understandable, then, that 10 of 26 firms (38.5%) didn't know how to describe their level of satisfaction with hosting dual education students. But, for six other firms (23.1%), this experience was evaluated as "fair" and "good." There were four firms (15.4%) that described their experience as "very good." It is encouraging that none of the firms perceived their dual education experience as "bad."

If firms' involvement in the dual education system is limited and not (reportedly) expected to grow in significant ways in the future, are there other potential areas of cooperation between firms and VET schools? Unfortunately, the study results show that employers are currently not participating effectively in other forms of cooperation with VET schools and other training providers, either. Therefore, an important question remains: whose responsibility is it to promote and increase firms' involvement in various types of cooperation with VET schools – VET schools themselves, firm owners and operators, or some other government or civil society entity?

It is true that legislation allows for the participation of all actors in the provision of training, content creation, quality assessment, and joint projects. However, only 16% of employers report providing feedback for curriculum development, and less than 20% of employers participated in testing

students and providing further training of VET teachers. This lack of direct involvement in the VET education system seems odd, if, on the other hand, the study found that firms express high dissatisfaction with the content of VET education and the level of pupils' practical soft skills.

Employers clearly indicated a readiness to invest and provide students with practical experience using the latest technologies, and in fact 80% of firms report that newly hired secondary VET school graduates end up receiving training inside the firm on specific job-related skills which they are expected to use at the workplace. In other words, a fairly large majority of firms expect that secondary VET school graduates will be ill-equipped (i.e., under-skilled) by their secondary education and the firms therefore plan and expect to make up this deficit themselves. When paired with the earlier-cited finding that only about 26% of the surveyed firms are actually participating in dual education, it will be important for PSK-ED, national education officials, and VET schools themselves to look at specific and actionable measures which can be taken to address this shortfall in participating firms, and to better strategize on how the transaction and financial costs to firms to participate can be reduced or eliminated altogether.

SUMMARY & IMPLICATIONS: The results clearly indicate that Prešov region firms are woefully under-participating in work-based learning, given the variety of opportunities that exist. The dual education system in particular, but all forms of work-based learning more broadly, will need to become more responsive to, and relevant for, a wider range of employers than just large industrial enterprises. This could be done by creating the conditions for greater involvement of different types of firms and potentially disadvantaged sub-populations of VET students, and by providing better links for small-scale employers and VET students to information and counseling activities at the local level (e.g., DUAL 18+, or a combination of DUAL 18+ and social enterprises). Consideration must be given to the best ways for VET providers to make training more attractive for marginalized groups and their potential future employers. It will be necessary to consider a new financial framework to support recognition of non-formal education in the context of lifelong learning, and improve VET promotion within all targeted groups. Involving marginalized groups in vocational education and training needs to be tackled in a comprehensive way in communities through such programming as Roma mentors, work advisors, support services directly at the workplace, cooperation with social enterprises, and training centres. Ultimately, there is a clear need to increase and broaden work-based learning to move beyond Dual Education. The focus should be on continuous quality improvement, increased stakeholder involvement, and improved quality and frequency of professional development for VET teachers.

SECTION 1.4

WILLINGNESS TO INTERACT? — EVIDENCE ON FIRMS' COOPERATION WITH VET SCHOOLS

The aim of the overall study is to identify the expectations employers have of VET schools in the Prešov region, to assess whether schools are currently adequately prepared for understanding and meeting current labour market needs and anticipating future trends, and what is needed to develop an effective network of employers, government officials, and other relevant civil society stakeholders, and providers of vocational education and training at the local, sub-regional and regional levels. Within that larger context, this section focuses in on the following specific questions: *What is, or has been, the firms' experience with various types of school and work-based learning and other types*

of contact with VET schools? How, and how well, are schools/providers structured to understand, meet, and adapt well to firms' needs over time? And, how do firms signal their skill and occupational needs to secondary VET schools to ensure better matching?

How frequently are firms in contact with VET schools? What kind of contact do they have?

Looking more directly at the extent to which Prešov employers in the study report having regular contact with VET schools, and what type of contact they have (see Table 1.4.1), overall, 58% of the firms in the study report having “regular contact” with VET schools. Though a more positive interpretation of this figure would celebrate that this is more than half of the study’s employers (29 out of 50), the fact that over 40% of employers report not having regular contact with VET schools is quite concerning and helps us understand a great deal why there are significant information and communication gaps on the demand and supply side in the labour market. If we look closer at specific sectors, there are some good examples of high levels of communication between firms and schools. For instance, nearly three quarters (74%) of Manufacturing firms and 100% of Health and Social Services firms (e.g., Health & Social Services, Other Service Firms, Information and Communication Firms) reported regular contact with education and training institutions.

Looking more carefully at *different types of, and reasons for, employer and school contact* (see Table 1.4.2), it is striking to see the categories or types of contact for which firms report what one would consider “very low” levels of contact. Only 14% of firms report being involved with testing VET students and as few as 18% of firms report being involved with development of their own staff at VET schools and further training opportunities for firm staff.

TABLE 1.4.1 Prevalence of Regular Contact with Educational/Training Institutions, by Economic Sector of Firms

Do you have REGULAR Contact with Educational/Training Institutions?	% of Firms (#/50)
OVERALL	YES: 58% (29/50) NO: 42% (21/50)
GROUP 1: Manufacturing	YES: 74% (17/23) NO: 26% (6/23)
GROUP 2: “Health and Social Services” (Health & Social Services, Other Serv., Info and Communications)	YES: 100% (6/6) NO: 0% (0/6)
GROUP 3: “INFRASTRUCTURE” (Electricity, Gas, Air conditioning, Water, Sewage, Waste Mgmt., Construction)	YES: 0% (0/7) NO: 100% (7/7)
GROUP 4: “MISCELLANEOUS” (Agriculture/Forestry, Arts/Entertainment, Wholesale/Retail)	YES: 39% (5/13) NO: 61% (8/13)

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

TABLE 1.4.2 TYPES of Contacts with Educational/Training Institutions

WHAT TYPES of Contacts with Educational/Training Institutions?	% of Firms (from 50 firms)
GROUP 1: “VERY Low” contact	
Testing of Students	14%
Feedback for Curriculum Development	16%
Staff Development for Schools	18%
Further Training for Firm Staff	18%
Other	16%
GROUP 2: “LOW” contact	
Recruitment of Staff	26%
GROUP 3: “MODERATE” CONTACT	
Provides Work Experience for Students (internships, apprenticeships, dual education)	52% (90% of “Active” Firms)

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

Most notably, the study’s findings show that only 16% of employers provide feedback to VET schools on curriculum development. The focus group results clearly show that the perceived poor quality of education can be related to the inadequate and unsystematic communication between employers and vocational schools.

This is an important missed opportunity for schools to increase communication with employers and to make their curriculum more relevant for the labour market as this feedback would allow schools to know more clearly what skills firms require. This type of interaction would allow VET schools to work at shrinking the gaps and mismatches between course offerings, graduates’

capacities, and the skills desired by employers. This finding is particularly troubling when compared to similar findings on a related study about the average percentage of EU firms providing curriculum feedback to VET universities, which is 24 percentage points higher at 40% of firms doing so (European Commission, Flash Eurobarometer 304, 2010).

SUMMARY & IMPLICATIONS: The results show that companies and VET schools have a great deal of work to do to improve the level of communication and cooperation with each other. Companies, clearly unsatisfied with the skill level of VET school graduates, need to find ways to influence and change the VET curriculum so a wider pool of young, eager, potential employees can be developed from VET schools.

The identification and sharing of better labor market information is necessary to inform both VET providers and employers and to guide the strategic choices of all decision makers in these institutions. Improved systems for sharing information alleviates a skills mismatch by facilitating rational choices of different labor market actors. Stakeholders need to know the current and future demands for occupations and skills in order to make informed decisions.

To this end, one of the PSK-ED's tasks should be to promote cross-sector and sub-sector networking of VET providers and real support to collaborate on joint projects, i.e., in the areas of quality assessment, innovation in educational content, and pedagogical training, along with increased investment in equipment.

VET schools need to urgently change content and instructional methods in line with the information they receive from firms to better develop students' 21st century competences and skills. To facilitate this, the PSK-ED needs to first promote and facilitate more opportunities for interaction and cooperation between firms and VET schools. And next, it needs to work with schools to prioritize teacher professional development and curriculum reform to improve teachers' ability to teach specific job-relevant technical and 21st century skills in line with firms' reported needs.

It would be important in future research to gather more data from surveyed companies in the Health, Social Service, and other service sector and Manufacturing sector to find out how consistent communication with VET schools was established and maintained, the benefits of these relationships for both the supply and demand side, and areas for improvement. Finding existing mechanisms and establishing new ways to share study results and insights would be critical, as well.

It is clear that this kind of essential communication and interaction between schools and employers can be established, as the high percentage of EU companies on average giving feedback to VET schools is evidence. A way forward to develop these relationships in the Prešov region must be found.

Which are the most frequently used recruitment sources?

Another important and expected area for interaction and cooperation between firms and VET schools is in recruitment of potential new hires. Therefore, employers were asked about the sources they most frequently used for recruitment (Table I.4.3).

The top three sources that firms report using for hiring new employees are informal contacts (98% for both occupations), the internet (76% for occupations with the highest number of employees/78% for occupations that are the most difficult to fill), and other media (72% for occupations with the highest number of employees/78% for occupations that are the most difficult to fill). The fourth most common source for recruitment is the Labour Office. With only around 60% of the surveyed firms reporting that they use the Labour Office as a recruitment source, in comparison with the other more often cited sources, and since this is the primary purpose for the existence of Labour Offices, this is a surprisingly modest number. When considering why this may be the

TABLE 1.4.3 Most Common Recruitment Sources

Recruitment Sources	% Highest # of Employees	% Hardest to Fill
Informal Contacts	98%	98%
Internet	76%	78%
Other Media	72%	78%
Government Employment/Labour Office	60%	58%
Direct contact with Schools and other Educational Institutions	52%	52%
Offers to Experienced People in Other Firms	44%	48%
Job Fairs	36%	36%
Private Employment Services	26%	26%
Other	14%	14%
Participants in Dual Education	14%	10%

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

case, a number of focus group participants reported that the quality of existing Labour Office data is not sufficiently detailed and is often deemed to be outdated or unreliable—something that more in-depth, future research should look into.

It is also interesting to note that offers for employment to experienced people working in other firms is also a somewhat significant source for recruitment (44% for highest number of employees/48% for most difficult to fill). It's not completely clear why this is the case, but it could be that the lack of qualified and skilled recent graduates leads firms to look for their new employees in other firms.

It turns out that VET schools and employers are not sufficiently prepared to integrate marginalized groups. Both sides point to the lack of counseling services (career and work counseling) and the low number of participants in apprenticeships. As mentioned previously, additional and particular case study research will need to be undertaken in schools with higher numbers of Roma students to identify lessons learned.

SUMMARY & IMPLICATIONS: Overall, it is clear from these results that companies are primarily doing recruiting through informal and less formal mechanisms. It would be important in future research to obtain more information about companies' decisions to recruit from informal mechanisms and networks and to find out the reasons for why this is so high while recruitment through the Labor Office (used by only 60% of surveyed employers) and schools (together with other educational institutions at 52% of surveyed employers) are used relatively less frequently for recruiting.

Co-operation and Adaptability of Schools: Meeting Firms' Needs Over Time

Flexibility in the VET system should ideally be provided by what is known as vertical and horizontal “permeability”, allowing high levels of study or transfer between types of schools. Different pathways represent distinct combinations of study levels and modes of study coupled with the type of final examination and degree (i.e., certification) conferred. This is distinct from the idea of different study fields as the same pathway could be part of multiple fields of study.

Interestingly, however, employers in the study do not report considering formal qualifications as the guiding principle for the selection of new employees. They do not sufficiently focus on horizontal/lateral qualifications, partial qualifications and other types of certificates, but they nevertheless

express dissatisfaction, especially with the level and absence of specific technical skills. For example, the interest in certified and specialized workers and life-long learning activities is average with only 49% of surveyed firms reporting that they are looking for certified workers.

Improving the quality of vocational education, training, and networking would make a stronger contribution to the creation of joint learning and study programs between schools and “sectors”, by introducing a VET credit system or supporting “firm” schools and involving relevant ministries in their funding through pilot projects. An example of such cooperation is the health sector.

Large corporations and firms with foreign capital, who participated in the survey, reported in the focus group sessions that they have also created their own “academies” where they systematically educate their future and current employees (six participating employers). In these cases, educational activities are mainly geared to specific technical skills, but the trend of interpersonal skills training is also visible.

Despite the opportunities that schools offer to employers to use their school premises for further training of their employees, it appears that firms normally prefer internally training their own employees—as 69% of firms report not using VET schools in PSK for this purpose. Though schools may need to make certain accommodations or adaptations to provide relevant training to firms’ employees, with a fairly modest amount of planning, experience in other EU countries shows this could be an important source of information sharing between the demand and supply sides, which could assist in decreasing some of the skills mismatches.

Sixty percent of employers report being satisfied with the level of their employee’s education, prefer internal training activities provided by internal employees (78.9% employers) and contractors, and the cost of further external education of employees is low. They invest more in training employees in connection with innovations and new technologies. For example, more technology firms are investing in this type of internal training. On average training activities last for approximately two days, with the exception of foreign language training. From all employers, 26% were not able to comment on the level of education of their employees.

SUMMARY & IMPLICATIONS: Overall, it is clear from these results that companies are not communicating or cooperating as effectively with VET schools as they could and should. It would be important in future regional plans to find systematic ways to foster interaction and communication between employers and school administrators. Requiring VET schools to include work placements in their programs would motivate them to co-operate with employers and learn about their needs, potentially contributing both to the quality of school curricula and encouraging skills updating for teachers and trainers.

If learning goals at the workplace are aligned with school curricula and a strong quality assurance framework is in place, work-based learning can contribute to the acquisition of those skills most relevant for employers. Real-world experience in the workplace allows for the acquisition of soft skills, which are highly valued by employers, such as problem-solving, interpersonal and communication skills, entrepreneurship, and team-working.

Employers do not have high expectations from VET school graduates and are ready to provide specific job-related skills in the workplace. Employer willingness to offer training can be facilitated in a range of well-documented and evaluated ways. For example, providing targeted support to SMEs both in terms of the administrative burden (administrative costs may be relatively more burdensome for smaller companies) and allowing them to provide training jointly.

The trend towards the use of competence matrixes, competency models, and the National Qualification Framework across sectors could lead to a new joint definition of learning outcomes provided by VET schools and employers together. One of the reasons for this growing movement toward using nationally and sector recognized competencies is a well-managed web site (www.istp.sk), as well as

the obligation of employers to register to work with the employment office when recruiting workers. As part of the implementation of national SIOV (The State Institute for VET) projects supported by the EU funds, new websites have been created, which target employers, schools and pupils: www.dualnysystem.sk, www.skolaprevas.sk and www.potrebyovp.sk. These websites could in the future remove the existing information asymmetry and encourage cooperation between actors.

The best companies have informed employers - members of chambers of commerce and industry associations or employers who work closely with professional organizations in the health and industry sectors. An example could be the health sector, which has a direct impact on VET school management (not only with the practical course work) and a system of further training for healthcare workers, including the introduction of a new curricular approach using the "credit system." Chambers of Commerce also organize professional and educational events focused on new technologies and innovation, new legislation, and export.

CHAPTER 2

SECONDARY VET SCHOOL STUDY REPORT

SECTION 2.1

METHODOLOGY: VET SCHOOLS STUDY

To assess Prešov regional schools' status and quality of secondary VET education, this study was aimed at the structure and key features of VET schools and their efforts to adapt to employers' requests and overall labour market needs—particularly in regard to VET programming, teacher qualifications, and facilities. We were interested in quantitative information aimed at probing the status of students, instructors/teachers, study programs, facilities, equipment, and funding. Qualitative information was also gathered about cooperation between schools, firms, and other key entities, school data collection efforts, quality management systems, creation and adaptation of content of curricula, and the structure of the education programs (education levels and certificates, requalification and life-long learning courses, practical and work-based learning, and teachers and facilities).

To summarize, the purpose of this study was to describe the current status of secondary VET schools in the Prešov region, identify problematic areas preventing schools from achieving a higher quality of education (to reduce skills-mismatch), and pinpoint areas in which schools need to improve to offer a more suitable and up-to-date VET education. Based on this information, recommendations for VET education have been identified for the consideration of regional and national authorities. Three main data collection approaches were used: in-depth, structured interviews, focus groups and administrative data-capture sheets (including time series data on enrollments and levels of utilized capacity for individual study programs).

Research Questions (overall and specific)

The School Survey and Focus Group Sessions were framed by the following overarching research question:

How, and how well, are VET schools structured to adapt to companies' needs over time?

The main research question was supported by five sub-questions:

1. How do VET schools interact with different organizations in regards to forms of cooperation, tools, and content?
2. How do VET schools adapt and create their curriculum?
3. How do VET schools evaluate their internal processes (regarding teachers, facilities, infrastructure, financial framework and results)?
4. How do VET schools perceive and measure quality?
5. What other services do VET schools provide within sub-regions on a local level? How well are these services provided?

TAP Survey and Focus Groups Background

School Survey

The VET School Survey implemented in the Prešov region was based on the World Bank's *Training Assessment Project*, and specifically on its main tool, the *Training Providers Assessment* questionnaire. The Training Assessment Project (TAP) initiative was launched to identify the current conditions and common practices under which training providers (with a focus on TVET institutions) operate, as well as those conditions and practices that contribute to good performance. TAP aims to help the World Bank Group's (WBG) partner countries fill an information gap regarding two questions: 1) what are the conditions and practices that make a training provider successful, measured in terms of the percentage of graduates who find employment after graduation or who enroll in further education or training activities? and 2) what are the most common constraints faced by training providers and how do successful institutions address them? Used in the context of the Slovakia CURI VET project, we focus primarily on the latter of these two questions.

To answer this question, TAP uses the conceptual framework of the World Bank's Systems Approach for Better Education Results Workforce Development (SABER-wfD). The framework identifies the policies and practices that national workforce development systems should have in place to move toward the desired dynamic alignment between skills demand and supply. In other words, it captures the *policy intent* in these systems. TAP is part of SABER-wfD, but with a focus on *policy implementation*.

The main data collection tool in TAP is the Training Provider Questionnaire, which is designed to gather information on the inputs, practices, outputs, and outcomes of training providers. The questionnaire is dedicated to exploring further characteristics, institutional actions, and values that can have an effect on the quality of education and training services. The questionnaire is structured in five sections:

- I) Background Information
- II) Inputs, which covers basic characteristics of students, instructors, facilities, and funding
- III) Institutional Characteristics and Actions, which examines the practices of training institutions using the SABER-wfD conceptual framework
- IV) Institutional Values, which explores the extent to which respondents agree or disagree with statements about the institution's role or mandate to undertake certain actions
- V) Outcomes, which aims to collect data on the employment status, income, and educational status of graduates.

The Prešov School Study used a modified version of the TAP *Training Provider Assessment* to better meet the needs of the study's research questions and for regional appropriateness, and emphasized:

- Prešov-region, VET-specific industries, terminology, issues, and employee skills identified as important in the Employers Study (Activity 1)
- VET schools' previous experience with Dual Education and other forms of work and school-based "practical" learning
- Schools' understanding of anticipated short, medium, and long-term hiring and skill needs of Prešov region employers

The School Survey contained the following five modules:

- Module 1: Background information: Basic Identifiers—*includes basic identifiers such as name, address, and institution type*
- Module 2: Strategic Framework—*includes questions on management systems, vision statements, frequency of data collection, inspections, and audits*
- Module 3: System Oversight—*includes questions on financial resources and budget oversight, adaptations of curricula, autonomy of program assessment, and certifications awarded*

- Module 4: System Delivery—includes questions on autonomy to introduce/close programs, basic program information (e.g., number of programs, highest enrollment, etc.), evaluations of instructors, contact with other institutions, and internship/work-based training offered
- Module 5: Comments—includes questions on conditions of school facilities and classrooms

Data Capture Sheet

To reduce the time required to complete the face-to-face interviews and to allow more time for school principals to accurately and fully answer some questions on the Training Provider Assessment questionnaire, the detailed “administrative data” questions about students, teachers, and schools were pulled onto a separate Data Capture Sheet (DCS). The DCS, in the form of a spreadsheet, was sent electronically to all VET school principals by PSK-ED, which assigned staff as point persons for each school to address any questions or technical issues.

A major addition to these original Training Provider Assessment questions made to the DCS was a section in which school principals were asked to indicate:

- i) All study programs they are authorized to offer
- ii) The total enrollment and capacity for each of these study programs for five years ago, three years ago, and last year

Prešov Region VET Schools Focus Groups

Four Focus Group Sessions, which complemented and enhanced the School Survey and Data Capture Sheet, were held in January 2019 during a conference entitled “VET Reform: Matching the Existing supply of Vocational Secondary Study Programs and Needs of the Labour Market in the PSK”. The following five questions were asked in the Focus Group sessions:

1. What needs to be done to improve communication between employers, secondary vocational education and training providers, and other public and private actors to remove the mismatch between the labour market needs and the skills of VET graduates?
2. What are your proposals related to improvement of quality and content of VET schools? What do you think the system for evaluation of VET quality in your institution should look like? What are your suggestions related to the improvement of the quality and content of the different work-based training activities?
3. How can VET providers make the training more attractive and suitable for specific groups and their future employers?
4. What do you think should be done to prepare VET schools for future innovations and new services? How can schools become innovative in response to the changing needs of society and the labour market?
5. What is your recommendation for the most important improvement needed for VET in the Prešov region?

The Focus Groups consisted of school directors and other school officials and were split according to sector groupings (two focus groups for Industry-related schools, one focus group for Agriculture—Food and Forestry, and one for Services). There was a purposeful effort to ensure that the sub-regions, and representatives from PSK-ED and the World Bank VET team, were represented in each of the focus groups.

Survey Participants and Focus Group Design

The participants for the School Survey, as per the CUR1 Steering Committee’s guidance, consisted of all of the 73 VET schools currently functioning in the Prešov region, including public (government-funded), private, and religious schools (church-funded). The study comprised of VET

schools from various economic and industry sectoral groupings, which were situated in several cities from the four sub-regions in the Prešov region—Prešov, Humenné, Bardejov, and Poprad—which corresponded to the same geographic division in the Employer Study.

The Survey data collection was designed to include all secondary VET schools in the entire Prešov region, whereas the analyses examined the main research questions and any sub-regional and/or sector-specific effects according to the following groupings:

- Four sub-regions⁷ (*Prešov, Poprad, Bardejov, and Humenné*)
- Four sectoral groupings⁸ (*Agriculture—Food and Forestry, Services and Trade, and Industry*)

For a complete breakdown of the schools surveyed for this study, see Table 2.1.1.

The Focus Groups were divided into sessions organized by four sector groupings (two focus groups for Industry, one school for Agriculture – Food and Forestry, and one for Services).

TABLE 2.1.1 SLOVAKIA CuRI — VET Project Activity 2 — Study Participants Breakdown

CRITERIA	DEFINITIONS	ACTUAL %
SUB-REGION	Prešov	37% (27 schools)
	Poprad	31.5% (23 schools)
	Bardejov	15.1% (11 schools)
	Humenné	16.4% (12 schools)
SCHOOL SIZE	# of students:	
	Small (0 – 149)	9% (7 schools)
	Medium (150 – 250)	20% (15 schools)
	Large (over 251)	67% (51 schools)
	Extra-Large (1,001+)	4% (3 schools)
INDUSTRY/SECTOR	4 industry/sector “groupings”:	
	Industry	37% (27schools)
	Services and Trade	41% (30 schools)
	Agro-Food/Forestry	7% (5 schools)
	Other (<i>pedagogical, art, & health schools</i>)	15% (11 schools)

SECTION 2.2

KEY FACTORS AFFECTING SECONDARY VET EDUCATION IN PREŠOV REGION

Introduction & Background

We begin our Activity 2 report by addressing the principal question in VET education in the Prešov Region: “How well are VET schools structured to adapt to employers’ needs over time?” Before taking a deeper look at the structure and nature of specific study programs and delving more intensively into what we can learn from teacher, student, and school administrative data, we begin by looking in this section at what VET schools themselves report about five key areas of importance: 1) Cooperation and Coordination with Employers; 2) Curriculum Development & Teaching and Learning; 3) Internal School-level Processes; 4) Quality Assurance/Improvement; 5) Additional Roles (i.e., Life-long learning).

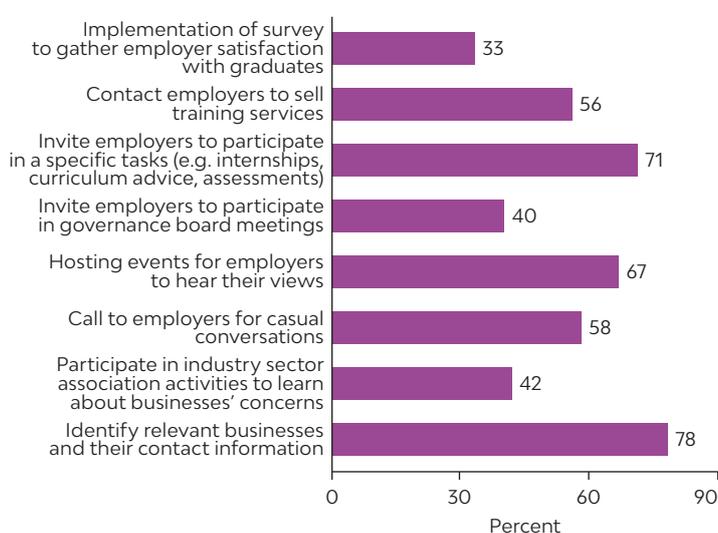
Cooperation and Coordination with Employers

In this section, we begin by examining the extent to which, and how, VET schools cooperate with different organizations, entities, and employers. Out of the 73 VET schools in Prešov region who participated in the survey, 100% of them reported having a management committee and governance board and more than 95% of the schools have a formally written mission statement. This is no surprise, as schools are required by regional legislation to have some form of a school council. Looking more specifically at the composition of those school councils, 71% of the members of the school management committees or governance boards are also members or employers of industries or industry associations. And of those 71% of members with industry ties, about 47% reported that school managers are accountable to the school management committee or governance board, indicating that in a number of cases there is some level of interaction between school administrators and industry representatives. While these are largely quite positive results and show a seemingly high level of industry representation, given the findings from the Employers

Study (Activity 1) report that show there are significant gaps and mismatches between the skills and knowledge that companies are demanding and what VET schools in Prešov region are supplying, further research is needed to explore why this high level of industry participation on school management councils and governance boards doesn't seem to be translating to better alignment between industry needs and what schools are producing.

As a written form of what schools aim to do, and one measure of how they communicate and reflect what they hear from employers, around 64 schools (out of 70 schools that report having one) stated that their mission statement indicates a connection with industry associations and/or employers. In developing their mission statement, more than 90% of the schools reported that they have included the participation of both students and community members. Additionally three schools, despite not having this strategic document, report seeking advice and communication with employers and associations informally.

FIGURE 2.2.1 Type of Strategies VET Schools Use to Involve Businesses and Industries



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

A majority of school directors agreed with the statement that performance targets for industry cooperation can improve schools' performance. Perhaps most positively, approximately 62% of the schools reported that they also have a specific strategy to involve employers' industry groups and business associations in their decision-making. Figure 2.2.1 shows the type of strategies that schools often use to involve industries and businesses in their decision making. The most notable strategies are exchanging business and contact information (78%) and inviting employers to participate in curriculum advising, assessment planning, and internships (71%), and hosting events for employers to hear their views (67%). Although these results show that schools invite employers to participate in curriculum advising (among other tasks) as a notable strategy, in reality, companies in the Employer Study only reported being involved with schools for the purpose of cur-

riculum development in very low percentages. So, the largest part of what schools are reporting as employer participation has to do with internships. These programs allow the students to have interaction with employers, but not much interaction with them in ways that will more directly affect the content of students' study programs.

The focus group discussion also confirms the Employer Study Report from the fact that many employers claim having an interest in cooperating with schools, but they do not have enough staffing to do so. During the focus group discussion, it was suggested that companies create a contract position focused on increasing and maintaining the communication and collaboration responsiveness between specific companies and the related VET schools. Also, in 86% of the schools, the school director is reported to be charge of implementing and planning for the above-mentioned strategies.

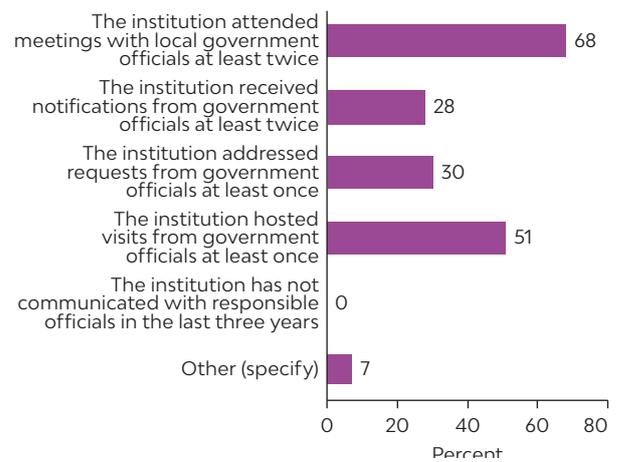
Policies regarding skills and training require many discussions and careful planning. Around 95% of the schools indicated that in the past three years they had participated in events to discuss policies regarding training and skills development with responsible officials, either once a year (77%), or occasionally (18%). As can be seen in Figure 2.2.2, the majority of schools stated that being informed about a change in regulations or about new regulations was the main purpose of the meetings. In 97% of the schools, the school director is in charge of addressing government communication to the rest of the institution's staff. Figure 2.2.3 shows the details of the most important communication channels between the institution and government officials in the last three years. More than 60% of the institutions had at least two meetings with the government official during the past three years.

FIGURE 2.2.2 The Main Purpose of Committee Meetings



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.2.3 Main Communication Channels between Institutions and Government Officials

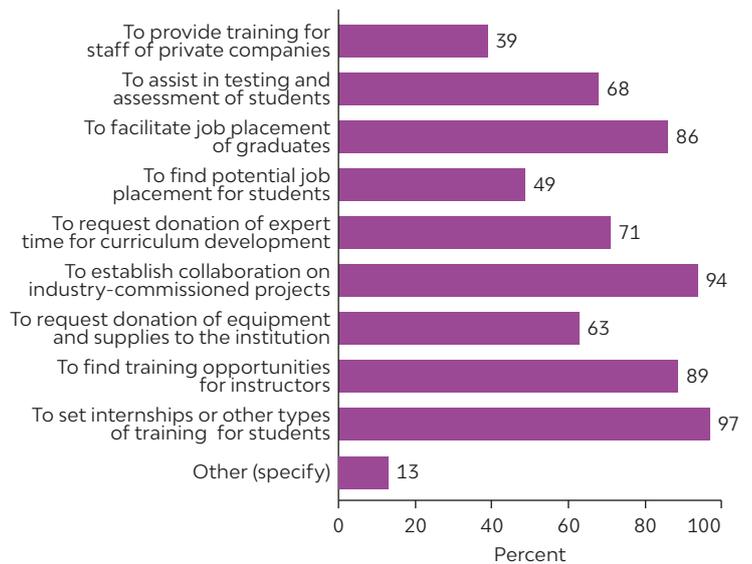


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

In terms of having a formal or informal relationship with any external institution, all of the schools reported having such relationships with at least one external institution. These relationships involve public institution (90%), private companies (89%), and NGOs (78%). Figure 2.2.4 shows the details of these relationship with VET schools. As shown, the majority of the relationships are with regard to setting up internships and training for students (97%), establishing collaboration on industry-commissioned projects (94%), finding training opportunities for instructors (89%), and facilitating job placement for graduates (86%).

It is notable that in the focus group discussions, other aspects of these external relationships were reported, such as providing education for employees of companies that make donations or provide some form of cooperation to VET schools (e.g., internships, education of teachers, donations, etc.).

FIGURE 2.2.4 Main Purpose of External Relationship



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: All VET schools in the Prešov region reported having a management committee and governance board, and more than 95% of the schools have a formally written mission statement. While these facts would show a seemingly high level of industry representation, the findings from the Employers Study (Activity 1) report show that this is primarily only due to the statutory requirement for such, and that there are actually significant gaps and mismatches between the skills and knowledge that companies are demanding and what VET schools in Prešov region are supplying. Although VET schools report that they invite employers to participate in curriculum advising (among other tasks) as a notable strategy, in reality, companies in the Employer Study only reported being involved with schools for the purpose of curriculum development in very low percentages. In cases where it is happening, most schools interact with employers through internships. Although these programs allow for some level of interaction with employers, it does not give opportunities for more meaningful interaction that will directly affect the content of students' study programs.

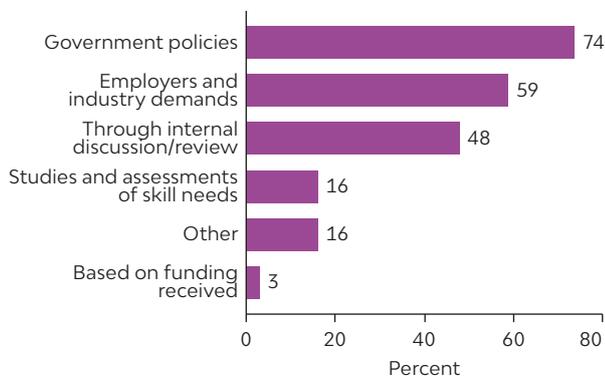
Curriculum Development & Teaching and Learning (including Dual Education and Work-based/School-based Learning)

In this section, we discuss the results in the area of curriculum development, teaching and learning, and work-based and school-based learning. As can be seen in Figure 2.2.5, the majority of schools (74%) indicated government policies as the main factor which determines the skills taught in each study program, followed by employers and industry demand (59%), and internal review (48%). Even though 59% of the schools report that employers and industry demand is one of the factors that determine the skills taught at schools, this percentage does not represent what firms reported in the Employers Study Report. And yet this issue opens up the crucial question of “how well do schools prepare students?” since many firms complain about the significant skills mismatch and the lack of regular cooperation and communication with schools, especially in the area of curriculum development.

On another note, as shown in Figure 2.2.5, while government policies appear to be a very important determinant in curriculum development (74%), the studies and assessment of skill needs is reported very low (16%). This indicates that the majority of VET schools in the Prešov Region are mostly making decisions about which skills to teach in their programs based solely on compliance regulations, and not from an industry-responsiveness perspective.

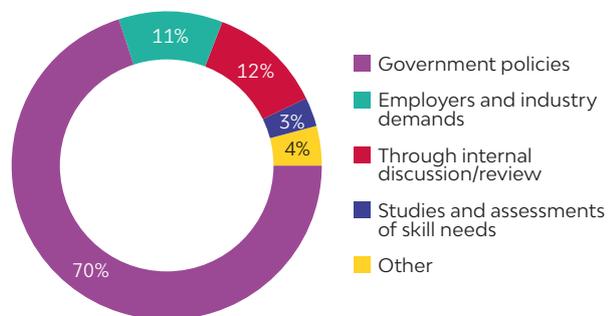
In looking at the minimum skills taught per program, similarly, about 70% of the schools make this determination based on government policies, followed by their own internal review (12%) (Figure 2.2.6). While being compliant and following government policies is important, there should be more of a balance between an industry-responsiveness decision-making and a compliance mentality.

FIGURE 2.2.5 How Does Your Institution Determine the Skills to be taught per Program?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.2.6 How Does Your Institution Determine the Minimum Skills to be taught per Program?



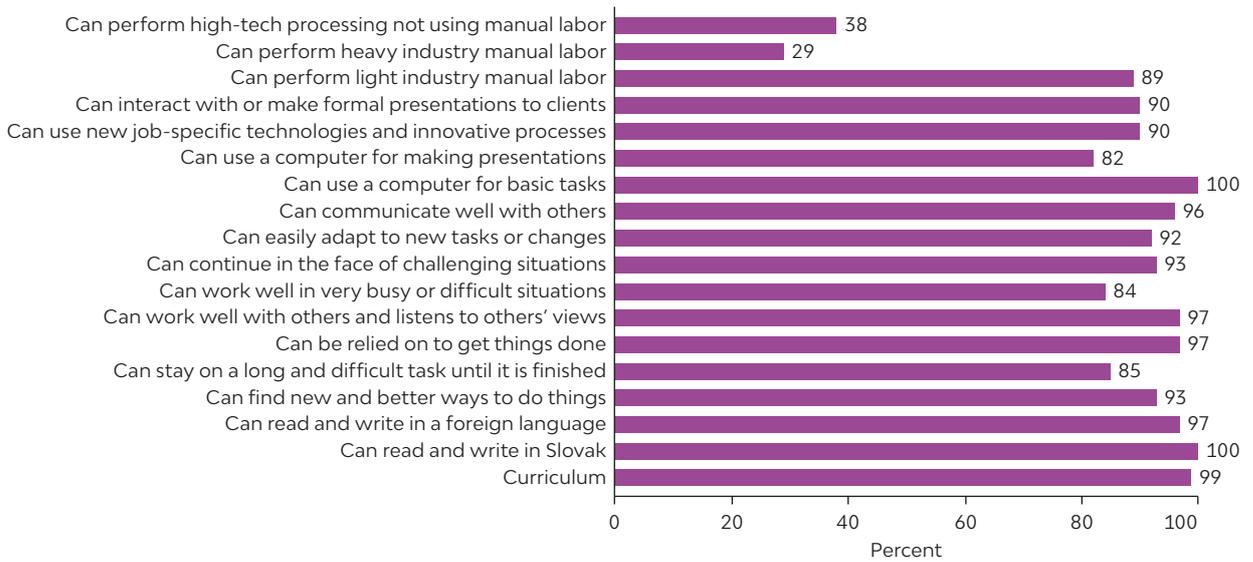
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Figure 2.2.7 shows the skills that schools reported their students will acquire when they graduate. Around 99% of the schools report that their graduates will master the curriculum they were taught, but only 38% reported that their graduates can perform high-tech processing while not using manual labour.

Around 94% of the institutions have an annual internal review in place to ensure that the quality of education is up with national quality standards. Among the programs with the highest enrollment, the competency standards of those programs are based on a national standard in 92% of the schools (Figure 2.2.8).

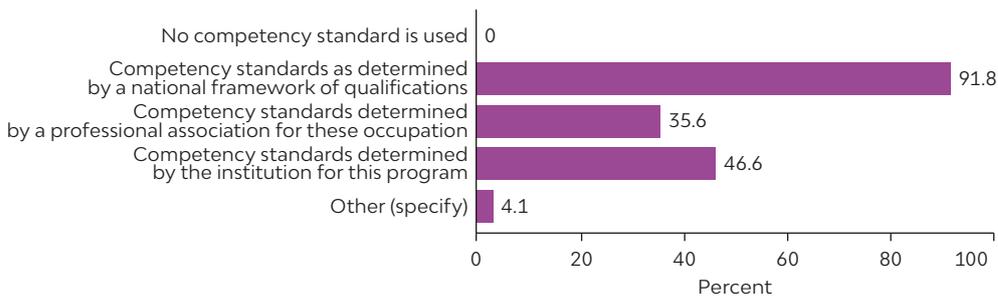
As can be seen in Figure 2.2.9, in designing, developing, and/or adapting curriculum, about 80% of the institutions collaborate with businesses and about 70% follow the national standards that meet government regulations. Around 62% of the schools stated that they have autonomy

FIGURE 2.2.7 Do the Programs that You Deliver Ensure that Your Future Graduates Acquire the Following Skills:



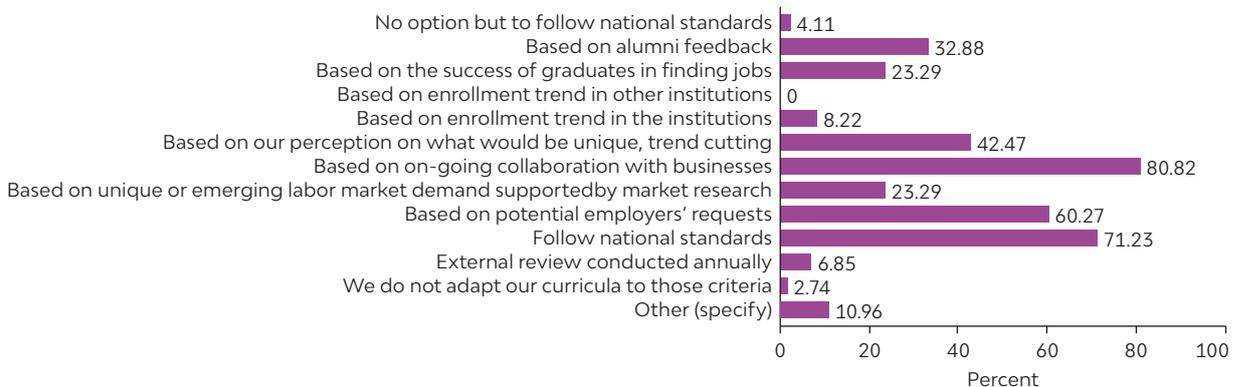
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.2.8 Competency Standard Types



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

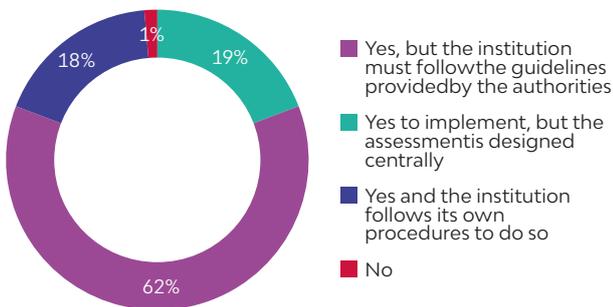
FIGURE 2.2.9 How Does Your Institution Design, Develop or Adapt Its Curricula to Fit Industry Association and Employer Standards and Curricula Requirements?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

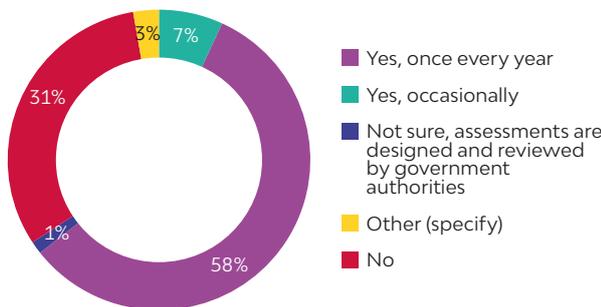
in designing and implementing end of program assessment, however the institutions must follow government/ national guidelines (Figure 2.2.10). This indicates a heavy emphasis and reliance on basic minimum government requirements, rather than taking into account the requirements of the industry, etc.

FIGURE 2.2.10 Does the Institution Have Autonomy to Design and Implement End-of-Program Assessments?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

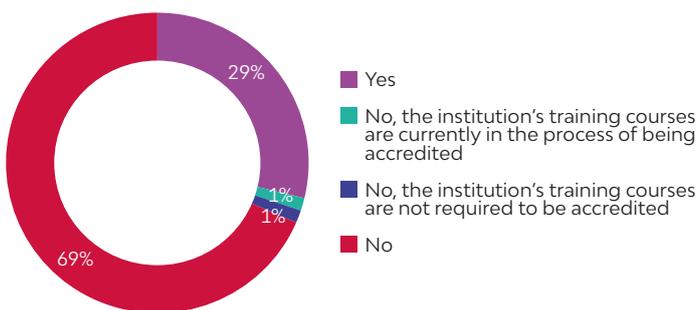
FIGURE 2.2.11 Thinking About End-of-Program Assessments, in General, Are They Reviewed?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Around 58% of the institutions indicated that their end-of-program assessments will be reviewed once every year. Also, notably, 31% of the school indicated that their assessment will not be reviewed at all (Figure 2.2.11). Approximately 29% of the institutions indicate that they evaluate student proficiency based on competency standards prior to admission, out of which, 60% of the admissions are based on the standards determined by the institution only. All schools (100%) award their students with a nationally recognized certificate upon the completion of programs.

FIGURE 2.2.12 Does Your Institution Have Accredited Training Courses?

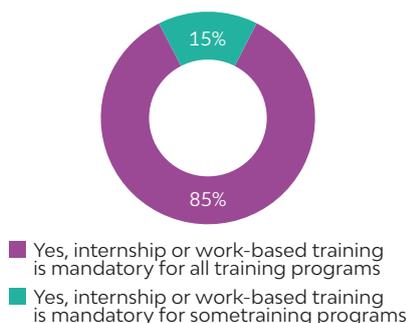


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

When asked about whether or not the institution has accredited training courses, 69% of the schools answered 'No' (Figure 2.2.12). When asked about whether or not the schools have autonomy to introduce programs, about 58% of the institutions answered either 'Yes' or 'Yes, following government criteria'. And about the same percentage (59%) also answered affirmatively to closing programs. When asked about whether or not the institution evaluates the performance of instructors, 71 schools out of 73, answered 'Yes, annually'.

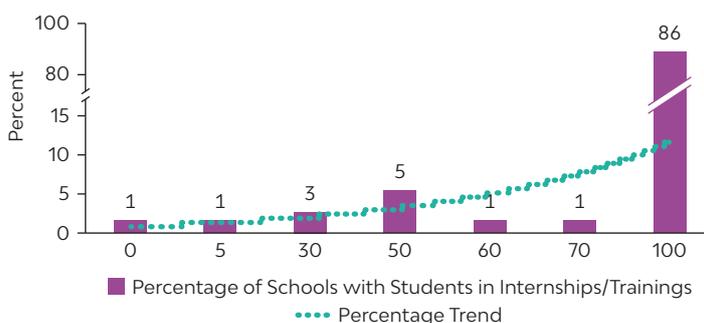
training is mandatory for all training programs (Figure 2.2.13). In the programs that had enrollment, around 86% of the institutions involved 100% of their students in work-based training or internship (Figure 2.2.14).

FIGURE 2.2.13 Are Students Expected to Participate in Some Form of Internship and Work-based Training?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

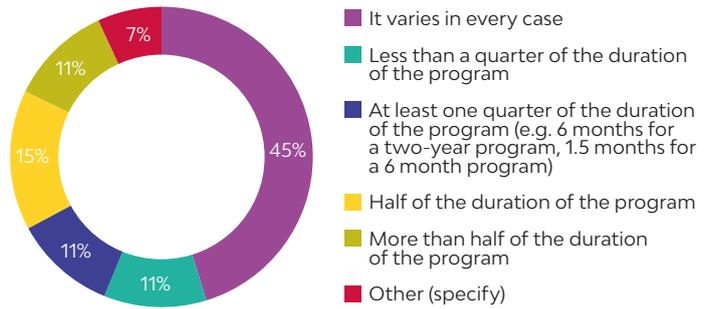
FIGURE 2.2.14 Thinking About the Program with Highest Enrollment This Year, What is The Percentage of Students Who Participated in an Internship or Work-based Training?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

When considering the length of internships or work-based training commitments, 45% of the schools indicated that the average length of these commitments is more than half the duration of the program, and 15% of the schools offer work-based training commitments that are approximately half the length of the study programs (Figure 2.2.15). The schools also noted that in 98.6% of the cases, the schools help students to find work-based trainings. As one important example, around 86.3% of the institutions indicate participating in ERASMUS or any other EU-funded mobility programs and projects for teachers, students, or education administrators. And about 98% of the schools report they formally evaluate and assess students' performance during their internship or work-based training, either by sending evaluation forms to the employers or by sporadic conversations with some of them. However, 83.6% noted that they do not have any employment or career readiness centers, which indicates there is a lack of a systematic approach to the work-based placements and support for school to work transitions.

FIGURE 2.2.15 What Is the Average Length of Internship or Work-based Training Commitments?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

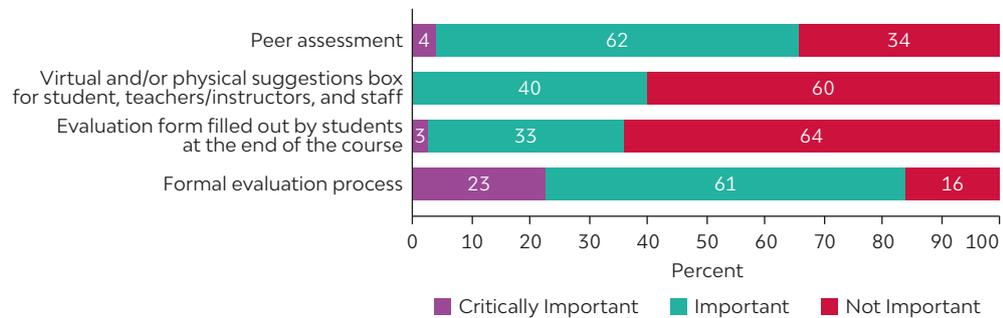
In terms of the programs with highest enrollment, on average, there are 24 trainees in the same classroom session and an average of about 10 trainees in the same workshop sessions. Additionally, on average, schools reported that each trainee spends 16 hours per week studying independently outside school hours, 19 hours per week on theoretical instruction, and 14 hours per week on workshop-based instruction and/or school-based production. More importantly, over the past years, 74% of the schools reported having designed or adapted curricula. In designing or adapting new programs, more than 80% of the schools reported that availability of facilities, equipment, and infrastructure, as well as availability of teachers, are critical and important.

SUMMARY & IMPLICATIONS: Most schools (74%) indicated government policies as the main factor in determining the skills taught in study programs. Even though 59% of schools also report that employer and industry demand is a factor that determines the skills taught, this does not correspond with what firms reported in the Employers Study Report. The majority of VET schools are making decisions about which skills to teach in their programs based solely on compliance regulations, and not from an industry-responsiveness perspective. There should be more balance between industry-responsiveness and a compliance mentality when making important decisions on skills to be taught in VET schools. While almost all schools (99%) report that their graduates will master the curriculum, less than two fifths indicated that their graduates can perform high-tech processing (not using manual labor). This fact shows a clear disconnect between what the programming offers and what VET graduates need to be successful in the current labor market. Most schools have an annual internal review in place to ensure their programming is up to par with national quality standards. With 62% of schools stating they have autonomy in designing and implementing end-of-program assessments, but must follow government/national guidelines, there, again, is a heavy reliance on government requirements, rather than relying on industry requirements, when evaluating students' skill levels and preparedness for the job market. Most schools (85%) indicate that work-based training is mandatory for all training programs and, for 86% of schools with active programs, all students (100%) are involved in work-based training or internships.

Internal School-level Processes

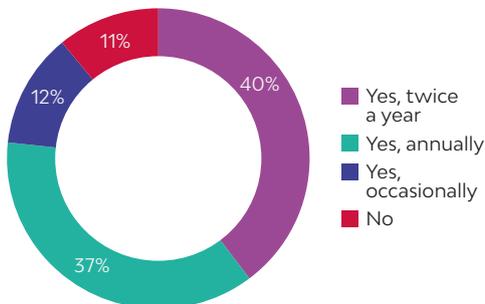
This section discusses the schools' internal processes in evaluating teachers, staff hiring, planning, decision making and budgeting. These types of evaluations are usually undertaken by administrative staff who are directly involved with the school process. Only 35.6% of all the schools have a formally approved quality management system, and all of these schools use their quality management systems to collect data on teachers. In this regard, schools were asked whether or not they evaluate the performance of their teachers. About 97% of the schools evaluate their teachers' performance annually. And 98% of the schools stated that they rewarded good performances and/or addressed poor performances. As can be seen in Figure 2.2.16, the most important method of evaluation is formal evaluation process followed by peer assessment. Around 62% of the schools stated that peer assessment is important and 84% indicated that a formal evaluation process in either important or critically important. Alternatively, 64% of the schools stated that evaluation forms filled out by students at the end of the course are not important.

FIGURE 2.2.16 In the institutions' latest performance review, how important, is the following criteria?



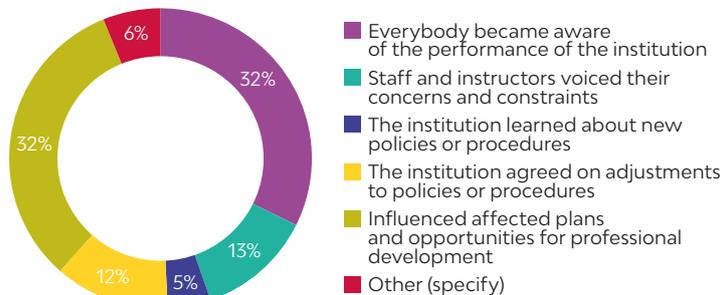
Additionally, schools were asked about the frequency of their internal meetings to discuss staff performance based on data collected. Figure 2.2.17a shows that around 77% of the schools hold meetings about staff performance either twice a year or annually; however, 11% of the schools do not hold any meetings for staff performance. As can be seen in Figure 2.2.17b, around 32% of the meetings were held for the purpose of informing staff about the institution's performance and an additional 32% of the meetings discussed staff professional development. 12% of the meetings were not about performance specifically, but about adjustments to policies and procedures.

FIGURE 2.2.17a Does the Institution Have Internal Meetings to discuss Staff Performance Based on Data Collected?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

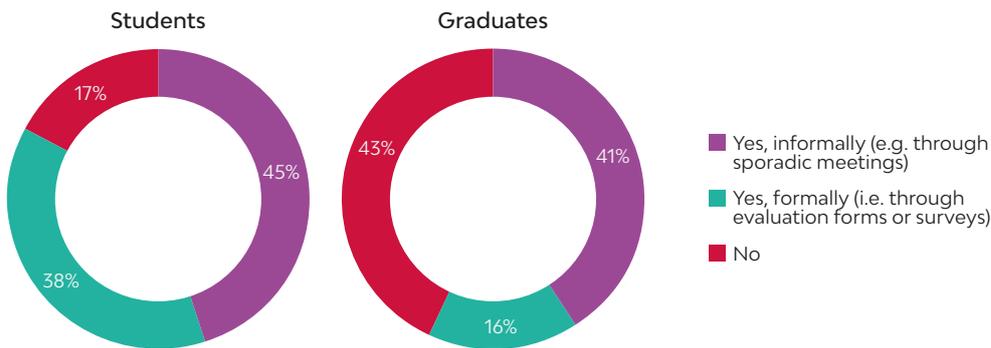
FIGURE 2.2.17b In the Last Year, What Was the Main Result of These Meetings?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

In terms of feedback received from either students or graduates, 38% of feedback from students and 16% from graduates are received formally through evaluations forms or surveys (Figure 2.2.18). However, as mentioned earlier, 64% of the schools stated that feedback from students regarding

FIGURE 2.2.18 Does the Institution Request Feedback from Students or Graduates with Regards to The Performance of Teachers?



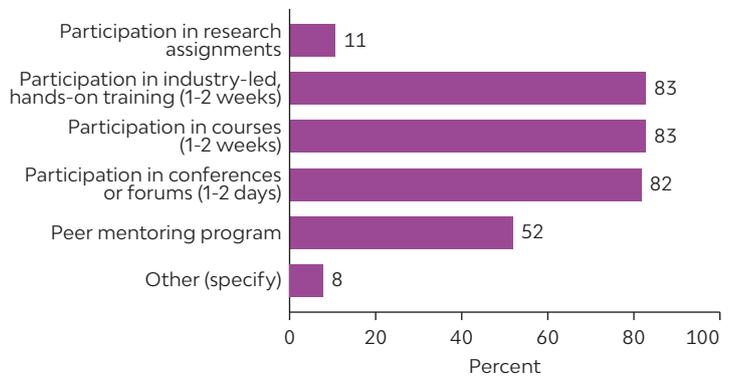
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

teachers' performance is not important. 43% of the graduates do not receive any form of feedback request and, in 16% of the schools, students are not asked in any form to give feedback about their teachers' performance. About 60% of the schools mentioned that a designated staff member is responsible for receiving and addressing complaints. In 36% of the schools, a person is only responsible to convey their complaints to the relevant party.

In terms of professional development, in the most recently completed school year, around 81% of the institutions stated that all their teaching staff had the opportunity to participate in professional development activities financed by their schools. About 16% of the schools could only afford to send some of the teachers to professional development courses, and only 3% of the schools did not provide any professional development opportunities for their teachers. Additionally, 80% of the training events held for teachers were in-house. The focus group discussions also emphasized that continual professional development opportunities, specifically for masters of vocational training and teachers of vocational subjects, are some of the important tools to keep schools up-to-date and in communication with labour market demands.

Figure 2.2.19 shows that the majority of professional development courses are industry-led, hands-on trainings or courses lasting 1-2 weeks. Around 52% of professional development programs are peer mentoring.

FIGURE 2.2.19 What Kinds of Professional Development Opportunities did the Institution Make Available to Instructors?



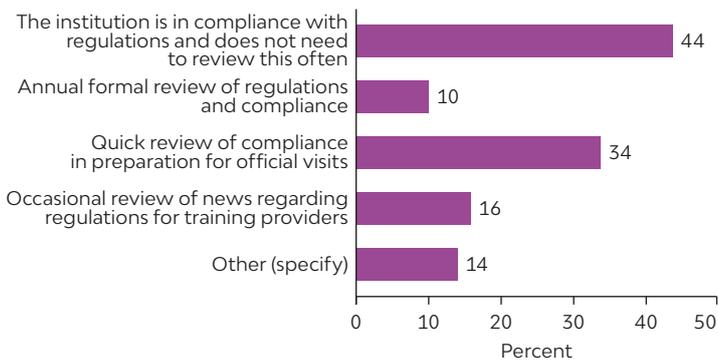
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: School directors and teachers indicated that there are heavy expenses associated with developing curriculum, training teachers, and providing the required equipment, as well as classroom space, when developing a specialized VET study programs. Although students are provided with required internships and practical training, VET schools do not provide a job guarantee. Despite all of these efforts, specific study programs will fail, if they do not properly reflect the skill needs of the labour market. In other words, there will be insufficient student demand in the form of enrollments, as well as insufficient demand by firms for the graduates of those programs.

Quality Assurance/Improvement

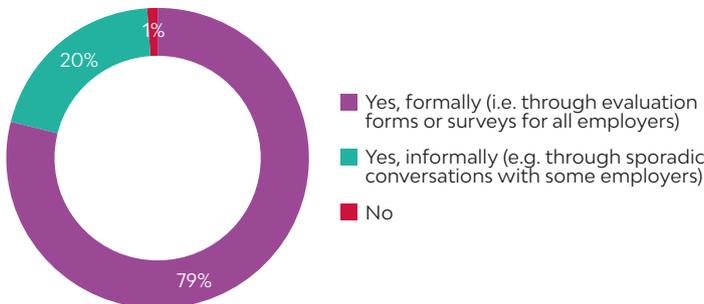
This section discusses the tools and strategies used by VET schools to keep up-to-date with industries and policies. Out of 73 schools, 26 of them (36%) have a formally approved quality management system. This low percentage is unexpected based on the findings from the focus group discussion, which indicated that the gathering of data (including methodology, analysis methods, and access to and use of findings) can serve as an important means for improving communication of relevant subjects (and thus reducing skills-mismatch).

FIGURE 2.2.20 What Mechanisms Does Your Institution Use to Ensure Compliance with Regulations?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.2.21 Does the Institution Assess the Performance of Students Who Participate in Internships or Work-based Training?



Source: World Bank Secondary VET School Survey, 2018, Bank staff Analysis

Around 77% of the school hold either an annual or semi-annual internal meeting to discuss staff performance. All the schools reported to go under mandatory inspection. When asked about the mechanisms the schools use to ensure compliance, 44% of them reported that the school is indeed in compliance with regulations and do not need review, 34% reported a quick review of the compliance for official visits, and 16% reported reviewing for compliance occasionally (Figure 2.2.20).

In terms of mechanisms that schools use to ensure the quality of education is up to par with national quality standards, 95% reported having an annual internal review process and 3% have an external annual review process.

All the schools (100%) reported that they have standardized exams before granting students certification, and they grant students the certificate based on the cycle they have completed.

Figure 2.2.21 discusses whether a performance assessment is given to students who participated in an internship or work-based training. About 79% of the schools reported assessing students' performance during their internship or work-based training formally through evaluation forms sent to employers and 20% have informal assessment in the form of sporadic conversations with employers.

SUMMARY & IMPLICATIONS: The low percentage (36%) of schools with a formally approved quality management system is unexpected based on the focus group findings, which indicated that the gathering of data can serve as an important method for improving communication and sharing information, which would reduce the skills mismatch. About three quarters of schools hold either an annual or semi-annual internal meeting to discuss staff performance and 95% reported having an annual internal review process to ensure the quality of education is up to par with national standards.

All schools reported administering standardized exams before granting students certification, while about four out of five schools reported formally assessing students' performance during their internship or work-based training through evaluation forms sent to employers. Although VET schools seem to be internally reviewing the quality of their programs based on national standards, more focus on must be placed on evaluating a school's programming and students' skill levels against industry standards to better ensure graduates' success when entering the labor market.

Additional VET-related Roles (i.e., Life-long learning)

This section discusses roles related to life-long learning, such as career advice, long term planning for the success of the institution, etc. The vast majority of schools (97.3%) reported that in the most recently completed school year, they provided students with advice in an area of career and future development. About 90.1% of schools have a career counselor available at the institution, of which 87.3% of schools has a counselor working part-time. In VET schools, career counseling is done mainly by educational consultants, psychologists, or teachers, and schools do not have a specific job position for this role, although they would welcome this option. While it is good practice for schools to offer career counseling, one part-time counselor is often not enough. Schools that attended the focus group discussions hold the opinion that career advisors should not only consult on educational issues, but be experts with sufficient qualifications, and informational and time resources. This finding clearly indicates a need for the creation of a separate job position for career counseling services. Around 85.6% of the schools report lacking a career readiness or employment center.

Besides having career counselors available at the institution, 87.3% of the schools reported offering orientation sessions during registration and enrollment. A large number of schools (63.8%) reported providing recruitment sessions with employers. Approximately one third of schools (33.8%) with career advising offer available coaching sessions on professional development led by teachers and mentoring sessions with alumni (31.9%). Around 20.3% of the schools reported using other types of career counseling (i.e., cooperation with labour office, 'open doors' days, recruitment at basic schools and universities, excursions, etc.). A career center that takes into account employers' demands and hiring requests is available in only 10.1% of the schools.

Of those schools providing these activities, 42.3% report that more than 50% of students visit career counselors or people capable of advising them about their future jobs or studies. This would seem to indicate that students are eager to learn about this area.

On the same note, only 28.8% of the schools reported offering trainings for life-long services, and possibilities for people to adapt and improve their skills. The majority of schools (69.9%) do not offer accredited courses or their courses do not need to be accredited, while 1.4% of the schools are reported to be in the accreditation process. Given the focus group discussion, this low percentage of life-long trainings offered is surprising, since life-long learning and requalification courses (along with research or designing products) are one of many ways for schools to prepare to offer new services and be innovative.

In terms of the main factors that, in schools' opinions, facilitate their success in generating qualified graduates who are skilled and sufficiently prepared to receive jobs or to study further, the results show that 82.2% of schools indicate that having qualified teachers with the right competences is most important. The second most frequent choice was providing internships and apprenticeships, as reported by 71.2% of schools. Approximately half of the schools (53.4%) see their success as supported by having functional equipment and tools in workshops. Adequate funding is the key for a successful institution for around one third of the schools (30%). Schools mentioned to a lesser extent other aspects which also contribute to a school's success, such as: a right balance between theory and practice (12.3% of schools), career counselor available for students (5.5%), and having an employment center (1.4%). This would seem to say that a surprisingly low percentage of school directors appear to believe that these fairly significant and evidence-based factors are important for the quality of their programs. Around 37% of VET schools mentioned other factors – such as cooperation with companies and other subjects, monitoring labour market and employment, quality of education, proper approach to working with students, and school's reputation. It appears that competent teachers and instructors, internships and apprenticeships as a part of practice, and having sufficient material facilities are seen as crucial factors for schools to provide life-long educational services.

When asked where schools see their shortcomings and, therefore, a space for improvement, the most frequent response was 'new tools and equipment' (74% of schools). Around 39% of schools see a need to improve their infrastructure as their main area for improvement, while 35.6% reported

getting teachers with better competences as an area of improvement. Other reported areas for improvement include: greater autonomy in budget matters (28.8% of schools), internships and apprenticeships (20.5%), greater autonomy on curriculum development (17.8%), and improving testing standards (5.5%).

Around 41.4% of schools reported problematic areas in regards to issues connected with students entering from basic schools (lack of sufficient skills, demotivation or lack of interest in continuing to study at VET school, lack of communication with parents), issues considering teachers other than their competences (e.g., their reputation, work overload, etc.), a system of financing, and school's activities (e.g. new study programs, better collaboration with employers and other stakeholders).

According to the focus groups results and the recommendations aimed at improvement of the VET system, more consideration should be given to the areas of marketing; revising the scope of school directors' competences in order to enhance their independence and responsibilities; improving and developing new financing systems and financial models to allow schools to function better and manage their financial resources more effectively; selecting students, not only for recruitment purposes, but to enable schools to educate students with a certain level of competences and that have an interest in learning; teaching done by external experts (i.e., employers and staff from companies); improving the accessibility, infrastructure, and equipment of schools; changing the content of the education offered through curriculum development based on labour market demands and feedback from employers.

Around 61.6% of the schools reported budget constraints as the main issue in their efforts to implement improvements. About half (52.1%) of schools think that governmental regulations create a great constraint on their improvement plans, and 28.8% and 9.6% of schools reported finding teachers with adequate competences and a lack of proper infrastructure as major constraints, respectively.

According to the focus group discussions, school administrators think that it would be a great help to the overall VET system if part of the education programming would be provided by external experts from among employers. But many questions remain about the real possibilities of implementing a program like this. Focus group participants also identified the possibility of providing a coordinated approach (on a regional and district level) to addressing the competencies, required skills and knowledge that required from primary school students. This was recommended as one tool for improving communication between relevant stakeholders and, therefore, reducing the existing skills-mismatch. Similarly, one of the most important improvements for a higher quality VET education system was to implement a student selection process, instead of simply recruiting large numbers of students.

Another discussion from the focus groups indicated a need for the creation of a standardized and easily accessible tool for organizing and scheduling regular meetings and exchanging information aimed at the needs of the labour market, and the prognosis and trends that would bring together all relevant subjects and groups. Through this tool, the creation of work and advisory groups from relevant stakeholders would become possible, as well. It is for further and open discussion what form(s) this tool should take and how to ensure its effective, long-time functioning. Attention should also be given to the fact that many schools see their relationship with other VET providers as highly competitive. Around 81% of schools strongly or somewhat agree with the statement that 'VET providers compete in small areas.'

SUMMARY & IMPLICATIONS: The vast majority of schools reported that they provided students with career advice during the past school year. About 90% of schools have a career counselor available, although 87% of them are part-time, and this role is mainly performed by educational consultants, psychologists, or teachers. Of those schools providing counselors, 42.3% report that more than half of their students visit career counselors. To improve the availability and quality of career counseling provided to students, these findings indicate a need for a dedicated career counselor and a career readiness or employment center, which 85.6% of

the schools report lacking. Surprisingly, less than 30% of schools reported offering life-long services, even though life-long learning and requalification courses (along with research or designing products) provide a way for schools to prepare to offer new services and stay innovative and responsive to current labor market demands. Most schools (82.2%) indicate that having qualified teachers with the right competences and providing internships and apprenticeships (71.2%) are two main factors for generating qualified, sufficiently skilled and prepared graduates. For improving the VET education system, more consideration should be given to the areas of marketing the benefits and purposes of VET schooling; revising the scope of school directors' competences; developing new financial models to allow schools to function more flexibly and manage resources more effectively. The main restraints in schools' efforts to implement improvement plans were budget constraints (61.6% of schools) and governmental regulations (52.1%). One recommendation for improving communication between relevant stakeholders and, therefore, for reducing the existing skills-mismatch was providing a coordinated approach (on a regional and district level) to addressing students' competencies and required skills and knowledge from primary schools.

SECTION 2.3

IMPORTANT FINDINGS FROM ANALYSES OF TEACHER, STUDENT, AND SCHOOL CHARACTERISTICS DATA

Introduction & Background

The quality of vocational education and training (VET) is fundamental to ensuring that students gain the necessary skills and knowledge for a sustainable career and future. When VET education is done well, it is established on collaborative linkages with industry and identifies and instills in its graduates, skills which are applicable for the current and future labour market. As indicated in the Employers Report (Activity #1), rapid technological advances have resulted in a mismatch between students' skills in the Prešov region and market demand. For this reason, now more than ever a dynamic discussion among policy makers and VET educators is needed to find a way to effectively restructure the VET system in Prešov to be more demand-driven.

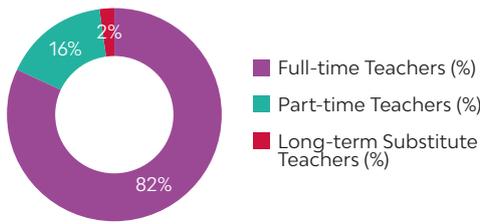
Building on the findings from the other school-related factors in the previous section, we now look more closely at what we can learn about VET schools' readiness and relevance to current labour market needs by examining important administrative data on students, teachers and administrators, and the schools. Teachers and administrators in VET schools provide a critical link that leads to an effective education and training system capable of meeting the needs of the labour market. This happens through evaluation of curriculum, certification obtainment, teaching methods, availability of school resources, management practices, and providing opportunities for direct industry collaboration. Without capable administrators directing and overseeing the critical elements of VET schools, it is difficult to effectively put in place and implement the key features of what constitute a quality VET school. Administrators in VET schools in Slovakia are charged with hiring teachers and instructors and overseeing their effectiveness⁹. These teachers may be practitioners with a great deal of practical experience in their respective fields, or they may be academics with advanced degrees, but with little practical, real world work experience. Administrators must therefore strike the right balance between the "theoretical" and "practical" aspects of teachers' backgrounds within their hiring practices. And likewise, it is important for school administrators and instructional staff to properly know and understand the students they serve and proactively understand information about key aspects of their schools. Accordingly, in the following section, we examine some key questions related to administrative data on VET teachers, students, and schools.

Are Teachers' Qualifications and Profiles adequate?

Teacher Contract Type

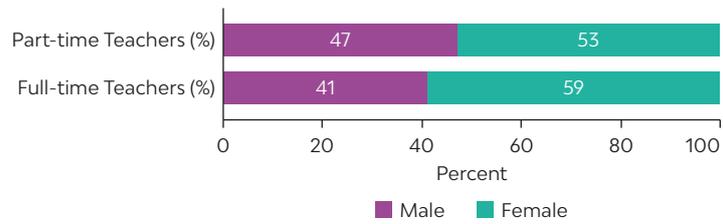
In this section, we begin by examining the distribution and different types of teachers' contract statuses. As in many countries, including Slovakia, schools often face budgetary pressures, may not find a sufficient number of full-time teachers in certain subject or skill areas, or may simply want the flexibility that part-time contracts offer. As a result, understanding the status of full-time vs. part-time teacher contracts and the implications this may have on student outcomes can help schools to make cost-effective educational investments which could directly benefit their ability to prepare students properly for the labour market. In Prešov VET schools, overall, 82% of the entire VET teaching force has a full-time contract, 16% teach part-time, and 2% of teachers are substitutes (Figure 2.3.1). That means, that on average, for every 34 regular (full-time or part-time) teachers, there is only one substitute teacher available. When considering the percentages of full and part-time male teachers versus female teachers, as shown in Figure 2.3.2, around 59% of the full-time teaching force consists of women, and 41% are male teachers. Part-time teachers show a more balanced teaching force in terms of gender distribution with female teachers consisting of 53% and male teachers 47% of teaching force.

FIGURE 2.3.1 Average Status of Teachers' contracts



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.3.2 Average % of Full-time and Part-time Teachers Per School

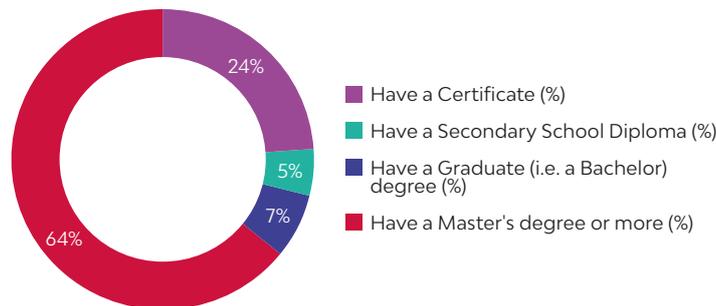


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Teacher Qualifications

Looking at teachers' qualifications, overall, in the Prešov region, 64% of the teachers have a master's degree or more, 7% have a bachelor's degree, 5% have a secondary degree (high-school diploma), and 24% have a certificate¹⁰ to teach (Figure 2.3.3).

FIGURE 2.3.3 Teachers' Qualifications—All Teachers



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

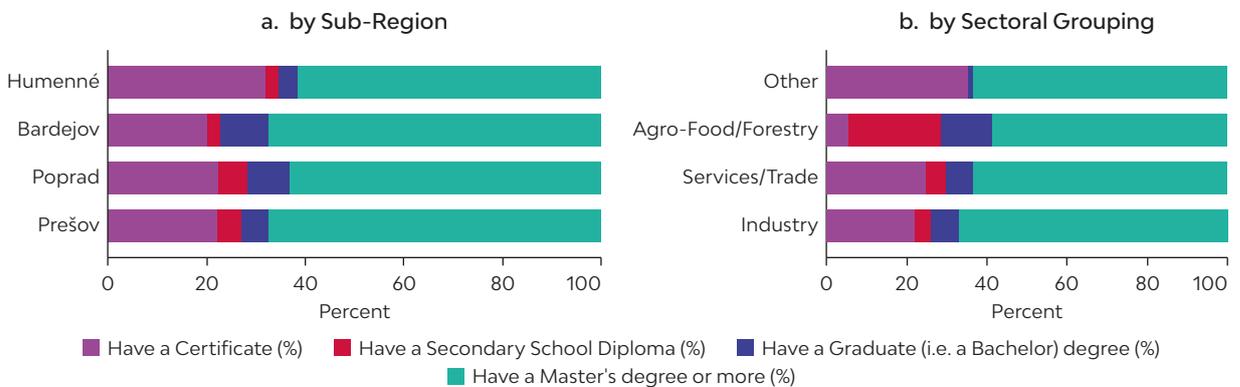
What is most notable is that one out of every four teachers hired is working in their position with the qualification of a certificate rather than a more broad-based degree in their subject area. Secondly, although schools are reporting a high proportion (64%) of teachers have a master's degree, this high level of teacher qualifications does not appear to be in line with high student performance and learning outcomes or positive perceptions of graduates from Prešov regional employers. As a result, secondary VET school graduates are showing evidences that they are not fully prepared to enter the labour market.

In looking at *sub-regional differences* in teacher's qualifications (Figure 2.3.4, panel a), Humenné stands out as it has the highest percentage of teachers with a certificate (32%)—and therefore the lowest percentage of teachers in each of the other categories of teacher qualifications—while around two thirds of teachers in all other sub-regions have obtained a master's degree or more. It will be important for PSK-ED and Humenné school administrators to look into why this is the case, and why Humenné schools have a higher proportion of teachers without more well-established

teacher qualifications. Likewise, it would be important in future studies to examine the extent to which this is linked with the readiness—or lack thereof—of Humenné regional graduates for the labour market.

When examining teacher qualifications *by school's sectoral grouping* (Figure 2.3.4, panel b), Agro-Food/Forestry schools stand out as they have the largest percentage of teachers with a high-school diploma (23%) and a bachelor's degree (12.9%), and the fewest proportion of teachers with a master's degree or more (58.5%). Interestingly, the schools in the 'Other' sub-sectoral grouping, don't report having any teachers with high school diploma or bachelor's degrees. However, a larger portion of their teachers (35.2%) teach with a certificate, while 63% of the teachers do have a master's degree. By contrast, qualifications of teachers in the Services and Trade and Industry schools are quite similar to the overall averages, with the highest proportion (over 60%) having a master's degree or more and approximately 25% having a certificate. Again, it would be important for PSK-ED and school administrators in the Agro-Food/Forestry schools to look further into the causes and effects of these imbalances in teacher qualifications.

FIGURE 2.3.4 Teachers' Qualifications—by Sub-Region and Sectoral Grouping

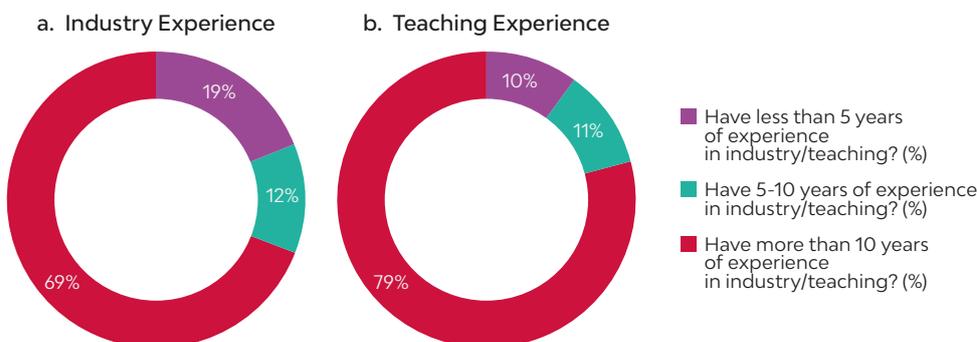


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Teachers' Industry and Years of Teaching Experience

Having looked at teachers' contract status and level of qualifications, in Figure 2.3.5 we can see the percentage of teachers who have various levels of industry and teaching experience. Overall, and on average, 69% of teachers are reported to have more than 10 years of experience in industry, and 78.5% of teachers are reported to have more than 10 years of teaching experience. While it should be noted that there is still a reasonably significant percentage of teachers with less than 10 years of teaching and/or industry experience, it is encouraging that of all teachers, roughly two thirds and three quarters have more than a decade of industry-specific and teaching experience, respectively. However, and unfortunately, even though teachers have acquired this fairly high

FIGURE 2.3.5 Teachers' Industry Experience and Teaching Experience — All Teachers

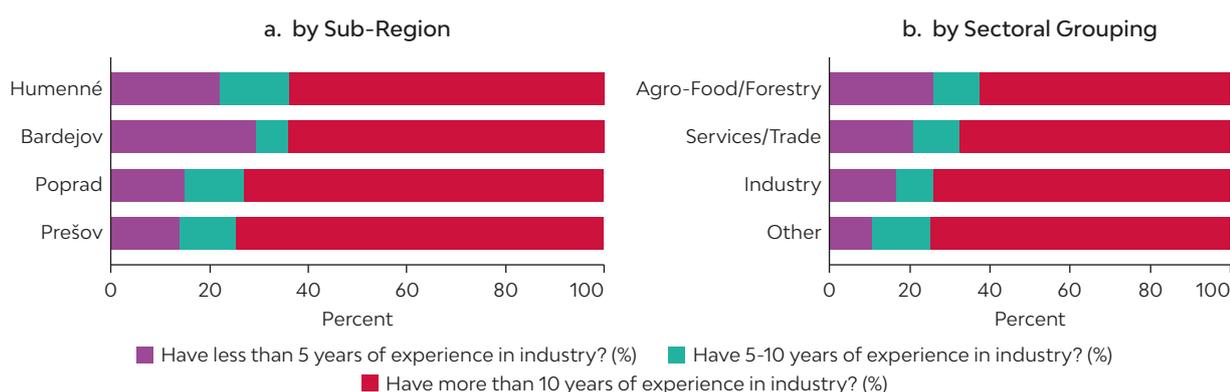


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

level of teaching and industry experience, this, too, —like the high rate of teachers with a master’s degree or more—does not seem to translate to better student learning outcomes, and teachers are not necessarily proving to be effective despite their high levels of industry and teaching experience. Looking at the level and proportion of teacher’s experience from another perspective, these results indicate that VET schools have not built an effective pipeline for attracting and hiring new teachers into the teaching force and the majority of teachers appear to be part of an older cohort of teachers that may be close to retirement and lack the motivation to learn and adapt to the new requirements of their students and employers in the labour market.

When looking at these overall figures on teacher qualifications by sub-region and sectoral grouping, Figure 2.3.6 (panels a & b) shows a significant sub-regional effect with schools from Bardejov reporting a significantly higher percentage of their teachers (nearly 30%) having less than five years of industry experience, and a moderate sectoral effect with schools from the Agro-Food/Forestry sectoral grouping reporting just over 25% of teachers with less than five years of industry experience. In the ‘Other’ sectoral grouping, the percentage of teachers with 5-10 years of industry experience is slightly higher than other categories, although the difference is not significant. It will be important in future studies to see if, and the extent to which, these teachers’ industry experience profiles are a significant factor in why Prešov VET graduates are not completing their schooling as prepared as they need to be, and why the high levels of industry experience among Prešov regional VET teachers is not adequately translating into better preparation of their students for the labour market demand in those very industries where teachers report having seemingly high levels of experience.

FIGURE 2.3.6 Teachers’ Industry Experience



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

In looking at teachers’ years of prior *teaching experience*, Figure 2.3.7 (panels a & b) shows that in the Poprad, around 15.1% of the teachers have 5-10 years of teaching experience, which is the highest amongst all other sub-regions. Humenné has slightly higher proportion of older teachers with more than 10 years of experience, although the difference is not significant. In terms of any

FIGURE 2.3.7 Teachers’ Teaching Experience



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

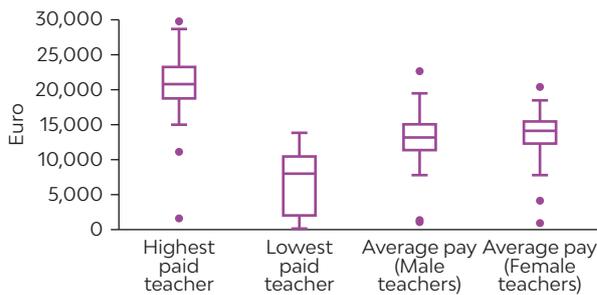
sectoral grouping effect, teachers in the ‘Other’ category reportedly have a higher percentage of teachers that with less than five years of experience (14.9%) and with 5-10 years of experience (17.1%). About 68% of the teachers in the ‘Other’ sectoral grouping are reported to have more than 10 years of experience. On the same note, the Agro-Food/Forestry sectoral group has the largest share of teachers with more than 10 years of experience (85%).

PSK-ED and school administrators from the relevant sectoral school groupings would likely need to look further into why these trends are happening, what potentially detrimental effect they may be having on their students/graduates overall readiness and preparation, and what can be done to remedy this situation so that all Prešov area VET schools more effectively take proper advantage of teachers’ industry experience, and build a more balanced pipeline of new, experienced, and expert teachers in the their school’s teaching force.

Teacher Salaries

We now briefly turn our attention to the issue of teacher salaries. As can be seen in Figure 2.3.8, the highest paid teachers (both full-time and part-time teachers), on average, receive an annual income of €20,854 versus the lowest paid teachers who earn, on average, around €6,644 annually. The average teacher salary for females and males is not significantly different (€12,873 for male teachers and €13,379 for female teachers). The majority of teachers with the highest income have full-time contracts (Figure 2.3.9), whereas around half the teachers with part-time contracts are amongst the lowest paid teachers.

FIGURE 2.3.8 Teachers’ Salary



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.3.9 Lowest and Highest Paid Teachers—Full-time vs. Part-time



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: The percentage of teachers who hold a certificate is notable and significantly high. Approximately one quarter of teachers in the Prešov region have obtained a certificate, while specifically in the Humenné sub-region and in the ‘Other’ sectoral grouping, it is even higher with about one third of the teaching staff having a certificate. This can create concern about the quality of instruction and the depth of understanding of the subject matter being taught in these classrooms. Also, although the majority of teachers with five years or less of industry-specific experience are from the Agro-Food/Forestry sectoral grouping, it has the highest percentage of teachers with more than five years teaching experience. This may point to the implication that PSK-ED and school administrators will need to take an active and more detailed look at why the higher than average years of teaching experience and other similar factors, are not necessarily translating into better student outcomes and better responsiveness to employers’ skill and knowledge requirements. And likewise, Prešov regional authorities and educators will likely need to take a more proactive approach to building and sustaining a more balanced pipeline and career path for teachers in the region. Though there does not appear to be any significant difference between the annual earnings of female and male teachers, school directors will need to look further into whether the overall low level of teacher salaries are contributing to the poor learning outcomes.

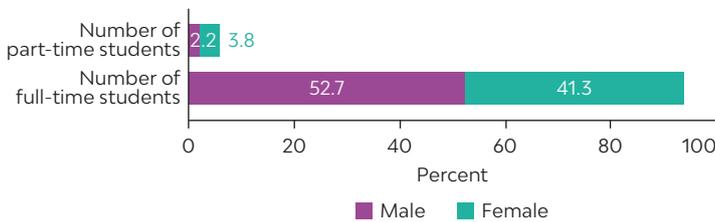
What Are the Characteristics of VET Students?

Having examined various important characteristics of Prešov regional teachers in the previous section, we now look at the available administrative data on VET student characteristics. In particular, in this section of our report we try to identify what we can understand—from this administrative data—about VET schools’ overall readiness to prepare students to meet employers’ and the labour market’s needs by better understanding some key student characteristics, such as their study status, educational level (prior to enrolment in a VET school program), and the reasons why students are reportedly dropping out.

Student Study Status

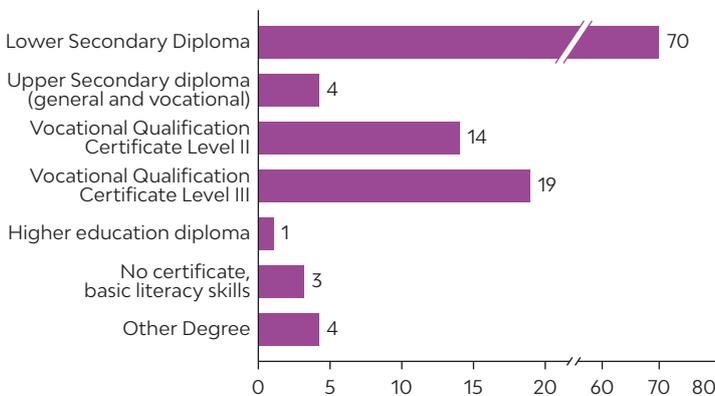
On average, schools report that the vast majority of students (94%) are enrolled in full-time programs (Figure 2.3.10). Male students have a higher full-time enrollment rate (52.7%) than female students (41.3), whereas there are slightly more part-time female students than part-time male students.

FIGURE 2.3.10 Number of Full-time and Part-time Students



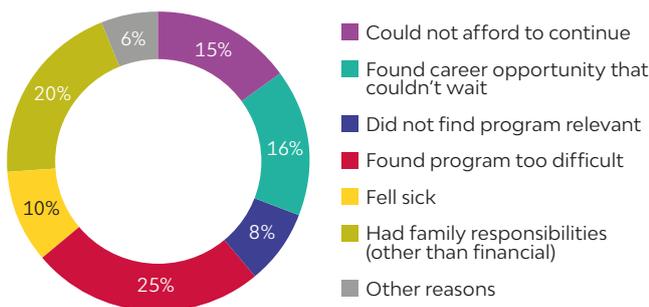
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.3.11 Education Level of Enrolled Secondary VET Students



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.3.12 Reasons for Dropping Out of Programs



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Students’ Prior Educational Levels

Looking at the current level of enrolled VET students, around 70% of the enrolled students have a lower secondary diploma, 14% have a Vocational Qualification Certificate Level II and 19% have a Vocational Qualification Certificate Level III (Figure 2.3.11).

The above results on students’ status and prior educational levels confirm that the vast majority of VET school students participate in traditional secondary level programs and have a secondary age-cohort profile. These outcomes point to the fact that VET schools are doing relatively little under their mandate to provide re-skilling and life-long learning programs for post-secondary students.

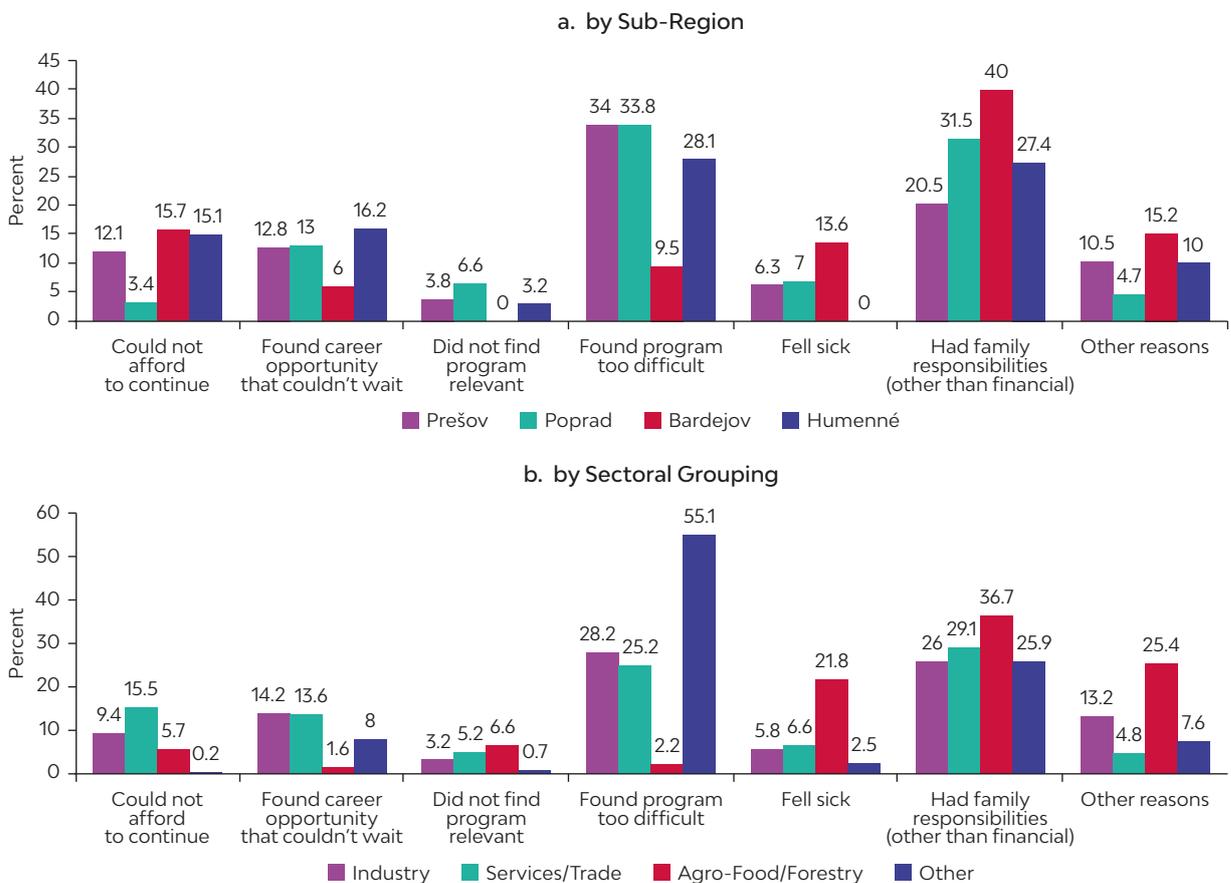
Students’ Reasons for Dropping Out

Moving from these basic descriptive characteristics of VET school students, next, look at the reported reasons for students’ dropping out of VET education (Figure 2.3.12). Of those students that dropped out of their enrolled program, 25%, or a full quarter of them, reportedly did so because they found the program too difficult. Other notable reasons for dropping out include: non-financial family responsibilities (20%), unaffordability to continue the program (15%), and finding a job opportunity that couldn’t wait (16%). Given the stark findings in the Employer Study that most companies believe VET students are graduating without the proper skill and knowledge requirements,

somewhat surprisingly only 8% of students are reportedly dropping out because they did not find the VET program relevant. While this may be partially due to an overly optimistic self-assessment by school administrators, it is still noteworthy that school administrators are not reporting and taking note of this as a major issue toward which they are putting concerted efforts. For PSK-ED and Prešov regional school administrators, the significant finding that one out of four VET students are reportedly dropping out because their programs are too difficult should serve as an alert that better primary school preparation is needed and, perhaps, more and better efforts are needed to build VET students' capacity to successfully complete their VET study programs.

Looking more carefully at sub-regional and sectoral grouping effects, Figure 2.3.13 panel a shows the sub-regional aspects of reasons for dropping out. In Prešov, Poprad, and Humenné sub-regions, 34%, 33.8%, and 28%, respectively, of students who dropped out reportedly did so because the program they were enrolled in was too difficult. This is significantly higher than the reported regional average rate (25%) of dropping out due to difficulty of the program. In future research, it would be important to examine whether programs in these sub-regions, particularly in Prešov and Poprad, are indeed more difficult, and, therefore, may need to be adjusted, or if students in these sub-regions are for some reason not being prepared well enough beforehand, or supported well during, their VET studies to successfully complete their programs. In Bardejov, by far the most frequently cited reason for student drop out (40%, well above the average of 25%) was reportedly due to non-financial family responsibilities. And finally, quite interestingly, in Prešov, Humenné, and Bardejov between 12-16% of the students reportedly dropped out because they could not afford to continue, whereas in Poprad that figure was significantly lower at 3.4%. In further research, it would be important for PSK-ED and school administrators to better understand why over 10% of students in Prešov, Humenné, and Bardejov are citing affordability of VET education as a reason for dropouts—and what could be done to ameliorate this for those in most

FIGURE 2.3.13 Reasons for Dropping out



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

need—and, in particular, what Poprad VET schools may be doing—such as through financial sponsorships of various kinds— to avoid this problem and make it more feasible for students to complete their programs.

In terms of the sectoral grouping effects on reported reasons for dropping out, Figure 2.3.13 panel b clearly indicates that a surprisingly high number (55.1%) of the students enrolled in schools that were categorized in the ‘Other’ sectoral grouping dropped out because they found the program to be too difficult. This was clearly a higher percentage than for schools from any other sectoral grouping. Also, though the effect wasn’t nearly as strong as in the ‘Other’ sectoral grouping, in the Industry and Services sectoral groupings, a still fairly high 28.2% and 25.2% of students, respectively, dropped out because they found the program too difficult. This was contrasted with a surprisingly low number (only 2.2%) of students who dropped out due to difficulty of the program from the Agro-Food/Forestry sectoral grouping. Around 14.2% of students who were enrolled in schools in the Industry sectoral grouping dropped out because of career opportunities. For students associated with schools in the Services and Trade sectoral grouping, the percentage is 13.65%. Additionally, 15.5% of students in this sectoral grouping dropped due to lack of affordability.

SUMMARY & IMPLICATIONS: As reported by VET schools, a full quarter of the students who drop out do so because the program was too difficult. This rate is particularly higher for the Prešov and Poprad sub-regions at about 34%. The reasons for this should be explored further, but as reported in the focus group sessions, it likely indicates that some students are not being adequately prepared with fundamental cognitive (i.e., subject content) knowledge and non-cognitive (i.e., socio-emotional) skills in their earlier schooling to handle the rigor of some VET programming. On the other hand, this could mean that the programs are not planned well pedagogically where, for example, more scaffolding and remedial measures should be integrated earlier on in their study programs to give students a stronger base to build off of, and more individualized attention, as the course work continues and increases in difficulty. For three of the four sub-regions (Prešov, Humenné, and Bardejov) between 12-16% of students who dropped out did so because they no longer found the programs affordable. However, in stark contrast, only about 3% of students in Poprad dropped out due to reasons of affordability. More research should be focused on discovering the reasons for Poprad’s success in keeping VET programming affordable, the results of which could be shared with administrators in the other three sub-regions to decrease the likelihood of students discontinuing their VET schooling due to high costs. And finally, further research will be needed, for example, in the VET School Čaklov to better understand the phenomenon of drop outs among the Roma.

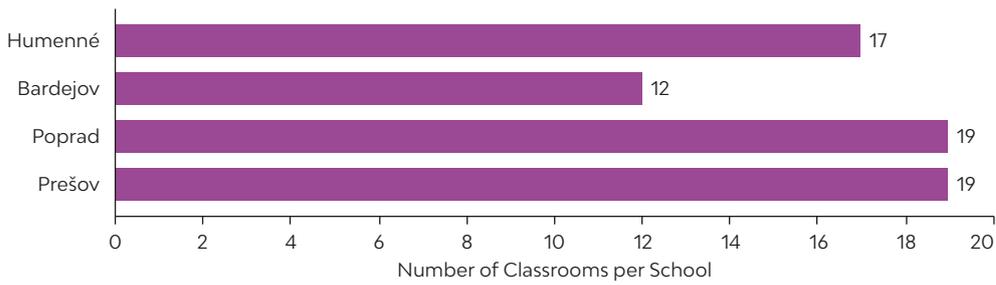
Are Schools’ facilities/inputs adequate?

Now that we have looked at teachers’ and students’ characteristics, we explore the characteristics of schools’ inputs, such as the sufficiency of the general classrooms, as well as workshops and special classrooms, the functionality of school equipment, average school revenues, and school expenses.

Sufficiency of Classrooms

A good learning space for students significantly increase the better achievements of academic results. Based on the results of data analysis, schools in Bardejov, on average, has the least number of classrooms available (12 classrooms per school) for students (Figure 2.3.14). This represents 30% less of the capacity they have in their classrooms compared to other sub-regions. Poprad and Prešov sub-regions have a similar average capacity of classrooms per school (19 classrooms per school). There is no significant difference in terms of the number of classrooms across schools under sectoral groupings.

FIGURE 2.3.14 The Number of Classrooms per School by Sub-Region

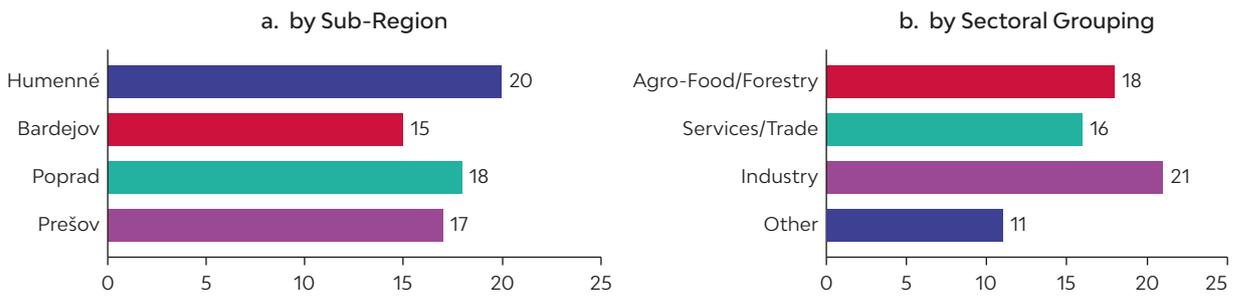


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

Workshops and Special Classrooms

Looking more specifically at the number of special workshops and classrooms in Figure 2.3.15 (panels a & b), the sub-regions of Humenné (20 workshops per school), Poprad (18 workshops per school) and Prešov (17 workshops per school), respectively, have the greatest number of workshops available. The Industry (21 workshops per school) and Agro-Food/Forestry (18 workshops per school) sectoral groupings have the greatest number of workshops and special classrooms compared to the other sectoral groupings, respectively.

FIGURE 2.3.15 Number of Workshops and Special Classrooms per Institution by Sub-Region

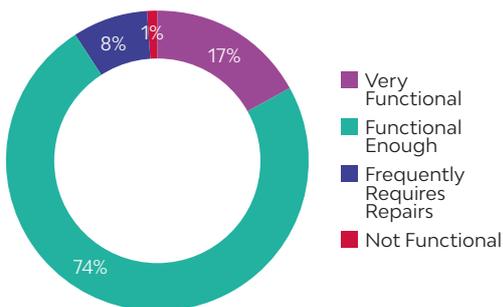


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

School Tools and Equipment

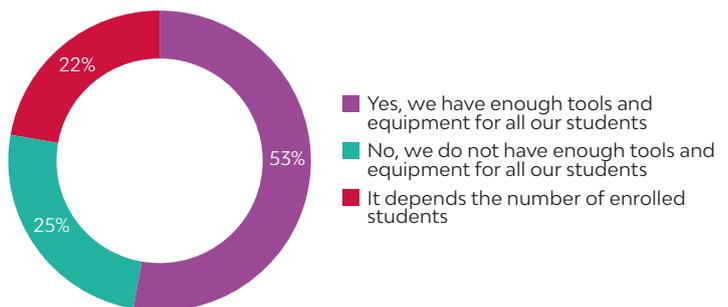
Next, answering the question related to functionality of the school equipment, more than 90% of the equipment across all schools is reported to have very good to reasonable functionality (Figure 2.3.16). However, as shown in Figure 2.3.17, only 53% of the schools mentioned that the equipment available is adequate to meet the demand of the enrolled students. About 25% of the schools mentioned that they do not have enough equipment and 22% of the schools answered that it depends on the enrollment number in a particular school year.

FIGURE 2.3.16 How functional are your tools and equipment?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.3.17 Do you have enough tools and equipment to accommodate all your students?



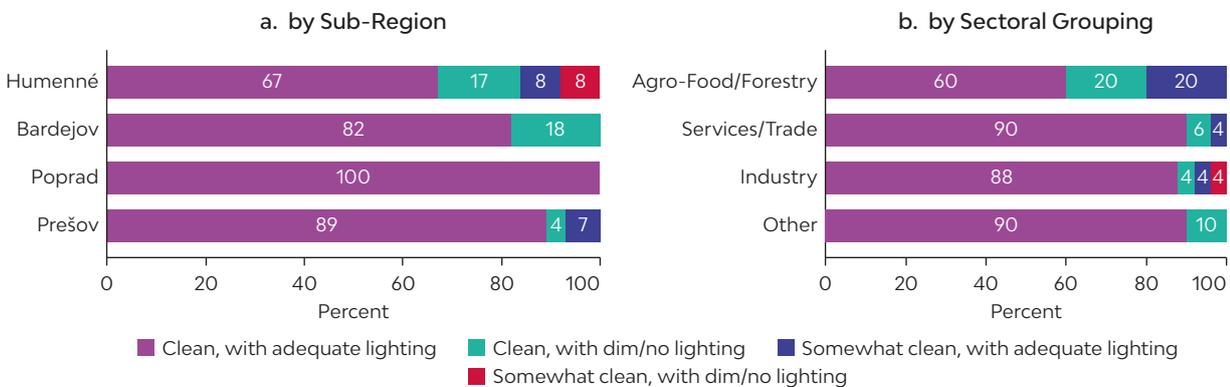
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

The General Condition of VET School Facilities

As shown in Figure 2.3.18 panel a, the general condition of the facilities by sub-region indicates that in Poprad, all the facilities were clean and had enough lighting. In the Prešov and Bardejov sub-regions, 89% and 82% of the facilities, respectively, were clean and had enough lighting. However in Humenné, only 67% of the facilities were both clean and had enough lighting, and the remaining 33% of facilities were only somewhat clean, had dim or low lighting, or both. These results indicate that attention must be given to the general conditions of the VET school facilities in the sub-region of Humenné.

In looking at Figure 2.3.18 panel b, in terms of sectoral groupings, Agro-Food and Forestry schools report having the fewest facilities (60%) that were clean and had enough lighting, and the remaining 40% of schools had facilities that were either only moderately clean or had dim lighting. Schools in the other three sectoral groupings only had roughly 10% or less of facilities with less than ideal conditions.

FIGURE 2.3.18 What were the general conditions of facilities?



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

School Revenue

Moving to average school revenues across sub-regions and sectoral groupings, Figures 2.3.19 (panels a & b) show that, most significantly, the schools in Poprad have the greatest profit margin (€1,050,129). The schools in the Industry sectoral grouping have been the most profitable (€940,270) followed by schools in the Agro-Food/Forestry sectoral grouping (€888,301).

FIGURE 2.3.19 Total Revenue (in Euros), Most Recently Completed School Year by Sub-Region



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

As Figure 2.3.20 shows, more than half (58%) of school expenses goes towards teachers' salary and 12% goes towards non-teaching staff. In total, on average about 70% of the VET school budget goes to staff salary. Physical infrastructure is another significant expense in school budget.

FIGURE 2.3.20 In the Most Recently Completed Academic Year, What Percentage of the Institution's Total Annual Expenses was used for



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: Schools in Bardejov are using 30% less of the capacity they have in their classrooms (12 classrooms per school) compared to other sub-regions, such as the Poprad and Prešov (19 classrooms per school). The number of special workshops and classrooms indicates that Humenné schools have the greatest number (20 workshops per school), followed by Poprad (18 workshops per school) and the Prešov sub-region (17 workshops per school). The Industry sectoral grouping (21 workshops per school), followed by Agro-Food/Forestry (18 workshops per school), has the greatest number of workshops and special classrooms compared to the other sectoral groupings. More than 90% of the equipment across all schools is reported to have very good to reasonable functionality. However, only 53% of the schools mentioned that the equipment available is adequate to meet the demand of the enrolled students. Most significantly, the schools in Poprad have the greatest profit margin (€ 1,050,129). Finally, more than half (58%) of school expenses goes towards teachers' salary.

SECTION 2.4

STRATEGIC REVIEW OF PREŠOV REGION SECONDARY VET STUDY PROGRAMS

Which study programs will need to be increased or decreased/closed?

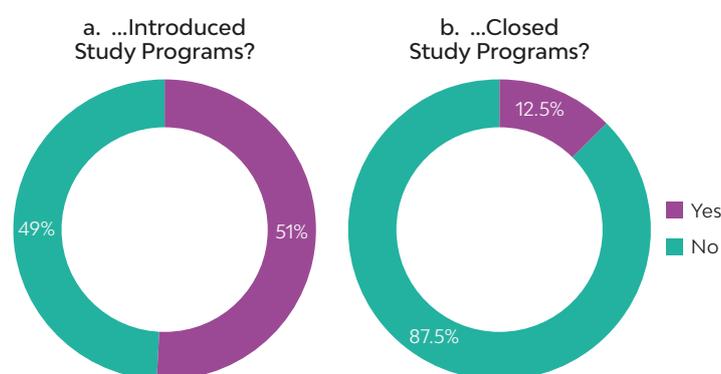
Introduction & Background

In today's global competitive environment, vocational education and training (VET) makes a significant difference in contributing to a country's economic growth and welfare, and this is especially the case in the Slovak Republic where over 70 percent of secondary education students are currently enrolled in some kind of VET program (Vocational Education and Training in Slovakia: Short Description, The European Centre for the Development of Vocational Training (CEDEFOP), 2016, p.18). One of the main challenges of VET education in the Prešov region is adapting to the changing skills that individuals need to remain viable and attractive in the current job market and to be suitable to meet employers' current needs. Since the demand for newly and differently skilled workers is increasing and the underlying VET programs are—according to employers—not diversifying quickly enough, there is a clear need to understand the key elements and deficiencies of VET programs in order to keep them practical by meeting the immediate and future needs of the labour market. As the Prešov regional VET system is improving in performance and quality, it is equally

crucial that there is effective management of vocational secondary schools so a well-trained, qualified workforce is produced. Many schools have numerous and, often, un-related specializations, offering too many programs that are irrelevant, and/or have no enrollment, in relation to the labour market and the skills needs of Prešov regional employers. Understanding the extent of a school's spatial capacity for each of the VET study programs offered and the relevance of such programs to the market will enable the region to increase competitiveness and labour market productivity. Therefore, as part of the VET school survey, all school directors were asked specifically to provide information regarding the different study programs they offer as well as the demand for those specific programs.

How Many New Training Programs Have Been Opened/Closed in the Past 3 years?

FIGURE 2.4.1 Over the Course of the Past Three Years, Has the School...



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

We begin our assessment of the Prešov regional study programs by looking at the big picture. In this section, we start by examining and discussing the VET schools' experiences in opening and closing study programs in the past three years to give us an initial idea about the extent to which they are responding to changing labour market needs. In total, just over 51% of Prešov VET schools introduced new programs, while only 12.5% of the schools reported closing study programs (Figure 2.4.1).

These results on trends for opening and closing programs over the past three years offer some striking insights into the VET system in the Prešov region. On a positive note, it is encouraging that just over half (51%) of the VET schools

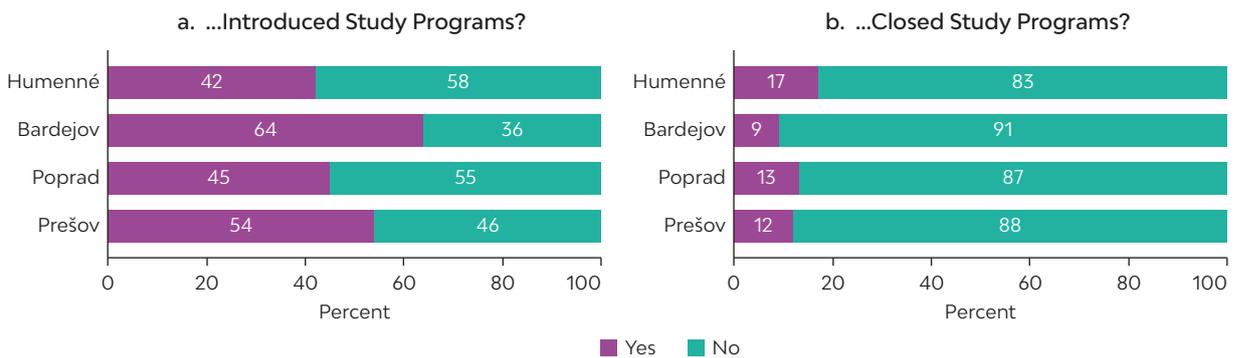
have introduced new study programs in the last three years. However, this means that almost half of the schools have not taken the initiative to open study programs in response to market trends in the last three years. Any remaining optimism is put further in check by the fact that over this same time period only 13% of schools have closed any study programs. As per the Focus Group discussions, this could be due to a couple of possibilities. First, schools may not be closing "completely dead" (no enrollment) programs because they feel demand for these programs will increase in the near future or, possibly, because of perceived budgetary constraints that could be placed on schools if there is a reduction in programming offered. Or possibly, as perceived by Employer Focus Group participants, it could indicate an overall apathy or lack of responsiveness that schools have to market needs. Further research will need to be done to examine just why this seems to be such a prevalent situation.

A second area of concern from this finding is that it appears each VET school is widening its curricular programs and offering less specialized programming and, as a result, needing to compete with other schools over a limited number of students for the same study programs. This state of affairs has a clear diluting effect, in which specialized skill sets are lost.

In terms of the sub-regional differences, as shown in Figure 2.4.2 panel a, a higher proportion of schools in Bardejov (64%) have introduced new study programs, followed by the Prešov sub-region (54%), and then Poprad and Humenné (45% and 42%, respectively). In regard to closing training programs, Humenné had the highest proportion of schools closing study programs in the last three years (17%), with the rest of the sub-regions show a similar trend with around 10% (Figure 2.4.2 panel b).

The same trend can also be seen in the sector divisions. The Industry sector has the highest rate of both new training programs introduced (63%) and program closures (22%). Services and Trade had the next highest rate for opening new programs (47%) and discontinuing others (10%). It should

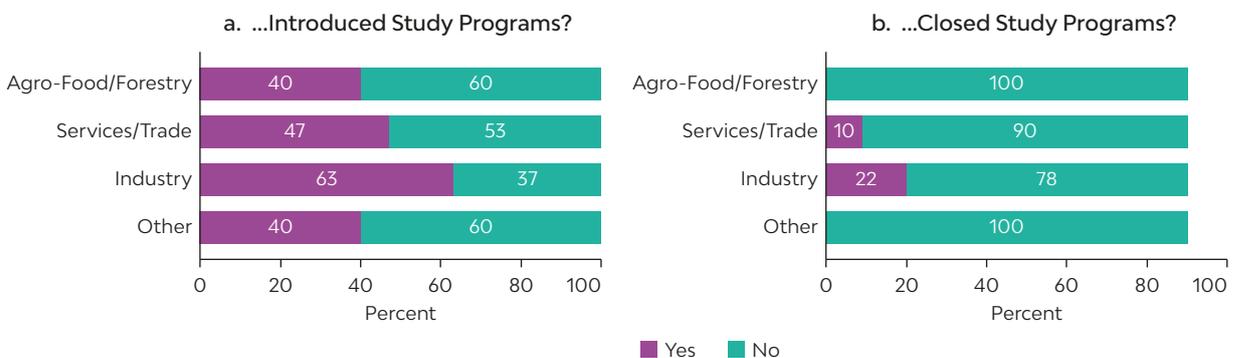
FIGURE 2.4.2 Over the Course of the Past Three Years, Has the School... —by Sub-region



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

be noted that in the Agro-Food/Forestry and ‘Other’ sectoral groupings, only 40% of schools have introduced new study programs, but, more to the point, there have been no program closures in the past three years from schools in these sectors. (Figures 2.4.3 panels a & b).

FIGURE 2.4.3 Over the Course of the Past Three Years, Has the School... —by Sectoral Grouping



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

These outcomes have concerning implications for the Agro-Food/Forestry and ‘Other’ sectoral groupings. Over the last three years, the schools in these sectoral groupings have had no response to changes in labour market trends putting their programming at risk of becoming obsolete.

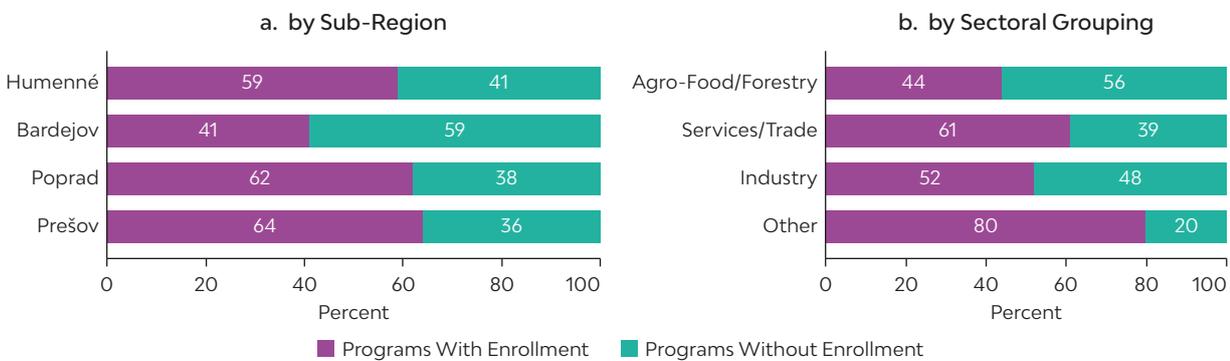
SUMMARY & IMPLICATIONS: The percentage of schools introducing new study programs in the last three years (51%) is significantly higher than the percentage closing study programs (12.5%) in the same period. This could be seen positively as a sign of openness to change, but, when taking into account that such a high number are failing to close programs with little or no enrollment, it appears they are losing their core curricular focus and are unnecessarily opening similar programs in the same locality as other schools and, therefore, competing with each other for an increasingly limited number of students rather than specializing in a particular field and developing the quality of existing programs. This also indicates that schools are not utilizing their program resources at an optimum level. And finally, there is a large number of programs being offered without closing those programs that have no enrollment.

Study Programs Enrollment

As Figure 2.4.4 panel a shows, the number (percentage) of training programs with no enrollment over the past year is significant. Looking at this from a sub-regional perspective, Prešov, Poprad, and Humenné have about 40% of the study programs without enrollment, while in Bardejov, around 60% of the programs offered at schools have no students enrolled. The high rate of programs with no enrollment in these three sub-regions is important to note and needs to be understood further. However, of most importance to understand, three out of every five study programs offered in Bardejov's VET schools have no enrollment.

When considering sectoral groupings, Agro-Food/Forestry has the highest rate (56%) of programs with no enrollment, followed by Industry (48%) and Services (39%), respectively (Figure 2.4.4 panel b). Schools from the 'Other' sectoral grouping have the most programs with enrollment at 80%. Further research into the reasons that this sectoral grouping has been able to keep demand up for most of its related programs could be revealing and informative to schools offering programs in the other sectoral areas where enrollment has dwindled to zero.

FIGURE 2.4.4 Percentage of Programs with/without Enrollment in the Past Year



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

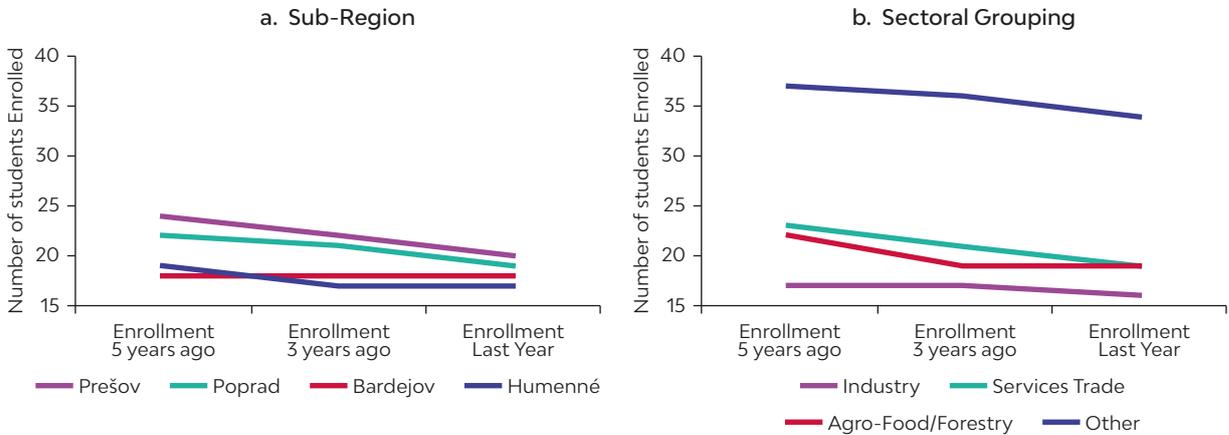
SUMMARY & IMPLICATIONS: There is a significant sub-regional effect among programs with no enrollment yet remaining open (specifically in the Bardejov). Furthermore, in terms of sectoral groupings, this same effect can be seen more in the Agro-Food/Forestry sectoral grouping than other sectoral areas. The study programs with enrollment in the 'Other' sectoral grouping may have some lessons to offer in regards to strategies to keep programming relevant for students and the labor market. Moreover, when considering the high percentage of programs with 'no enrollment', it's important for PSK-ED and school administrators to carefully ask why these study programs are not being closed. It is indeed a puzzling situation. Are the schools keeping these programs open because they are trying to find ways to increase interest and enrollment in the subject matter? Or do these schools need to maintain these study options for (ill-) perceived budgetary reasons? These are important inquiries which require further exploration as the answers could hold key insights to this issue.

Study Programs Enrollment and Capacity in the past 5 years, past 3 years, and last year

This section reviews the VET schools' enrollment and capacity levels for those programs that have had some active enrollment (> 0 enrollment) over the past five years. The data was collected based on three timelines: five years ago, three years ago, and last year. The number of enrolled students shows a slight decline in all sub-regions and sectoral groupings. The Prešov sub-region has the highest number of enrolled students over the past five years, followed by Poprad, Bardejov, and Humenné.

In terms of sectoral differences, the training programs that fall in the 'Other' sectoral grouping (e.g., health assistant, nurse, art design, advertising, etc.) have the highest number of enrollments. The lowest number of enrolled students belongs to the Industry sectoral grouping (Figure 2.4.5).

FIGURE 2.4.5 Number of Enrolled Students

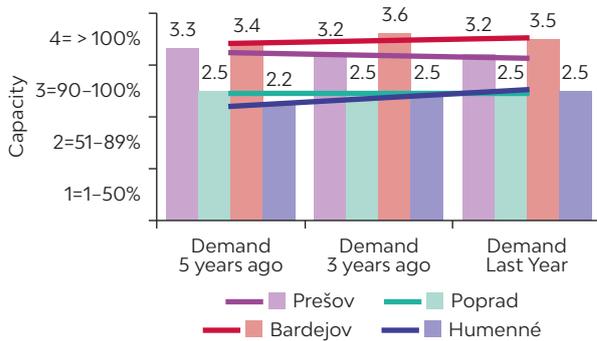


Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

The overall demand for, and utilization of, schools' program capacity across the study sub-regions and sectoral groupings indicates a fairly constant trend over the past five years. As seen in Figure 2.4.6, of the study programs with student enrollments, those in the Bardejov and Prešov sub-regions are at 90–100% and more than 100% of their capacities. In Poprad and Humenné, the study programs with student enrollments are utilizing between 50–90% of their capacity. Further detailed results about the capacity utilization of specific study programs across each sub-region can be seen in A.2.1 of Annex 2.2.

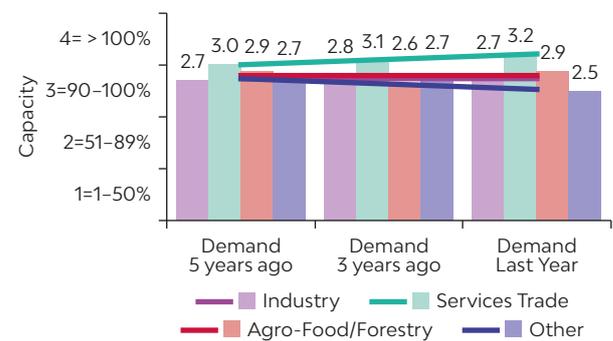
A similar trend can be seen when considering school capacity by sectoral area (Figure 2.4.7). The enrollment capacity of institutions over the past five years shows little to no change. Programs in the Services and Agro-Food/Forestry sectoral groupings that have active enrollment are at maximum capacity (90–100%). Whereas programs relevant to the Industry sectoral grouping are just below capacity at 50–89%. Even though the 'Other' sectoral grouping has the highest level of enrollment across all the sectoral areas, the capacity of this sectoral grouping is the lowest amongst all other sectoral areas (50–89%). (For further details, see A.2.2 of Annex 2.2.)

FIGURE 2.4.6 Program Capacity by Sub-Region



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.4.7 Program Capacity by Sectoral Grouping



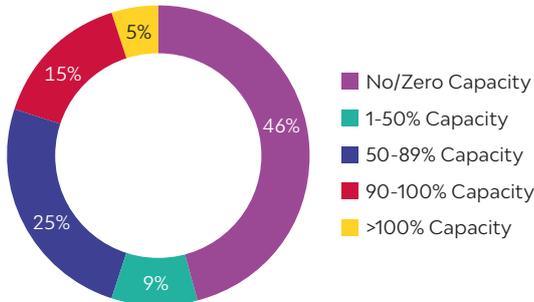
Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

SUMMARY & IMPLICATIONS: The enrollment and capacity utilization trends over the past five years show a generally stagnant trend, with enrollments slightly decreasing. The 'Other' sectoral grouping has the highest number of enrollments, but the lowest capacity utilization rate. Schools in the sub-regions of Prešov and Bardejov appear to be operating at the highest overall rate of capacity utilization.

Study Program Analysis

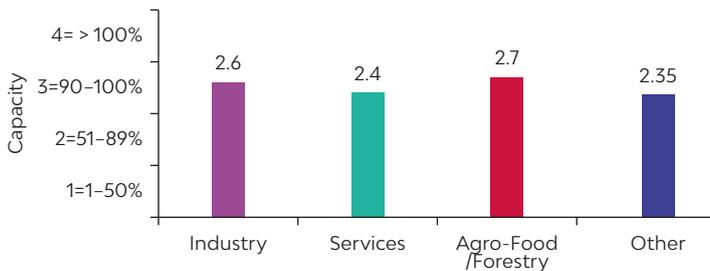
This section discusses the study programs offered across all schools in the Prešov Region in the past year. In total, there are 266 study programs available, 123 of which (around 46%) had no enrollment during the past school year.

FIGURE 2.4.8 Study Program Capacity Utilization in the Past Year



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

FIGURE 2.4.9 Utilized Capacity of Programs with Enrollment by Sectoral Groupings



Source: World Bank Secondary VET School Survey, 2018, Bank staff analysis

During the past school year, around 20% of the programs are offered at 90–100% or more than 100% of capacity, and 25% of the programs are operating at 50–89% of capacity (Figure 2.4.8). The percentage of all schools in the Prešov Region that have open study programs with enrollments vs. programs without enrollments is described in Annex 2.1.

In summary, in the programs that are associated with the Agro-Food/Forestry sectoral grouping, around 77% of schools offer programs with no enrollment, which conversely means that less than one quarter of the programs in this sectoral grouping have students actively enrolled. This is followed by the Industry and Services sectoral groupings with 68% and 64% with no enrollment, respectively. Those programs that have enrollment (demand) in the Agro-Food/Forestry sectoral grouping offer programs at about 90% of their capacity (Figure 2.4.9). In regards to the Industry sectoral grouping, the programs with enrollment are working between 51%–89% of capacity. When looking at schools that offer study programs in the ‘Other’ sectoral grouping, almost half of the schools have enrollment in these courses, but, as shown in Figure 2.4.9 these programs are at a low capacity (51%–89%).

SUMMARY & IMPLICATIONS: More than 46% of all study programs offered by schools had no enrollment over the last year. The programs related to the Agro-Food/Forestry sectoral grouping have the highest rate in terms of schools with no enrollment. However, out of those schools that have open programs with enrollment, the Agro-Food/Forestry sectoral grouping report operating at the highest capacity of available spaces. Conversely, about half of the schools with programs in the ‘Other’ sectoral grouping have programs with enrollments, but are utilizing a low level of their available capacity for spaces. It appears that schools are competing for students for the same programs which causes these programs to work at a less efficient level, as in the programs in the ‘Other’ sectoral grouping.

CHAPTER 3

**SUMMARY OF THE KEY
CONCLUSIONS FROM THE
EMPLOYERS STUDY
(ACTIVITY #1)
AND VET SCHOOL STUDY
(ACTIVITY #2)**

In this chapter, we summarize and bring together the results from the Employer Study Report (Chapter 1) and the Secondary VET School Study Report (Chapter 2) by reviewing the main findings and conclusions about the nature, scale and causes of the skills mismatches in Prešov region, and then provide recommendations for how Prešov region actors can more effectively work together to boost VET schools' capacity to respond to firms' needs and the labour market demand.

SECTION 3.1

EMPLOYER STUDY: NATURE/SCALE AND CAUSES OF SKILLS MISMATCHES

From the analysis of the Employer Study results (see Table 3.1.1 below for a detailed summary), there is clear evidence of mismatches in regard to several skills demanded by employers in the current and future labour market, which is even more worrying given firms' indications that hiring is expected to pick up, and, potentially, economic activity, as well. There is a large-scale mismatch in the preparation of students for specific job-related and 21st Century skills, despite the fact that the results show that occupational types which rely on high levels of these so-called "soft skills" (i.e., sales) (as well as, jobs for certain types of skilled workers [i.e., professionals, such as biologists, farming/fisheries advisers, doctors, engineers, teachers, business administrators, software developers, social workers, etc.]), are among those expected to increase the most in the future. On a more moderate level, a mismatch exists with students' preparation on light manual skills and digital competences. The good news is that VET students in the Prešov Region are being well trained on basic skills and competences for the academic and work world.

The main causes of these mismatches can be organized into two overall groupings. First, there appears to be *weak communications between all stakeholders*. Though there are mixed results in terms of how many, and which, employers have regular contact with schools, the results very clearly show that few employers are working with VET schools to actively provide feedback on curriculum development and specific curricular decisions. There are also few formal, structured, and "state-sponsored" opportunities or mechanisms for Prešov region employers to share information about their specific labour needs with VET school providers. Where it happens, it largely happens in an opportunistic manner between a particular firm and a particular VET school rather than through formal, regular, and strategic forums. This results in weak, or no, signaling by employers about their labour market needs.

The second main group of causes for the skills mismatch appears to be *weak use of existing channels for cooperation between employers and VET schools*. In particular, though a number of firms do participate in certain kinds of basic internships, Prešov region firms, as a whole, and VET schools themselves, are not taking advantage of existing and new legislation which promotes more intensive and purposeful work- and school-based learning modalities. In some cases, the costs are deemed too high by firms, and, in other cases, it is reportedly a matter of too high an administrative burden. And, whereas representatives of the Government's Dual Point program (to promote dual education) have recently been praised for their initial efforts, firms and VET schools are still not taking full advantage of the resources and capabilities of the regional Labour Offices; furthermore, these offices are, themselves, not fully equipped to provide data and information that is of a sufficiently detailed quality to be of most use for firms and VET schools.

TABLE 3.1.1 Key Results and Implications by Section/Question

Section/Question	Key Results	Implications
Information on New Hires: Most Common Recruitment Sources	<ol style="list-style-type: none"> 1. "Modest" use of Labour Office...<i>how can this be increased?</i> 2. High use of "non-formal" sources: informal contacts, internet postings, other media and social media...<i>implications for future?</i> 3. Only 51% recruit through direct contact with VET schools...<i>why so low?</i> 4. 44/48% making offers (poaching?) from other firms...<i>implications?</i> 	<p>A. PSK authorities & business community will need to consider: (i) why the Labour Office is not being used more for recruiting; and (ii) what can be done to increase its effectiveness in meeting firms' needs?</p> <p>B. PSK authorities & business community will need to consider: (i) why more firms aren't recruiting directly from VET schools; & (ii) what can be done to increase recruitment through VET schools/dual education?</p>
Information on New Hires: Top 3 Main Skills to be in Highest Demand in Coming 5 years?	<ol style="list-style-type: none"> 1. Specific job-related technical skills will still be the highest and most important skills in demand (<i>and by far – 84%!</i>) 2. "Problem-solving" & "ability to interact with others" (21st century skills) will be two of highest/most important skills in demand 3. Light manual labour skills will still be in high demand 	<p>A. VET schools & PSK Education Department will need pay close attention to better identifying and adapting content & instructional methods to (i) employers' needs for specific job-related technical skills; and (ii) 21st century skills</p> <p>B. Caution: these results are for current employers/firms. PSK will need to anticipate needs of future employers/firms.</p>
Skills Used by the Workforce: Highest Level of Computer Use Needed	<ol style="list-style-type: none"> 1. For HIGHEST # OF EMPLOYEES...computer use needed is LOW 2. For HARDEST TO FILL...<i>significantly higher</i> computer use/skills needed 	<p>A. More and higher preparation in specialized computer skills is needed</p>
Skills Used by the Workforce: Difference Between Current and Required Skills? (Skills Mismatch?)	<ol style="list-style-type: none"> 1. Highest mismatches related to 21st century skills: works well with others, new/better ways to do things, easily adapts 2. Specific job-related technical skills still very high mismatches 3. (Good news...) Prešov employees are committed, deal well with challenges, and still have good basic skills 	<p>A. VET schools need to urgently change content & instructional methods to better develop students' 21st century competences & skills</p> <p>B. PSK Education Department needs to prioritize teacher professional development & curriculum reform to improve teachers' ability to teach specific job-relevant technical and 21st century skills</p>
Training and Professional Development: REGULAR Contacts with Educational/ Training Institutions?	<ol style="list-style-type: none"> 1. "Overall"...almost 60% with regular contact, <i>but 42% with none</i> 2. Manufacturers (74%)...<i>Is the glass half full/ half empty?!!!</i> 3. "Health & Social Services"...<i>very strong contacts (100%)</i> 4. "Infrastructure"...<i>very poor/no contacts (0%)</i> 	<p>A. A long way to go with connecting employers and schools</p> <p>B. Health and Social Services success shows importance of high government and professional associations involvement</p> <p>C. Infrastructure failure shows negative impact of low government and professional associations involvement</p>
Training and Professional Development: WHAT TYPES of Contacts with Educational/ Training Institutions?	<ol style="list-style-type: none"> 1. 52% of all firms (90% of "active" ones) doing work-based learning="good". Only 5 firms doing dual education is very low, but at least there is diversity of types. 2. Only 16% providing feedback for curriculum development...<i>why?</i> 3. Only 26% for staff recruitment...<i>why not higher?</i> 4. Only 18% for staff and firm training...<i>seems low, no?</i> 	<p>A. There is a need for more active promotion of dual education and all types of work-based learning</p> <p>B. However, continue the good, broad mix of different types of work-based learning...<i>more than just dual education</i></p> <p>C. Employers & schools will need to pursue better opportunities for cooperation on curriculum development</p> <p>D. Low cooperation on training = seriously missed opportunity</p>

SECTION 3.2

SECONDARY VET SCHOOL CONCLUSIONS

Cooperation and Coordination with Employers

While it would seem that there is a high level of industry representation as represented by the fact that all VET schools in the Prešov region reported having a management committee and governance board, the findings from the Employers Study (Activity 1) report show that this is primarily only due to the statutory requirement for such, and that there are actually significant gaps and mismatches between what companies are demanding and what VET schools are supplying.

The largest part of what schools are reporting as employer participation has to do with internships. While these programs allow for some level of interaction with employers, it does not give opportunities for more meaningful interaction that will directly affect the content of students' study programs.

Curriculum Development & Teaching and Learning (including Dual Education and Work-based/School-based Learning)

The majority of VET schools (74%) are making decisions about which skills to teach in their programs and (62%) in designing and implementing end-of-program assessments based solely on compliance regulations, rather than through meaningful and sustained contact with regional employers. There is a heavy reliance on government—rather than industry—requirements, when evaluating students' skill levels and preparedness for the labour market. And the VET School Study results indicate a surprisingly low percentage of schools working with regional firms to provide direct feedback during curriculum development processes.

Even though almost all schools (99%) report their graduates will master the curriculum, less than two fifths indicated that their graduates can perform high-tech processing (not using manual labour). This indicates a clear disconnect between what the programming offers and what the current labour market requires.

Internal School-level Processes

It is true that, although students are provided with required internships and practical training, VET schools do not provide a job guarantee. Despite all of these efforts, specific study programs will fail, if they do not properly reflect the skill needs of the labour market.

Additional VET-related Roles (i.e., Life-long learning)

About 90% of schools have a part-time career counselor available with this role mainly performed by educational consultants, psychologists, or teachers. Of those schools providing counselors, 42% report that more than half of their students visit career counselors. To improve the availability and quality of career counseling provided to students, there is a need for dedicated career counselors and career readiness/employment centers at each VET school.

Likewise, less than 30% of schools reported offering life-long services, even though life-long learning and requalification courses (along with research or designing products) provide a way for schools to prepare to offer new services and stay innovative and responsive to current labor market demands.

For improving the VET education system, more consideration should be given to the areas of marketing the benefits and purposes of VET schooling; revising the scope of school directors' competences; developing new financial models to allow schools to function more flexibly and manage resources more effectively.

One recommendation for improving communication between stakeholders and reducing the existing skills-mismatch is providing a coordinated approach (on a regional and district level) to addressing students' competencies and required skills and knowledge from primary schools.

Are Teachers' Qualifications and Profiles Adequate?

The percentage of teachers who hold a certificate is notable and significantly high. Approximately one quarter of teachers in the Prešov region overall have obtained a certificate, while specifically in Humenné and in the 'Other' sectoral grouping, it is even higher with about one third of teachers

having a certificate as their highest VET-related qualification. This creates a concern about the quality of instruction and the depth of understanding of the subject matter being taught in these classrooms.

Also, although the majority of teachers with five years or less of industry-specific experience are from the Agro-Food/Forestry sectoral grouping, it has the highest percentage of teachers with more than five years teaching experience. PSK-ED and school administrators will need to take a detailed look at why the higher than average years of teaching experience and industry experience, are not necessarily translating into better student outcomes and better responsiveness to employers' skill and knowledge requirements, and what can be done to build more of a sustainable teacher career development pipeline.

Although it is noteworthy and encouraging that there doesn't appear to be any significant difference between the annual earnings of female and male teachers, school directors will need to look further into whether the overall low level of teacher salaries are contributing to the poor learning outcomes.

What Are the Characteristics of VET Students?

As reported by VET schools, a full quarter of the students who drop out do so because the program was too difficult. This rate is particularly higher for the Prešov and Poprad sub-regions at about 34%. As reported in the focus group sessions, this could likely indicate that students are not being adequately prepared with fundamental subject content knowledge and socio-emotional skills in their earlier schooling. This could also mean that the programs are not planned well pedagogically. For example, more scaffolding and remedial measures should be integrated earlier on in study programs to give students a stronger base to build off of, and more individualized attention, as the course work increases in difficulty.

Are Schools' Facilities/Inputs Adequate?

Schools in the Bardejov sub-region are using 30% less of the capacity they have in their classrooms; Humenné schools have the greatest number of special workshops and classrooms (20 workshops per school); and the Industry sectoral grouping has the greatest number of workshops and special classrooms (21 workshops per school). More than 90% of the equipment across all schools is reported to have very good to reasonable functionality. However, only 53% of the schools stated the equipment available is adequate to meet the enrolled student demand.

Which study programs will need to be increased or decreased/closed?

The percentage of schools introducing new study programs in the last three years (51%) is significantly higher than the percentage closing them (12.5%) during this same period. When considering that such a high number of schools are failing to close programs with little or no enrollment, it appears they are unnecessarily opening similar programs and competing with other schools for increasingly limited student numbers rather than specializing in a particular field and developing the quality of existing programs.

Study Programs Enrollment, Capacity, and Analysis

More than 46% of all schools' study programs had no enrollment over the last year with a higher than average number of these coming from the Bardejov sub-region and in schools from the Agro-Food/Forestry sectoral grouping. It would be important for PSK-ED and school administrators to ask why these study programs are not being closed.

In looking at those schools that have programs with enrollment, those from the Agro-Food/Forestry sectoral grouping report operating at the highest capacity of available spaces, while about half of the schools with programs in the 'Other' sectoral grouping have programs with enrollment, but are utilizing a low level of their available capacity for spaces. It appears that schools are competing for students for the same programs causing these programs to work at a less efficient level.

SECTION 3.3

RECOMMENDATIONS FOR RESPONDING MORE EFFECTIVELY TO LABOUR MARKET DEMAND

This section contains the recommendations presented to PSK-ED that were informed by the general outcomes of Activity #1 ("Employers Study") and Activity #2 ("VET School Study"). Based on the results of the studies, the following recommendations and conclusions were created:

1. **There is a critical need to strengthen formal feedback opportunities (i.e., development of a regional platform) by:**
 - Developing a regional platform for key stakeholders, which would more formally include employers in regional councils/committees
 - Considering more robust and innovative ways to work with Regional Labour Offices and require Labour Offices to track relevant education data and information (i.e., ISCO codes) on workers (especially, the unemployed)
2. **Firms, government actors, and professional associations (especially, nationally and regionally), need to take an active role in establishing connections with VET schools. The current state of these connections show that:**
 - Certain sectors are doing this very well already (health, social services, ICTs), i.e., the Ministry of Health holds annual events and professional conferences where they bring together health-based firms and relevant VET school providers to offer a place where health-related business associations can meet and converse with VET school providers about their needs.
 - However, in the Infrastructure sector, for example, there is no or very low involvement from relevant line ministries (i.e., Ministry of Transport) and national authorities in fostering sector-based events, joint firm and VET school activities, etc., and, as a result, the firms in the study from these sectors report very poor levels of cooperation with relevant VET schools.
3. **Firms need to be more open to, flexible with, and more actively involved in supporting PSK-ED and schools, while at the same time, these two entities need to begin to adapt the following to be more in line with firms' feedback:**
 - Study programs, curriculum, and content need to be more relevant for job market
 - Instructional approaches need to be modified, more active, practice based, and project based
 - Facilities and infrastructure need to be reorganized to provide greater opportunities for school-based and work-based learning opportunities

4. **PSK-ED, schools, and firms need to be more open to, flexible with, and equally involved in increasing and broadening the types of school- and work-based learning to move beyond Dual Education by recognizing the following:**
 - Current normative financing, though increased recently, is still not enough to attract the number of dual education students envisioned in the national plan
 - A need to broaden the activity categories which are allowed to receive funding
5. **Schools and firms should be actively involved in working with PSK-ED to draw attention to the following areas:**
 - Introducing quality standards for VET schools
 - Innovative use of technology for quality improvement
 - Career guidance and school-to-work transitions

CHAPTER 4

**REPORT ON SECONDARY
VET SCHOOL INVESTMENT
PACKAGES**

As the main task for Activity 3 was to identify five prioritized VET schools and work with them and PSK-ED to develop investment packages in line with the Prešov region’s development needs, the outcomes of the Employer and VET School Studies were used to identify five different “school types” (or profiles) which would serve as the basis of the nominations—and expected final selections by PSK-ED—for the five prioritized schools. These five school types were based on a combination of highly strategic sectors, trends in the labour market, potential for future regional growth and development, and identified priorities for PSK, European Commission, and the World Bank.

The five school types are:

- Industry-oriented
- Small & Medium Enterprise (SME)
- Services
- Innovation
- Agro-business and Forestry

SECTION 4.1 METHODOLOGY

Prioritized VET Schools Nominations

Table 4.1.1 is a short summary of the overall criteria all parties in the CuRI agreed would be used to evaluate all 73 VET schools in the Prešov region, and to identify the top three schools to be nominated in each of the five categories for PSK-ED’s final selection.

TABLE 4.1.1 “Five Prioritized VET Schools” Selection Criteria

MAIN CRITERIA	TOTAL= 100%	SUB-CRITERIA
READINESS	30	<ul style="list-style-type: none"> • Already sound concepts/plans • Demonstrated track record • Strong leadership capacity • Support from multiple partners
POTENTIAL IMPACT	20	<ul style="list-style-type: none"> • Demonstration capacity of concept • Sustainability • Willingness to cooperate with others
REPRESENTATIVENESS	10	<ul style="list-style-type: none"> • Sub-regions • Sector/Industry • School size • Prior Experience with Dual Education
“STRATEGIC” CRITERIA	40	<ul style="list-style-type: none"> • Large impact on regional development • Promotion of SMEs / Entrepreneurship • Focus on Roma/Marginalized Communities • Potential for diverse Work-Based Learning

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

Sources and Evidence Base for School Evaluations

For this report, several sources were used as reference material, including VET School reports, VET Schools' websites, Prešov Region strategic documents, the Strategy for VET Development at PSK (2019–2020), CUR1 VET Employer Survey—Final Results, CUR1 VET School Survey—Final Results, and the website www.trendyprace.sk.

VET School Evaluation and Nomination Process

- STEP 1:** Agreement on selection criteria and approach was reached through several consultations with stakeholders
- STEP 2:** WB Team decision on overall point distribution between different criteria
- STEP 3:** Sub-criteria were specified in detail as a source of the point scale, based on quantitative data (e.g., number of total students and students with special education needs, unemployment rates, and results in matriculation exams) and qualitative data (e.g. achievements, cooperation, partnerships, activities, education of teachers)
- STEP 4:** Using the overall four criteria and sub-criteria, a specification table was created with descriptions, definitions, and point distributions for each sub-criteria
- STEP 5:** Each school first evaluated individually by assigned school interviewers
- STEP 6:** During committee meetings, interviewers presented to each other, cross-referenced and adjusted scores for their assigned schools (inter-rater reliability)
- STEP 7:** Final proposal of VET school nomination table

VET Schools Selections

Final Results for VET School Nomination Process

The final results table (see Table 4.1.2) reflects the top three school nominations in each of the five school profile types. The resulting decision on the selection of the five prioritized schools was made by PSK-ED based on consultation with the World Bank team. Four out of the five top ranked nominated schools were selected by PSK-ED, except for the Industry sector category, where the third ranked nominee was selected¹¹. For more details on the evaluations of the nominated schools, see Annex 4.1.

TABLE 4.1.2 Final Results VET School Nomination Table

Sub-region	Industry VET Schools	SME VET Schools	Services VET Schools	Innovation VET Schools	Agriculture—Food and Forestry VET Schools
PREŠOV	/2/ Spojená škola, Sabinov/ @ 2, 3, 4, N, LLL /4/ Stredná odborná škola drevárska, Vranov nad Topľou/ € 3, 4, LLL	/2/ Stredná odborná škola gastronómie a služieb, Prešov / @ 3, 4, N, LLL	/2/ Stredná odborná škola technická, Prešov/ *2, 3, 4, N	/1/ Spojená škola, Prešov/ * 4, GaL, LLL, VETC /2/ Stredná priemyselná škola elektrotechnická, Prešov/ *4, LLL	
HUMENNÉ		/1/ Stredná odborná škola polytechnická Andyho Warhola, Medzilaborce / @ 3, 4, N, LLL /4/ Stredná odborná škola technická, Humenné/ € 4, LLL / 3/ Stredná priemyselná škola, Snina / 4, L, LLL			

Sub-region	Industry VET Schools	SME VET Schools	Services VET Schools	Innovation VET Schools	Agriculture—Food and Forestry VET Schools
BARDEJOV	/1/ Spojená škola Juraja Henischa, Bardejov / € 3, 4, G, LLL, N		/1/ Stredná odborná škola, Stará Ľubovňa / € @ 2, 3, 5, N, LLL, E		/3/ Spojená škola, Bardejov / @ 2, 3, 4, N, LLL
POPRAD	/3/ Stredná odborná škola elektrotechnická, Poprad—Matejovce / * 4, 3, N, LLL			/3/ Súkromná odborná stredná škola - Tatranská akadémia n.o / 4	/1/ Stredná odborná škola agropotravinárska a technická, Kežmarok / € @ 2, 3, 4, N, LLL /2/ Spojená škola, Bijacovce / € 4, N, 3, 2, LLL

Legend, explanatory notes:

1/ – Ranking of VET schools in their assessment

*VETC – The VET school has a Vocational Education and Training Center

€ – The school received funding from EU/one or more OPs etc.)

@ – The school takes into account the specific needs of disadvantaged groups, ROMA inclusion program

2, 3, 4, 5, N, LLL, E – the school has two-year, three-year teaching programmes, + 4 studies, N – external post-secondary or

post-secondary programs and life-long learning, LLL – retraining and lifelong learning, E – external study programs

GaL – the school also has gymnasium and lyceum

Source: World Bank Employer STEP Survey, 2018, Bank staff analysis

Investment Package Development

There were several steps in the process of developing the investment packages, which are highlighted below:

- 1. Decision:** PSK-ED officially informed WB Team of the final five selected schools by email
- 2. Inform/Acceptance:** PSK-ED sent official notification to the five selected schools and received official notice of schools' acceptance
- 3. Kickoff Workshop:** An initial two-hour workshop with all five selected schools was held on Monday, March 18, at PSK. The agenda included: (a) CUR1 and VET project background; (b) the purpose and objectives of the Activity 3 Investment Packages; (c) the expected outputs, responsibilities, and the initial draft proposals; and (d) timelines and next steps
- 4. Initial School Visits (1st Round):** Individual visits to all five selected schools was made from March 19–22, 2019, for the purpose of: (a) receiving initial school proposals and providing on-site feedback; (b) conducting a basic school audit in line with proposals; and (c) identifying data gaps and next steps. The initial report was given at the Slovakia CUR1 Steering Committee Meeting (SCM) held from March 25–26, 2019.
- 5. Follow-up and Technical/Financial Feasibility Assessments:** Based on the outcomes of the March SCM, the WB team worked with PSK-ED and each school to conduct further technical audits, evaluations, feasibility studies, etc., as needed.
- 6. Technical Proposal Writing Workshop:** A two-day intensive group technical writing workshop was held from April 11–12, 2019, for the purpose of assisting each school with their proposal by means of a large group setting.

Brief Project Overviews

The following are the five selected schools and the basic descriptions of the investment packages.

Proposal 1: Industry VET School

School:

Stredná odborná škola elektrotechnická, POPRAD—Matejovce

Overall Objective:

To build an educational area where pupils would receive modern instruction in the form of practical exercises in technical disciplines using animation, experiential, and experimental methods and with the help of teaching aids and experiments that are not available in mainstream schools. This new educational center will serve as a modern workplace focused on a future in the area of electrotechnics, automation, and engineering with an aim to increase the interest in working in the electrotechnical industry and related areas.

Total Investment:

3,740,000 Euro for study programs development, equipment and materials, trainings of teachers/staff and pupils, and infrastructure improvements

Expected Outcomes:

- Educational Polygon—common workplace for practical learning in electrotechnics, mechatronics and engineering (including a Training Centre)
- E-learning Program—innovations in fields of study program content/methods and life-long learning
- Tele-Presence Center and improving the communication of school with different stakeholders

Proposal 2: SME VET School

School:

Stredná odborná škola polytechnická A. Warhola, MEDZILABORCE

Overall Objective:

To transform the VET Polytechnic School of Andy Warhol to a modern educational center with significant impact and ability to develop and support entrepreneurship and entrepreneurial communities through completion of improvement to vital school infrastructure and in quality of relevant study programs, thus making the sub-region of Humenné a more competitive territory.

Total Investment:

3,075,000 Euro for study programs development, equipment and materials, trainings of teachers/staff and pupils, and infrastructure improvements

Expected Outcomes:

- Building and establishing an SME Business Incubator
- DUAL/DUAL+ and support services through up-to-date material-technical equipment, modernization of professional spaces, innovation of educational programs and quality human resources
- Creative Zone serving pupils, partners and public

Proposal 3: Services VET School

School:

Stredná odborná škola, STARÁ LUBOVŇA

Overall Objective:

To create a 21st century learning institution through completion of a competence and excellence center for services in gastronomy, crafts, and tourism, with the purpose of offering high quality, effective, inclusive and relevant vocational education and training. The school would become inspirational for others in the region and open for current and future prospects and partners.

Total Investment:

3,035,000 Euro for study programs development, equipment and materials, trainings of teachers/staff and pupils, and infrastructure improvements

Expected Outcomes:

- Multi-functional regional learning and training center for crafts and a Competence Centre for GASTRO—including professional spaces modernization, up-to-date material-technical equipment, innovation of educational programs and quality human resources
- Social Enterprise Lomnicka with a focus on inclusion and life-long learning for marginalized groups and pupils
- Partnerships with educational institutions and other stakeholders

Proposal 4: Innovation VET School

School:

Spojená škola, PREŠOV

Overall Objective:

To develop the VET School as a leader in innovation capable of better preparing students for the upcoming, modern industrial revolution through updating and innovating facilities and improved human resources

Total Investment:

6,895,000 Euro for study programs development, equipment and materials, trainings of teachers/staff and pupils, and infrastructure

Expected Outcomes:

- VET Excellence Centre—a Joint center for practical learning and cooperation with companies in engineering study fields
- Career and presentational center for technical education—a center to improve communication and marketing to increase the attractiveness of technical study programs and to make the VET school internationally recognized
- School with up-to-date material-technical equipment and quality human resources

Proposal 5: Agro-Forestry VET School

School:

Stredná odborná škola agropotravinárska a technická, KEŽMAROK

Overall Objective:

To create a regional institution for future education (“Getting Ready for the Future”) through a network of centers of expertise with the purpose of better responsiveness to recent requirements of the regional labour market and improvements to the attractiveness of selected agricultural, food, and technical fields of study.

Total Investment:

3,889,000 Euro for study programs development, equipment and materials, trainings of teachers/ staff and pupils, and infrastructure improvements

Expected Outcomes:

- Attractiveness of Agro-Food industry study programs from the perspective of future students—EDULABS
- Competence center—pilot project with a focus on inclusion, life-long learning, and career guidance
- FOODLAB—pilot project with a “living laboratory” to encourage research and testing of local innovations based on ecological principles and system circulation in the areas of primary and final food production
- DRONLAB—center for “precise agriculture” and “living laboratory” to make use of up-to-date information and other technologies in agriculture and forestry, including joint work-places for cooperation with local entrepreneurs
- REGIOSHOP—center for practical education as a part of a social enterprise in Rakúsy and the school in Kežmarok
- Center of veterinary medicine and hygiene
- Social enterprise Rakúsy with a focus on inclusion and life-long learning

SECTION 4.2

CURI VET SUMMARY INVESTMENT TABLES

The following summarizes and aggregates into one overall summary investment table (Table 4.2.1) all the anticipated investment needs of the five prioritized VET schools, organized by the four different investment categories: buildings, equipment and materials, trainings of teachers and staff, and study program development. The grand total of anticipated investments for all categories is 20,554,000 Euro for five selected pilot VET Schools. The sub-totals for all investments by category are: 8,095,000 Euro for buildings; 10,714,000 Euro for equipment and materials; 765,000 Euro for teacher trainings; 610,000 Euro for study program development; 370,000 Euro for other investments, mainly for public relations and communication; as well as 1,000,000 Euro for supporting and networking projects, which will have an impact on all VET Schools in the Prešov Region. For more details, see the “Investment Packages—Overall Costs” Table (Annex 4.2).

TABLE 4.2.1 The Investment Summarization Table—Five Pilot VET Schools

Investment Type/Nature	Investment Costs (1000 EUR)	City/ District	Investment description (3–4 sentences)	Stage of Preparation	Issues/Problems	Est. Preparation Time and Costs	OP Name and Priority Axis	Potential Call Name and #	Submission Timing and Deadline of Call	Other Issues
Buildings	8,095	PSK	<ul style="list-style-type: none"> •Light-med. repair/ renovations •Energy efficiency management •Restructuring of learning spaces •Modifications for workshops 	Concepts	<ul style="list-style-type: none"> •Detailed bldg needs assessment •Energy efficiency audits 3–6 mo’s •Design & approve project construction docs 2–3 mo’s •Public procurement (capital investment) 3–6 mo’s 	6–12 months 250,000 (=50,000*5)	OP Quality of Environment/ OP Human Resources/OP Research and Innovation	TBD see other table—Synergy and Complementarity between OP—CURI-VET Slovakia, version 1	mostly open calls	
Equipment & Materials	10,714	PSK	<ul style="list-style-type: none"> •New or upgraded workshop equipment •SW tools as process simulations •Prototypes and Models 	Concepts	<ul style="list-style-type: none"> •Detailed needs assessment •Design & approve project docs 2–3 mo’s •Public procurement (capital & non-capital investments) 3–6 mo’s 	6–9 months 10,000 (=2,000*5)	OP Human Resources/OP Research and Innovation/ ENPI/Interreg SK-PL/IROP	TBD see other table—Synergy and Complementarity between OP—CURI-VET Slovakia, version 1	mostly open calls	VET Sector Integration & Strengthening—primary school support

Investment Type/Nature	Investment Costs (1000 EUR)	City/District	Investment description (3–4 sentences)	Stage of Preparation	Issues/Problems	Est. Preparation Time and Costs	OP Name and Priority Axis	Potential Call Name and #	Submission Timing and Deadline of Call	Other Issues
Trainings of Teachers	765	PSK	<ul style="list-style-type: none"> •Study visit •LLL certification of teachers and instructors and Individual portfolio promotion • Training for company trainers • Payments for conference and workshop participation •Training for Roma/Marginalized communities Teachers 	None to Concepts	<ul style="list-style-type: none"> •Detailed technical needs assess't •Stakeholder consultations •Design and approve project docs 3–4 mo's •Public procurement (soft investments) 3–6 mo's 	6–12 months 25,000 (=5,000*5)	OP Human Resources/OP Research and Innovation/ Interreg SK-PL/Erasmus+/EPO—Europe for Citizens	TBD see other table—Synergy and Complementarity between OP—CURI-VET Slovakia, version 1	mostly open calls	VET Sector Integration & Strengthening
Study Programs Development/Enhancement	610	PSK	<ul style="list-style-type: none"> W/in scope of coming SIOV plan: •Assess/audit current programs •Review & apply national & regional skills forecasting •Design, develop, pilot •Study materials development • LLL certification • Online training modules 	Concepts	<ul style="list-style-type: none"> •Requires close consultation w/ SIOV, industry reps, etc. according to national legislation •Detailed technical needs assess't •Intensive stakeholder consults •Design and 	9–12 months 25,000 (=5,000*5)	OP Human Resources/OP Research and Innovation/ Interreg SK-PL/Erasmus+	TBD see other table—Synergy and Complementarity between OP—CURI-VET Slovakia, version 1	mostly open calls	VET Sector Integration & Strengthening
Other (PR & Communication, etc.)	370	PSK	<ul style="list-style-type: none"> •Intensive stakeholder communication 	Concept	<ul style="list-style-type: none"> Intensive stakeholder communication 	9–12 months	OP Human Resources		mostly open calls	VET Sector Integration

TABLE 4.2.2 The Investment Summarization Table For All PSK VET Schools

Investment Type/Nature	Investment Costs (1000 EUR)	City/District	Investment description (3–4 sentences)	Stage of Preparation	Issues/Problems	Est. Preparation Time and Costs	OP Name/ Priority Axis	Potential Call Name and #	Submission Timing and Deadline of Call	Other Issues
VET Sector Integration & Strengthening/several projects	1 000	PSK	<ul style="list-style-type: none"> •Develop regional VET stakeholder platform(s) •Cross-border cooperation (Poland, Ukraine, etc.) •Establish VET school-companies joint investments & cooperation •Pilot implementation of ECVET • VET festivals, exhibition and competitions •Transfer know-how from EU best practices • Validation and Recognition /PRIOR learning 	None to Concepts	<ul style="list-style-type: none"> •Intensive stakeholder consults •Design and approve project docs 6–9 mo's •Public procurement (new software solutions) 3–6 mo's 	6–12 months 12,500 (=2,500*5)	OP Human Resources/OP Research and Innovation/ Interreg SK-PL/Erasmus+/EPO*	TBD see other table—Synergy and Complementarity between OP—CURI-VET Slovakia, version 1	mostly open calls	ROMA Inclusion Program

SECTION 4.3

CURI VET PROJECT — INDIVIDUAL VET SCHOOL INVESTMENTS

In this section, we present the investment tables for each individual school. There will be five sub-sections, which will present a short program summary and the investment table for each of the five schools. The Grand Total of **20,554,000 Euro** for all investments by school is:

- **3,740,000 Euro** (*Industry* VET School—Stredná odborná škola elektrotechnická, POPRAD)
- **3,075,000 Euro** (*SME* VET School—Stredná odborná škola polytechnická A. Warhola, MEDZILABORCE)
- **3,035,000 Euro** (*Services* VET School—Stredná odborná škola STARÁ LUBOVŇA)
- **6,815,000 Euro** (*Innovation* VET School—Spojená škola PREŠOV)
- **3,889,000 Euro** (*Agro-Forestry* VET School—Stredná odborná škola agropotravinárska a technická).

Note: For more information on the Integrated Project Design & Full Project Concept Papers, see Annex 4.3.

Proposal 1: Industry VET School

School:

Stredná odborná škola elektrotechnická, POPRAD—Matejovce

Overall Objective:

Build an educational area where pupils would receive modern instruction in the form of practical exercises in technical disciplines using animation, experiential, and experimental methods and with the help of teaching aids and experiments that are not available in mainstream schools. This new educational centre will serve as a modern workplace focused on a future in area of electrotechnics, automation and engineering with an aim to increase an interest in working in electrotechnical industry and related areas.

Total Investment:

3,740,00 EURO for Study Programs Development, Equipment and Materials, Trainings of Teachers/ Staff and Pupils, and Infrastructure

Specific Objectives:

- Create conditions for teaching new fields of study
- Adapt practical education to requirements of employers
- Build material-technical basis for presentation in primary schools
- Strengthen interest of students in technical fields of study
- Offer practical education in system of dual education

Expected Individual Projects:

- Educational Polygon—common workplace for practical learning for electrotechnics, mechatronics and engineering (training center)
- E-learning Program—innovations in fields of study and life-long learning
- Tele-Presence Center and improving the communication of school

Investment Type	Investment Costs (K EUR)	Investment description (3 – 4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Study Programs Development	250	• E-learning Program Development • Promotion of New and Existing Study Program • Process Simulations	Concept	• Technology Development • Digital Skills • Access to LLL
Equipment & Materials	1 810	• Prototypes and Models Equipment • Upgrade of existing workshop – interactivity • SW tools as process simulations	Concept	• New skills • New teaching methods • E-learning
Trainings of Teachers/Staff and Pupils	100	• Study visits and Mobility Program • Internships in Companies for Staff and Pupils • Co-operation with Companies	Concept	• CPD • WBL • Experts from companies as trainers
Infrastructure	1 380	• New building for specialized workshops • Classrooms for Mechatronics, Automatization and Electronics • Tele-Presence Center	None	• Inconvenient Buildings • Co-operation with Companies • Attractiveness and Promotion
Other (PR& Communication, etc.)	200	Co-operation with Companies Sector Platform Development	Concept	Attractiveness and Promotion New LLL Program Promotion

OVERALL OBJECTIVE:

„Build an educational area where pupils would receive modern instruction in the form of practical exercises in technical disciplines using animation, experiential and experimental methods and with the help of above-standard teaching aids and experiments that are not available in mainstream schools“

Expected Outcomes:

- Educational Polygon/Training Centre
- E-learning Program
- Tele-Presence Center

Proposal 2: SME VET School

School:

Stredná odborná škola polytechnická A. Warhola, MEDZILABORCE

Overall Objective:

Transform VET polytechnic school of Andy Warhol to a modern educational center with significant impact on a development and support of entrepreneurship and entrepreneurial communities through completion of infrastructure and improvement in quality of education, thus making sub-region Humenné a smart territory.

Total Investment:

3,075,000 EURO for Study Programs Development, Equipment and Materials, Trainings of Teachers/ Staff and Pupils, and Infrastructure

Specific Objectives:

- Prepare qualified professional capacities of schools in compliance with strategy of school's development, to ensure systematic increase in expertise of pedagogues
- Ensure modern and flexible educational/study program through introduction of innovative means of education and innovations of content of VET, offer of study programmes, that are attractive for students
- Strengthen cooperation with entrepreneurial, non-governmental sector and local self-government including educational institutions in Humenné sub-region,
- Modernize spaces of school and to introduce quality material-technical equipment of classrooms and workshops regarding recent development of technology,
- Set up a center for offering services to support entrepreneurship activities (SME Business Incubator),
- Support provision of new services as a modern center of education with a focus on life-long learning, guidance and business activities,
- Revitalize school surroundings/ school area.

Expected Individual Projects:

- Building and setting up SME Business Incubator
- DUAL +a and support services through up-to-date material-technical equipment, modernization of professional spaces, innovation of educational programs and quality human resources
- Creative Zone, serving for students, partners and public

Stredná odborná škola polytechnická A. Warhola MEDZILABORCE		OVERALL OBJECTIVE: Entrepreneurial Communities and Smart Territory	Expected Outcomes: • SME Business Incubator • DUAL +a and support services • Creative Zone	
Investment Type	Investment Costs (K EUR)	Investment description (3 – 4 sentences)	Stage of Prep	Issues/Problems to be Tackled
Study Programs Development	80	<ul style="list-style-type: none"> • Digitalization of Training and Study Materials • Update of Existing Study Programs • New LLL Programs 	Concept	<ul style="list-style-type: none"> • Access to LLL • SME Support Program • New Study Programs and Materials
Equipment & Materials	1 075	<ul style="list-style-type: none"> • Connection between school areas and Creative Zone (e-mobility) • Creative Zone Equipment • Business Incubator Equipment and Materials 	Concept	<ul style="list-style-type: none"> • New Skills Development • LMS • New Services
Trainings of Teachers/ Staff	70	<ul style="list-style-type: none"> • Study visits and Mobility Program • Internships in Companies for Staff and Pupils • Co-operation with Companies 	Concept	<ul style="list-style-type: none"> • CPD (Continual Professional Development) • WBL • Experts from companies as trainers
Infrastructure	1 850	<ul style="list-style-type: none"> • Reconstruction of Existing Buildings for Energy Efficiency • Modification of public spaces and the surroundings of the school area I. and area II. • New Building for Business Incubator 	None	<ul style="list-style-type: none"> • Inconvenient Buildings • Multifunctional areas/community spaces • New forms of co- operation
Other (PR & Communication, etc.)			Concept	<ul style="list-style-type: none"> • New forms of co- operation

Proposal 3: Services VET School

School:

Stredná odborná škola STARÁ ĽUBOVŇA

Overall Objective:

Creating a learning institution of 21st century through completion of a competence and excellence centre for services in gastronomy, crafts and tourism with a purpose of offering high quality, effective, inclusive and relevant vocational education and training. School that becomes inspirational for others in the region and open for recent and future prospects and partners.

Total Investment:

3,035,000 EURO for Study Programs Development, Equipment and Materials, Trainings of Teachers/ Staff and Pupils, and Infrastructure

Specific Objectives:

- Construction works, reconstruction of the interior and exterior and completion of school's infrastructure which contributes to energy efficiency, preparing for a climate change and improves an environment and atmosphere at school
- Acquiring and modernization of material and technical equipment for classrooms, work-rooms and another premises of the school, whereby
- school can respond to the needs of the employers, innovations and future trends
- Extension and enhancement of competences, professional skills and knowledge of human capital by means of the further training (*pedagogic employees at school, teachers, trade-masters, but also the school management*) that can strengthen already existing capacities and the quality and innovation of teaching and education
- Educational programs, activities, and courses of continuing education or another fields (staff training of different companies, mobility programs for students and teachers)
- Proposition of educational program for the field of study gastronomy, designed for experimental examination
- Development of school by searching for models of co-operation and creating partnerships with employers, schools, educational institutions and other partners within the frame of region and abroad
- Creating social enterprise in Lomnička

Expected Individual Projects:

- Multifunctional regional learning and training center for crafts and Competence Centre for GASTRO—including professional spaces modernization, up-to-date material-technical equipment, innovation of educational programs and quality human resources
- Social enterprise in Lomnička with a focus on inclusion and life-long learning
- Partnerships with educational institutions and other stakeholders

Investment Type	Investment Costs (K EUR)	Investment description (3 – 4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Study Programs Development	200	<ul style="list-style-type: none"> • Update of Study Programs Materials • Digitalization of Study materials, cloud solution • Joint Competence Standards 	Concept	<ul style="list-style-type: none"> • Access to Study Materials • Development of New Study Materials • ECVET, NQF, international co-operation
Equipment & Materials	960	<ul style="list-style-type: none"> • Interactive Learning Platform /Cloud Solution • Upgrade of existing workshop (new equipment) for GASTRO • Logistics and Mobility (vehicles) 	Concept	<ul style="list-style-type: none"> • Network of School Centres • New Services • Access to LLL

Stredná odborná škola STARÁ ĽUBOVŇA	<p>OVERALL OBJECTIVE: „Developing VET School as a Learning Organization“ High Quality and inclusive Education for all citizens in Region</p>	<p>Expected Outcomes: • Multifunctional regional learning and training center for crafts • Social Enterprise Lomnicka • Competence Centre for GASTRO</p>
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Investment Type	Investment Costs (K EUR)	Investment description (3–4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Trainings of Teachers/ Staff	200	<ul style="list-style-type: none"> • Study visits and Mobility Program • Internships in Companies for Staff and Pupils • Co-operation with Companies 	Concept	<ul style="list-style-type: none"> • CPD • WBL • Experts from companies as trainers
Infrastructure	1 775	<ul style="list-style-type: none"> • Reconstruction of Existing Buildings for Energy Efficiency • Modification of public spaces and the surroundings of the school • Infrastructure for WBL at city center 	Concept/ partially	<ul style="list-style-type: none"> • Inclusive Education • New Services • WBL support
Other (PR & communication, etc.)	100	<ul style="list-style-type: none"> • Co-operation with Companies • Attractiveness of VET 	Concept	<ul style="list-style-type: none"> • Inclusive Education • New Services and Study Programmes

Proposal 4: Innovation VET School

School:

Spojená škola PREŠOV

Overall Objective:

Developing the VET School as a leader in innovation to achieve better preparation of pupils for the upcoming industrial revolution through innovations of facilities and human resources.

Total Investment:

6,895,000 Euro for Study Programs Development, Equipment and Materials, Trainings of Teachers/ Staff and Pupils, and Infrastructure

Specific Objectives:

- Open new study programs, demanded by the labour market,
- Equip school with new technologies, together with employers to strengthen dual education,
- strengthen interest of students in technical fields and professions
- Create career and presentational center for technical education for students, future students, and their parents

Expected Individual Projects:

- VET Excellence Centre—Joint Centre for practical learning and cooperation with companies for engineering study fields
- Career and presentational centre for technical education—improvement of communication in order to increase the attractiveness of technical study programs and to make VET school internationally recognizable
- School with an up-to-date material-technical equipment and quality human resources

OVERALL OBJECTIVE:

Our VET School as a Leader on Innovation „ to achieve better preparation of pupils for the upcoming industrial revolution through innovations of facilities and human resources“

Expected Outcomes:

- VET Excellence Centre— Joint Centre with Companies
- Attractiveness of technical study programmes from the perspective of future students
- Internationally recognizable technical VET school

Spojená škola PREŠOV

Investment Type	Investment Costs (K EUR)	Investment description (3–4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Study Programs Development	100	<ul style="list-style-type: none"> • New portfolio of study materials (digital and print versions) • Interactive workbooks • Digital Library— Transfer know-how 	Concept	<ul style="list-style-type: none"> • Participation of all stakeholders • Access to study materials • New Learning Methods

Investment Type	Investment Costs (K EUR)	Investment description (3 – 4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Equipment & Materials	4 555	<ul style="list-style-type: none"> • Metrology Lab and Robotics Lab • Machine Tools (traditional, CNC etc.) • Classrooms for CAD, CAM, CNC programming) PC and welding equipment 	Concept	<ul style="list-style-type: none"> • New Learning Methods • Technology development • Public procurement
Trainings of Teachers/ Staff	150	<ul style="list-style-type: none"> • Study visits in Companies • New Skills for New Technologies and SW • Internships 	Concept	<ul style="list-style-type: none"> • New Learning Methods • LLL Certification • High age of teachers
Infrastructure	1 960	<ul style="list-style-type: none"> • Reconstruction of Learning Spaces • Energy efficiency management • Modification of workshops 	None	<ul style="list-style-type: none"> • Energy efficiency • Construction project documentation • Detailed bldg assessment

Proposal 5: Agro-Forestry VET School

School:

Stredná odborná škola agropotravinárska a technická

Overall Objective:

“Getting Ready for the Future”—Creation of a regional institution for future education through a network of centers of expertise with the purpose of better adaptation to recent requirements of regional labour market and improvement of attractiveness of selected agricultural, food and technical fields of study (including production of plastics).

Specific Objectives:

- Develop new and innovate existing study programs in selected areas—bioeconomy, precise agriculture and technical fields of study in connection with circular economy
- Implement new services in career counseling and lifelong learning,
- Strengthen aspects of inclusive education and social integration of disadvantaged groups,
- Ensure material-technical equipment in order to adapt to recent requirements of regional labour market in area of agrotechnics and mechanization, veterinary epidemiology and food technologies,
- Test new model of cooperation between VET school and employers

Total Investment:

3,889,000 for Study Programs Development, Equipment and Materials, Trainings of Teachers/ Staff and Pupils, and Infrastructure

Expected Individual Projects:

- Attractiveness of agro-food industry study programs from the perspective of future students—EDULABS
- Innovation of study programs
- Competence center—pilot project with a focus on inclusion, life-long learning and guidance
- FOODLAB & BioLAB—pilot project “living laboratory” (research and testing of local innovations based on ecological principles and system circulation in area of primary and final food production) and incubators (creating of network of VET school and subjects of social economy in an area of food production, sustainable economics and circular economy)
- InnoLiveLAB—Educational center of “precise agriculture” and innovations in “living laboratory”—making use of up-to-date information and other technologies in agriculture and forestry, including joint workplaces for cooperation with local entrepreneurs
- RegioFoodDevNet—Regioshop as a center for practical education as a part of social economy subject in Rakúsy and school in Kežmarok, regional network of cooperation between VET school and food chain store (entrepreneurs, developmental agencies, research & design, departmental institutions)
- Centre of veterinary medicine and hygiene
- Social enterprise Rakúsy with a focus on inclusive education and life-long learning

Stredná odborná škola agropotravinárska a technická		OVERALL OBJECTIVE: GETTING READY FOR THE FUTURE „Build a professional inclusive school of the future through a network of centers of expertise ...”	Expected Outcomes: • VET Excellence Centre for Bioeconomy • Attractiveness of agro food industry study programmes from the perspective of future students – EDULABS	
Investment Type	Investment Costs (K EUR)	Investment description (3 – 4 sentences)	Stage of Prep	Issues / Problems to be Tackled
Study Programs Development	180	<ul style="list-style-type: none"> • Update of Existing Curricula • Development of New Joint Competence Standard /Precision Agriculture and Bioeconomy • Implementation of ECVET 	Concept	<ul style="list-style-type: none"> • New Study Programmes • New Technologies • Flexible Learning Path
Equipment & Materials	2 314	<ul style="list-style-type: none"> • New equipment for VET Excellence Centre for Bioeconomy • Equipment & Materials for EDULABS • New equipment for Centre of Inclusive Education Rakusy 	Concept	<ul style="list-style-type: none"> • Inclusive Education • New Learning and Training Methods • Joint Standards /New Platform
Trainings of Teachers/ Staff	245	<ul style="list-style-type: none"> • Creating and Supporting continuous learning opportunities for all staff /study visits, specific training programs .../ • High Quality Induction and Mentoring and Couching practice • Capacity Building to School Leaders 	Concept	<ul style="list-style-type: none"> • Implementation of EQAVET • New Mentoring and Couching Practice • Capacity Building for EQAVET
Infrastructure	1 130	<ul style="list-style-type: none"> • New Building for VET Excellence Centre for Bioeconomy • Reconstruction of Centre of Inclusive Education Rakusy • Extension of Main Building – EDULABS 	Concept partially	<ul style="list-style-type: none"> • Joint Plants with companies • R&D Services • Experimental Model Operations

SECTION 4.4

VET INVESTMENTS — STRATEGIES FOR FINANCING AND OPERATIONALIZING INTEGRATED PROJECTS IN VET

The overall purpose of this section and the entire Activity 3 of the VET component of Catching-up Regions is to assist the PSK-Educational Department to work with the PSK administration and other regional and local stakeholders, Slovak national/managing authorities, the school administration of the five selected VET schools, and the European Commission to identify and prepare important initial inputs for appropriate integrated projects. The expected strategic investments are primarily to improve the educational infrastructure for five pilot VET schools, which have been selected and proposed to boost Prešov regional development through RIS. This investment will address the current mismatch between skills and capacities being supplied by VET schools and those demanded by the labour market and future market needs, and will reflect the inclusive growth strategy within the local context.

The strategic investments are organized into four overall categories—study program development, teacher and HR training, equipment and development of teaching and learning materials, and infrastructure—for five integrated projects, which consist of several smaller schemes to reach financing, capacity, and time flexibility. Each school is represented by one integrated project and several small, partial projects. Because the expected expenditure categories of activities are divided into several individual projects, it is necessary to finance the proposed investment packages for the selected schools from a number of financial sources, including European Structural and Investment Funds (ESIF) and relevant existing operational programs, grants, and other public and private sources.

Based on the objectives and identified needs of the sub-regions and sectors, the quality of cooperation between the schools, and these entities will be significantly strengthened and improved through various planned activities. These actions include the implemented sub-projects, activities, transfer of know-how between secondary schools, the quality of vocational training, and the preparation and development of new skills. The links will also be reinforced at a systemic level through

measures that will impact on the whole territory of Prešov, the aim of which will be to improve the performance of the whole vocational education and training system, to support its effective functioning and to increase linkages between VET education and practice. These measures must result in a radical change in public attitudes towards vocational education and training and, even more importantly, in a qualitative change at the level of individual secondary vocational schools as providers of vocational and life-long learning.

In developing investment packages, an integrated approach is used that provides the prerequisites for networking and collaboration in the regions and in selected sectors, for the use of available financial and non-financial resources and for promoting innovation and new models of cooperation in VET. This kind of approach takes into account the specific local context, and is in line with the outcomes of the Employers and VET School Studies.

The selection of sub-projects for each of the five selected schools' Investment Packages (IPs) was based on the following selection criteria:

- Alignment of the proposed project with the results of Activity 1 and Activity 2 of the CURI VET component
- Alignment with the needs of the region and the selected sector
- Consistency with strategic and conceptual documents at the regional and national level
- Project contribution to the “horizontal priorities” for ESIF and the impact on inclusion
- Project contribution to the Regional Innovation Strategy (RIS) 3, project innovation
- Linking the project to other on-going projects
- Possibility of partner involvement
- Project sustainability

Investment packages are based on the following investment priorities of the CURI VET component:

1. Improving the educational infrastructure of selected secondary vocational schools
2. Creating and applying new types of training, content, and teaching methods, with emphasis on all forms of practical education and training
3. Building professional capacities of schools as a prerequisite for providing new and flexible services in the area of vocational education, LLL and LLC
4. Promoting networking and cooperation between schools, businesses, and different actors at all levels, including the promotion of international cooperation

The creation of a joint project team to support the five selected vocational schools will reduce the administrative burden on the applicants, allow for sharing of expertise and administrative capacity, improve the quality of project preparation and implementation, and ensure the sustainability of outputs and results of individual projects and entire investment packages. Because the funding model envisages a significant share of EU funding, a significant part of this section is devoted to details on financing the proposed investment packages from the ESIF. The proposed IP and support projects are designed primarily to complement approved National Programs in individual Operational Programmes (OPs); they are pilot projects with an emphasis on verifying new and innovative approaches with a strong inclusive aspect.

Financing Strategies

Proposal of Financing Strategies for VET Investments

EU funding is one of the main sources of financing for the investment packages for the five selected vocational schools. In accordance with EU guidelines and legislation, ESIF can be used through various forms of assistance. The investment strategy for CURI VET Activity 3 is based on existing up-to-date documents in Slovakia, especially:

- The Financing Strategy for the European Structural and Investment Funds (ESIF) for the 2014–2020
- Act no. 292/2014 Coll. Act on Contribution from European Structural and Investment Funds and on Amendments to Certain Acts (as amended by No. 357/2015 Coll., 91/2016 Coll., 171/2016 Coll., 315/2016 Coll., 93/2017 Coll., 93/2017 Coll. z., 280/2017 Coll., 112/2018 Coll.)

As indicated in the following direct quote from the ESIF under Art. 66 and 67 of the Common Provisions Regulation for the 2014–2020 programming period, the financial assistance provides the following forms of funding:

A grants:

- Reimbursement of eligible expenditure actually incurred and paid, together with any contributions in kind and depreciation
- Standard scales of unit costs
- Lump sums not exceeding EUR 100 000 in the form of a public contribution
- Flat-rate financing by applying a percentage to one or more categories of expenditure

B grants: Remuneration (within the meaning of Article 138 of Title VII of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the Financial Regulation applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002)

C grants: Repayable assistance

D grants: Financial instruments

E grants: Combination of these forms of assistance, while respecting the specific provisions of the general regulation for the programming period 2014–2020 and under the fund regulations (EMFF regulation, ERDF, CF, ESF, and EAFRD)

For the purpose of determining the respective funding shares in the programming period 2014–2020 and on the basis of the experience of the programming period 2007–2013, the different categories of “beneficiaries” from the Structural Funds, Cohesion Fund, and European Maritime and Fisheries Fund are defined, for example, as PSK, VET Schools, themselves, etc. The concrete application is described in Annex 4.3.

The ESIF Management System regulates common rules applicable to all ESIFs, respecting the specificities of granting contributions under some OPS. In view of the above, the ESIF management system applies in its parts to individual ESIFs.

Demand Driven Calls

Regulatory Basis

The Managing Authority (MA) publishes its calls on its website. The MA is obliged to ensure that the calls that have already been completed are published on the website and available in the call archive for at least three years. The MA is also obliged to publish any changes and cancellations of the call. After assessing the call in accordance with § 3 to §13 of Chapter 3.1.1/3/, the MA is obliged to publish the call at the same time as it is published on the MA website and also in ITMS2014 +.

Objective

The main objective of this procedure is the competition of a large number of projects of different eligible applicants, which are evaluated on the basis of predetermined selection and evaluation criteria. In the case of a closed call, certain restrictions are set, such as eligible territory, allocation

amount, etc. Therefore, support is usually more targeted and competition between projects may be higher. Another aspect of this kind of procedure is to ensure openness and transparency of the whole selection procedure.

Applicability/Eligibility Criteria

Calls may take the form of:

- a. A closed call characterized by the precise date of its declaration and the closing date. The use of the closed call is particularly suitable for projects of an innovative nature, where the selection of the most optimal project requires its comparison with other submitted projects.
- b. An open call, the duration of which depends on the available funds and is terminated upon the exhaustion of these funds.
- c. In particular, the use of the open call is appropriate for calls aimed at supporting standard types of projects that do not require competition based on qualitative project comparison.

In the case of calls for the implementation of demand-oriented projects (i.e., intended for an unlimited range of potential applicants), the MA is obliged to use open calls as a priority. In cases where a call is for the part of the OP that falls under the OP's performance framework is announced, the MA is also entitled to use closed calls if it is more appropriate with regard to the performance framework commitments and the nature of the supported projects. The call is subject to approval by the Central Coordination Body (CCB) for ESIF.

National Projects

Regulatory Basis

The MA is authorized, under the conditions set out in the ESIF Contribution Act and in accordance with the terms of the ESIF Contribution Act Chapter, to implement the OP or its part through **one or more national projects**. The "intentions" (i.e., initial concepts) of the national projects are approved by the MC or its commission based on the proposal of the MA. In designing national project intentions, the MA bases its proposed intention on concepts and strategies at a regional and national level, taking into account the priorities set in the areas in question, in line with the strategy defined in the relevant OP. The procedure for approving national projects shall be adequately covered by the provisions on approval of a grant according to Chapter 3.2 /3/, unless otherwise specified in this chapter.

Objective

The national project is a project that, in terms of its focus, nature of activities, geographical coverage and other attributes, addresses complex and system-specific areas supported by ESIF with a national impact, is linked to the OP strategy, and whose activities are based on clearly defined national and other policies.

Applicability/Eligibility Criteria

The call provisions for National Projects shall apply to the formalities of the calls for national projects. The MA shall draw up the invitation in accordance with the model issued by the CCB and is obliged to include all conditions for granting the contribution, which are an obligatory part of the invitation in accordance with the ESIF Act on Contribution. The MA can proactively and systematically participate in the preparation of national projects with predetermined beneficiaries, e.g., through the involvement of relevant partners, in the form of expert discussions or regular committees set up to oversee and assist in the preparation of the national project.

Global Grant

Regulatory Basis

The MA is entitled to implement part of the OP through a global grant. The Global Grant is a territorial and/or thematically focused grant mechanism, i.e., redistribution of funds for small projects selected on the basis of the call. The Global Grant allows for the redistribution of funds from the EMFF targeting a particular topic or activity directly to the territory through selected partners who focus on their activity.

Objective

The benefits of a global grant are the administration of additional small projects. The selection of projects is carried out with emphasis on specifically local solutions, especially pilot projects. Global grants are designed for different types of applicants, including non-governmental and non-profit organizations.

Applicability/Eligibility Criteria

The Global Grant is implemented through an Intermediary Body (IB), which is a public or private legal entity or a non-governmental or non-profit organization which serves as a special managing agency. When the IB is a legal entity that is not part of the public sector, the selection of the IB is subject to the execution of the IB in accordance with the Paying Agency (PPA). The MA and the IB may determine the minimum and maximum amounts of the non-repayable financial contribution (NFC) projects supported through this instrument.

ITI – Integrated Territorial Investments

Regulatory Basis

ITI (Integrated Territorial Investments) are another delivery mechanism. ITIs are implemented through the Integrated Regional Operational Programme (IROP) on the basis of Regional Integrated Territorial Strategy (RITS) and Integrated Strategies for Sustainable Urban Development, which are the initial strategic documents for ITI implementation at a regional level, with impact at the local level.

Objective

The aim of the ITI is to support thematically or territorially integrated projects with a significant impact on a particular territory implemented in partnership and in accordance with the approved Territorial Development Strategy.

Applicability/Eligibility Criteria

ITI is a new tool introduced in the Common Provision Regulation (CPR) for use during the 2014–2020 programming period. Its aim is to make it easier to run territorial strategies that need funding from different sources. ITI also promotes a more local or 'place-based' form of policy making.

The regulatory framework for ESIF also allows for the selection of projects as Action Plans (this approach has been used for SK-HU cross-border cooperation projects in employment).

Table 4.4.1: Comparison of Financing Strategies

Project Selection Procedures	Advantages	Disadvantages	Other comments
Demand driven calls – open or closed	<ul style="list-style-type: none"> individual schools apply directly short time to prepare call (3 months) possibility to define eligibility conditions partnerships does not require changes to the OP 	<ul style="list-style-type: none"> different levels of readiness of some schools, 5% co-financing reimbursement system problem of time coordination of calls 	MA has to be partner – eligibility conditions and selection criteria
National projects	<ul style="list-style-type: none"> no co-financing, if applicant is state organization usually pre-paid system or advance payment 	<ul style="list-style-type: none"> no EU preference no control on regional/local level NP approval takes more time (6 months) 	Mostly a blind approach to specific needs
Integrated Territorial Investments	<ul style="list-style-type: none"> EU preferences to pilot instrument close dialogue and cooperation between institutions and actors operating at different management levels and in various sectors combines external know-how and resources with local assets combined investments from more than one priority axis of one or more programmes 	<ul style="list-style-type: none"> a lack of leadership. 	MA for IROP
“Hybrid projects”	<ul style="list-style-type: none"> no co-financing, if applicant is state organization partnerships 	<ul style="list-style-type: none"> new approach 	NP with VET Schools Partnerships
Global Grant	<ul style="list-style-type: none"> no problem of time coordination of calls partnerships small pilot projects thematic or territorial focus 	<ul style="list-style-type: none"> public procurement procedure to select IB 	MA has to be partner – eligibility conditions and selection criteria + close co-ordination with CCA
Action Plans	<ul style="list-style-type: none"> mostly integrated approach partnership significant impact 	<ul style="list-style-type: none"> new approach for proposed project concepts approval procedure takes time and commitment of different partners 	We have to consult, no information about application

Overview of Suitable OPs and Demand Driven Calls

Operational Programme Human Resources 2014 – 2020, version 4.1

Investment Strategy

The Strategy of the Operational Programme Human Resources (hereinafter, referred to as the “OP HR”) is based on the National Reform Programme of the Slovak Republic, which defines measures strengthening economic growth and employment in the Slovak Republic. In the areas of education for the Slovak Republic, the following objectives have been defined:

- Improve the quality of primary education, particularly by increasing the level of knowledge and skills of pupils to an average of 505 points in the OECD—PISA 2018 survey (472 points in 2012)
- Achieve at least 40% completion rate for tertiary or equivalent education of people aged 30–34 years (23.4 % in 2011)
- Reduce the share of early school leavers to under 6% by 2020 (6.3% in 2013)

Quality education is the basic pillar for economic growth, employment, and the improvement of the quality of life of the population. The labour market will increasingly demand higher-level skills, which requires the educational system to become more flexible. The education structure must also take into consideration the needs of all participants, including disadvantaged and

marginalized groups, in order to achieve an inclusive educational system. The education strategy is a link between the education system and labour market needs, including the enhanced involvement of employers in the design and innovation of educational curricula and support for establishing partnerships between education providers and employers.

Educational Priorities

Priority Education specifically focuses on improving the quality of primary and secondary education for all students. The aim is to prepare students in the “*best way for the labour market, from the aspect of demand and supply in the labour market or for the transition to the next level of education. Vocational education and training is the only segment in education that directly prepares its graduates for practice, therefore it is necessary to focus especially at this segment. The quality of vocational education and training (hereinafter, referred to as “VET”) is criticized mainly by employers. In their opinion it reacts insufficiently to the current needs of the labour market and cannot prepare a qualified labour force that would be able to enter work process immediately after completion of studies*” (OP Human Resources).

Relevant Priority Axes and Specific Objectives

The Priority Axis 1—Education shall support measures in the following fields: education provided in line with the labour market needs, positive learning outcomes and inclusion, result-based higher education, enhancing professional competencies of teaching and professional staff and attractiveness of teaching profession, and lifelong learning, including non-formal learning.

The allocation of Priority Axis 1 Education is directed towards the following three relevant investment priorities:

- **First priority** will contribute to adjusting the quality and inclusivity of the education system while ensuring equal access to education. Quality education should prepare students for continuation in the next level of education or for finding work. Enhancing the professional competences of pedagogical and specialized staff will become an integral part of this process. The allocation for this priority represents 9.99% of the total OP HR allocation: 1.1.1 *Increasing inclusivity and equal access to quality education and improving results and competences of children and students.*
- **Second priority** will contribute to the development of quality vocational training harmonized with labour market needs and requirements, including the strengthening of practical preparation in cooperation with employers. In order to accomplish these objectives, there is a need to target enhancement of professional competences of teachers in vocational education and training (4.4% of the allocation): 1.2.1 *Improving the quality of vocational education and training while reflecting labour market needs.*
- **Third priority** will contribute to the development of life-long learning and increase the participation of adults in this type of programming. This priority represents 2.48% of the total OP HR allocation: 1.4.1 *Improving the quality and effectiveness of lifelong learning with an emphasis on the development of core competences and enhancing and upgrading skills.*

In some specific cases, it is possible to submit projects in other priority axes of operational programs after consultation with the MA.

Note: For more information on individual specific objectives and targets according to the priority axes, see Annex 4.4.

Integrated Regional Operational Programme 2014 – 2020, version 4.1

Investment Strategy

The Integrated Regional Operational Programme (IROP) is one of the programmes for the ESIF implementation in Slovakia during the 2014–2020 programming period. Its global objective is “to contribute to the promotion of the quality of life and to ensure sustainable provision of public services with an impact on balanced and sustainable regional development; as well as economic, territorial, and social cohesion of regions, cities, and municipalities (IROP 2014–2020). More information on this programme is provided in the following quote from IROP 2014–2020:

In the initiative “Youths on the Move”, the Europe 2020 Strategy, Secondary education invites the Member States (MS) “to ensure efficient investments in the system of education and vocational training on all levels” and urges that “the youths entering the labour market should be improved through integrated measures including, inter alia, counseling, consultations and vocational training” (IROP 2014–2020, version 4.1). Similarly, the NRP SR 2013 are obliged in the area of education “to ensure a closer interconnection between the vocational schools and the practice,” “to incorporate the elements of the dual school system into the system of vocational education and preparation at vocational schools” and “to facilitate an access of adults to the acquisition of new skills based on previous experience or completion of educational programs of further education.” The 2013 Report on the Condition of Schools in Slovakia states that “to increase the quality of vocational education and training so that graduates would be able to enter the labour process immediately after the completion of their vocational study.”

Educational Priorities

Vocational education and training is linked with the Smart Specialisation Strategy (RIS3) focused on the linking of research and innovation with direct needs of the labour market. Vocational education and training is an essential part of each area within RIS3 (e.g., economic specialization, the prospective area of specialization, and the field of specialization in terms of available scientific and research capacities).

The secondary vocational education and training priorities include:

- Improve a higher quality of vocational education linked to practice
- Create conditions for the provision of inclusive education
- Create conditions for a higher share of pupils in on-the-job training directly at the workplace,
- Create conditions for life-long learning

To achieve this specific objective, IROP support is focused on material-technical equipment and an improvement of the spatial conditions (e.g., in secondary vocational schools, school management centers, and specialized practice centers). The aim is to increase the development of centers for vocational education and training, the quality of vocational education and preparation and the practical skills of pupils, and increase the quality of life-long education provided for labour market needs.

Activities will focus on the elements of inclusive education. Priority areas for the promotion of secondary vocational education—while considering regional needs—will be directed at the areas of mechanical engineering, metallurgy, building industry, furniture making and wood industry, electrical engineering and automation, ICT technology, automobile industry, agriculture and food industry, trade, and services. These areas will be gradually supplemented with respect to the needs of the labour market in particular regions defined within strategies for vocational education and preparation. The development and enhancement of key competences will be supported for schools for pupils with special needs, in exceptional and demonstrable cases when it is not possible to secure their inclusion. The synergy and complementarity with OP HR will be ensured. This will not affect the inclusive approach.

Relevant Priority Axes and Specific Objectives

In selected planned joint projects with companies, it is possible to use another priority axis of the program. Investment priority No. 3.1: Supporting employment-friendly growth through the development of endogenous potential as part of a territorial strategy for specific areas, including the conversion of declining industrial regions and enhancement of accessibility to, and development of, specific natural and cultural resources and Specific objective No 3.1: Stimulating the promotion of sustainable employment and job creation in the cultural and creative industry by creating a conducive environment for the development of creative talent and non-technological innovation.

In some specific cases, it is possible to submit projects in other priority axes of operational programs after consultation with the MA.

Note: For more information on individual specific objectives and targets according to the priority axes, see Annex 4.4.

Operational Programme Research and Innovation for 2014 – 2020

Investment Strategy

The Operational Programme Research and Innovation (OP R&I) represents a joint programme document of the Ministry of Education, Science, Research and Sports of the Slovak Republic (MŔSR SR) and the Ministry of Economy of the Slovak Republic (MŔ SR) for the granting of support from European Structural and Investment Funds (ESIF) during the programming period 2014–2020. Its aim is to create a stable innovation-friendly environment for all relevant entities and to promote the efficiency and performance of the system of research, development, and innovations as a basic pillar for reinforcing competitiveness, sustainable economic growth, and employment.

Educational Priorities

In this operational program (OP), there are no precisely defined priorities in relation to vocational education and training. But economic growth and innovation cannot be achieved without a well-prepared workforce and investment in life-long learning in close cooperation with businesses. Targeted innovation and research activities can be carried out in secondary vocational schools, support the preparation and implementation of joint projects between schools and companies, and seek out new solutions together in the field of social innovation.

Relevant Priority Axes and Specific Objectives

Support under Priority Axis 3 is based on the prevalence of Small and Medium Enterprises (SMEs) within the business sector of the Slovak economy. The system of SME support should be arranged so as to respond to the SMEs' needs at various stages of their life-cycle: from the business idea to the full establishment of the undertaking, through support of the company during the growth phase until its subsequent internationalization. SMEs should be supported by means of the following three pillars, but for VET Schools Investment Packages (IPs) are:

a) creation of a business environment with an emphasis on applying the “think small first” principle and on forming relevant support capacities (incubators, accelerators, etc.); and b) through non-repayable forms of financing (counseling and information programmes, training programmes, etc.).

Note: For more information on individual specific objectives and targets according to the priority axes, see Annex 4.4.

Key Considerations when Operationalizing Investment Packages

Applicant

For each type of sub-project financing model included in the VET School Investment Package integrated project, it is necessary to define the most appropriate eligible “applicant,” with the principle of partnership—formal or informal—applied to all sub-projects. Based on the results of the preliminary consultations with individual MAs, only in the case of the OP R&D, the MA prefers that a “business entity” serve as the main applicant with additional rules for the co-financing amount to be applied.

Co-Financing

It is important to make several considerations in regards to financing, such as when it is advisable that the main partner should be the school or another partner (e.g., a professional organization, the relevant ministry), what form of financing regardless of the source, and how the projects will be selected. In most cases, the VET school is the direct applicant, but, in some cases, in order to minimize financial risk, it may be more appropriate to consider other entities as direct applicants which would allow the school to be a partner in the project under strictly defined conditions. The choice of the main partner and co-partners also affects the co-financing of the total project cost, which can range from 0% to 55%, with the lowest co-financing rate for public sector entities.

Phasing

Attention should also be paid to so-called “phasing,” a detailed time schedule agreed to by the MAs based on:

- The financial sustainability and financial capacity of the applicant and its partners (cash flow management)
- The state of preparedness of individual sub-projects included in the IP
- The timing and thematic link between individual sub-projects and project activities
- The possibility of using different financial resources (public and private)
- Involving different actors and stakeholders
- Preparation of the new programming period

A draft of the expected timetable for the individual partial projects of five pilot secondary vocational schools can be found in Annex 4.5.

Integration of Cross-Sectional Projects

In addition to the proposed integrated projections for selected pilot schools, a local team for cross-cutting projects that will impact all secondary vocational schools is also proposed. A more detailed description of supporting cross-sectional projects is provided in Annex 4.6.

In summary, the proposed operational programs allow and determine the types of eligible applicants, the amount of co-financing, the method and criteria for selection of projects, the method of financing projects, and the eligible activities in accordance with the relevant guidelines and legislation (see examples in the IP tables in Annex 4.7).

SECTION 4.5

CONCLUSIONS AND RECOMMENDATIONS FOR IMPLEMENTING INVESTMENT PACKAGES

Since the selected pilot schools already have real experience in preparing and implementing ESIF-funded projects in the form of open-demand-driven calls and due to time restraints, it may be most appropriate for the majority of proposed projects to be in the most appropriate form of time—and thematic-coordinated closed calls with predetermined specific conditions (consistent with objectives of the CUR1).

Recommended Implementation Strategy

A key element for the implementation of the proposed projects is the coordination and cooperation of all stakeholders at all levels, including a method of consultation already agreed upon during the preparation of individual calls related to the expected results and impacts of the projects.

In connection with the preparation of individual models of financing and the selection of applicants, we suggest the following procedure:

The first step—after the elaboration of project concepts for individual sub-projects—should be the proposal of project partnerships and the definition of tasks of individual partners, with the possibility of creating a formalized partnership or a new legal entity and thus maximizing the access of secondary vocational schools to financial resources.

The second step is to prepare and sign an agreement with the parties to prepare and implement a specific project, define the roles and responsibilities of each project partner, and commit to the sustainability of the project results.

The third step is to create a joint project team from the lead partner and partners, and could possibly involve external capacities. The joint project preparation is a critical step for the success of any proposed project. Each MA shall designate a contact person responsible for the communication and co-ordination of the VET Schools projects at the relevant ministry.

The fourth step is to prepare the project in the form required by the relevant grant program, including the annexes in accordance with the funding organization's requirements (PROJECT FICHE).

Enabling Environment for Effective Implementation

In the case of larger investment projects, close cooperation with the founders of the secondary vocational schools will be necessary, especially with the investment and financial department of PSK, to ensure the preparation of the necessary technical documentation.

Based on an analysis of past experience in the preparation and implementation of secondary vocational school projects, the administrative and financial burden is a major obstacle to the strategic investments and development of schools. Even though the creation of partnerships will require additional time and effort, this is a condition necessary for implementation of an integrated approach and for using all available capacities at a local and regional level.

In terms of time, the most advantageous combination is that of a closed call for more costly projects (over € 100,000) and a global grant for less costly projects, that can be categorized as pilot initiatives (up to € 100,000) with the possibility of using flat-rate expenditure and/or lump sums and simplified expenditure reporting.

The amount of co-financing of a particular project depends on the eligible applicant and the type of project, or on the operational program and type of selection procedure /1/. Those without co-financing are the so-called national projects (NPs), where the applicant is a state organization. An example of such a project is the NP in the field of dual education support implemented by the State Institute for VET (ŠIOV). In particular, national projects are suitable for the implementation of “local blind solutions” that do not allow sufficient involvement of local actors and consequently long-term sustainability in a specific local context.

Risks and Mitigation

The predictable risks of preparing and implementing the proposed Investment Packages include: High administrative burden on the applicant

- Inadequate project financing models (e.g., advance payments, combination of payments, co-financing, etc.)
- Amendment of relevant legislation (not only in the ESIF)
- Support from key actors, PSK, etc.
- Failure to create sufficient capacity of the applicants or partnerships

Risk mitigation measures that significantly reduce the identified risks in the implementation of VET Schools projects are the possibility of consulting the applicant already in the preparation of the call, the condition of the partnership and joint project preparation, the amount of the advance payment and the ways of clearing it, and checking the implemented public procurement process before signing the contract with the MA. An important role is also played by the so-called flat-rate expenditure on total project expenditure. It is recommended that risk analysis and draft mitigation measures be developed to prepare the project.

We assume that during the current programming period there will be no significant changes in the ESIF application process; therefore, in connection with the preparation of the new programming period, it will be possible to propose and influence the intervention strategies and thematic focus of individual OPs based on the results of the CURI initiative. It will also be possible to reduce administrative burden and increase focus on the results and impact of projects, enable the implementation of integrated projects, and apply a specifically local approach (place-based approach).

Critical Success Factors

Fulfilling the objectives of the CURI project, the CURI VET Activity 3 initiative also requires an assessment of the critical success factors in relation to the possibilities of financing the planned projects. Critical success factors have been assessed in the areas of planning, processes, expertise, and key actor involvement.

The most critical success factors in preparing and implementing the IPs include:

- Professional and administrative capacity of the joint project team
- Creation of a financial reserve for the founder of VET schools (PSK) and the potential applicant
- Cooperation with different actors in the sub-region and within the selected sector
- Coordination of Managing Authorities at the national level
- Technical support from the World Bank and the EC

The World Bank team, in cooperation with the newly established PSK project team, will set up a procedural manual to prepare detailed individual projects and sub-projects by mid-June with the emphasis on individual critical success factors by mid-June.

Suggested Immediate Next Steps

Assuming that, in close cooperation with the selected MAS, we want to financially support the prepared sub-projects, it is necessary to reach an agreement with the individual sub-projects that have a significant degree of preparedness while approving their implementation and funding models by the end of May 2019. In this case, the appropriate selection, evaluation, and approval procedures for projects, with a deadline no later than the end of 2019, may be consulted and prepared together with relevant MA.

To do this, it is necessary to ensure the funding and creation of a joint pilot project team, which will propose a detailed timetable and procedures for the preparation of individual approved sub-projects for each pilot school separately with close co-operation of the World Bank local team.

Due to the involvement of PSK as the founder of VET schools and the impact of the proposed activities on the PSK budget, it would be advisable to prepare more detailed information on the state of the preparation of the Investment Packages for the PSK council. Among other things, this would help to gain the support of PSK, especially when using PSK funds, ensuring publicity and awareness of PSK (and its staff and deputies) in regards to the selected VET schools projects and possibly additional complementary projects.

There is a lack of a strategic framework for implementing public education and training policies at the regional level, including specific tools for comparability and a systemic approach, long-term planning of financial resources at the level of PSK and in accordance with the approved strategic and conceptual documents in the field of vocational education and training at all levels.

The World Bank CURI VET team recommends the development of transformation plans and investment packages for other secondary vocational schools in the founding competence of PSK. The team also recommends the creation and approval of result-oriented strategic documents for individual secondary vocational schools based on the analysis of the current state and defining the future desired state.

It is important to coordinate the preparation of strategic secondary vocational schools documents with the establishment of a common platform, thus allowing the participation of other actors in the development of vocational education and training across sectors and sub-regions.

ANNEX LIST

ANNEX 2.1 Study Program Enrollment

ANNEX 2.2 Study Program Capacity Utilization

ANNEX 4.1 Individual Evaluation Reports for School Nominations

ANNEX 4.2 Investment Packages - Overall Costs

ANNEX 4.3 Integrated Project Design & Full Project Concept Papers

ANNEX 4.4 Operational Programme Priority Axes

ANNEX 4.5 Timetable for VET Investment Packages

ANNEX 4.6 Timetable for Full Concept Project Papers

ANNEX 4.7 SK CuRI Investments Packages

Annexes 2.1., 2.2., 4.1.-4.7. are available in electronic version at:

<https://www.po-kraj.sk/sk/samosprava/kompetencie-psk/regionalny-rozvoj/catching-up/>



NOTES

1. As of September 2019, 73 of the authorized 76 secondary VET schools are fully operational. Three have licenses to operate, but are not currently doing so.
2. The full Education and Training Monitor 2018 report can be found at <https://ec.europa.eu/education/sites/education/files/document-library-docs/volume-1-2018-education-and-training-monitor-country-analysis.pdf>
3. The sub-regions were uniquely constructed for survey purposes, but are recognized in the Prešov region.
4. The sectors/industry groups were based on the National Economic Class System (NECS).
5. The firm sizes used a modified classification based on categories from European Commission classifications.
6. There is an important distinction between “contracts” and “placements”. Contracts represent a formal agreement between a particular school and a firm for cooperation on dual education once authorization has been given by the national and regional authorities. Each firm which wants and is authorized to participate signs one or more contracts with a respective school in which a particular number of actual student placements is anticipated and specified. In theory, therefore, there could and, most often, should be a higher number of specified placements than contracts. However, in some exceptional cases, a contract may end up in only one, very few, or no placements per signed contract.
7. The sub-regions were uniquely constructed for survey purposes, but are also recognized in the Prešov region.
8. The sectors/industry groupings were based on the National Economic Class System (NECS).
9. For the purposes of the reporting in this section, we refer to both teachers and instructors as “teachers”.
10. In Slovakia, a “certificate” is usually a result of non-formal education and a “diploma” is a result of formal education. Individuals with a diploma (Secondary School Diploma, Bachelor’s Degree, Master’s Degree, etc.) which is not in their main VET occupational field may also obtain a certificate in order to meet the qualifications to teach in VET schools in Slovakia. Likewise, certificates can be obtained by other existing teachers as a way to increase one’s base salary, regardless of whether it has any connection to a teacher’s field of instruction. As such, these certificates are seen as weak qualifications with relatively little or no connection to improved educational outcomes.
11. The rationale for selecting this school over the first two nominees in the Industry sector category was based on the fact that the 3rd ranked school: 1) was reviewed by PSK-ED and found to have no significant European structural investments, which was not the case for the first two nominees; 2) is strategically placed in a cluster of industrial firms with no or very few existing ties to any VET schools, representing an important set of potential opportunities for numerous dual education students; and 3) has a school administration which is relatively more ready to move forward with the anticipated investment package than the other schools.

