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Vocational Education and Training Reform Programme**

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**MONITORING  
OF  
STUDENTS WHO ENROLLED IN PILOT VET CURRICULUM  
IN  
12 PROFILES  
AND  
GRADUATED IN 2006**

**Final Report**



## **Table of contents**

<b>1. SUMMARY</b>	<b>3</b>
<b>2. INTRODUCTION</b>	<b>9</b>
<b>3. BACKGROUND</b>	<b>10</b>
<b>4. METHODOLOGY</b>	<b>12</b>
<b>5. SCRUTINY AND REVIEW OF SCHOOL RECORDS</b>	<b>18</b>
<b>6 GRADUATE TRACER STUDY</b>	<b>23</b>

## **Attachments**

- 1. Detailed analysis of graduate tracer study**
- 2. Monitoring Instruments:**
  - School Records Questionnaire**
  - Graduate Tracer Study Questionnaire**
  - Employers Satisfaction Study Questionnaire**

# 1. Summary

## Overview

During 2007 the VET Reform Programme Phase II commenced monitoring and evaluating of students who graduated in 2006 from VET programmes following new curriculum, in 5 sectors covering 12 profiles. Only 12 of the 20 pilot profiles implemented with the support of CARDS VET I could be evaluated, since students in the other eight only completed their studies in 2007.

The five sectors were:

1. Agriculture and Food Processing (7 Profiles)
2. Health (2 Profiles)
3. Metal (1 Profile)
4. Electrical Engineering (1 Profile)
5. Construction (1 Profile).

## Methodology

The scope of work was originally planned to involve:

1. Scrutiny and review of VET school records;
2. The design and implementation of a graduate tracer study;
3. The design and implementation of an employers' satisfaction study;
4. Comparative analysis with non-pilot profiles of a similar nature
5. Findings and recommendations as a result of the monitoring study.

This was the first time that a study of this kind had been conducted in Serbia, and therefore was inevitably something of a pilot itself. Not all of the planned design worked successfully in Serbian conditions:

- The first phase of the work was executed successfully and provided reliable information on 2006 graduates in 12 profiles, which enabled the graduate tracer study questionnaire to be dispatched to the graduates by the schools.
- The response rate for the questionnaire was 23%; the large disparity in the response between sectors leads us to believe that in some schools few questionnaires had in fact been dispatched. However in terms of their destinations the respondents seemed reasonably representative of the target group.

- For three sectors (Agriculture, Construction and Metal), the response rate was sufficient to draw conclusions at the level of the occupational family. However for a further two (Electrical and Health) the response rate was insufficient for a detailed analysis, though respondents from these sectors were included in the overall results.
- Only 27 graduates clearly stated their place of employment in the graduate tracer study, which meant that the plan to use the graduate tracer study to identify employers for the employers' satisfaction study became unrealistic as a means of obtaining quantitatively reliable information. However, we plan to use the details of the employers that were given, together with employers well known to the schools, to undertake some more qualitative interviews in the New Year.
- Attempts to establish a control group encountered difficulties. It transpired that, unlike the pilot schools, the non-pilots did not hold details of the employment and further education destinations of their graduates, and an attempt to contact non-pilot students direct resulted in little response.
- The findings are based on the based on the short-term destinations and experiences of graduates. A longer term study some 3-5 years after graduation, would be need to evaluate factors such as comparative earnings and the ultimate destinations of those who entered further education.

These various factors mean that though the results of the study are evidence based, the results should be viewed with some caution. Details of the methodology, and a discussion about the approach for future studies, is in Section 4.

## **Findings**

The results of scrutiny and review of school records, which took place during May 2007, are as follows:

- 87% of the students who started 3 year programmes continued to graduation, and 95% of those who started 4 year programmes.
- excluding those who continued their studies in further/higher education, 55% of graduates were employed at the time of data collection, December 2006 and March 2007. 40% were employed in jobs related to the VET profile they had studied and 14% employed in other jobs<sup>1</sup>. 45% of 2006 VET graduates who did not proceed to further/higher education were unemployed at the time of review.

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<sup>1</sup> Numbers do not add precisely due to rounding and small overlapping in categories.

As explained above, it was not possible to construct a control group, but these figures may be very roughly compared with those for young people in the Labour Force Survey, which give unemployment rates of 60% for 15-19 year olds. The programme completion rate compares favourably with completion rates for vocational education in Serbia in recent years.

75% of graduates from the 4 year programmes and 20% of graduates from the 3 year programmes continued studies in further or higher education. Amongst the 3 year programmes it was noticeable that those in the health sector profiles were very likely to continue in further or higher education. Overall, 32% of all graduates in the sample study continued their studies.

Within these results there were very considerable variations between schools (with for example around a quarter of schools having unemployment rates amongst graduates of less than 20%, and a further quarter with unemployment rates of more than 60%, compared with a mean of 45%).

For further details, see Section 5.

The graduate tracer study analyzed 38 questions from each of the 208 graduates who returned completed questionnaires. Because the responses were low for the Health and Electrical sectors, only three of the five sectors were able to be analysed in detail: Agriculture and Food Processing, Metal and Construction. Annex 1 presents a detailed analysis at sector level.

Respondents gave a strong endorsement of their programmes, with 80% very satisfied with curriculum, teaching, relationship between practice and taught curriculum, teacher-student relationships, classrooms, and workshops. Students in the Metal sector were especially satisfied with their VET education.

The adequacy and importance of VET schooling for students' jobs and their job satisfaction were positive in general. Students in the Metal sector were somewhat less positive about VET adequacy, possibly because only a third of them worked at jobs for which they were trained. 18% of graduates found VET studies not relevant to their current job.

Employed students in all three sectors seemed to have found their first job relatively easily; the majority of them contacted relatively few employers before finding a first job. Efforts to find a job and employment were much higher for students in Metal and Construction sectors than for

students in Agriculture and Food Processing sector. This is likely because a larger number of students continued onto higher education in the Agriculture and Food Processing sector.

Students found jobs mostly through family contacts and their own initiative. Local employment agencies and schools helped little, with the exception being the construction sector, where school counselling considerably contributed to students' job search.

Perhaps the most striking response in the graduate tracer study was that 77.4% of graduates said that they would again choose their VET profile for study.

For further details, see Section 6 and the Annex.

## **Conclusions**

The tasks of vocation education and training in Serbia are stated to be:

- *To offer initial and continuous vocation education and training leading participants to attained competencies and qualification, where appropriate, necessary for employment and work in a relevant function;*
- *To offer opportunities for participants to develop abilities, talents, potentials for self-fulfilment and continued education.*

In terms of the effectiveness of the first objective, it could be concluded that the great majority of pilot students have achieved competency at least in terms of a formal qualification, with perhaps rather less by way of drop-out than is the case with the more traditional profiles. However, this qualification has not always resulted in employment and work in a relevant function.

It is unclear whether the pilot programmes are more or less likely than the traditional programmes to result in students attaining employment, though there is an indication from comparisons with the LFS figures for the nearest relevant age-group that unemployment rates may be rather lower for the pilot students.

What can, though, be said with some certainty is that – whatever their merits – the new profiles are not a 'magic bullet' in terms of the likelihood of obtaining employment. The variation in results between schools is very considerable, reflecting no doubt different local labour market conditions, different standards of instruction and inter-action with local employers and differences in ability of students at the enrolment stage. Such factors are very probably as, if

not more, important in explanations as to what causes students to gain employment than the nature of the formal curriculum and competence standards.

Additionally this degree of variation within a single profile makes it unlikely that any comparison between pilot profiles and non-pilot ones in other parts of the country would yield meaningful results. This has implications for the design of future studies of this kind.

In terms of the second objective, approximately 75% of graduates who completed the 4 year programmes continued into further education, which seems typical for 4 year vocational graduates in Serbia. Any concerns that there might have been that a more competence-based curriculum, with a greater emphasis on practical elements, would have adversely affected the chances of entering higher education do not seem to be warranted from these figures.

## **Recommendations**

Given the small scale of this study and the limitations that we have outlined, it would be inappropriate to make any policy recommendations of substance. Even had the research design been wholly successful, we must remember that the students at this stage are the first ones who entered one of the earlier pilots. They may be untypical. One can expect the teachers to gain in their expertise in delivering the curricula over time, and for subsequent cohorts of students to be more typical of the mass of secondary VET students.

Perhaps the most useful findings for policy at this stage are negative:

- there is no evidence that students following the pilot curricula are disadvantaged in terms of either employment or progression to further education. Indeed they *may* be rather more likely to find employment, and rather less likely to suffer from drop-out. There is no reason, therefore, to moderate the policy of revising curricula along the lines of the existing pilots.
- at the same time it is apparent that the pilot-style curricula are not a panacea for curing the ills of youth unemployment. A wide range of policies, including those for economic regeneration, as well as school-based practices in terms of employer links, appropriate equipment and good teaching practices will continue to be needed, and may well be more important than curriculum and qualifications reform. In this context the relatively low rate of job-search amongst students revealed by the study may of interest.

Far more important than policy recommendations at this stage, are the lessons from the study for further evaluations of this kind, which must surely be a priority as educational reform takes place in Serbia.

- first, it seems that we can have some confidence in the records being kept by pilot schools about the destinations and completion rates of their students. Only in a few instances were the records missing. This practice should be continued, and be used as a regular convenient source of basic monitoring information, and as a sampling frame for future tracer studies.
- instead of attempting a 'parallel' control group of students in non-pilot schools (which was unsuccessful in this study and – as explained in Section 4 would have in any case been problematic), attempts are made to track a group the last group of students who took unreformed profiles in the pilot schools. This would thus give baseline information on a 'before and after' basis for the same schools, and we anticipate that there will be fewer problems of co-operation.
- changes in procedures for the transmission of questionnaires to students should be considered, as described in Section 4, and reminder letters sent after a set period.
- (depending on the results from the intended supplementary survey of employers in the New Year) a more qualitative approach is taken to gathering feedback from employers, with the identification of significant employers direct via schools, rather than through students.

Ideally the activity of conducting tracer studies should be conducted by the VET Centre in the Institute for Educational Improvement. However they are closely identified as proponents of the pilots, and the pilot initiative is still controversial in some quarters. Therefore we consider that in the immediate future evaluations of this kind should be conducted independently of the Institute, either by future technical assistance projects or by a contracted research organization, at least until the methodology is well established.

## 2. Introduction

Policy makers and decision makers involved with the reform of vocational education and training (VET) in the Republic of Serbia need to know if the various adjustments and reforms programmes/projects are realistic, achievable and sustainable over time, which necessitates some type of monitoring and evaluation as mean of informing VET policy.

Monitoring is the systematic collection and analysis of information during implementation. It is aimed at improving the efficiency and effectiveness of the implementation. It is based on targets set and activities planned during the planning phases of work. It helps to keep the work on track, and can let management know when things are going wrong. If done properly, it is an invaluable tool for good management, and it provides a useful base for evaluation. It enables you to determine whether the resources you have available are sufficient and are being well used, whether the capacity you have is sufficient and appropriate, and whether you are doing what you planned to do (see also the toolkit on action planning).

Evaluation is the comparison of actual impact against the agreed policy intent. It looks at what the reforms set out to do, at what you have accomplished, and how you accomplished it.

What monitoring and evaluation have in common is that they are geared towards learning from what you are doing and how you it is being done, by focusing on:

- Efficiency
- Effectiveness
- Relevance
- Impact
- Sustainability

### 3. Background

Since January 2001, the MoES has launched a reform process of the education system also including vocational education and training. The first step was to prepare a strategic plan for reform. The strategic priorities for VET reform encompass (i) decentralisation and democratic school management, (ii) aligning VET with future needs of the economy, (iii) innovating curriculum delivery and pedagogy (critical thinking, teamwork, creative application of knowledge), and (iv) devolving education management to local government. As a follow up to the strategic plan, the MoES has proceeded into a number of reform initiatives leading to a Law on Education in 2003 and a new Law on Education in 2004. With the support of CARDS 2003 VET reform programme, a Green Paper on VET reform covering the six main areas of: (i) Demand and Supply in VET; (ii) Teacher Training; (iii) Assessment and Quality Assurance; (iv) Governance; (v) National VET Planning; (vi) Financing is in ongoing public consultation.

This resulted in a “Policy and Strategy for Development of Vocational Education and Training in Serbia”, adopted in December 2006, which set out the general objective of VET to enable possibilities for youngsters and adults to gain skill, knowledge, attitudes (work competencies) needed for employment and work, further learning and education. Specifically –VET should provide:

- The acquisition of occupation related competencies and qualifications, required for work in all particular fields of occupation;
- VET on initial, advanced and continuous levels and special-training to those needed;
- Providing the participants the ability to obtain the necessary pre-conditions for employment and economic independence, and offer recognition of those abilities.
- Development of abilities, talents, potentials for self-fulfilment and further education
- Vocation education and training should give individuals the possibility for full social participation; promote quality of life, personal choice, employment and possibility for continuous professional development.

In other words the main objective of vocation education and training is:

*to give to young and adults possibility to gain competences needed for the work and employment, and for further continuous development.*

The tasks of vocation education and training are:

- To offer initial and continuous vocation education and training leading participants to attained competencies and qualification, where appropriate, necessary for employment and work in a relevant function;
- To offer opportunities for participants to develop abilities, talents, potentials for self-fulfilment and continued education.

Secondary vocational education and training (VET) starts after the end of 8 years elementary education at the age of 15. It is offered in secondary vocational or technical schools and in programmes of 3 or 4 years according to the complexity of the occupation for which they qualify.

Four year programmes offer the possibility for continuation of studies to higher education. Also schools organise 1 and 2 years post-secondary programmes for specialists (enrolment in these programmes requires one or two years work experience). Studies are offered 100 profiles for 3 year programmes, 142 profiles for 4 year programmes, grouped into 16 fields/clusters or sectors.

In the academic year, 2004-2005 enrolment in secondary VET was approximately 75% of the total number of students enrolled in secondary education. The majority of the students in secondary VET are enrolled in a small number of sectors including: mechanical engineering (12%), economics (11.5%), electrical engineering (11%), tourism (9%), health (8%), agriculture and food processing (8%). Other sectors have small percentages of enrolment (among which construction and civil engineering has 3.5%).

## 4. Methodology

The methodology used in this monitoring study was determined based on a scoping analysis carried out at the beginning of the study. The methodology was designed to provide the necessary information for the study, taking due cognisance of the Serbian conditions, the resources available for the study, and to provide a basis to learn from the experience in undertaking a study of this nature, the first of its kind in Serbia.

The five sectors and twelve profiles with graduates in 2006 were:

1. Agriculture and Food Processing (7 Profiles: Agriculture Technician, Veterinary Technician, Food Technician (4 year programmes), Baker, Butcher, Dairy Processor, Agriculture Machinery Mechanic (3 Year programmes)).
2. Health (2 Profiles: Health Care Nurse, Masseur).
3. Metal (1 Profile: Operator of Machine Processing (Lathes, Mills, Drilling & CNC Machining))
4. Electrical Engineering (1 Profile: Car Electrician)
5. Construction (1 Profile: Plasterboard Fitter).

### Research Plan

The scoping analysis indicated that the following was possible:

1. Schools kept records of students who participated in CARDS VET 1;
2. From these records, it was possible to review the status of all CARDS VET 1 students 6 months after graduation, which resulted in a special "Schools Scrutiny Questionnaire" being developed;
3. The school scrutiny questionnaire was completed for all 47 schools where students had graduated in 12 profile across 5 sectors in June 2006. The questionnaire focused on the following areas:
  - A. Number of graduates who commenced studies;
  - B. Number of graduates who completed studies in 2006;
  - C. Number of graduates who continued further education and training 2006-2007;
  - D. Number of graduates who are employed in VET profile (Dec. 2006 to March 2007);
  - E. Number of graduates who are employed in other VET profiles or jobs;
  - F. Number of graduates who are unemployed.

4. The results of the school scrutiny questionnaires were intended also to provide contact details for CARDS VET 1 graduates and to assist with the identification of a control group of similar students in non-pilot schools as a basis for the “Graduate Tracer Study”.
5. The graduate tracer study was designed to provide information concerning the following:
  - A. Educational background prior to study;
  - B. VET courses undertaken;
  - C. Job search and sequence of professional activities;
  - D. Current activities, employment and work;
  - E. Competencies and their application;
  - F. Relationships between VET and work;
  - G. Work orientations and job satisfaction;
  - H. Further education and training;
  - I. Retrospective assessment of VET studies.
6. One item in the graduate tracer study was intended to provide contact details of the employers where the graduates were employed and this information to be used for the “Employer Satisfaction Study” which aimed to focus on:
  - A. Recruitments methods;
  - B. Core competencies;
  - C. Job specific competencies;
  - D. Other issues: problems, constraints and related matters.
7. It was intended to repeat this pattern (school record ⇒ graduate ⇒ employer) for students in schools which did not participate in the pilots, but which offered the same or similar profile titles using ‘old-style’ curricula and standards. This would thus provide a control group for the pilots.

The scoping exercise indicated that it was not possible to determine costs by profile at school level, since schools did not attribute costs by profile. Therefore, the intent of reviewing costs at school level was dropped from the study.

The final specification for the study therefore focussed on the following:

- A. Scrutiny of schools records;
- B. Graduate tracer study;
- C. Employer satisfaction study;
- D. Comparative review with students and employers from similar profiles in non-pilot schools.

## Execution

The first phase of the exercise was successfully concluded. Records, including current employment/education status, were available for the great majority (88 per cent) of the 2006 graduates, and contained the basic information that was needed.

The administration of the student questionnaire (Steps 4-5 above) resulted in interesting information, but had a somewhat disappointing response rate of only 23 per cent. Part of the lack of response was to be expected – unwillingness of the students, change of address etc. but we consider that there was also a failure in some cases to forward the questionnaires to the students. Our design relied on schools sending the questionnaires to the students identified through the school records, using their names and addresses. There was a very different response rate in different schools which led us to believe that in some schools few questionnaires had in fact been dispatched. Fortunately this affected some profiles more than others and for three of the occupational areas the response rate was fair, allowing us to draw conclusions, albeit tentatively.

We do not know exactly whether those who did respond were representative of the sample as a whole, and clearly in terms of profile and school attended they were not. However in terms of probability of employment (where we can compare the respondents with the total population for whom we had records) they were rather, but not much more likely, to have a current job, and rather less likely to have entered to further education. However the differences are not great, leading us – cautiously – to believe that in these important respects the respondent sample were not obviously different from the population we were interested in.

The employers to be approached for the employer questionnaire (Step 6 above) were to be identified by the responding students in the tracer study. Students were asked to give the name, address and contact details of their current employer. In fact very few did so. One may conjecture that employed students, who by definition were new and junior recruits in their firms, might be reluctant to have their employer ‘bothered’ by external researchers and may have also been concerned that the employer might have been told of their responses to questions (which included, for example, job satisfaction). There may also have been issues concerned with the ‘grey economy’.

This lack of identification of employers amongst an already small sample of students, meant that it was clearly pointless to administer the quantitatively based employer satisfaction survey as planned. Instead we plan to conduct some more qualitative interviews with some of the employers who were identified by students and others known to co-operating schools as recurrent recruiters of students.

The plan to construct a control group (item 7 above) from non-pilot schools ran into difficulties:

- it proved difficult to find groups in non-pilot schools who had taken the same or similar profiles to those in the pilot schools. In some cases this was because the pilot profile was itself new and had no obvious 'predecessor'. However seven reasonably similar 'traditional' profiles were identified;
- in any case it became apparent that – unlike the pilot schools – the non-pilots did not keep records about the current status of their recent graduates. So the vital information on whether these graduates were or were not in employment was not available from school records.

To overcome this, an attempt was made to contact the students directly (the non-pilot schools were able to provide names and addresses). However there was very little response to this mailed approach, and to date only one questionnaire had been returned.

Beyond these factors it also became clear to us that there had been considerable 'bias' in the construction of the pilot schools and in the students who took the new profiles, such that any comparison with those in other schools was going to be problematic. These factors included:

- the very different labour market conditions of the different schools. Even amongst the pilots the results for the same profile differ considerably – equally great natural variation will exist between pilot and non-pilot schools making it very difficult if not impossible to select a 'matched' control group;
- it was clear from our contacts with schools that in some cases the young people who enrolled in the new pilot profiles (they would have enrolled in the first year that the new profile was available) were far from typical. The system of enrolment in Serbia is that in cases where profiles are over-subscribed those with the highest primary school marks (ie. the most able) are selected first. Understandably the well-resourced pilots often tended to be over-subscribed resulting in a selection bias in the pilots which would not be present in non-pilot schools.

These problems and issues meant that we could not construct a meaningful control group, and in any case key information from any controls would not be available.

### Implications for Future Studies

As has been noted, this study was intended not only to gain information about the pilots, but also to inform further evaluation studies. In the light of the experience we would advise:

- the school records kept by the early pilot schools seemed to form a good basis for basic information about recent graduates, including their initial employment and training destinations.
- the construction of a control group is problematic and will remain so for further studies. We would suggest that, instead of a 'parallel' control group (trying to identify similar students in non-pilot schools and profiles) an 'longitudinal' approach is adopted whereby a group of 'pre-pilot' students in a pilot school is identified and tracked, followed by the subsequent pilot cohorts. While this 'baseline' approach has the disadvantage that students are in different years, and labour market conditions may change in the interim, it has the advantage that both pilot and control group students are in the same local labour market, and indeed may well work for the same employers. Moreover this structure is less likely to be affected by variables such as the reputation of the school in the community, its enrolment patterns and the quality of teaching. Finally, and pragmatically, schools which have entered the pilot are more likely to co-operate in finding an appropriate control group than other schools which derive no obvious benefit from co-operation. If baseline studies are set up in this manner, they could in principle collect a wide range of information about the school and student experiences at it, on a 'before and after' basis, as well as tracing recent graduates.
- the suspected non-transmission of questionnaires to students by the schools might be overcome in subsequent studies if the researchers, rather than schools, are made responsible for mailing the questionnaires, using the addresses in the school records. This would ensure that the questionnaires were mailed. On the other hand, it might be that students would be less likely to respond to an unknown researcher in comparison to an invitation from their previous school (this might have been an issue in the case of the direct mailshot to non-pilot students). A future study might experiment with this alternative approach. If there appears to be reluctance on the part of students to reveal their details to an unknown researcher as compared with their school, and the practice of mailing questionnaires from the school is therefore retained, then it might be best if students were asked to return questionnaire to the school rather than direct to the researchers, as was the case in this study. In any case a 'reminder' letter should be sent to non-respondents after, say, 3 weeks. If the response rate is still found to be low (say, under 50 per cent), then an examination of non-respondents should take place through face-to-face interviews to establish whether non-respondents are significantly different from respondents. If they are not, the lower response rate will be acceptable, but if they are different a new research design, probably involving face-to-face interviews of a

representative sample of students, will be needed. At present we think this is probably unnecessary.

- clearly a different method will need to be found of identifying employers. Even with a higher response rate amongst students, it is likely that many will be reluctant to identify their employer. One approach which might be tried is to give students an envelope to hand to their employer containing a letter from the research team inviting them to volunteer a response. Alternatively a more qualitative approach might be taken, using schools to identify those employers who frequently take students (and who are therefore likely to be able to give informed responses comparing current to previous students).

## **5. Scrutiny and Review of School Records**

Analysis of records at the VET Centre and the Schools resulted in the selection of 47 VET Schools, across 12 profiles in 5 sectors to participate in the study.

The information collected from schools:

1. Number of graduates who commenced studies;
2. Number of graduates who completed studies in 2006;
3. Number of graduates who continued further education and training 2006-2007;
4. Number of graduates who are employed in VET profile (Dec. 2006 to March 2007);
5. Number of graduates who are employed in other VET profiles or jobs;
6. Number of graduates who are unemployed.

The total number of graduates in the school records sample is 762, against a target population of 862 that commenced studies under CARDS VET 1 pilots.<sup>1</sup>

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<sup>1</sup> Two schools, totaling 32 students, were eliminated from the sample as they reported only the number of students who commenced the programme and the number of students who graduated from the programme.

**Table 1 VET 2006 Graduates that completed pilot profile curriculum**

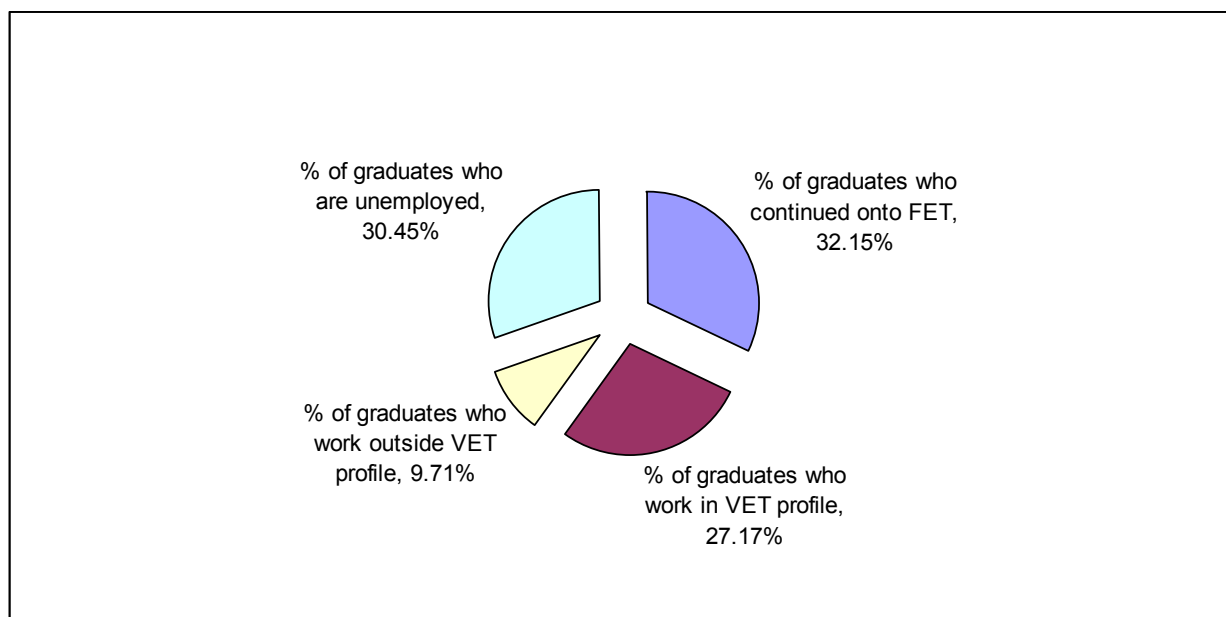
Profile	Duration of prog. in years	% who graduated in 2006	% who continued in further education and training (FET)	% who are employed in VET Profile	% who are employed in other profiles	% who are unemployed
<b>Sector: Agriculture and Food Processing</b>						
Agriculture Tech.	4	100.00%	72.22%	5.56%	5.56%	16.67%
Vet. Technician	4	90.16%	90.91%	0.00%	1.82%	7.27%
Food Technician	4	96.00%	65.28%	5.56%	4.17%	25.00%
<b>Average for 4 yr</b>		94.77%	75.46%	3.68%	3.68%	17.18%
Baker	3	77.14%	3.70%	44.44%	22.22%	29.63%
Butcher	3	73.68%	7.14%	60.71%	3.57%	28.57%
Dairy Processor	3	97.96%	22.92%	8.33%	6.25%	62.50%
Ag. Machinery Tech.	3	97.92%	23.40%	31.91%	14.89%	29.79%
<b>Average for 3 yr.</b>		88.24%	16.67%	32.00%	11.33%	40.00%
<b>Average for sector</b>		91.52%	47.28%	17.25%	7.35%	28.12%
<b>Sector: Health</b>						
Healthcare nurse	3	85.00%	61.76%	26.47%	5.88%	5.88%
Masseur	3	94.87%	62.16%	18.92%	0.00%	18.92%
<b>Average for sector</b>		89.87%	61.97%	22.54%	2.82%	12.68%
<b>Sector: Metal</b>						
Op. Mech. Processing	3	90.05%	16.28%	36.63%	14.53%	30.81%
<b>Average for sector</b>		90.05%	16.28%	36.63%	14.53%	30.81%
<b>Sector: Electric Engineering</b>						
Car Electrician	3	79.78%	8.45%	15.49%	19.72%	54.93%
<b>Average for sector</b>		79.78%	8.45%	15.49%	19.72%	54.93%
<b>Sector: Construction</b>						
Plasterboard Fitter	3	83.85%	14.07%	46.67%	7.41%	31.85%
<b>Average for sector</b>		83.85%	14.07%	46.67%	7.41%	31.85%
<b>Average for all profiles</b>		88.40%	32.15%	27.17%	9.71%	30.45%

It should be noted that for many profiles, percentages corresponding to percentages in the table above differ greatly across schools. For example, unemployment of plasterboard fitters who graduated from one secondary school in Uzice is 5%, while unemployment of graduates in the same profile from a secondary school in Kragujevac is 67%. The following are the profiles with high variation of percentages across schools: food technician, butcher, dairy processor, agriculture machinery technician, operator of mechanical processing, car electrician, and plasterboard fitter. There can be many reasons for such high dispersion of percentages, ranging from varied implementation of CARDS VET programme across schools to different abilities of students, teachers and directors across schools to different market forces present in different locations across Serbia.

**Table 2 VET 2006 Graduates under CARDS VET 1 Pilots by Sector**

	duration of programme in years	% who graduated in 2006	% of graduates who continued onto FET	% of graduates who work in VET profile	% of graduates who work outside VET profile	% of graduates who are unemployed
<b>Agriculture and Food Processing</b>	<b>4</b>	94.77%	75.46%	3.68%	3.68%	17.18%
<b>Agriculture and Food Processing</b>	<b>3</b>	88.24%	16.67%	32.00%	11.33%	40.00%
<b>Health</b>	<b>3</b>	89.87%	61.97%	22.54%	2.82%	12.68%
<b>Metal</b>	<b>3</b>	90.05%	16.28%	36.63%	14.53%	30.81%
<b>Electrical Engineering</b>	<b>3</b>	79.78%	8.45%	15.49%	19.72%	54.93%
<b>Construction</b>	<b>3</b>	83.85%	14.07%	46.67%	7.41%	31.85%
<b>All profiles</b>	<b>3</b>	88.40%	32.15%	27.17%	9.71%	30.45%

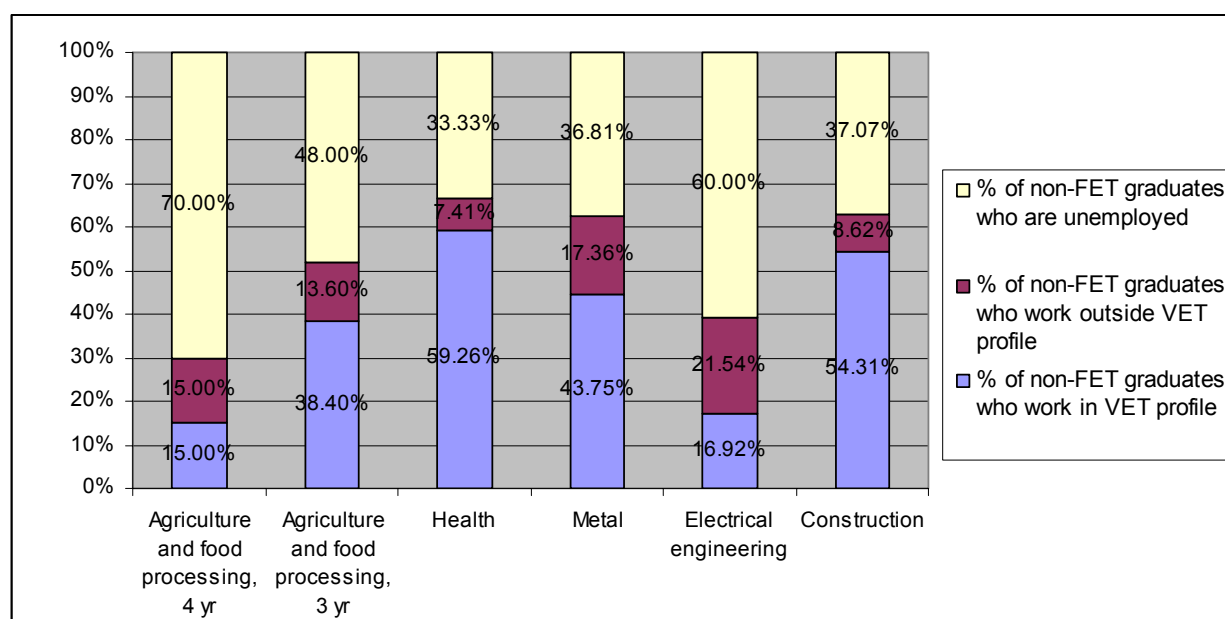
**Graph 1 Table 2 VET 2006 Graduates from pilot profile curriculum**



**Table 3 VET 2006 Graduates excluding those in further education and training**

	% of non-FET graduates who work in VET profile	% of non-FET graduates who work outside VET profile	% of non-FET graduates who are unemployed
<b>Agriculture and food processing, 4 yr (3 profiles)</b>	15.00%	15.00%	70.00%
<b>Agriculture and food processing, 3 yr (4 profiles)</b>	38.40%	13.60%	48.00%
<b>Health (2 profiles)</b>	59.26%	7.41%	33.33%
<b>Metal (1 profile)</b>	43.75%	17.36%	36.81%
<b>Electrical engineering (1 profile)</b>	16.92%	21.54%	60.00%
<b>Construction (1 profile)</b>	54.31%	8.62%	37.07%
<b>Total</b>	<b>40.04%</b>	<b>14.31%</b>	<b>44.87%</b>

**Graph 2 Summary of 2006 VET Graduates, excluding those in further education and training**



As can be seen, 88% of students who started the programmes completed their profiles. This appears to compare favourably with the 77% of 3 year, and 87% of vocational 4 year students who completed in all of Serbia over the period 2000/01-2004/5.<sup>1</sup>

When excluding graduates who continued their studies in higher education, the results indicated that 55% of graduates were employed at the time of data collection, December 2006 and March 2007. 40% were employed in the VET profile and 14% employed in other jobs. 45% of VET 2006 graduates were unemployed at the time of review.

<sup>1</sup> Statistical Bulletin for Secondary Education 2000-2005, Ministry of Education and Sports, 2006.

On average 75% of graduates from the 4 year programmes and on average 20% of graduates from the 3 year programmes continued studies in further or higher education. Amongst the 3 year programmes it is clear that the health-related profiles have a high likelihood (62%) of leading to further education; students in the other 3 year profiles were unlikely to report that they were undertaking further education. Overall, 32% of all graduates continued their studies.

In all, 27% of all graduates were in employed in the profile they were trained for at the time of the study, though of course those who went into further education and training, as well as some of the currently unemployed, are likely to take jobs in the target sectors subsequently.

The 45% unemployment rate given in Table 3 above can be compared with Labour Force Survey data, if we treat the graduates in our survey as 'inactive' (*ie.* assume that they are not participating in employment or engaged in job-search while undertaking their studies). Serbian LFS data for October 2006 show 60% of the relevant age group (15-19) as unemployed.<sup>1</sup> The comparison here is between pilot students (typically aged 17-18) and 15-19 year olds in the LFS. One might expect these students to be rather more highly qualified than the typical 15-19 year old in the labour market, since the latter will include those who did not continue in secondary education or who dropped out an early stage. On the other hand these groups will have had longer to look for jobs than our sample of pilot students, where job-getting is recorded only a few months after they have left school.

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<sup>1</sup> Statistical Office of the Republic of Survey, Communication Number 59 - Issue LVII, 15 March 2007.

## 6 Graduate Tracer Study

The objectives of the graduate tracer study was to gain experience in Serbia of VET graduate tracer studies and by taking a relatively small sample was sufficient to provide signals for policy focus and to identify areas that need further research and analysis.

In June 2007, a graduate tracer study questionnaire was designed with a focus on the following key areas to be evaluated:

- A. Educational background prior to study (1 Item);
- B. VET courses undertaken (9 Items);
- C. Job search and sequence of professional activities (6 Items);
- D. Current activities, employment and work (6 Items);
- E. Competencies and their application (3 Items);
- F. Relationships between VET and work (4 Items);
- G. Work orientations and job satisfaction (2 Items);
- H. Further education and training (2 Items);
- I. Retrospective assessment of VET studies (5 Items).

The questionnaire was design as a postal questionnaire for 2006 graduates who followed the pilot curriculum in the 12 profiles as outlined in Section 5. The questionnaire was designed with 38 questions, predominantly closed questions using a combination of questioning types such as yes/no, multiple choice questions, rank order and others of an attitude nature using the "Likert" response scale of strongly agree to strongly disagree.

The survey was sent to 890 students who graduated from new VET profiles in 2006. 793 students were in the CARDS programme, while 97 students participated in pilot curriculum with support from the Ministry of Education and others. The survey questionnaire was sent to external change agent teachers (CATS) in 47 pilot schools, who forwarded the questionnaire to the graduates in a self-address envelope, for return to the Project Implementation Unit of the CARDS programme. The students were enrolled in following VET sectors:

- 324 in Agriculture and Food Processing Sector (271 in CARDS, 53 in non-CARDS); this sector contained seven VET profiles (Agriculture Technician, Veterinary Technician, Food Technician, Baker Butcher, Dairy Processing, Agriculture Machinery Technician);
- 135 in Construction sector (all in CARDS); this sector contained one VET profile (Plasterboard Fitter);
- 91 in Electrical Engineering sector (all in CARDS); this sector contained one VET profile (Auto Electrician);

- 71 in Health sector (all in CARDS); this sector contained two VET profiles (Health Care Nurse Technician and Masseur);
- 172 in Metal sector (44 in non-CARDS); this sector contained one VET profile (Operator of Machine Processing).

We received responses from 208 students. The overall response rate was 23.4% (208/890).

The respondent sample had the following characteristics:

- 81 in Agriculture and Food Processing, for the sector response rate of 25.0% (81/324),
- 57 in Construction sector, for the sector response rate of 42.2% (57/135).
- 4 in Electrical Engineering sector, for the sector response rate of 4.4% (4/91),
- 2 in Health sector, for the sector response rate of 2.8% (2/71),
- 63 in Metal sector, for the sector response rate of 36.6% (63/172),

As a result of a low response rates for the Health and Electrical Engineering sectors, 4 returned questionnaires for Electrical and 2 for Health, the two sectors were included only in the overall analysis and excluded for the analysis of each individual area of the study. Taking the three sectors of Agriculture and Food Processing, Construction and Metal the average response rate was 31.8%, which would indicate that the results, conclusions, and recommendations of this analysis are to be taken cautiously and should be used for signalling policy direction pending further analysis in some areas.

The following is analysis of the results of the 9 areas in the graduate tracer study questionnaire. The analysis in this narrative focuses on the two most important responses in nearly all cases. (For detailed analysis of the graduate tracer study, see Annex 1).

#### **A. Educational background prior to study (1 Item)**

82 % of respondents said they had either good or very good marks at the end of their primary education.

**B. VET courses undertaken (9 Items)**

**Table 4: Most useful modules undertaken during study**

Agriculture Technician	Food Technician	Veterinary Technician	Dairy Processor	Plasterboard Fitter	Operator Machine Processing
Crop farming	Food processing technology	Pharmacology	Milk processing	Civil eng. construction	Practice
Fruit growing	Quality control	Midwifery	Cheese production	Civil. Eng. Materials	Technology
Agricultural technique	Microbiology	Animal diseases	Entrepreneurship	Graphic geometry	Mechanical elements
Cattle breeding	Technological operations	Anatomy	Venues and equipment in dairy production	Reading of drawing	Mathematics
English language	Chemistry	Anatomy and physiology	Raw materials in dairy production	Mathematics	Mechanics

Only VET profiles where the number of responses was greater than 10 were analyzed

About 80% of respondents were satisfied or very satisfied with relationship between practice and taught curriculum, teaching, and schooling conditions. They were somewhat less satisfied with their computer and foreign language skills. 20% of students indicated that their foreign language skills had improved since graduation, which would indicated that the graduate has been practicing the foreign language or undertaking further studies. A larger percentage, 75% indicated that their foreign language skills had remained the same.

**C. Job search and sequence of professional activities (6 Items)**

Just over a fifth of all students (22%) had not attempted to find a job since graduation. This could be as a result of the fact that they already had a job at the time of graduation or were in further or higher education.

Of those who had entered the labour market 10% had fixed up a job before graduation and a further 53% tried to find a job within one month of graduation. 16% reported that they had left it 3 months after graduation before looking for work.

31% of students used family, and 23% their own initiative, to find a job. The school and the local employment agency were less often used to assist with job search activities.

Three fifths (60%) thought family and own initiatives were the most useful approaches in finding a job, with only 7% finding the local employment agency as useful.

86% of students contacted between one and five employers before finding their first job. 12% of respondents had to contact between six and 10 employers.

About two fifths of students (42%) did not use a CV in finding their first job. However, others thought that having a CV was important (33%) or very important (25%) in their job search activities.

The picture therefore is of students who entered the labour market acting fairly promptly to find work, but relying on their own efforts and family contacts to identify an employer who would recruit them. Though school efforts were regarded as useful by the minority who used schools as a means of finding jobs, there was far less reliance on formal means (schools, employment offices, presentation of CVs *etc.*) as compared with informal means. The sharp tailing off in the number of employers approached may indicate that students tended to give up fairly easily. These data seem to indicate that it may be worth putting more efforts into job-search and self-presentation techniques.

#### **D. Current activities, employment and work (6 Items)**

A quarter of students (25%) had a permanent job at the time that they completed the questionnaires, and another quarter (26%) had a temporary job. About a third of students (31%) had been unemployed since graduation. These graduates who had never worked are very likely to include the quarter of all graduates who were in further education or training (H below).

Three fifths (62%) of students who were employed had worked for only one employer since graduation.

About a third of all employed respondents performed the same job every week (38%), another third performed a different job every week (31%), and a last third said they performed a different job every day (30%).

The most important job characteristic to VET graduates was salary, closely followed by job satisfaction.

About a third of employed students (36%) worked in large companies with fifty or more employees, while a just over a quarter (26%) worked in small companies, with five employees or fewer.

Nearly three fifths (57%) of all respondents worked at a job for which they were trained during VET, while two fifths (43%) worked at unrelated jobs.

Using this data we can roughly compare the sample in the tracer study to the total population covered in scrutiny of school records (Section 5).

	<b>Tracer Study</b>	<b>Scrutiny of School Records</b>
% in employment	58	37
% in further education/training	23	32
% of those in employment who work in a job related to profile studied	57	74

Of course the definitions employed by teachers (in the school records) and students (in the tracer study, will differ, and the timing of the two measures (the tracer study later than the records, would in any case mean that the figures would vary. From these figures it would seem that respondents to the tracer study are more likely to be employed than the population in the school records, but less likely to be employed in the profile – both of these effects could be caused by the self-reported level of temporary jobs (26% of the tracer sample) – teachers might be less likely to know about these and they are may well be less likely to be related to the qualification studied. The rather lower number in the tracer study who are in further education and training, might be due to some students leaving home to study, making the completion of the questionnaire less likely.

Bearing in mind these natural reasons for variation between the studies, it does not seem that the respondents to the tracer study were obviously unrepresentative of the wider population of pilot graduates, though they seem rather more likely to be employed, and rather less likely to be in further or higher education. For these important dimensions, therefore, we prefer the measures derived from the scrutiny of school records which are based on a larger sample, though it is conceivable that they may under-report some temporary jobs.

### **E. Competencies and their application (3 Items)**

About three fifths (57%) indicated that qualifications were of high or very high importance to their current job. Only 18% say that qualifications are of very low importance to their current job.

58% indicated that theory learnt during their studies was of high to very high importance to their current job, while 14% found it to be of very low importance.

60% of respondents indicated a high to very high importance of practical skills learnt at the VET school to their present job, while 19% found the practical training of very low importance to their current job.

In all, therefore there was a fair degree of satisfaction in terms of relevance. No doubt much turned on whether or not the current job was related to the profile studied. There seemed more or less equivalent ratings of the theory and practical elements, though there is some indication that practical elements are considered either very relevant or not at all relevant, with rather milder views about the theory elements.

### **F. Relationships between VET and work (4 Items)**

About half of the employed students (51%) thought that their VET schooling was adequate or very adequate for their current job, while 27% of respondents thought the adequacy of VET to be very low. Again this is likely to reflect the degree to which the VET profile is related to the current job and it is noticeable that those that gave high ratings are a similar proportion to those who considered their current job to be related to the school profile that they studied.

However the fact that a quarter considered what they had learned at school to be inadequate, even though they had succeeded in getting work, must be of some concern. One might hope that there would be a perception of usefulness of education even if the job eventually obtained was not closely related to the subject matter of the profile. This finding could indicate that the key competences in the curriculum were not clearly appreciated by students.

### **G. Work orientations and job satisfaction (2 Items)**

About half of employed respondents were highly or very highly satisfied with their current job and job position. Around a quarter expressed dissatisfaction, which again may well reflect the same proportion who had temporary rather than permanent employment at the time of the survey.

### **H. Further education and training (2 Items)**

Of the quarter of all respondents who reported that they were in further education and training, about half (45%) were enrolled in courses that were related to their professions, while another half (55%) were enrolled in further training / courses unrelated to their professions. The relatively high level of those taking unrelated programmes is of interest. If this is generally true of Serbian vocational students progressing to higher education, one does need to ask whether training in a fairly detailed, competence-based profile was the most appropriate form of secondary education for such students.

### **I. Retrospective assessment of VET studies (5 Items)**

About 80% of respondents were satisfied or very satisfied with curriculum, teaching, teacher-student relationship, classrooms, and workshops, though somewhat less satisfied with the usefulness of VET schooling for their current jobs. More than three quarters of students (77%) said that they would again choose their VET profile. Given that some dissatisfaction was expressed about their schooling, and that evidently a number were pursuing unrelated jobs or studies, this high level of overall endorsement of their school profiles, and indeed loyalty to them, is quite striking.

**ATTACHMENTS**

# Analysis of New VET Profiles in Serbia

Jelena Teodorovic

November 2007

## **TABLE OF CONTENTS**

	<b>Page</b>
<b>The 2007 Student Survey on New VET Profiles in Serbia</b>	<b>1</b>
<b>Results</b>	<b>3</b>
<b>Responses to Items</b>	<b>3</b>
<b>Disaggregated Responses to Items</b>	<b>9</b>
<b>Conclusions and Recommendations</b>	<b>29</b>

## The 2007 Student Survey on New VET Profiles in Serbia

Student survey on new VET profiles in Serbia was initiated in June 2007. Some items were developed as attitude statements with a traditional four-, five- or six-point “strongly agree” to “strongly disagree” Likert response scale. Others were developed as semi open-ended questions asking students to rank or list their answers. Created by the VET Programme II staff, the survey was designed to examine students’ views about the new VET profiles in Serbia and their relevance to students’ current jobs and career plans.

Thirty eight questions were categorized into the following groups: A) Prior education (1 item), B) VET profile (9 items), C) Job search (6 items), D) Employment and work (6 items), E) Student competencies (3 items), F) VET – employment relationship (4 items), G) Job satisfaction (2 items), H) Further education and training (2 items), and I) Retrospective opinion on VET (5 items).

The survey was sent to 890 students who graduated from new VET profiles in 2006. 793 students were in the CARDS program, while 97 students did not receive specialized equipment provided by the CARDS program. The survey was sent to external change agent trainers (CATs) / school directors in schools that adopted new VET profiles, who were then supposed to forward the surveys to students. The students were enrolled in following VET sectors:

- 324 in Agriculture and Food Processing sector (271 in CARDS, 53 in non-CARDS); this sector contained seven VET profiles (Agricultural technician, Food technician, Dairy processor, Veterinarian technician, Baker, Bucher and Agriculture machinery mechanic ).
- 135 in Construction sector (all in CARDS); this sector contained one VET profile (Plaster block fitter).
- 91 in Electrical Engineering sector (all in CARDS); this sector contained one VET profile (Car electrician).
- 71 in Health sector (all in CARDS); this sector contained two VET profiles (Nurse/technician r and Masseur ).
- 172 in Metal sector (44 in non-CARDS); this sector contained one VET profile (Operator of mechanical processing).

We received responses from 208 students. Overall response rate was 23.4% (208/890). The respondent sample had the following characteristics:

- 81 in Agriculture and Food Processing, for the sector response rate of 25.0% (81/324),
- 57 in Construction sector, for the sector response rate of 42.2% (57/135).
- 4 in Electrical Engineering sector, for the sector response rate of 4.4% (4/91),
- 2 in Health sector, for the sector response rate of 2.8% (2/71),
- 63 in Metal sector, for the sector response rate of 36.6% (63/172),

Considering very low response rates for the Health and Electrical Engineering sectors, surveys from students in these two sectors were included only in the overall analysis. Having in mind low response rates for all sectors, results, conclusions, and recommendations of this analysis are to be taken cautiously and for informative purposes only.

## Results

This section presents the analysis of survey data by responses to individual items. Distribution of individual responses was presented for each item. In addition, mean and standard deviation were given for Likert scale items. Each of these analyses was done for the respondents overall and then broken down by the respondent's sector (Agriculture and Food Processing, Construction, or Metal).

### Responses to Items

Table A presents the percentage distribution, mean, and standard deviation of an item measuring students' prior education. Most students finished primary school either with a good or a very good grade.

**Table A.—Percentage distribution, mean, and standard deviation of item responses regarding students' prior education (N=202)**

Prior education	Percentage choosing each response category				Mean	Std. Dev.
	Satisfactory (2)	Good (3)	Very good (4)	Excellent (5)		
A1. Student grade at the end of primary school.....	4.0	44.6	37.6	13.9	3.61	0.77

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Section B inquired about students' VET profiles. Table B (items B3-B8) shows that a great majority of students (about 80%) were satisfied or very satisfied with relationship between practice and taught curriculum, teaching, and schooling conditions. They were somewhat less satisfied with their computer and foreign language skills. Note that the higher number for the mean represents more agreement with the statement. Item B2 is analyzed for each VET profile separately and is presented in subsequent section. Item B9 asked students to estimate their foreign language knowledge at the time of filling out the survey: A fifth of the students (19.7%) responded that their knowledge had improved, three quarters (74.9%) that it had remained the same, while only a few students (5.4%) responded that it had worsened.

**Table B.—Percentage distribution, mean, and standard deviation of item responses regarding students' VET profiles**

VET Profile	Percentage choosing each response category					Mean	Std. Dev.
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)		
B3. Relationship between practice and taught curriculum (N=203) .....		3.4	16.3	31.0	49.3	4.26	0.85
B4. Satisfaction with teaching (N=203) .....		3.4	12.3	43.3	40.9	4.22	0.79
B5. Satisfaction with schooling conditions (N=202).....	1.0	3.0	15.8	36.6	43.6	4.19	0.88
B6. Estimate of computer skills at the time of graduation (N=204) .....	4.4	12.3	28.9	30.9	23.5	3.57	1.11
B7. Estimate of computer skills at this moment (N=203).....	3.4	10.3	29.6	32.5	24.1	3.64	1.06
B8. Estimate of foreign language knowledge at the time of graduation (N=204).....	5.4	25.0	33.3	21.1	15.2	3.16	1.13

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Section C asked about students' job search activities. About a fifth of all students (21.9%) did not attempt to find a job since graduation (item C1, N=201). Some of these may be the students who wanted to continue their education. Table C2 shows that about three fifths of respondents (likely those not continuing their education) either had a job before graduation or tried to find it within one month of graduation.

**Table C2.—Percentage distribution of item responses regarding students' job search (N=158)**

Job search	Percentage choosing each response category			
	1 month after graduation	2 months after graduation	3 months after graduation	Had a job before graduation
C2. Timing of students' job search .....	53.2	21.5	15.8	9.5

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Table C3 inquired about the ways students used to search for their first job. About half of the students either used family contacts or self initiative to find a job. The least utilized way to find a job was through employer's job offer (4.1%).

**Table C3.—Percentage distribution of item responses regarding students' job search (N=157)**

Job search	Percentage choosing each response category					
	School	Local employment agency	Family	Ads	Employer's job offer	Student initiative
C3. Job search approaches .....	10.7	16.9	31.0	14.5	4.1	22.7

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were allowed to choose more than one response, original percentages added to 154.4%; therefore, they were scaled back to add to 100%.

Similarly, Table C4 shows that about three fifths of the respondents thought that the most useful approach to finding a job was relying on family contacts or self initiative. Local employment agency counseling helped student very little to find a job (6.9%).

**Table C4.—Percentage distribution of item responses regarding students' job search (N=138)**

Job search	Percentage choosing each response category				
	School counseling	Local employment agency counseling	Family contacts	Acquaintance with employer	Student initiative
C4. Most useful job search approach .....	16.0	6.9	29.1	16.6	31.4

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were allowed to choose more than one response, original percentages added to 126.8%; therefore, they were scaled back to add to 100%.

A great majority of students (86.0%) contacted between one and five employers before finding their first job. 11.6% of respondents had to contact between six and 10 employers, and only 2.3% contacted between 11 and 15 employers (item C5, N=129).

About two fifths of students (42.3%) did not use CV to find their first job. Others thought that having a CV was important (32.8%) or very important (24.8%) in their job search (item C6, N=137).

Table D1 asked about students' current employment status. About a quarter of students had a permanent job, and another quarter had a temporary job. About a third of students were unemployed since graduation. Some of these students may be continuing onto further education.

**Table D1.—Percentage distribution of item responses regarding students' employment and work (N=166)**

Employment and work	Percentage choosing each response category					
	Permanent job	Half-time job	Temporary job	Self-employed	Unemployed last 4 weeks	Unemployed since graduation
D1. Current job status.....	25.3	2.4	25.9	4.2	10.8	31.3

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Please note that students who in the previous question declared that they had been unemployed since graduation (52 students) were excluded from the analyses of next five items in section D in order to make sure that only students who were or had been in work force since graduation (114 students) responded to questions about employment.

Table D2 shows that about three fifths of students worked for only one employer since graduation.

**Table D2.—Percentage distribution, mean, and standard deviation of item responses regarding students' employment and work (N=107)**

Employment and work	Percentage choosing each response category					Mean	Std. Dev.
	One (1)	Two (2)	Three (3)	Four (4)	Five or more (5)		
D2. Number of employers worked for since graduation.....	61.7	21.5	8.4	3.7	4.7	1.68	1.09

Item D3 (N=92) inquired about the nature of students' employment. About a third of all respondents performed the same job duties every week (38.0%), another third performed different job duties every week (31.5%), and a last third performed different job duties every day (30.4%).

Table D4 shows that the most important job characteristic to VET graduates was salary, closely followed by job satisfaction. Note that the *lower* number for the mean represents more agreement with the statement.

**Table D4.—Percentage distribution, mean, and standard deviation of item responses regarding students' employment and work**

Employment and work	Percentage choosing each response category				Mean	Std. Dev.
	Very important (1)	Important (2)	Unimportant (3)	Very unimportant (4)		
D4_1. Proximity to home (N=84).....	25.0	14.3	22.6	38.1	2.74	1.21
D4_2. Job satisfaction (N=91).....	34.1	24.2	26.4	15.4	2.23	1.09
D4_3. Salary (N=92).....	40.2	22.8	12.0	25.0	2.22	1.22
D4_4. Colleagues (N=84).....	17.9	31.0	31.0	20.2	2.54	1.01

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Table D5 describes the size of companies where students work. About a third of students worked in large companies with fifty or more employees, while a quarter of students worked in small companies, with up to five employees.

**Table D5.—Percentage distribution of item responses regarding students’ employment and work (N=89)**

Employment and work	Percentage choosing each response category				
	1-5 employees	6-10 employees	11-15 employees	16-50 employees	50 or more employees
D5. Number of employees in student’s company .....	25.8	10.1	10.1	18.0	36.0

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

About three fifths of respondents (57.3%) worked at a job for which they were trained during VET, while other two fifths (42.7%) worked at other jobs (item D6, N=103).

All students were included again in the analyses of items in sections E, F, G, H, and I.

Table E shows that about three fifths of the students thought that qualifications, theory, and practice they acquired during schooling carried high or very high importance for their current jobs. Note that the higher number for the mean represents more agreement with the statement.

**Table E.—Percentage distribution, mean, and standard deviation of item responses regarding student competencies**

Student competencies	Percentage choosing each response category					Mean	Std. Dev.
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)		
E1. Importance of qualifications for current job (N=131) .....	18.3	12.2	12.2	24.4	32.8	3.41	1.50
E2. Importance of theory for current job (N=131) .....	13.7	12.2	16.0	22.1	35.9	3.54	1.43
E3. Importance of practice for current job (N=131) .....	19.1	10.7	9.9	17.6	42.7	3.54	1.58

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Section F inquired about the relationship between students’ VET schooling and their work. In item F1 about half of the students thought that their VET schooling was adequate or very adequate for their current job. Note that the higher number for the mean represents more agreement with the statement. Items F2 and F3 were not analyzed because preliminary analyses showed that: 1) responses greatly overlapped with responses to question B2, 2) they had low response rates, and 3) students mixed up theoretical and vocational courses / modules.

**Table F1.—Percentage distribution, mean, and standard deviation of item responses regarding VET employment – work relationship**

VET employment – work relationship	Percentage choosing each response category					Mean	Std. Dev.
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)		
F1. Adequacy of VET schooling for current job (N=121) .....	27.3	11.6	9.9	15.7	35.5	3.21	1.66

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Item F4 asked students about the match between their job expectations at the time of graduation and current job situation. Note that the higher number for the mean represents more agreement with the statement. About a third of the students

**Table F4.—Percentage distribution, mean, and standard deviation of item responses regarding VET employment – work relationship**

VET employment – work relationship	Percentage choosing each response category					Mean	Std. Dev.
	Much worse than expected (1)	Worse than expected (2)	Met expectations (3)	Better than expected (4)	Much better than expected (5)		
F4. Whether current job met prior expectations (N=114).....	14.9	15.8	28.9	19.3	21.1	3.16	1.33

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Section G inquired about students' job satisfaction. About half of all respondents were highly or very highly satisfied with their current job and job position. Note that the higher number for the mean represents more agreement with the statement.

**Table G.—Percentage distribution, mean, and standard deviation of item responses regarding students' job satisfaction**

Job satisfaction	Percentage choosing each response category					Mean	Std. Dev.
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)		
G1. Satisfaction with current job (N=111).....	12.6	10.8	26.1	27.9	22.5	3.37	1.29
G2. Satisfaction with current job position (N=110).....	11.8	12.7	25.5	20.9	29.1	3.43	1.34

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

About half of respondents (44.7%) were enrolled in further training / courses that were related to their professions, while another half (55.3%) were enrolled in further training / courses unrelated to their professions. It should be noted that only a quarter of all respondents answered this question (item H1, N=47). Item H2 was analyzed in subsequent section.

Section I asked students to give retrospective opinion on their VET schooling. Table I (items I1, I3\_1-I3\_5) shows that a great majority of students (about 80%) were satisfied or very satisfied with curriculum, teaching, teacher-student relationship, classrooms, and workshops, and somewhat less satisfied with usefulness of VET schooling for their current jobs. About three quarters of students (77.4%) said that they would again choose their VET profile (item I2, N=164).

**Table I.—Percentage distribution, mean, and standard deviation of item responses regarding retrospective opinion on VET**

Retrospective opinion on VET	Percentage choosing each response category					Mean	Std. Dev.
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)		
I1. Usefulness of VET schooling for current job (N=119).....	17.6	6.7	17.6	26.1	31.9	3.48	1.45
I3_1. Satisfaction with curriculum (N=174) .....	1.1	2.9	16.1	35.6	44.3	4.19	0.89
I3_2. Satisfaction with teaching (N=164) .....	0.6	0.6	11.6	31.1	56.1	4.41	0.77
I3_3. Satisfaction with teacher-student relationship (N=172).....	0.6	1.2	11.0	25.0	62.2	4.47	0.78
I3_4. Satisfaction with classrooms (N=169).....	3.0	6.5	15.4	30.8	44.4	4.07	1.06
I3_5. Satisfaction with workshops (N=170).....	4.7	3.5	11.2	28.2	52.4	4.20	1.08

## Disaggregated Responses to Items

Two tables below show that Agriculture and Food Processing students had, on average, a significantly higher grade at the end of primary school than their peers in Metal and Construction sectors.

**Table A\_disaggregated (1).—Percentage distribution of item responses regarding students' prior education, by sector**

Prior education		N	Percentage choosing each response category			
			Satisfactory (2)	Good (3)	Very good (4)	Excellent (5)
A1. Student grade at the end of primary school	Agriculture	79	1.3	26.6	39.2	32.9
	Construction	55	5.5	49.1	45.5	
	Metal	62	6.5	64.5	25.8	3.2

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table A\_disaggregated (2).—Means and standard deviations of item responses regarding students' prior education, by sector**

Prior education		N	Mean	Std. dev.	Sig. difference
A1. Student grade at the end of primary school	Agriculture	79	4.04	0.81	between Agriculture and Construction** and between Agriculture and Metal**
	Construction	55	3.40	0.60	
	Metal	62	3.26	0.63	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey's HSD post-hoc procedure.

The following six tables show the most useful courses / modules to students in each VET profile. Only VET profiles where at least 10 respondents were enrolled were analyzed.

Five most valuable courses / modules for VET profile Agricultural technician were: crop farming (15.9%), fruit-growing (13.0%), agricultural technique (8.7%), cattle breeding (8.7%), and English language (7.2%).

**Table B2\_ Agricultural technician.—Percentage distribution of item responses regarding students' VET profiles (N responses=69<sup>5</sup>)**

Most valuable course / module	Frequency	Percentage
Crop farming	11	15.9%
Fruit growing	9	13.0%
Agricultural technique	6	8.7%
Cattle breeding	6	8.7%
English language	5	7.2%
Chemistry	4	5.8%
Grape growing	4	5.8%
Plant protection	4	5.8%
Entrepreneurship	3	4.3%
Botany	2	2.9%
Agricultural production	2	2.9%
Practice	2	2.9%
Serbian language	2	2.9%
Fruit and grape growing	2	2.9%
Agro biology	1	1.4%
Agro chemistry	1	1.4%
Physical exercise	1	1.4%
Herbs	1	1.4%
Mathematics	1	1.4%
Truck farming	1	1.4%
Fruit growing technology	1	1.4%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 75 possible responses for 15 possible respondents in this VET profile.

<sup>5</sup> Someone who has a list of all courses for the profiles needs to look over them and see whether some are redundant here. Then I need to produce new six tables (this one and following five).

Five most valuable courses / modules for VET profile Food technician were: Food processing technology (18.8%), Quality control (15.8%), Microbiology (10.9%), Technological operations (7.9%), and Chemistry (5.9%).

**Table B2\_ Food technician.—Percentage distribution of item responses regarding students' VET profiles (N responses=101)**

Most valuable course / module	Frequency	Percentage
Food processing technology	19	18.8%
Quality control	16	15.8%
Microbiology	11	10.9%
Technological operations	8	7.9%
Chemistry	6	5.9%
Foreign language	5	5.0%
Physical exercise	4	4.0%
Mathematics	4	4.0%
Entrepreneurship	4	4.0%
Serbian language	4	4.0%
English language	2	2.0%
Physical chemistry	2	2.0%
Physics	2	2.0%
IT literacy	2	2.0%
Machines and devices	2	2.0%
Technology	2	2.0%
Biochemistry	1	1.0%
Geography	1	1.0%
Chemical lab technician	1	1.0%
Practice	1	1.0%
Food technician	1	1.0%
Technician – clothe designer	1	1.0%
Biotechnology technician	1	1.0%
Textile technician	1	1.0%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 120 possible responses for 24 possible respondents in this VET profile.

Five most valuable courses / modules for VET profile Dairy processor were: Dairy production (19.1%), Cheese production (19.1%), Entrepreneurship (12.8%), Venues and equipment in dairy production (8.5%), and Raw materials in dairy production (8.5%).

**Table B2\_ Dairy processor.—Percentage distribution of item responses regarding students' VET profiles (N responses=47)**

Most valuable course / module	Frequency	Percentage
Milk processing	9	19.1%
Cheese production	9	19.1%
Entrepreneurship	6	12.8%
Venues and equipment in dairy production	4	8.5%
Raw materials in dairy production	4	8.5%
Mathematics	3	6.4%
Food safety	3	6.4%
Serbian language	2	4.3%
Biology	1	2.1%
Food and nutrition	1	2.1%
IT literacy	1	2.1%
History	1	2.1%
Machines and devices	1	2.1%
Food production and processing	1	2.1%
Technology	1	2.1%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 70 possible responses for 14 possible respondents in this VET profile.

Five most valuable courses / modules for VET profile Veterinarian technician were: Pharmacology (13.0%), Midwifery (13.0%), Animal diseases (12.0%), Anatomy (9.8%), and Anatomy and physiology (7.6%).

**Table B2\_ Veterinarian technician.—Percentage distribution of item responses regarding students' VET profiles (N responses=92)**

Most valuable course / module	Frequency	Percentage
Pharmacology	12	13.0%
Midwifery	12	13.0%
Animal diseases	11	12.0%
Anatomy	9	9.8%
Anatomy and physiology	7	7.6%
Surgery	6	6.5%
Pathology	6	6.5%
Hygiene and animal care	4	4.3%
Chemistry	3	3.3%
Infective animal diseases	3	3.3%
Biology	2	2.2%
Cynology	2	2.2%
Basics of surgery	2	2.2%
Practical teaching	2	2.2%
English language	1	1.1%
Episotology	1	1.1%
Physical exercise	1	1.1%
Physiology	1	1.1%
Mathematics	1	1.1%
Parasite diseases	1	1.1%
Serbian language	1	1.1%
Cattle breeding	1	1.1%
Foreign language	1	1.1%
Internal diseases	1	1.1%
Zoo chemistry	1	1.1%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 105 possible responses for 21 possible respondents in this VET profile.

Five most valuable courses / modules for VET profile Plaster block fitter were: Civil Engineering construction (14.0%), Civil engineering materials (9.9%), Graphical geometry (9.9%), Reading of drawings (8.2%), and Mathematics (7.6%).

**Table B2\_ Plaster block fitter.—Percentage distribution of item responses regarding students' VET profiles (N responses=171)**

Most valuable course / module	Frequency	Percentage
Civil Engineering construction	24	14.0%
Civil engineering materials	17	9.9%
Graphical geometry	17	9.9%
Reading of drawings	14	8.2%
Mathematics	13	7.6%
Practice	12	7.0%
Work technology	12	7.0%
Organisation	8	4.7%
Technical drawing	8	4.7%
English language	6	3.5%
Building up organisation	6	3.5%
Technology	6	3.5%
Serbian language	4	2.3%
Static	4	2.3%
Physical exercise	3	1.8%
IT literacy	3	1.8%
Materials	3	1.8%
Constructing	2	1.2%
Work organisation	2	1.2%
Ecology	1	0.6%
Roof constructions	1	0.6%
Hungarian language	1	0.6%
Knowledge in materials	1	0.6%
Foreign language	1	0.6%
Vocational subject	1	0.6%
Religious teaching	1	0.6%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 285 possible responses for 57 possible respondents in this VET profile.

Six most valuable courses / modules for VET profile Operator of mechanical processing were: Practice (19.1%), Technology (15.7%), Mechanical elements (10.5%), Mathematics (8.6%), Mechanic (7.9%), and Technical drawings (7.9%).

**Table B2\_ Operator of mechanical processing.—Percentage distribution of item responses regarding students' VET profiles (N responses=267)**

Most valuable course / module	Frequency	Percentage
Practice	51	19.1%
Technology	42	15.7%
Mechanical elements	28	10.5%
Mathematics	23	8.6%
Mechanics	21	7.9%
Technical drawings	21	7.9%
English language	14	5.2%
Serbian language	14	5.2%
Mechanical materials	10	3.7%
Technology of processing	7	2.6%
Physical exercise	4	1.5%
Technical materials	4	1.5%
Electrical engineering	3	1.1%
Hydraulic and thermodynamic	3	1.1%
Materials	3	1.1%
Work technology	3	1.1%
Grinding	2	0.7%
Entrepreneurship	2	0.7%
TOP	2	0.7%
CNC	1	0.4%
Milling	1	0.4%
Graphic	1	0.4%
Hydraulic and pneumatic	1	0.4%
IT literacy	1	0.4%
Russian language	1	0.4%
Turning	1	0.4%
Technology of materials	1	0.4%
Technology of metal processing	1	0.4%
Technology of profile processing	1	0.4%

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding. Considering that students were asked to list five most valuable courses / modules, there were 315 possible responses for 63 possible respondents in this VET profile.

Two tables below (items B3-B8) show that students in Metal sector were more satisfied with relationship between practice and taught curriculum, teaching, and schooling conditions than their peers in Agriculture and Food Processing and Construction sectors. Foreign language and computer skills at the time of this survey were estimated to be the same across all VET sectors.

**Table B\_disaggregated (1).—Percentage distribution of item responses regarding students' VET profile, by sector**

VET Profile		N	Percentage choosing each response category				
			Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
B3. Relationship between practice and taught curriculum	Agriculture	79		6.3	20.3	29.1	44.3
	Construction	55		3.6	25.5	29.1	41.8
	Metal	63			1.6	36.5	61.9
B4. Satisfaction with teaching	Agriculture	80		2.5	15.0	43.8	38.8
	Construction	55		5.5	18.2	40.0	36.4
	Metal	62		3.2	3.2	45.2	48.4
B5. Satisfaction with schooling conditions	Agriculture	78	1.3	2.6	19.2	41.0	35.9
	Construction	55	1.8	5.5	23.6	40.0	29.1
	Metal	63			6.3	28.6	65.1
B6. Estimate of computer skills at the time of graduation	Agriculture	80	11.3	20.0	27.5	26.3	15.0
	Construction	55		9.1	29.1	30.9	30.9
	Metal	63		4.8	30.2	36.5	28.6
B7. Estimate of computer skills at this moment	Agriculture	79	6.3	13.9	24.1	36.7	19.0
	Construction	55		5.5	36.4	25.5	32.7
	Metal	63	1.6	9.5	33.3	31.7	23.8
B8. Estimate of foreign language knowledge at the time of graduation	Agriculture	80	6.3	21.3	28.8	30.0	13.8
	Construction	55	7.3	27.3	36.4	14.5	14.5
	Metal	63	3.2	28.6	33.3	15.9	19.0

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table B\_disaggregated (2).—Means and standard deviations of item responses regarding students' VET profile, by sector**

VET profile		N	Mean	Std. dev.	Sig. difference
B3. Relationship between practice and taught curriculum	Agriculture	79	4.11	0.95	between Agriculture and Metal** and between Construction and Metal**
	Construction	55	4.09	0.91	
	Metal	63	4.60	0.52	
B4. Satisfaction with teaching	Agriculture	80	4.19	0.78	between Construction and Metal*
	Construction	55	4.07	0.88	
	Metal	62	4.39	0.71	
B5. Satisfaction with schooling conditions	Agriculture	78	4.08	0.88	between Agriculture and Metal** and between Construction and Metal**
	Construction	55	3.89	0.96	
	Metal	63	4.59	0.61	
B6. Estimate of computer skills at the time of graduation	Agriculture	80	3.14	1.23	between Agriculture and Construction** and between Agriculture and Metal**
	Construction	55	3.84	0.98	
	Metal	63	3.89	0.88	
B7. Estimate of computer skills at this moment	Agriculture	79	3.48	1.14	—
	Construction	55	3.85	0.95	
	Metal	63	3.67	1.00	
B8. Estimate of foreign language knowledge at the time of graduation	Agriculture	80	3.24	1.13	—
	Construction	55	3.02	1.15	
	Metal	63	3.19	1.15	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05≤p-value<0.10 under Tukey's HSD post-hoc procedure.

Analyses of item B9 (two tables below) show that, even though there was no significant differences between the means across three sectors, a fifth of students in Agriculture and Food Processing sector and a third of students in Construction sector thought that their foreign language skills had improved since graduation. Note that the *lower* number for the mean represents more improvement.

**Table B9\_disaggregated (1).—Percentage distribution of item responses regarding students’ VET profile, by sector**

VET Profile		N	Percentage choosing each response category		
			Better (1)	Same (2)	Worse (3)
B9. Estimate of foreign language knowledge at this moment	Agriculture	80	20.0	77.5	2.5
	Construction	55	29.1	63.6	7.3
	Metal	62	11.3	82.3	6.5

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table B9\_disaggregated (2).—Means and standard deviations of item responses regarding students’ VET profile, by sector**

VET profile		N	Mean	Std. dev.	Sig. difference
B9. Estimate of foreign language knowledge at this moment	Agriculture	80	1.83	0.44	—
	Construction	55	1.78	0.57	
	Metal	62	1.95	0.42	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey’s HSD post-hoc procedure.

Two tables below show that, in comparison to students in Construction and Metal sectors, there were more students in Agriculture and Food Processing sector who did not try to find a job since graduation.

**Table C1\_disaggregated (1).—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category	
			Yes (1)	No (2)
C1. Whether student tried to find a job since graduation	Agriculture	76	61.8	38.2
	Construction	57	84.2	15.8
	Metal	62	91.9	8.1

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table C1\_disaggregated (2).—Means and standard deviations of item responses regarding students’ job search, by sector**

Job search		N	Mean	Std. dev.	Sig. difference
C1. Whether student tried to find a job since graduation	Agriculture	76	1.38	0.49	between Agriculture and Construction** and between Agriculture and Metal**
	Construction	57	1.16	0.37	
	Metal	62	1.08	0.27	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey’s HSD post-hoc procedure.

Considering that all students in four-year long VET profiles encompassed by this survey were in the Agriculture and Food Processing sector, it was possible that these students continued onto further education and therefore did not look for a job after graduation. In order to more fully address this possibility, students in Agriculture and Food Processing sector were divided into two groups: students in three-year long profiles (21) and students in four-year long profiles (60). The following two tables show that students in three-year long profiles did not differ across sectors, but that they significantly differed from students in four-year long profiles where more than a half did not try to get a job since graduation.

**Table C1\_ fully disaggregated (1).—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category	
			Yes (1)	No (2)
C1. Whether student tried to find a job since graduation	Construction	57	84.2	15.8
	Metal	62	91.9	8.1
	3 year Agriculture	21	95.2	4.8
	4 year Agriculture	55	49.1	50.9

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table C1\_ fully disaggregated (2).—Means and standard deviations of item responses regarding students’ job search, by sector**

Job search		N	Mean	Std. dev.	Sig. difference
C1. Whether student tried to find a job since graduation	Construction	57	1.16	0.37	between 4 year Agriculture and Construction**, between 4 year Agriculture and Metal**, and between 4 year Agriculture and 3 year Agriculture**
	Metal	62	1.08	0.27	
	3 year Agriculture	21	1.05	0.22	
	4 year Agriculture	55	1.51	0.50	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey’s HSD post-hoc procedure.

Table C2\_disaggregated shows that about two thirds of students in all three VET sectors either had a job before graduation or started job search one month after graduation. Notably, a fifth of students in Agriculture and Food Processing sector already had a job before finishing secondary school. Note that the number of respondents in Agriculture and Food Processing sector is lower for this question and the following ones inquiring about jobs than for more general questions. It is possible that students in this sector who were continuing onto further education omitted these items.

**Table C2\_disaggregated.—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category			
			1 month after graduation	2 months after graduation	3 months after graduation	Had a job before graduation
C2. Timing of student’s job search	Agriculture	47	44.7	17.0	19.1	19.1
	Construction	48	54.2	14.6	20.8	10.4
	Metal	58	60.3	29.3	10.3	

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Table C3\_disaggregated inquired about the ways students used to search for their first job. Students in Agriculture and Metal sectors had similar answer patterns while students in Construction sector mostly found their first job through self initiative, family contacts, and then school.

**Table C3\_disaggregated.—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category					
			School	Local employment agency	Family	Ads	Employer’s job offer	Student initiative
C3. Job search approaches	Agriculture	46	5.6	21.1	31.0	16.9	5.6	19.7
	Construction	48	18.0	4.9	27.9	8.2	4.9	36.1
	Metal	58	9.8	20.6	33.3	16.7	2.9	16.7

NOTE: Percentage distributions are based on only those respondents who answered the questions. Considering that students were allowed to choose more than one response, original percentages added to 154.3% for Agriculture and Food Processing, 127.1% for Construction, and 175.9% for Metal sectors; therefore, they were scaled back to add to 100%.

Again, Table C4\_disaggregated shows that, in comparison to students in Agriculture and Food Processing and Metal sectors, students in Construction sector had a different answer pattern: They relied more on their own initiative and school counseling, and less on family and local employment agency to find a job.

**Table C4\_disaggregated (1).—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category				
			School counseling	Local employment agency counseling	Family contacts	Acquaintance with employer	Student initiative
C4. Most useful job search approach	Agriculture	41	8.2	12.2	36.7	14.3	28.6
	Construction	42	30.6		22.4	12.2	34.7
	Metal	51	11.1	8.3	30.6	19.4	30.6

NOTE: Percentage distributions are based on only those respondents who answered the questions. Considering that students were allowed to choose more than one response, original percentages added to 119.5% for Agriculture and Food Processing, 116.7% for Construction, and 141.2% for Metal sectors; therefore, they were scaled back to add to 100%.

The following table shows that a great majority of students (about 80-90%) in all three sectors contacted between one and five employers before finding a first job.

**Table C5\_disaggregated.—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category		
			1-5 employers	6-10 employers	11-15 employers
C5. Number of employers contacted before finding a first job	Agriculture	30	90.0	6.7	3.3
	Construction	43	88.4	7.0	4.7
	Metal	52	82.7	17.3	

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Table C6\_disaggregated shows that having a CV was more important for students in Metal and Agriculture and Food Processing sectors than for students in Construction sector.

**Table C6\_disaggregated.—Percentage distribution of item responses regarding students’ job search, by sector**

Job search		N	Percentage choosing each response category		
			Very important	Important	Did not use CV
C6. Importance of having a CV for finding a first job	Agriculture	40	32.5	27.5	40.0
	Construction	42	16.7	26.2	57.1
	Metal	51	23.5	43.1	33.3

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

The following table shows that about a third of students in Construction sector had a permanent job, compared with a quarter of students in Agriculture and Food Processing and a fifth of students in Metal sector. Students in Metal sector were most likely to hold a temporary job. About half of students in Agriculture and Food Processing sector were unemployed since graduation (some of them potentially heading onto further education), compared to a quarter of students in Construction sector and a fifth of students in Metal sector.

**Table D1\_disaggregated.—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category					Unemploye d last 4 weeks	Unemploye d since graduation
			Permane nt job	Half-time job	Temporar y job	Self- employed			
D1. Current job status	Agriculture	51	23.6	5.5	18.2		3.6	49.1	
	Constructio n	55	37.3	2.0	15.7	9.8	9.8	25.5	
	Metal	51	18.2		43.6	1.8	18.2	18.2	

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Considering great differences in unemployment rates between the sectors, students in the Agriculture and Food Processing sector were again divided into two subgroups. Surprisingly, students in both three-year long and four-year long profiles within Agriculture and Food Processing sector had similar unemployment rates.

**Table D1\_fully disaggregated.—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category					Unemploye d last 4 weeks	Unemploye d since graduation
			Permane nt job	Half-time job	Temporar y job	Self- employed			
D1. Current job status	Constructio n	55	37.3	2.0	15.7	9.8	9.8	25.5	
	Metal	51	18.2		43.6	1.8	18.2	18.2	
	3 year Agriculture	20	30.0	10.0	15.0			45.0	
	4 year Agriculture	35	20.0	2.9	20.0		5.7	51.4	

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

The following two tables show that, even though there were no significant differences between item means across three sectors, students in Agriculture and Food Processing sector worked for fewer employers than students in Construction and Metal sectors.

**Table D2\_disaggregated (1).—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category				
			One (1)	Two (2)	Three (3)	Four (4)	Five or more (5)
D2. Number of employers worked for since graduation	Agriculture	32	75.0	18.8			6.3
	Construction	40	60.0	17.5	10.0	5.0	7.5
	Metal	42	57.1	21.4	14.3	4.8	2.4

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table D2\_disaggregated (2).—Means and standard deviations of item responses regarding students’ employment and work, by sector**

Employment and work		N	Mean	Std. dev.	Sig. difference
D2. Number of employers worked for since graduation	Agriculture	32	1.44	1.01	—
	Construction	40	1.83	1.26	
	Metal	42	1.74	1.04	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey’s HSD post-hoc procedure.

Table D3\_disaggregated shows that students in three sectors differed in the types of job duties they performed. Students in Agriculture and Food Processing sector were most likely to perform the same job duties every week, students in Construction sector were most likely to perform different job duties every week, while students in Metal sector were most likely to have different job duties every day.

**Table D3\_disaggregated.—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category		
			Same duties weekly	Different duties weekly	Different duties daily
D3. Job duties	Agriculture	24	62.5	8.3	29.2
	Construction	35	22.9	54.3	22.9
	Metal	36	36.1	22.2	41.7

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

In comparison to students in Construction and Metal sectors, students in Agriculture and Food Processing sector valued more job satisfaction, while students in Metal sector valued more salary than their peers in other two sectors.

**Table D4\_disaggregated (1).—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category			
			Very important (1)	Important (2)	Unimportant (3)	Very unimportant (4)
D4_1. Proximity to home	Agriculture	30	20.0		33.3	46.7
	Construction	35	22.9	14.3	25.7	37.1
	Metal	31	22.6	22.6	16.1	38.7
D4_2. Job satisfaction	Agriculture	31	54.8	19.4	12.9	12.9
	Construction	38	31.6	34.2	28.9	5.3
	Metal	34	26.5	17.6	29.4	26.5
D4_3. Salary	Agriculture	32	21.9	43.8	12.5	21.9
	Construction	38	42.1	10.5	7.9	39.5
	Metal	35	57.1	25.7	11.4	5.7
D4_4. Colleagues	Agriculture	30	13.3	33.3	36.7	16.7
	Construction	35	20.0	34.3	31.4	14.3
	Metal	31	12.9	22.6	32.3	32.3

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table D4\_disaggregated (2).—Means and standard deviations of item responses regarding students’ employment and work, by sector**

Employment and work		N	Mean	Std. dev.	Sig. difference
D4_1. Proximity to home	Agriculture	30	3.07	1.14	—
	Construction	35	2.77	1.19	
	Metal	31	2.71	1.22	
D4_2. Job satisfaction	Agriculture	31	1.84	1.10	between Agriculture and Metal**
	Construction	38	2.08	0.91	
	Metal	34	2.56	1.16	
D4_3. Salary	Agriculture	32	2.34	1.07	between Agriculture and Metal** and between Construction and Metal**
	Construction	38	2.45	1.39	
	Metal	35	1.66	0.91	
D4_4. Colleagues	Agriculture	30	2.57	0.94	—
	Construction	35	2.40	0.98	
	Metal	31	2.84	1.04	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05 ≤ p-value < 0.10 under Tukey’s HSD post-hoc procedure.

Table D5\_disaggregated presents data on the size of students’ companies. Most students in Agriculture and Food Sectors worked in small companies (up to five employees), while most students in Construction sector worked in large companies (fifty or more employees).

**Table D5\_disaggregated.—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category				
			1-5 employees	6-10 employees	11-15 employees	16-50 employees	50 or more employees
D5. Number of employees in student’s company	Agriculture	21	42.9	4.8	19.0	14.3	19.0
	Construction	36	16.7	13.9	8.3	5.6	55.6
	Metal	33	27.3	9.1	6.1	33.3	24.2

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

Two tables below show that two thirds of students in Construction sector worked at jobs for which they were trained, compared to a half of students in Agriculture and Food Processing sector and a third of students in Metal sector.

**Table D6\_disaggregated (1).—Percentage distribution of item responses regarding students’ employment and work, by sector**

Employment and work		N	Percentage choosing each response category	
			Yes (1)	No (2)
D6. Whether student works at a job for which s/he was trained	Agriculture	39	48.7	51.3
	Construction	45	66.7	33.3
	Metal	43	34.9	65.1

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table D6\_disaggregated (2).—Means and standard deviations of item responses regarding students’ employment and work, by sector**

Employment and work		N	Mean	Std. dev.	Sig. difference
D6. Whether student works at a job for which s/he was trained	Agriculture	39	1.51	0.51	between Construction and Metal**
	Construction	45	1.33	0.48	
	Metal	43	1.65	0.48	

\*\*p-value < 0.05 under Tukey’s HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey’s HSD post-hoc procedure.

Two tables below show that students in Metal sector thought that their qualifications, theory, and practice were slightly less important for their current job than students in other two VET sectors. However, differences in item means are statistically insignificant.

**Table E\_disaggregated (1).—Percentage distribution of item responses regarding student competencies, by sector**

Student competencies		N	Percentage choosing each response category				
			Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
E1. Importance of qualifications for current job	Agriculture	40	20.0	7.5	12.5	20.0	40.0
	Construction	44	15.9	9.1	11.4	29.5	34.1
	Metal	44	18.2	20.5	13.6	22.7	25.0
E2. Importance of theory for current job	Agriculture	41	17.1	9.8	12.2	14.6	46.3
	Construction	43	14.0	7.0	16.3	25.6	37.2
	Metal	43	11.6	18.6	20.9	25.6	23.3
E3. Importance of practice for current job	Agriculture	41	24.4	7.3	12.2	9.8	46.3
	Construction	43	11.6	7.0	9.3	23.3	48.8
	Metal	43	20.9	16.3	9.3	20.9	32.6

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table E\_disaggregated (2).—Means and standard deviations of item responses regarding student competencies, by sector**

Student competencies		N	Mean	Std. dev.	Sig. difference
E1. Importance of qualifications for current job	Agriculture	40	3.53	1.57	—
	Construction	44	3.57	1.45	
	Metal	44	3.16	1.48	
E2. Importance of theory for current job	Agriculture	41	3.63	1.56	—
	Construction	43	3.65	1.41	
	Metal	43	3.30	1.34	
E3. Importance of practice for current job	Agriculture	41	3.46	1.69	—
	Construction	43	3.91	1.39	
	Metal	43	3.28	1.58	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey's HSD post-hoc procedure.

Two tables below show that students in Construction sector thought that their VET schooling was more adequate for their current job than their peers in Metal sector.

**Table F\_disaggregated (1).—Percentage distribution of item responses regarding VET – employment relationship, by sector**

VET – employment relationship		N	Percentage choosing each response category				
			Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
F1. Adequacy of VET schooling for current job	Agriculture	32	31.3	9.4	9.4	12.5	37.5
	Construction	44	18.2	2.3	6.8	27.3	45.5
	Metal	42	33.3	21.4	14.3	7.1	23.8
F4. Relationship between prior job expectations and current job	Agriculture	30	13.3	23.3	26.7	10.0	26.7
	Construction	41	22.0	4.9	22.0	22.0	29.3
	Metal	39	10.3	12.8	41.0	25.6	10.3

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table F\_disaggregated (2).—Means and standard deviations of item responses regarding VET – employment relationship, by sector**

VET – employment relationship		N	Mean	Std. dev.	Sig. difference
F1. Adequacy of VET schooling for current job	Agriculture	32	3.16	1.74	between Construction and Metal**
	Construction	44	3.80	1.50	
	Metal	42	2.67	1.59	
F4. Relationship between prior job expectations and current job	Agriculture	30	3.13	1.41	—
	Construction	41	3.32	1.51	
	Metal	39	3.13	1.10	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey's HSD post-hoc procedure.

Two tables below show that students in Construction sector were somewhat more satisfied with their current jobs and job positions than students in other two VET sectors. However, differences in item means are statistically insignificant.

**Table G\_disaggregated (1).—Percentage distribution of item responses regarding job satisfaction, by sector**

Job satisfaction		N	Percentage choosing each response category				
			Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
G1. Satisfaction with current job	Agriculture	28	10.7	7.1	32.1	35.7	14.3
	Construction	41	17.1	4.9	17.1	24.4	36.6
	Metal	39	10.3	15.4	30.8	28.2	15.4
G2. Satisfaction with current job position	Agriculture	28	3.6	14.3	35.7	21.4	25.0
	Construction	41	17.1	7.3	17.1	19.5	39.0
	Metal	38	10.5	18.4	26.3	21.1	23.7

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table G\_disaggregated (2).—Means and standard deviations of item responses regarding job satisfaction, by sector**

Job satisfaction		N	Mean	Std. dev.	Sig. difference
G1. Satisfaction with current job	Agriculture	28	3.36	1.16	—
	Construction	41	3.59	1.47	
	Metal	39	3.23	1.20	
G2. Satisfaction with current job position	Agriculture	28	3.50	1.14	—
	Construction	41	3.56	1.50	
	Metal	38	3.29	1.31	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05≤p-value<0.10 under Tukey's HSD post-hoc procedure.

Two tables below show that students in Agriculture and Food Processing sector were more likely to undertake further coursework related to their profession, while student in Construction sector were more likely to undertake further coursework unrelated to their profession. Students in Metal sectors were equally likely to take either type of coursework. Note that the response rates for these items are very low, probably because only a minority of students consider / enroll in further education and training.

**Table H1\_disaggregated (1).—Percentage distribution of item responses regarding further education and training, by sector**

Further education and training		N	Percentage choosing each response category	
			Related to profession (1)	Unrelated to profession (2)
H1. Additional training / courses	Agriculture	16	62.5	37.5
	Construction	9	11.1	88.9
	Metal	19	47.4	52.6

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table H1\_disaggregated (2).—Means and standard deviations of item responses regarding further education and training, by sector**

Further education and training		N	Mean	Std. dev.	Sig. difference
H1. Additional training / courses	Agriculture	16	1.38	0.50	between Agriculture and Construction**
	Construction	9	1.89	0.33	
	Metal	19	1.53	0.51	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05<=p-value<0.10 under Tukey's HSD post-hoc procedure.

Table H2\_disaggregated lists courses in which students in this survey intended to enroll. The response rate is very small for all VET profiles.

**Table H2\_disaggregated.—Frequencies of item responses regarding further education and training, by VET profile**

Agricultural technician	N	Food technician	N	Dairy processor	N
Foreign language course	1	IT course	4	IT course	3
English language course	1	Foreign language course	3	Foreign language course	2
Faculty of Agriculture	1	Forestry activities	1	Head dresser	1
IT course	1	Faculty of Technology	1	Food technician	1
				Practice	1
				Dairy processor	1
Total	4	Total	9	Total	9
Veterinarian technician	N	Plaster block fitter	N	Operator of mechanical processing	N
Faculty	2	Custom shipper	2	IT course	5
Faculty of Agriculture	2	Post secondary IT school	2	Foreign language course	5
Driving school	1	Civil construction engineer	1	Post secondary mechanical school	2
Faculty of security	1	Operating with civil construction mechanization	1	Post secondary school	2
English language course	1			Cooking course	1
Faculty of medicine - pharmacy department	1			Work on CNC machines	1
Certificate	1			Knowledge on machines	1
Faculty of Veterinary	1			Engines and vehicles	1
Faculty of technology	1				
Post secondary veterinarian school	1				
Pharmaceutical –cosmetic engineering	1				
IT course	1				
Faculty of Veterinary	1				
Post secondary school	1				
Practice	1				
Total	17	Total	6	Total	18

Two tables below show that a great majority of students (about 80%) in Construction and Metal sectors was satisfied or very satisfied with curriculum, teaching, teacher-student relationship, classrooms, and workshops. The same is true of students in Agriculture and Food Processing sector regarding curriculum, teaching, and teacher-student relationship; however, they were less satisfied with classrooms and workshops. Students in all three sectors think less highly of usefulness of their VET schooling for their current jobs.

**Table I disaggregated (1).—Percentage distribution of item responses regarding retrospective opinion on VET, by sector**

Retrospective opinion on VET		N	Percentage choosing each response category				
			Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
I1. Usefulness of VET schooling for current job	Agriculture	38	23.7	5.3	13.2	23.7	34.2
	Construction	35	17.1	2.9	8.6	31.4	40.0
	Metal	42	11.9	11.9	28.6	26.2	21.4
I3_1. Satisfaction with curriculum	Agriculture	59	1.7	3.4	11.9	33.9	49.2
	Construction	51	2.0	3.9	17.6	45.1	31.4
	Metal	58		1.7	17.2	29.3	51.7
I3_2. Satisfaction with teaching	Agriculture	56			12.5	41.1	46.4
	Construction	49	2.0	2.0	8.2	38.8	49.0
	Metal	54			11.1	14.8	74.1
I3_3. Satisfaction with teacher-student relationship	Agriculture	60	1.7		18.3	30.0	50.0
	Construction	50		4.0	8.0	28.0	60.0
	Metal	56			5.4	16.1	78.6
I3_4. Satisfaction with classrooms	Agriculture	59	5.1	11.9	23.7	28.8	30.5
	Construction	47	4.3	6.4	4.3	40.4	44.7
	Metal	58		1.7	15.5	24.1	58.6
I3_5. Satisfaction with workshops	Agriculture	58	10.3	10.3	19.0	27.6	32.8
	Construction	49	2.0		8.2	30.6	59.2
	Metal	57			7.0	28.1	64.9

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table I disaggregated (2).—Means and standard deviations of item responses regarding retrospective opinion on VET, by sector**

Retrospective opinion on VET	N	Mean	Std. dev.	Sig. difference	
I1. Usefulness of VET schooling for current job	Agriculture	38	3.39	1.59	—
	Construction	35	3.74	1.46	
	Metal	42	3.33	1.28	
I3_1. Satisfaction with curriculum	Agriculture	59	4.25	0.92	—
	Construction	51	4.00	0.92	
	Metal	58	4.31	0.82	
I3_2. Satisfaction with teaching	Agriculture	56	4.34	0.69	between Construction and Metal*
	Construction	49	4.31	0.87	
	Metal	54	4.63	0.68	
I3_3. Satisfaction with teacher-student relationship	Agriculture	60	4.27	0.88	between Agriculture and Metal*
	Construction	50	4.44	0.81	
	Metal	56	4.73	0.56	
I3_4. Satisfaction with classrooms	Agriculture	59	3.68	1.18	between Agriculture and Construction* and between Agriculture and Metal**
	Construction	47	4.15	1.06	
	Metal	58	4.40	0.82	
I3_5. Satisfaction with workshops	Agriculture	58	3.62	1.32	between Agriculture and Construction** and between Agriculture and Metal**
	Construction	49	4.45	0.82	
	Metal	57	4.58	0.63	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05≤p-value<0.10 under Tukey's HSD post-hoc procedure.

Two table below show that, across three VET sectors, about three quarters of all students would choose again their VET profile.

**Table I2 disaggregated (1).—Percentage distribution of item responses regarding retrospective opinion on VET, by sector**

Retrospective opinion on VET	N	Percentage choosing each response category		
		Yes (1)	No (2)	
I2. Student would choose same VET profile again	Agriculture	56	73.2	26.8
	Construction	47	74.5	25.5
	Metal	55	83.6	16.4

NOTE: Percentage distributions are based on only those respondents who answered the questions. Percents may not add to 100 because of rounding.

**Table I2 disaggregated (2).—Means and standard deviations of item responses regarding retrospective opinion on VET, by sector**

Retrospective opinion on VET	N	Mean	Std. dev.	Sig. difference	
I2. Student would choose same VET profile again	Agriculture	56	1.27	0.45	—
	Construction	47	1.26	0.44	
	Metal	55	1.16	0.37	

\*\*p-value < 0.05 under Tukey's HSD post-hoc procedure; \*0.05≤p-value<0.10 under Tukey's HSD post-hoc procedure.

## Conclusions and Recommendations

Bearing in mind limitations described below, this report presents findings that somewhat support the value and success of the new VET profiles in Serbia. Student responses indicate that the new VET profiles were accepted and appreciated. Their connection with students' employment was also positive, albeit to a lesser degree.

In addition to the general endorsement of the new VET profiles and their relevance in students' careers provided by the respondents, several findings should be highlighted.

First, the strongest endorsement was found for the following aspects of VET schooling: curriculum, teaching, relationship between practice and taught curriculum, teacher-student relationships, classrooms, and workshops. Students in the Metal sector were especially satisfied with their VET education.

Second, adequacy and importance of VET schooling for students' jobs and their job satisfaction was positive in general, albeit less so than students' satisfaction with VET schooling. Students in the Metal sector were somewhat less positive about VET adequacy, possibly because only a third of them worked at jobs for which they were trained.

Third, students in all three sectors seemed to have found their first job relatively easily, considering that majority of them contacted a few employers before finding a first job. Effort to find a job and employment were much higher for students in Metal and Construction sectors than for students in Agriculture and Food Processing sector. It is possible that some of the later students continued onto higher education.

Fourth, students found jobs mostly through family contacts and their own initiative. Local employment agencies and schools helped little, with the exception in Construction sector, where school counseling considerably contributed to students' job search.

Last, but not the least, two cautionary notes are in place: 1) in order to claim that the findings presented in this report are representative of the student population that was enrolled in new VET profiles, it is necessary to confirm that the respondent sample is no different than the student population in question, and 2) no comparisons were made between old and new VET profiles, so this study cannot claim that the new VET profiles are necessarily an improvement over the old VET profiles.

Based on these results, we offer the following recommendations:

- Explore more fully the links between VET profiles on one hand and market forces, local employment agencies, and employers on the other hand, to see if there are actions that can be taken to make VET profiles more adequate and relevant for students' employment.
- Investigate the reasons behind very low response rates in Electrical Engineering and Health sectors.
- Follow the employment and education outcomes of this student sample and of several more cohorts of students in new VET profiles to fully judge the success of new VET profiles.
- Share widely the findings of this survey, especially with major stakeholders in Serbian VET system: VET students, VET schools, employers, and Ministry of Education.

**VET Graduate Tracer Study Questionnaire**  
**Questionnaire to be completed by the VET Graduate**

2. For office use: Date of return
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Code 1.	Personal Information			
Personal Data	Given name and surname			
	Date of birth (d/m/y)		Age (Years)	
	Gender		Male	Female
	Education Profile (Title of Study Programme)			
	Month/Year completed			
	Postal Address of Graduate			
	Street and number			
	Place			
	Post Code			
	Contact telephone			
	E-mail			
If employed, name of employer (name of firm where	Address of employer			
	Street and number			
	Place			
	Post code			
	Contact telephone number			
	Email			

The VET Graduate Questionnaire covers the following areas:

- A. Educational background prior to study
- B. VET courses undertaken
- C. Job search and sequence of professional activities
- D. Current activities, employment and work
- E. Competencies and their application
- F. Relationships between VET and work
- G. Work orientations and job satisfaction
- H. Further education and training
- I. Retrospective assessment of VET studies

Date completed d/m/yr				Signature	
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## VET Graduate Tracer Study Questionnaire

### Questionnaire to be completed by the VET Graduate

#### A. Educational background prior to study

Code	Ref	Questions	To be completed by the VET Graduate				
3	A1	When starting VET studies, how would you rate your grades? 5 point scale (Circle from 1 to 5) 1=very bad 5=very good	1	2	3	4	5

#### B. VET courses undertaken

Code	Ref	Questions	To be completed by the VET Graduate				
4	B1	VET School attended	Write the name of the VET school attended				
5	B2	Please, provide information about the subjects/modules and grades obtained in your VET qualification.  List the most useful 5 subjects/ modules only	1. 2. 3. 4 5.				
6	B3	To what extent did your work practice (employment, self-employment, internships etc.) during study tie up with the content of your studies? 5 point scale: 1=not at all 5 =to a very high extent	1	2	3	4	5
7	B4	During your VET studies, how would you rate the study (teaching) provision? 5 point scale: 1=very bad 5=very good	1	2	3	4	5
8	B5	During your VET studies, how would you rate the study conditions? 5 point scale: 1=very bad 5=very good	1	2	3	4	5
9	B6	How do you rate your expertise in selected computer skills such as word processing, spreadsheet, others areas <b>at the time of graduation?</b> 5 point scale: 1=no skills at all 5=very good	1	2	3	4	5
9	B7	How do you rate your expertise in selected computer skills such as word processing, spreadsheet, others areas <b>at this time?</b> 5 point scale: 1=no skills at all 5=very good	1	2	3	4	5
10	B8	How do you rate your expertise in one other foreign language <b>at the time of graduation?</b> 5 point scale: 1=very bad 5=very good	1	2	3	4	5
11	B9	How do you rate your expertise in one other foreign <b>at this time (to-day)?</b> Tick the appropriate box	Improved since graduation Stayed to same Got worse				<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

### C. Job search and sequence of professional activities

Code	Ref	Questions	To be completed by the VET Graduate	
12	C1	Did you ever try to seek a full time job since graduation Circle yes or no	Yes	No
13	C2	When did you start looking for a job? Exclude search for part-time and vacation jobs.  Tick the appropriate box	Month 1 after graduation Month 2 after graduation Month 3 after graduation Had a Job before Graduation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
14	C3	How did you try to find the first job after graduation?  Tick the appropriate boxes (not more than 3 boxes to be ticked)	1.Assisted by the school	<input type="checkbox"/>
			2.Assisted by local employment office	<input type="checkbox"/>
			3.Assisted by my family	<input type="checkbox"/>
			4. Advertisement	<input type="checkbox"/>
			5. Job offer from an employer	<input type="checkbox"/>
			6. I contacted the employer	<input type="checkbox"/>
15	C4	Which method was the most important one for getting your first job after graduation?  Tick the appropriate boxes (not more than 2 boxes to be ticked)	1. Counselling and advice from my schools	<input type="checkbox"/>
			2. Counselling and advice from the employment office	<input type="checkbox"/>
			3. Family contact	<input type="checkbox"/>
			4. Knowing the employer	<input type="checkbox"/>
			5. My own initiative	<input type="checkbox"/>
16	C5	How many employers did you contact before you took up your first job after graduation? Tick the appropriate box	1-5 6-10 11-15	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
17	C6	How important was having a good curriculum vitae document in getting your first job?  Tick the appropriate box	1. Very important 2. Important 3. Not used for finding my first job	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

### D Employment and Work

Code	Ref	Questions	To be completed by the VET Graduate	
18	D1	Please inform us on your current major activity.  Tick the appropriate box	1. Permanent job	<input type="checkbox"/>
			2. Part-time work	<input type="checkbox"/>
			3. Self-employed	<input type="checkbox"/>
			4. Not working in the last 4 weeks	<input type="checkbox"/>
			5. Unemployed since graduation	<input type="checkbox"/>
19	D2	How many employers (including no of times self-employment) have you worked for in the period after graduation (including your present employer)?  Tick the appropriate box	1. 2. 3. 4. 5.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
20	D3	If you are currently employed/self-employed: How would you describe your current work activities?  Tick one choice only	1. Routine (doing the same work <b>each week</b> ) 2. Varied work tasks (doing different work <b>tasks each week</b> ) 3. Varied work task (Doing different work tasks <b>each day</b> )	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
21	D4	In order of priority, which of the following characteristics are the most important for you in your current work? Rank 1 to 4 in order of priority	<ul style="list-style-type: none"> <li>• Proximately to my home</li> <li>• Job satisfaction</li> <li>• Salary</li> <li>• Work colleagues</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
22	D5	Approximately, how many are employed in your current place of employment?	1. 1-5 2. 6-10 3. 11-15 4. 16-50	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

			5. 50+	<input type="checkbox"/>
23	D6	Are you working in the profession that you were trained for? Circle either yes or no	Yes	No

## E Competencies and there application

Code	Ref	Questions	To be completed by the VET Graduate				
24	E1	Overall, how relevant are your qualifications at the time of graduation to your current work? 5 point scale: 1=not at all 5=a very high extent	1	2	3	4	5
25	E2	How relevant are the theoretical knowledge acquired in VET school to you current work? 5 point scale: 1=not at all 5=a very high extent	1	2	3	4	5
26	E3	How relevant are the practical skills acquired in VET school to your current work? 5 point scale: 1=very bad 5=very good	1	2	3	4	5

## F. Relationship between VET and Work

Code	Ref	Questions	To be completed by the VET Graduate				
27	F1	At this time, is your current education and training appropriate for your current job? 5 Point scale: 1=not appropriate 5=completely appropriate	1	2	3	4	5
28	F2	At this time, which modules of your VET course are the most appropriate to your current work?  List the most important modules or subjects	1				
			2				
			3				
			4				
			5				
29	F3	At this time, which general subjects are the most appropriate to your current work?  List the most appropriate general subjects	1				
			2				
			3				
			4				
			5				
30	F4	Does your work situation at this time meet your expectations at the time of graduation?  5 Point scale: 1=much worse than expected 5=much better than expected	1	2	3	4	5

## G. Job Satisfaction

Code	Ref	Questions	To be completed by the VET Graduate				
31	G1	Overall, to what extent are you satisfied with your current work? 5 point scale 1=very dissatisfied 5=very satisfied	1	2	3	4	5
32	G2	Overall, to what extent are you satisfied with your present level (positions such as operative, technician, etc. in the work place)? 5 point scale 1=very dissatisfied 5=very satisfied	1	2	3	4	5
33	G3	Overall, to what extent are you satisfied with your life goals?  5 point scale 1=very dissatisfied 5=very satisfied	1	2	3	4	5

## H Further Education and Training

Code	Ref	Questions	To be completed by the VET Graduate	
34	H1	Are you currently participating in further educations and training?  Tick to appropriate boxes. If no leave blank	1. Further education and training related to my profession	<input type="checkbox"/>
			2. Further education and training not related to my profession	<input type="checkbox"/>
35	H2	List the types of additional education and training you need for your career.  List the areas of work such as supervisory studies, etc.	1 2 3 4 5	

## I Retrospective Assessment of VET Studies

Code	Ref	Questions	To be completed by the VET Graduate				
36	I1	To what extent did your studies help you?  5 point scale 1=not at all 5=to a very high extent	1	2	3	4	5
37	I2	Looking back, if you were free to choose again, how likely would you attend the same course again?	Yes		No		
38	I3	During your studies, to what extent were you satisfied with your VET Institution  Rate the following areas on a 5 point scale: 1=very bad 5=very good	1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5

## VET Graduates: Employer Satisfaction Study

2. For office use: Date of Return

Code 1.	Personal Information	
Name of Interviewer	Name Interviewer	
	Contact details: telephone	
	E-mail	
Name of Interviewee	Name of Interviewee	
	Position	
	Name of Company/Employer	
	Address	
	Post code	
	Contact details: telephone	
	email	

The employer satisfaction study concerning VET graduates focuses on the following areas:

- A. Recruitment methods
- B. Core competencies
- C. Job specific competencies
- D. Other issues: problems; constraints and related matters

Date completed d/m/yr				Signature	
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### VET Graduate: Employer Satisfaction Study

#### Notes on completion of the questionnaire

1. The questionnaire to be completed by the interviewer based on a structured interview with the employer of the VET graduate.
2. The interviewee should be a person who has direct experience of the performance of the VET graduate in the workplace.
3. Any questions that cannot be answered by the interviewee should be left blank.

## A. Recruitment method

Code	Ref	Questions	Interviewer completes																		
3	A1	Name of graduate _____																			
4	A2	Name of school attended: _____																			
5	A3	What recruitment method was used in the recruitment of the VET Graduate  Tick one item only (the main method used)	<table border="1"> <tbody> <tr> <td>a) Student's school contacted me / my company</td> <td><input type="checkbox"/></td> </tr> <tr> <td>b) I / my company contacted student's school</td> <td><input type="checkbox"/></td> </tr> <tr> <td>c) Local employment agency contacted me / my company</td> <td><input type="checkbox"/></td> </tr> <tr> <td>d) I / my company contacted local employment agency</td> <td><input type="checkbox"/></td> </tr> <tr> <td>e) Student's family and / or friends contacted me / my company</td> <td><input type="checkbox"/></td> </tr> <tr> <td>f) Student sent a resume to me / my company</td> <td><input type="checkbox"/></td> </tr> <tr> <td>g) Student personally contacted me / my company</td> <td><input type="checkbox"/></td> </tr> <tr> <td>h) Student answered my / my company's advertisement</td> <td><input type="checkbox"/></td> </tr> <tr> <td>i) Other method, Please specify: _____</td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	a) Student's school contacted me / my company	<input type="checkbox"/>	b) I / my company contacted student's school	<input type="checkbox"/>	c) Local employment agency contacted me / my company	<input type="checkbox"/>	d) I / my company contacted local employment agency	<input type="checkbox"/>	e) Student's family and / or friends contacted me / my company	<input type="checkbox"/>	f) Student sent a resume to me / my company	<input type="checkbox"/>	g) Student personally contacted me / my company	<input type="checkbox"/>	h) Student answered my / my company's advertisement	<input type="checkbox"/>	i) Other method, Please specify: _____	<input type="checkbox"/>
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f) Student sent a resume to me / my company	<input type="checkbox"/>																				
g) Student personally contacted me / my company	<input type="checkbox"/>																				
h) Student answered my / my company's advertisement	<input type="checkbox"/>																				
i) Other method, Please specify: _____	<input type="checkbox"/>																				

## B. Core Competency (See attached explanation for clarity of understanding)

If the core competency is not necessary for the job performance, circle 0

Code	Ref		Interviewer completed / or employer					
6	B1	Communication in the mother tongue 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
7	B2	Communication in foreign language 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
8	B3	Mathematical competencies and basic competencies in Science and technology 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
9	B4	Digital competencies 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
10	B5	Learning to learn 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
11	B6	Social and civic competencies 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
12	B7	Sense of initiative and entrepreneurship 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5
13	B8	Cultural awareness and expression 5 point scale: 1=insufficient for the job 5=exceeds the needs of the job	0	1	2	3	4	5

### C. Job Specific Competencies

Code	Ref	Questions	Interviewer completed				
14	C1	How would you rate the theoretical knowledge of the student <b>needed to perform work tasks at the time of recruitment?</b>  5 point scale, adequacy of VET education in the provision of knowledge: 1=insufficient 5=exceeds the needs of the work task	1	2	3	4	5
15	C2	How would you rate theoretical knowledge of the student <b>needed to perform work tasks at this time?</b> 5 point scale, 1=insufficient 5=exceeds the needs of the work tasks	1	2	3	4	5
16	C3	How would you rate the practical skills of the student <b>needed to perform work tasks at the time of recruitment?</b> 5 point scale: 1=insufficient 5=exceeded the needs of the work tasks	1	2	3	4	5
17	C4	How would you rate the practical skills of the student <b>needed to perform work tasks at this time?</b> 5 point scale: 1=insufficient 5=exceeds the needs of the work tasks	1	2	3	4	5
18	C5	At this time, does the VET graduate live up to your <b>expectations?</b> 5 point scale: 1=not at all 5=entirely exceeded my expectations	1	2	3	4	5
19	C6	At the time of recruitment, did the student lack a particular skill or knowledge necessary for the performance of his job?	No <input type="checkbox"/> Yes (Which ones) 1 _____ 2 _____ 3 _____ 4 _____ 5 _____				
20	C7	How would you rate this graduate, when compared to previous graduate in the same profession (profile)	1. Better than previous <input type="checkbox"/> 2. The same as previous <input type="checkbox"/> 3. Worse than previous <input type="checkbox"/>				
21	C8	What improvements would you as an employer suggest for a more effective and efficient VET system?  Maximum of 5 suggestions only (fill in across)	1. _____ 2. _____ 3. _____ 4. _____ 5. _____				
22	C9	Any general comments you would like to make?					

## Eight key competences

This framework defines eight key competences and describes the essential knowledge, skills and attitudes related to each of these. These key competences are:

- **communication in the mother tongue** which is the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate and creative way in a full range of societal and cultural contexts;
- **communication in foreign languages** which involves, in addition to the main skill dimensions of communication in the mother tongue, mediation and intercultural understanding. The level of proficiency depends on several factors and the capacity for listening, speaking, reading and writing;
- **mathematical competence and basic competences in science and technology.** Mathematical competence is the ability to develop and apply mathematical thinking in order to solve a range of problems in everyday situations, with the emphasis being placed on process, activity and knowledge. Basic competences in science and technology refer to the mastery, use and application of knowledge and methodologies which explain the natural world. These involve an understanding of the changes caused by human activity and the responsibility of each individual as a citizen;
- **digital competence** involves the confident and critical use of information society technology (IST) and thus basic skills in information and communication technology (ICT);
- **learning to learn** is related to learning, the ability to pursue and organise one's own learning, either individually or in groups, in accordance with one's own needs, and awareness of methods and opportunities;
- **social and civic competences.** Social competence refers to personal, interpersonal and intercultural competence and all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life. It is linked to personal and social well-being. An understanding of codes of conduct and customs in the different environments in which individuals operate is essential. Civic competence, and particularly knowledge of social and political concepts and structures (democracy, justice, equality, citizenship and civil rights) equips individuals to engage in active and democratic participation;
- **sense of initiative and entrepreneurship** is the ability to turn ideas into action. It involves creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. The individual is aware of the context of their work and is able to seize opportunities which arise. It is the foundation for acquiring more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance;
- **cultural awareness and expression** which involves appreciation of the importance of the creative expression of ideas, experiences and emotions in a range of media (music, performing arts, literature, and the visual arts).

These key competences are all interdependent, and the emphasis in each case is on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking, and constructive management of feelings.

## A European reference framework for the Member States and the Commission