Identifying the needs and demands for the WBL/APP model in automotive and automation sector in Nova Gorica and Satakunta regions

Third deliverable in WP 2: Understanding the Future trends

In the preparation of the report participated:

Darko Mali, CPI Slovenia

Barbara Bauman, CPI Slovenia

dr. Petra Štirn Janota, CPI Slovenia

Adrijana Hodak, SC Nova Gorica, Slovenia

Boštjan Vouk, SC Nova Gorica, Slovenia

Jaakko Niemela, Satakunnan Kouluskuntayhtyma, Sataedu, Finland

Students from SC Nova Gorica

Students from Satakunnan Kouluskuntayhtyma, Sataedu school, Finland

Tanja Krapež, Mahle Letrika company, Slovenia

Erik Panjtar, Mahle Letrika company, Slovenia

Collected and edited by:

Barbara Bauman

dr. Petra Štirn Janota

Created on July 2018

Index:

1 Introduction

1.1.1 Short description about the questionnaire

For the purpose of analyzing needs and demands for Nova Gorica and Satakunta regions we created a questionnaire. The title of the questionnaire was *Understanding the future trends[1].*

The questionnaire was divided into four parts. Introductory part (Glossary), first part (Who are you?) and third part (How do we cooperate?) are presented in first deliverable - *Analysing advantages and disadvantages of existing partnership models in Slovenia and Finland.* The last part of the questionnaire (What about the future?) which is focused on future (expectations, needs and demands, wishes, ideas and predictions) is presented in this deliverable.

1.1.2 Methodology

The questionnaire was prepared for three different target groups. First target group were students from School centre Nova Gorica and Sataedu secondary school. Second target group were pedagogical staff (teachers and school managers) from schools named above. Third target group were companies in Nova Gorica and Satakunta region.

All three groups were fulfilling third and fourth part of the questionnaire. In this parts they were answering the same questions, only difference was that student's questionnaire did not include questions about legal and financial support. First and the second part was intended to companies and schools with the purpose to unify the basic professional terms that they are using whet they are talking about VET system and cooperation and to gather basic information about the schools and the companies that are involved in the project.

All the questions in questionnaire were open type. At the end of the questionnaire the participants had the opportunity to add their own thoughts, views and ideas about cooperation.

---

[1]See the annex Nr. 1.

We gathered 27 completed questionnaires from Finnish partner (13 of the questionnaires were completed by Sataedu students, 3 of the questionnaires were completed by Sataedu management, 3 of the questionnaires were completed by Sataedu teachers who are organising in-company training, 2 of the questionnaires were completed by the Sataedu teachers who are not organising in-company training and 6 of the questionnaires were completed by the companies Cimcorp, Sataosaajat and Satmatic in Satakunta region where Sataedu students are coming for in-company training).

From Slovenian leader partner we gathered 5 questionnaires (two of the questionnaires were completed by company Mahle in Nova Gorica region where students from SC Nova Gorica are coming for in-company training, two were completed by SC Nova Gorica and one was completed together by 24 students).

We summed up the answers first according to the country and then according to the target group.
In the questionnaire analysis, a descriptive research method was used, which we combined with inductive coding (Vogrinc 2008[2]). This means that at each (central) question, the answers were categorized according to their substantive similarities in related categories.

---

[2] Vogrinc, J. (2008). *Kvalitativno raziskovanje na pedagoškem področju*. Ljubljana: Pedagoška fakulteta. Dostopno na: http://pefprints.pef.uni-lj.si/179/1/Vogrinc1.pdf

2   Needs and demands for the WBL/APP model in automotive and automation sector in Nova Gorica region and Satakunta region(Finland, Slovenia)

According to the questionnaire we were asking our project participants also about needs and demands on the field of partnerships (WBL and APP model) and specially for automative and automation sector. In this section we are presenting separately by the countries the answers from students, companies and school.

The answers are focusing on the needs and demands:
- on the field of *automobile/automotive sector*,
- on the field of *education*,
- on the field if *youth culture*, and
- on the filed of WBL/APP model in automotive and automation sector.

Participants were thinking about the challenges and suggested changes. Below we present categorized answers.

2.1   Youth needs and demands

2.1.1   Needs and demands from Students in Nova Gorica

2.1.1.1   Needs and demands on the field of automotive/automobile sector

Students are answering that they see the challenges especially on the fields of digitalization, efficient use of energy and electrifying vehicles. They are aware of the fast changes and complexity on this field and they on one side would need more specialized knowledge from these areas, but also more cooperation between theory and practice and also cooperation from outside – from foreign specialists.

As we pointed out in the chapter about future trends – many future jobs we do not know jet, but we need to be prepared to see, to develop qualities that help us react and be flexible for (in) the future.

2.1.1.2 Needs and demands on the field of education

Challenges that students are pointing out on the field of education are in some point not very advanced, but the needs, which students are pointing out, are showing that current situation in school is still very rigid and not in step with above mention education trends.

Students see the challenges in schooling out of school (on line schooling, just mentoring without obligation of attendance at school, etc.), but they are also aware that the quality of knowledge can fall if there is not enough control. They are saying that *»the rules and control are o.k. and that if there is no »MUST«, there is no control, consequently also lower level of knowledge.*" But on the other side, they are saying that "...*the marks and the actual knowledge differ of the knowledge the students possess; it means that the marks are not the result",* what can point out the importance to consider the non-formal knowledge acquired outside the school and also to rethink the system of assessing the knowledge.

What is surprise is that they also see the creativity as threat. They are saying that "...*too much creativity can be harmful*", what probably shows that the students don't have the clear perception of creativity or even not having experiences with developing creativity in a way we explained above in chapter 3.2.

They see challenge to learn in smaller group, gaining different knowledge also outside of the school with possibility to verify it.

As needs, they are pointing out so needed link between theory and practice. They are saying that "*there should be planned at least one product per year and agreed by the teacher of theory and practice (both of them), as well*".

They also have need for more communication at the level of learning process. They suggest use of virtual classroom, especially when they are preparing for the examination/tests. As they are saying *»...we do need help during the time of preparation and there is nobody you can ask for help«.* They also express the need of more tied cooperation between school teachers and company. They are saying that *»...teachers should be up skilling in the companies«* and on the other side they also point out the need

of meeting together with ideas, needs »… *the thinking of teachers and parents should change and should come closer to the students thinking.«*

They also point out the need for longer period of training at work, possibilities to have combination between doing different project at work and in school and the need that practical work would be implemented in smaller group, with the possibilities that they can develop and do the things they find interesting and they like to do.

2.1.1.3   Needs and demands on the field of youth culture

Students are aware that in the future there would be less of any manual work because the process is going to be automated, but they are not concern about it "…*we cope with the new technologies without problems*".

They are pointing out the need for flexibility. As they are saying they "*do not need the schedule any more: if you have your own interest, you do what you need to do; you are not limited with the working hours; depends on your own interest, self initiative*«. But they also point out the need to work what interest you "… you need to do what you like to do, otherwise all the before mentioned issues don't work". And according to this need they are also prepared, even have need to change the job often, to experience different things. Any by seeking and changing jobs money is also important motivational aspect.

They are also aware that continuing education is very important "…*VET school (middle school) is not enough for your development. You need to go to the university which can bring you much more*".

What they are aware is also that new generation are not enough socializing, especially younger generation, who is more connected in virtual life. If we find this as true and important recognition, it is according to the need to develop inert and intrapersonal competences very high responsibility for school and company to put attention on creating the real meeting space, where students and other participants in WBL can really (in real) meet, learn from each other, share idea, giving support etc.

2.1.1.4   Needs and demands on the WBL/APP model in automotive and automation sector

According to the answers from Slovenian students, they wish to get diverse and new knowledge with participating in now WBL model (exam. Codes: *Learning new things, learning new and become better, upgrade things you has learn from before).*

They would also need more tutoring and they wish to have possibility for mobility abroad. And what they also need is to be involved in real work more (exam. codes: *more real work, listening and watching is not enough, etc.)*

2.1.2   Needs and demands from student in Satakunta region

2.1.2.1   On the field of automobile/automation sector

In this part of the questionnaire, we asked students to identify three most important challenges or trends in the field of automation sector. Most of the respondents did not identified any challenges or trends, some of the challenges were listed but they do not fall within required field. These are for example: difficult field, difficult to have qualified personnel, more in company training.

2.1.2.2 On the field of education and in the field of work

In identifying trends in the field of education (learning, teaching) and in the field of work they were more successful. Students think that that the field of education meets the following important trends:

- different teaching methods,
- more practical training (in company),
- use of modern technology.

2.1.2.3   On the field of youth culture

To this question, we received very different answers. One part of the students believe that today's youngsters are less motivated for schooling and that they do not have learning and working habits. The other part of students thinks opposite. They pointed

out that young people are aware of the importance of education and lifelong learning in general.

2.1.2.4 Needs and demands for the WBL/APP model in automobile/automation sector

According to the students answers we can conclude that their needs and demands for the WBL/APP model are mostly related with new knowledge and skills, for example: reading diagrams, English language.

2.2 School needs and demands

2.1.3 Needs and demands from SC Nova Gorica

2.1.3.1 Needs and demands on the field of automobile/automative sector

They are answering that in the field of automobile sector there are many chalanges. They expose the Crossover vehicles (they write *that for a generation that expects the comfort of an SUV with fuel and operational cost-effectiveness, crossover vehicles have become a big hit and that is expected big investments and experimentation, alongside the discovery of newer markets for the sturdy and fun crossover vehicles*).

Other challenge is **Car sharing** (they explane that industry experts have found that, over the past couple of years, emotional attachment to cars has decreased significantly and so car sharing has become very popular, even in emerging economies in the APAC and the EMEA regions. The fact that by 2030, one out of every ten cars sold is estimated to be a shared vehicle reflects the growing awareness to 'go green' and reduce carbon footprints. Market analysts at Technavio predict that the concept of car sharing will also undergo big time customization in 2018. Ride sharing major, Uber, is already allowing passengers to use an auxiliary cable for music, and in some cases even offering snacks and drinks to enhance the passenger's core riding experience.)

Third challenge is **IoT sparking** (they comment that it *is expected that connected cars will step out of developmental obscurity and become an important personal item to be connected to the internet. While the technology in itself isn't new, the adoption rate of connected vehicles will rise steadily over the next five years).*

Fourth challenge is **Baby boomers and multi-terrain vehicles** (they explain that M*ulti-terrain vehicles provide the much-needed comfort and ease of operation in difficult terrains. Their five-door utility, heated leather seats, high-end audio systems, and frugal fuel consumption are all incredibly appealing to baby boomers. This explains the spike in sales of multi-terrain vehicles over the past few years, and the trend is expected to continue into 2018).*

Fifth challenge on the field of automotive sector is **cloud powered automotive industry,** which enables scaling of different processes and services, thereby reducing costs and eliminating any scope for waste. Thus, 2018 will see the automotive industry take more determined steps to integrate their engineering and design activities with the cloud.

Sixth challenge on this field is i**mproved pricing with block chain capabilities.** They explain that by simplifying the methods to identify and remove the counterfeit parts, block chain brings transparency into the system and improves the overall pricing strategies. In fact, industry experts believe that block chain will eventually enable fair pricing in the car market.

And more challenges they see as student in 3D printing, electric cars, **driverless with autonomous vehicles.**

And the last challenge that they point out as very important is big data's increasing role in the automotive industry as the Department of Transportation has mandated that all new cars must digitally communicate starting 2020. Ford and Toyota have already teamed up to launch open platform *infotainment systems* that will connect to popular mobile phone operating systems like Android and iOS. With these developments, 2018 will witness a higher number of cars with interconnected features that will allow app developers to adapt their offerings to cross platform users on mobile, tablet, and the web. Digitalization is finally finding a relatable example in the automotive industry.

2.1.3.2   *Needs and demands on the field of education*

According to the answers teachers in school are aware that school system needs to change. That existing system does not offer students enough challenges, support and place for research develop and upgrade their knowledge. As they point out it is not

enough to change the methods, system, the need is to change the paradigm of education. And the key starting point for this change they suggest different environment (where student can explore the intersection between their skills and interests, and which enable them to find the domain of inquiry that they will pursue for the length of their career.

They also point out the importance of flow knowledge instead knowledge stock. As they write "*learning has become something that we undertake periodically at the start of each new phase of our career, a career of serial specialisation driven by the rapid, and inevitable, ageing of our knowledge stocks.*"

The important part in on their opinion also changed role of the teacher, who is not just knowledge transferor but more shared thinker, who learns from students, share knowledge, experiences, support developing different skills and personal growth. But on the other hand they are also emphasizing the importance of the teacher's presence in the pedagogical process - good lectures are still better compared to the flood of various online guides.

And what is important is to have s support from school leader.

And last think that they point out as the need on the field of education is constant networking with community and labour market. As they write *"The labour market is getting aware now, it's not the employer anymore who is buying the employee/working force, but the employee/working force is buying the* employer. The employers are now not focusing any more on credentials of their working force, but on their skills (only little), behaviours, experiences, personal development and integration of all these elements into their work. The same we should focus in educational sector.«

As we see, these points are connected to the theoretical emphasis in the second deliverables chapter Future trends – chapter education.

And they offer some concrete suggestions:

- each student should have a self-made portfolio where all his achievements are kept (paper achievements are not considered). only this could be submitted to the employer at the first "contact" (work practice, holiday work ...) before work;

- separate groups of gifted students and work with them according to a special program. for this, a precise teacher should be employed;

- the final products in the pedagogical process should be more oriented to practical products than to seminar tasks that are for their own sake;

- innovative student products should be (materially) rewarded;

- in the communication process, weekly meetings with the reports of all stakeholders should be introduced.

2.1.3.3   Needs and demands on the field of youth culture

They are answering that young (Z generation) generation needs safety and is motivated by security. They also need to have change to work and be judged on their own merits rather than those of team. They are on their opinion more competitive and want/need independence . They know a lot and are able to do different task so they need variable work and variable ways of gathering knowledge (this is also something that students themselves had pointed out). As the are more enterprentual, they should have opportunity to gather business knowledge, to have challenge and support on doing and trying in business. They also write that they need a lot of support and work on being precise, being disciplined and develop working habits and for this they think is important that "*the company understands that the school is necessary for their existence and that the company dictates professional content (especially in the part of the open curriculum) of the school. Students must feel the connection between businesses and school, and at the same time be a necessary link.* And their vision for the future*: "…the development of campuses (businesses and business incubators should be located in the same locations as schools). For a technical part or. equipment should be taken care of by the company, and for high-quality, educated staff, schools."*

2.1.3.4   Needs and demands on the of WBL/APP model in automotive and automation sector

For skills, knowledge and attitudes that need to be developed in WBL/APP model teachers list: agility, people management, cognitive flexibility, ready to change,

innovative in creative thinking, complex problem solving, critical thinking, judgement and decision making, communication, teamwork, coaching, promoting oneself, emotional intelligence and negotiation. They are saying that they should encourage companies to become more involved in integrating professional content into the pedagogical process. They are also saying that they should increase the scope of professional content –to obtain the right specialist teaching staff (currently there is a shortage of professional staff in the labour market).

And what on their opinion they need to develop more in model is knowledge in Electrical Engineering, Computer and Mechanical Engineering, Social skills and Fundamental knowledge of English and German (especially professional terminology).

2.1.4   Needs and demands From Saakunta School

2.1.4.1   On the field of automobile/automation sector

School identified quite a few challenges and trends, but they do not fall within field of automation sector. The only exception is digitalization.

2.1.4.2   On the field of education

From the answer to the question, we can conclude that school is aware that world, technology, learning, working etc. are changing and that education/school system need to change to.

2.1.4.3   On the field of youth culture

Trends in the field of youth are: lack of reading skills, lack of working ethnic.

2.1.4.4   Needs and demands for the WBL/APP model in automobile/automation sector

School did not answer to this question.

2.3   Company needs and demands

3.2.3   Needs and demands from Mahle Company Nova Gorica

3.2.3.1   Needs and demands in the field of education

In company, they are saying that first need is to *link more theory and practice* (exam. codes: *students do not get enough operational knowledge, we see the lack of very specific knowledge and skills of the students and new co-workers*). They also point out the need of *knowing before cooperating* (exam.codes: *organize field trip in the company giving some information before student chooses the place for working, meeting with student and presenting them possibilities of internships before they apply*).

Another point is that school should *follow company trends* – because as they say, now there is stil a problem on this field "*Schools don`t follow the trends of the companies. For example, companies try to simplify their work (i.e. by using programs), but schools do not introduce students to this simplifications, they still want that students learn on more complicated way*" and according to they *need and wish also more cooperation*, so that teachers of technical subject would come to company for short period and help in-company trainers.

They are also exposing the need to *provide interesting learning environment. »Currently the interest for technical profiles that we need is lower than our needs. Students that are going to VET schools are those with lower school grades on the elementary level and many might not be particularly interested in technical knowledge, especially on VET level.«*

They also see the need for *external maintenance services with specialist knowledge* . As they find out, students are lack of very specific knowledge and skills »*students and a new co-workers should have the knowledge of new technologies (e.g. lasers for laser labelling products, winding techniques and machines – each machine is already a small production cell).*«

3.2.3.2   Needs and demands on the field of youth culture

They write that there should be *more* promotion for technical study for young people. As they are saying they are curious, interested, but they need to have motivational and encouraging environment where they can learn, research, try different think and have different option for experiencing. They also point out the importance to *develop*

personal skills (examp. codes: *be autonomous, responsible and self-initiative students who recognize work, have the sense for the order*). And they also point out that young people need to learn through experiencing, through examples and that they need more personal communication instead of 'mobile' one. They are also finding out that level of operational and theoretical knowledge is lower, so they should *gain more knowledge in different ways* (exam. codes: *attend different courses, problem solving, project work)*. They even see the need or maybe more a challenge to include the youth more in forming the school programs and cooperation with companies.
.

3.2.3.3   Needs and demands of WBL/APP model in automotive and automation sector

About the model they express the need for balancing *theoretical and practical knowledge* within the model (so that each student will get something out of it – those who would like to continue with study and those who would like to employ after finishing secondary school). And important part of this knowledge, so they point out, is to develop soft skills and knowledge about specific technologies (winding machines, quality standards etc.)

They also see the need to assure the student possibility to experience different WBL positions (a sort of rotation at WBL) at the beginning, so they can decide later what they would like to focus on.

They also express need to provide in-company trainers more time for working with students and to prepare an appropriate and exciting contents of on the job training in advance (for specific occupations).

They emphasize that WBL/APP model should motivate students for further studies to become engineers.

3.2.4   Challenges, needs and demands from companies Sataosaajat, Satmatic, Cimcorp

3.2.4.1   On the field of automobile/automation sector

Companies did not identify any important challenges that they are facing on the field of their sector.

3.2.4.2   On the field of education and in the field of work

On this specified fields, one of the three companies exposed student's motivation. Company noted that increasing motivation for technical schools and studies is a major challenge.

3.2.4.3   On the field of youth culture

Companies did not answer the question about three most important challenges or trends on this field.

3.2.4.4   Needs and demands for the WBL/APP model in automobile/automation sector

Needs and demands have not been identified, companies did not answer this question.

2.4   How can we cooperate better?

We are quoting the answer from one teacher in school business centre: "*Both employers and students are dissatisfied with the nature of the education that institutions are providing. Employers complain that educators aren't providing students with the skills they need to succeed in the workplace. Students, on the other hand, struggle with the disconnect between educators' calls for engaged citizens and independent thinkers and the credential- based admittance criteria tertiary institutions actually use to select students. The creative and collaborative pedagogy practised during the majority of K-12 education goes by the wayside in the later years as secondary schools focus on helping students obtain the test scores needed for admission to tertiary institutions.*

Today's employees are increasingly focused externally, intent on creating new opportunities rather than optimising internal operations. Employers are asking them to design new products, collaborate with networks of partners and customers to find new solutions to old problems, as well as find new problems to solve. The design-thinking

practitioners (the computer engineers, designers and architects) who create these new products and services are supplanting the administrative professionals from the information revolution. These individuals are the 'smart creatives' at the heart of firms such as Google and Face book. They are the passionate explorers with a drive to learn and improve that goes above and beyond, and who actively seek out others to help find solutions to challenges."

3 Summary

To sum up the answers from all the participants who completed the questionnaire, we could expose these needs and demands that are connected with forming the new WBL/APP model:

- to create supportive and respectful relationship between student and in-company trainer
- to work on real takes and be involved as a real workers
- to experience variable and interesting work with connection between theory and practice
- to have opportunity for specialization (special knowledge)
- to acquire knowledge about specific technologies (winding machines), production informatics (traceability, automatisation)
- to develop more soft competences
- to develop reading skills (reading diagrams, instructions...)
- to learn on different ways (out of school, working home, mentoring at school)
- to work in small groups
- to develop regular cooperation (regular meetings, visits, regular communication, exchanging information, teachers training in company, mutual exchange training,...)
- to prepare appropriate and exciting contents of on the job training in advance (for specific occupations)
- to have possibility for experience different work position in company (Rotation in WBL)
- to work with students in company on real work tasks
- to have possibility for tutoring, mobility abroad, exchanging ideas with teachers and incompany experts.

- to present the company before students are deciding for it (open days, field trips to the companies, meetings with students,...).

And if we want suggested ideas (needs and demands) to be realised, it is also important what kind of image do we have about the actors with whom we cooperate. As is well known from the literature[3] the teacher's performance of the student, his abilities and role plays a crucial role in the attitude, expectations and performance of the teacher in the pedagogical process. For the relationship between action and effect, it is crucial what the teacher thinks about the students, what goals he sets in view of the expectations of their ability and what kind of educational goals he is considering, And we could same that the same effects have expectation vice versa - of employees about students and in some way also of students about teachers and in company trainers, especially on the field of motivation and readiness to do Good work[4].

And what are the images[5]?

School (teachers) images:

Students (youngster) are ... open and unwritten books for creativity, satisfied with VET	**Students should be(come) ...** feel happy at school and enthusiastic about it, brave and try	**Students need ...** support, coaching and being motivated, skills
School is ... stressful, boring, co-operator and learning platform	**School should be(come) ...** network and open space	**School needs ...** renaissance
Company is ... must go place	**Company should be(come) ...** teamwork of same minded people, space where everyday something new and interesting happens	**Company needs ...** organisational and mindset restructuring

Company images:

---

[3] Medveš (2011), Dahlberg idr. (2005) and MacNaughton (2009)
[4] Gardner, H., Csikszentmihalyi,M., Damon, W. (2002)
[5] The answers are from the last part of the questionnaires

Students (youngster) are ...	Students should be(come) ...	Students need ...
our future; very different, not equally ambitious; irresponsible; rough diamond; lost; teenagers that need education for life; children, who are learning "for life".	self confident; eager to learn and responsible; better than us; capable of independent functioning without the impact of "the herd"; themselves and should become appropriately educated for work environment; adults, responsible persons, who would know how to live.	a good mentor, who is willing to share his knowledge; a good example/ role model; challenges and/at work; education, discipline; intellectual transformation; help, encouragement and knowledge transfer; education; teachers, who will show them the right way and would teach them "life skills".
School is ...	**School should be(come) ...**	**School needs ...**
a learning institution, which is responsible for the education and upbringing of children; basis; torture; outdated; less qualitative; an institution, that gives you basic knowledge; a learning institution; an institution, that helps parent with the education of their children and gives them the knowledge that parents don`t have.	a learning institution with the authority it once had; incentive for personal growth and not generator of dissatisfaction; an institution for learning and education; driving force of progress; the basis of existence/survival; what it already is and should upgrade basic knowledge; better for students, so they can get the necessary knowledge; an institution with clearly set goals and boundaries.	diligent teachers; responsible and exemplary teachers; a compass; money and personnel; a change in the system; the help from the companies and guidelines for new technologies; good teachers and more finances; real teachers and not people, who just work there.
Company is ...	**Company should be(come)**	**Company needs ...**
an innovative company; a good company; an organization where I'm employed and where I want to stay.	open to education and knowledge for the future; regional center of knowledge and work; leading company; connected with the surroundings; an authority; decisive company with less bureaucracy and should accelerate/promote the development of new products; better for its employees; an example of "good practice" in our region.	order, discipline and personal responsibility for every employee; satisfied employees; clear direction/strategy; visionary leadership; good and well payed employees that are interested in working in the company; good management with good vision of the future; set clearer goals for the future and stick with them.

Student's images:

Students (youngster) are ...	Students should be(come) ...	Students need ...
motivated, waiting to get money, the best, young, full of ideas, good critics,	gumption, motivated, very important for designing the future, the ones who will improve, the future,	teaching, motivation, money, experience, attention, to be treated more often,

are not that good any more, quarrelsome, non collaborational	more hard-working, collaborative, help to each other	both sided respect, knowledge, working habits
School is ... important, boring, for learning, good, something that needs to be done, basis, important, obligatory, conservative	**School should be(come) ...** for learning, better, the main springboard for one's life, the motivation source, when you are young, you need to be motivated, interesting, developing, following new things all the time, advanced	**School needs ...** teachers and experts, money, students, learning materials, good teachers, more female teachers, upskilling for teachers, someone who updates the educational programmes
Company is ... nice best support duty obligation job salary profit educational institution	**Company should be(come)** same better successful productive and efficient fair understanding	**Company needs ...** workers idk money young people good working force following new working ways

4 Sources

- Dahlberg, G., Moss, P. in Pence, A.   (2005). *Beyond Quality in Early Childhood Education and Care: Postmodern Perspective*. London in New York: Routledge.
- Gardner, H., Csikszentmihalyi,M., Damon, W. (2002). *Good Work: When Excellence and Ethics Meet*. New York: Basic Book.
- MacNaughton, G. (2009). *Doing Foucault: Applying Poststructural Ideas.* London in New York: Routledge.
- Medveš, Z. (2011). Kakršna družba, taka šola! V Sodobna pedagogika, let. 62, št. 5, str. 148 - 169.
- Vogrinc, J. (2008). *Kvalitativno raziskovanje na pedagoškem področju*. Ljubljana: Pedagoška fakulteta. Available at: http://pefprints.pef.uni-lj.si/179/1/Vogrinc1.pdf

5   Annex 1: Questionnaire Understanding the future trends

ERASMUS+ project

Regional Alliances for Youth – RAY

Work package 2

Understanding the future trends

Questionnaire

Glossary

A range of related terms influence the discussions of work-based learning and apprenticeship. The following overview of terms will create a framework that will be chosen for the development activities in RAY and for the so-called "WBL/APP model" to be developed. So, please complete the first and the second column. As a result of this survey, final terms will be suggested for the use.

Terms	Terms description by country (SI, DK, FIN)	Terms for use in RAY
Work based learning (WBL) SI: DK: Virksomhedsforlagt undervisning FIN:		Work based learning (WBL)
Apprenticeship (APP) SI: Vajeništvo DK: Elevaftale FIN:		
In/on the job training/ learning, practical training at the workplace SI: Praktično usposabljanje na delovnem mestu DK: FIN:		
Integrated WBL in a school based programme (labs, workshops, simulations of real business project assignments etc.) SI: Praktični pouk v šolskih delavnicah DK: FIN:		
Teacher of general subjects		

SI: DK: FIN:	25	
VET Teacher SI: učitelj strokovne teorije in prakse DK: FIN:		VET teacher
Teacher – responsible for practical training at the workplace (PTW), counsellor SI: Organizator praktičnega usposabljanja na delovnem mestu DK: FIN:		
Mentor, in-company trainer, tutor SI: DK: FIN:		In-company trainer
Initial vocational education and training (IVET) SI: DK: FIN:		
Continuing vocational education and training (CVET) SI: DK: FIN:		
VET Student SI: DK: FIN:		VET student
VET provider; VET school, VET college SI:		

DK: FIN:		

List of abbreviations

VET	Vocational education and training
WBL	Work based learning
PTW	Practical training at the work place
APP	Apprenticeship
IVET	Initial vocational education and training
CVET	Continuing vocational education and training

---

1. WHO ARE YOU? BASIC INFORMATION

VET system (Descriptions should be prepared by VET schools)

1.1 VET in the national education and training system. Display it with a diagram/scheme.

1.2 Description of the types (levels) of VET programmes.

1.3 Description of WBL models in VET.

Companies in the automotive/automation sector in Nova Gorica and Satakunta region
(Descriptions should be prepared in collaboration between VET schools and companies)

1.4 Display relevant data:

Number of companies, size of companies, number of employees, share of companies that provide practical training at the work place in the sector.

VET provision (Descriptions should be prepared by VET schools)

1.5 Display relevant data for regional level (you can also add data for national level):

Number and types/sectors of VET schools, number of enrolled students for past 5 years in VET programmes, number of students/apprentices on PTW (practical training at the workplace) for past 5 years, unemployment rate for 5 past years, unemployment according to the level of education and industrial sector.

2. HOW DO WE COOPERATE/MAKE PARTNERSHIP?

2.1 Deciding and selecting company partner and making agreement

2.1.1   How do you select company/VET school/VET students (which are the main criteria for decision to make partnership)?

School:

Student:

Company:

2.1.2   Which are your needs and expectations from cooperation?

School:

Student:

Company:

2.1.3   How do you establish communication between VET student, teacher, school, company leadership and in-company trainer?

School:

Student:

Company:

2.1.4   How do you make agreements to follow student's personal and professional development and do you have a framework for that?

School:

Student:

Company:

2.2 Aims of cooperation

2.2.1   How would you describe a good cooperation between school and company? (describe your image and your real experience)

School:

Student:

Company:

2.2.2   List at least three aims you would like to achieve from the cooperation and describe shortly how these are realized?

School:

Student:

Company:

2.3 Responsibility

2.3.1   How do you understand your responsibility for good cooperation? Who do you feel responsible to and why?

School:

Student:

Company:

2.3.2. Do you have any legal document or framework, which defines the responsibilities, roles, commitments and effects? Please describe it.

School:

Student:

Company:

2.4 Process of communication and cooperation

2.4.1   What is most important for you in the current process of cooperation (on the level of relationships, on the level of knowledge, skills and attitudes, on the level of learning and support, on the level of organization, on the level of personal/institutional/business development)?

School:

Student:

Company:

2.4.2   How are you implementing these issues (values) that you point out above?

School:

Student:

Company:

2.4.3   Describe more in details the process of communication and cooperation (how do you communicate with company leadership, in-company trainer, student, teachers, how do you evaluate the work, the process, how do you realize the on-line needs, which type of communication is most useful for you)?

School:

Student:

Company:

2.4.4   Describe how do you exchange and develop new ideas, suggestions for improvements etc.

School:

Student:

Company:

2.4.5   How do you deal with problems, possible ambiguity etc.?

School:

Student:

Company:

2.4.6   How do you plan common projects, trainings, initiatives, activities etc.?

School:

Student:

Company:

2.5 Legal and financial support

2.5.1 Does the existing legislation promote or limit the cooperation? Please explain.

School:

Company:

2.5.2 Do you have sufficient financial resources for the cooperation?

School:

Company:

2.6 Obstacles

2.6.1   Do you see any obstacles in the processes of cooperation?

       If yes, please describe where, on which point (from above) and why?

School:

Student:

Company:

2.7 Good practices

2.7.1   Please describe in detail (length of cooperation (time), place (virtual, in lab etc.) cooperation, resources, methods, integration) one example of your good cooperation. Focus on two elements mentioned or more.

School:

Student:

Company:

2.7.2   Please describe in detail (length of cooperation (time), place (virtual, in lab etc.) of cooperation, resources, methods, integration) one example of good cooperation that you

heard about or read about (in your country or wider in EU). Focus on two elements mentioned or more.

School:

Student:

Company:

1. WHAT ABOUT THE FUTURE?

3.1 Please identify the three most important challenges or trends in the field of automobile (SI)/automotive (FIN) sector that you are facing.

School:

Student:

Company:

3.2 Please identify the three most important challenges or trends in the field of education and work that you are facing.

School:
Student:
Company:

3.3 Please identify the three most important challenges or trends in the field of youth culture that you are facing.

School:

Student:

Company:

3.4 Please identify the needs and demands for the WBL/APP model in automotive (SI) and automation (FIN) sector. Consider the answers in the point 3.1. Make a collection of needed knowledge, skills and attitudes.

School:

Student:

Company:

3.5 Please list and give links of some good examples/practises according to future trends such as digitalisation (AI, IOT, VR, ML, etc.), service design/design thinking, and resources efficiency.

School:

Company:

3.6 Which are your challenges in the field of cooperation/partnership that you would like to develop, achieve in near future? What is your vision for the future?

School:

Student:

Company:

3.7 Do you have any plan, ideas, methodology concept how can you overcome the above mentioned challenges?

School:

Student:

Company:

3.8 What do you need for making your vision real?

School:

Student:

Company:

3.9 What would you propose to change in the field of learning process, process of communicating, process of cooperating, process of financing, process of developing skills, competences, values, etc.?

School:

Student:

Company:

3.10   What would you propose to change in the field of working process and labour market?

School:

Student:

Company:

3.11   Please complete the statements.

School:

Students (youngster) are ...	Students should be(come) ...	Students need ...
School is ...	School should be(come) ...	School needs ...
Company is ...	Company should be(come) ...	Company needs ...

Student:

Students (youngster) are ...	Students should be(come) ...	Students need ...
School is ...	School should be(come) ...	School needs ...
Company is ...	Company should be(come) ...	Company needs ...

Company:

Students (youngster) are ...	Students should be(come) ...	Students need ...
School is ...	School should be(come) ...	School needs ...
Company is ...	Company should be(come) ...	Company needs ...

3.12   Which are in your opinion the future professions in automotive/automation sector?

School:

Student:

Company:

3.13   **Open question**. Do you have any thoughts, ideas or information that you would like to share with us?

School:

Student:

Company:

References

European Commission (2014). Work-Based Learning in Europe, Practises and Policy Pointers. https://www.google.si/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=0ahUK Ewicqa2416nXAhWGHxoKHcbaAGwQFgg4MAI&url=https%3A%2F%2Fec.europa.eu%2Fepale%2Fsl% 2Fnode%2F39545&usg=AOvVaw0J6YERAp1dno2611-7cS9b