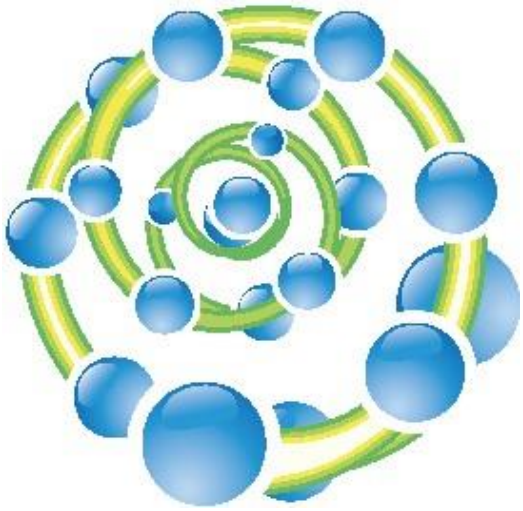
Innovation in VET

Slovenia



Center RS za poklicno izobraževanje CPI

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A. Introduction

In the Slovene school system, the innovativeness of the teachers in certain technical and vocational upper secondary schools and programmess is reflected in the inovativeness of the students. This was achieved through a suitable combination of several factors: professional and systemic incentives by the state institutions, appropriate circumstances at the school level, appropriate management as well as an enthusiastic team of teachers.

In this article we present an example of an innovative teaching practice by teaching staff of a vocational upper secondary education programme 'Joiner' at the Mechanical, Transport and Woodworking School of the Nova Gorica School Centre. We wish to highlight the following:

- The innovative approach in providing instruction is geared towards problem-solving, in the form of learning situations that the teaching staff collaboratively formulate.
- The developmental orientation of the teaching staff. The teaching staff pursue collective, directed discussion with regular reflection on their own practice of improving the instruction planning and implementation.
- The functional mutual cooperation among the teachers. Team work among teachers to plan and implement the learning process in line with the learning-outcome logic is something that the staff have developed and optimised over a number of years. Small working teams are in charge of challenging tasks, while information transfer takes place across the entire staff at carefully prepared meetings.
- Openness to the external environment. The school cooperates with local companies (mainly craft establishments) in planning and implementing the learning process. In cooperation with them the school verifies the current relevance of the objectives and the content of the curriculum in terms of the needs of the labour marke. On this basis it guides the learning process, which in line with the aims of reform is partially conducted in companies.
- We wish to present in detail the way they used 20% of the open curriculum ([1]) to offer to students an authentic learning environment. The open curriculum is provided in companies in cooperation with mentors, with students performing work on real clients' orders.

([1]) In line with the 2001 Guidelines, educational programmes for secondary vocational education and training are formulated with part of the programme being determined by schools together with social partners – this is the open curriculum (Article 13 of the Vocational Education Act). The Guidelines 2001 (Medveš et al., p. 6) state that around 80% of the curriculum should be formulated on the national level, and therefore the remaining 20% of the programme should be intended for the open curriculum.

Through such innovative teaching practices the teachers have succeeded in creating a learning environment that enables the development of creativity, self-initiative, collaboration skills, entrepreneurship, learning to learn, critical thinking, which are the main abilities to achieve innovativeness (ReferNet article, 2014, p. 2).

In the example, the lessons presented have been developed as part of the latest national reform of upper secondary vocational education and training.

B. Case description

B.1. Background

B.1.1. System level initiative

The vocational education and training (VET) reform is supported by the revised guidelines for the preparation of educational programmes in short vocational, vocational and technical upper secondary education from 2001 (below referred as 2001 Guidelines) (Medveš et al., 2001) and the Vocational Education Act (Official Gazette of the Republic of Slovenia, 2006). The 2001 Guidelines seek responses to the changes in Slovenia and Europe, which indeed demand a rapid response from VET. The changes are economic, social and technological, for example, the use of information technology in professional and personal, economic and cultural globalisation, multiculturalism, environmental challenges, the development of innovation as the main strategic advantage in competing on global markets, and lifelong learning (LLL) as a synonym for employability (Jeznik et al., 2008; Vončina, et al., 2005). The reform's orientation has also been determined by the European documents, such as the Common European objectives in education and training, the Copenhagen Declaration and the Maastricht Communiqué (Grašič, 2008).

We should mention several strategic reform orientations as found in the Guidelines (pp. 6-15):

- Linking general, professional and practical knowledge in a coherent and problem based education programme, catalogues of knowledge and exam catalogues. The aim is to achieve greater internal substantive interconnection and interweaving of knowledge and to develop vocational and key competencies that lead to the integrated preparation of the individual for an occupation, participation in society, personal development and further education.

- Balancing content oriented planning with objective oriented planning and problem oriented planning in the preparation of catalogues of knowledge and implementing the learning process.
- Preparing a module-structured and flexible curriculum.
- Opening the curriculum to the influence of local partners in fulfilling local needs and interests.
- Setting a uniform educational standard for the academic and a dual form of education.
- Achieving greater programme flexibility and autonomy of schools by drawing up a framework curriculum on the national level and transferring somework of decision-making in formulating the curriculum to the school level (syllabus with allocation of hours, open curriculum, implementing models).
- Encouraging schools to develop new methods and didactic approaches, greater individualisation of instruction and enhanced team work of all the involved teachers.

The learning-outcome logic is delineated in the curriculum on the national level through a vocational standard ([2]), which serves as the basis for the curriculum. It is on the basis of the concept of competence ([3]) and it aims at education programmes ([4]) on the basis of standards of knowledge ([5]). Standards of knowledge can be determined pursuant to the Assessment Rules on the national or school level, in the assessment plan, which is an integral part of the implementing curriculum. For the moment they are mainly determined at the school level.

Transferring some of the decision-making from the national to the school level, plus the fact that the national curriculum has been set out so that it requires team planning by teachers, has established the need to implement a curriculum at the school level. The key decisions

([2]) The vocational standard is the document that defines the content of a vocational qualification at a specific level of difficulty and defines the necessary knowledge, skills and vocational competences. (Pevec-Grm et. al., 2006). The vocational standards serve for the formulation of all vocational and higher professional education programmes, as well as catalogues for national vocational qualifications (NVQ). Equally, the vocational standards are also the basic document for passing exams and verifying vocational qualifications obtained through recognition of non-formal learning. The vocational standards are formulated in a dialogue with the main social partners, and of particular importance is the participation of the most-advanced companies from industry, crafts and the service sector (Marentič et. al., 2013).

([3]) Competences are defined as the developing capacities of individuals to apply knowledge, skills and abilities for creative, effective and ethical functioning in complex, unpredictable and changing circumstances in occupational, public and private life (Pevec-Grm et. al., 2006).

([4]) The aims in the curriculum are divided into orientational and operational, and the latter into informational and formative learning objectives. The operational aims are expressed in the form of intellectual or motor activities (operations) performed by students that can be verified directly by the teacher. The informational aims relate to content, while the formative aims relate to skills, methodological knowledge and so forth. The orientational aims are formulated so that they reflect the capacity, level of knowledge and stance leading to a competent worker and citizen (Skubic Ermenc et. al., 2007).

([5]) The minimum standard of knowledge represents the level of knowledge, skills or quality of achievement necessary for a passing grade or satisfactory involvement in lessons for a specific subject or programme unit (Rules on assessment of knowledge in secondary schools, 2010).

that were transferred from the national level to the school level were: allocation of modules by year, allocation of practical lesson hours among modules and between doing the programme at school or in companies and other work organisations, defining the 20% open curriculum, determining minimum standards of knowledge in programme units and defining the methods and forms of lessons. The implemented curriculum represents the establishing of the school's autonomy.

The implemented curriculum is the procedural and developmental document of the school which is limited outwardly by legislation and the national curriculum, and inwardly just by professional judgement. This is a level of planning between the superior national level and the subordinate level of teachers. The implementing curriculum covers what could be called the overall preparation of the educational process, and has two fundamental elements: the pedagogical and the didactic concept of the school, which is established in the preparations (plans) of the educational process.

The implemented curriculum can be understood as a strategic and developmental document of the school whereby the school determines how it will enact and achieve the aims of the individual programme. A joint study preparation in the implemented curriculum is intended for the programming teacher panel, for it represents the fundamental working tool of the teachers. A longside there are regular talks and coordination sessions. Since the preparation of the educational process supports the learning process, it is a flexible document that can be adjusted to achievements and needs. The central part of the implemented curriculum is rough joint preparation of the educational process. It also has the following components: implemented syllabus, open curriculum, which is planned in detail in the general joint preparation of the educational process and implemented syllabus, the plan for assessing knowledge, the school's development strategy, the plan of guidance and support for students and the school self-evaluation plan. It is recommended that the implemented curriculum in its main orientations, aims, content and so forth be presented to other interested groups (e.g. students, parents and the public). Moreover the national curriculum is set out in such a way that it requires team planning by teachers (Skubic Ermenc, 2005;2007).

The open curriculum represents part of the implementing curriculum and is defined in the Vocational Education Act. Once the school defines the role and structure of the open curriculum, it prepares the catalogues of knowledge for the modules of the open curriculum plans in the implemented curriculum. The open curriculum is planned in the implemented curriculum just like the other education programme units, which are prescribed on the national level.

The approach in the 2001 Guidelines, whereby the past predominant content oriented planning needs to be balanced with: objective and problem oriented planning, general, technical, theoretical and practical knowledge needs to be interwoven, instruction needs to be updated in line with the needs on the labour market and in society, team work among all teachers involved needs strengthening and new methods and didactic solutions need to be found, led those in charge of reform to seek new instruction models that would succeed in fulfilling these orientations. This gave rise to the concept of the learning situation.

The learning situation is a sequence of stages in the implementation of the individual programme unit ([6]). Where it makes sense, several programme units are included in the learning situation. Through learning situations students are trained to deal with complex work situations or multiple logically connected occupational tasks. The learning situation differs from authentic work situations in that it is rendered appropriately didactic, and in addition to a direct working objective it has socialisation, substantive educational and informational objectives (Štefanc et al., 2012, pp. 19-20). The learning situation derives from realistic work assignments and work problems whose performance is the objective of the education programme. The realistic work assignment is to focus on merging and combining the various types of knowledge, skills and competences (Milekšič, 2010, p. 168). The most important document in defining learning situations is the vocational standard and the picture of labour market needs, which the school formulates in a dialogue with employers of the local environment (Špacapan et al., 2012, p. 75)

B.1.2. School level initiative

The school described in this article was involved in a pilot implementation of the reformed curriculum for Car Mechatronic, which ran in 2002-07. The introduction and implementation of new curricula for vocational, upper secondary education in line with the 2001 Guidelines began in Slovenia with pilot implementations and in the form of a trial, in order to establish the possibility for continuous reflection and solving of issues directly in the teaching practice. During that time all the pilot schools were successful in (Vončina et al., 2005):

- drawing up an implemented curriculum and creating the possibility for constant reflection on what was achieved. Procedural formulation and enhancement of the curriculum;

([6]) Programme units are: professional modules, general education subjects, practical education in the work process and special interest activities (authors' note).

- promoting cross-curriculum connections in planning and implementation of instruction. This process later required systematic and long-term expert development;
- implementing the project method of work, in the organisational form of three project-weeks a year;
- opening up the school space and improving the links with the local area and social partners;
- establishing teamwork.

Like others, the school in question was later included in the introduction of all the other reformed programmes of secondary VET (including the Joiner programme). The introduction was leaded by the VET Institute with support from ESF in 2006-08.

Since 2008, schools' consortiums and centres have implemented several extensive projects through ESF funding: MUNUS 2, UNISVET and Biotechnology. The Mechanical, Transport and Woodworking School at the Nova Gorica School Centre was involved in the MUNUS 2 project. The working groups in the projects were organised by different substantive fields. The experienced teachers who were involved in the working groups developed and collected examples of good practices. They also developed and implemented training courses under the auspices of the concept of developmental changes tied to reform the secondary VET at all Slovenian secondary vocational and professional schools. The National Institute for VET (CPI) and the Board of Education also collaborated on the projects with guideline materials. The teqchersù team, described in this article, was included in the moderators (trainers) working group for teachers at the other schools in the area of the implemented curriculum. The group of moderators was involved in numerous high-quality training sessions in the areas of curriculum planning, criteria assesment of knowledge and didactic strategies in the light of the socially constructivist paradigm of learning. To a slightly lesser extent they were also involved in training in team work in the area of principles and laws. However, the moderators groups which came to the schools as lecturer teams were composed of four members, and in this mode of work they gradually developed a team collaboration model.

B.2. Implementation

The implementation of the case in question was described by the teachers who created the case in the Collection of professional papers issued by the Consortium of School Centres

Munus 2 (Kovačič and Špacapan, 2012). Below we summarise their descriptions. The case is also presented in a film ([7]).

The creators stated that the concept of the implemented curriculum was developed at the school out of the pilot introduction of the Car Mechatronic trial programme, which initially began in 2002. In the Joiner programme the implemented curriculum has been developed since 2006. At first they began with an ongoing weekly planning, but soon they realised that this was not a rational approach in terms of implementation. They started planning instruction for a longer period, at first for the whole year and later for all the years of the programme. Within the all years plan, they replaced the original planning with larger sets, i.e. learning situations. A joint preparation of the educational process of professional part of the programme in the implemented curriculum was thus planned in the form of 12 learning situations.

In the following sub-sections we present the achievements we wish to highlight in the case.

B.2.1. Learning situations

The learning situations ([8]) are tied to individual professional modules, six of which are in this programme. They are followed by a series of didactic principles from fundamental to specific, and from simple to complex ones. When one module comes to an end the next one begins. The knowledge acquired in the previous module is necceary to understand the next module. In this way they achieved throughout the academic year a compact implementation of modules, which is a departure from the previous system of individual modules. The learning situations feature a fusion of professional theoretical and practical knowledge, so the teachers work in a team to provide professional theory as well as practical skills. In the part of practical instruction students practice what they have learned, then in each subsequent module they consolidate what was previously learned. General subjects are also tied to the learning situations. As already mentioned, the teachers of professional modules first inform the teachers of general subjects what knowledge of general subjects is important in their opinion for the students to have in the individual learning situation. On completing the product the student supports and presents it as a final product in a final exam. This is the product created in the final, sixth module: Creating a product. Learning situations are implemented as project work.

([7]) Film Learning situation in the programme Joiner. Nova Gorica: Nova Gorica School Centre - Mechanical, Transport and Woodworking School.

([8]) The professional part of the Joiner programme at school is provided in the form of 12 learning situations as follows: 1st year: (1) making wood joints, (2) making a picture frame, (3) making a stool, (4) making a footstool 2nd year: (5) making a window, (6) making a door, (7) making a kitchen unit, (8) making a clothes cupboard, (9) making a table, (10) making a bed 3rd year: (11) making a chair, (12) independently making a challenging product.

There are eight steps to the learning situations:

1. Analysis of past implementation of the programme.

   The teachers involved in the three-year Joiner programme, both individually and collectively, hold meetings and discussions to analyse the past implementation of the programme in the following aspects:

   - Professional teachers analyse the past implementation of professional modules of the programme, and draw up findings and conclusions on the aspects that should be improved.
   - All the programme teachers collectively analyse to what extent the teachers have succeeded in fulfilling the vocational competences stated in the vocational standard. In this work the professional teachers inform the general subject teachers about the needs for links to the objectives and the content of general subjects and other needs for mutual support and cooperation aimed at the improved quality of instruction.
   - Analysis of the fulfilment of the objectives and of the catalogues content of knowledge in previous versions of the the curriculum (for an individual catalogue of knowledge the analysis is performed by teachers teaching in an individual subject or module) and formulation of possible proposals and remarks is performed.

2. Seeking better feasible forms of providing professional modules.
3. Allocation of professional modules in the overall preparation of educational process in the three-year implementing curriculum under the pedagogical principles ‘ from the fundamental to the specific’ and ‘ from the simple to the more complex’ .
4. Design of significant learning situations for individual professional modules
5. Final design of joint preparation of the educational process and the implementing syllabus in the implementing curriculum for the current generation of students.
6. Determining working teams of teachers who are in charge of individual learning situations.
7. Precise planning of individual learning situations within smaller working teams.
8. Implementation of instruction in the form of learning situations and continuous monitoring of the instruction and the planning process.

(Kovačič and Špacapan, 2012)

B.2.2. Development orientation

As we can see in the description of steps to learning situations, multiple times (continuously, annually for each generation of students separately) teachers analyse their own practices, they go over their experiences in small and larger teams, they ponder possible improvements and put them into practice. Afterwards, the revised method of implementation is again reflected and so on. This approach follows all the phases of the Deming quality cycle (plan–do–check–act) and points to the development-oriented culture of work in the described teaching staff. In this spirit they developed an implemented curriculum, an open curriculum and learning situations over 10 years, which led to the level that can now be seen.

Lessons provided in this way are only possible through mature dialogue and the systematic organisation of cooperation among those teachers participating in providing the programme that is called a programme teacher panel (PTP).

The existing case study points to the effective organisation and division of work within the PTP. Teachers are organised as shown in Figure 1.

B.2.3. Innovative organisation of teacher teamwork

The described teaching staff was included in an external evaluation of the quality of teamwork at the school, for the purpose of planning and carrying out the implementing curriculum (Grašič, 2010/2011). At this point we summarise the findings of the aforementioned monitoring.

Figure 1 shows how the PTP at the school for the Joiner programme was expanded into a teacher panel for the woodworking field. For this reason, in their case it would be better to call it a sectoral teacher panel. In addition to the Joiner programme, the school provides the programmes Woodworker and PTI Wood Technician ([9]). Vertical progress between programmes is possible. The merging of wood sector teachers into the same group seemed more sensible to them, since there are some types of knowledge, skills and competences that are common to all the programmes in the woodworking field, and also these programmes are gradated in terms of difficulty from Woodworker through Joiner to Wood Technician.

([9]) The Woodworker is a programme that enables the acquisition of a lower vocational education qualification and takes two years (NQF level 3, EQF level 3). The Joiner is a programme for acquiring of a secondary vocational education qualification and takes three years (NQF level 4, EQF level 4). After completing the three-year Joiner programme, students can continue for another two years at secondary level, in the PTI Wood Technician programme (NQF 5, EQF 4) and obtain qualifications equal to those that can be obtained in the four-year Wood Technician programme.

Within the woodworking PTP an important part is played by the active teaching team for the woodworking profession. This analyses the vocational standards and the professional part of the national programme and proposes typical learning situations in which it is possible to develop the vocational competences set out in the vocational standard and the aims and content set out in the curriculum on the national level.

It is important to stress that those in charge of operational tasks are the work teams for the individual learning situations. These are highly demanding and complex work assignments for which the work teams must demonstrate considerable critical thinking and professional knowledge, and must extensively discuss and coordinate viewpoints. They have professional autonomy, they take responsibility for complex tasks, and at the same time both the head of the PTP and the principal trust them and facilitate their autonomy. Individual teachers are included in several work teams for learning situations. As previously mentioned, there are tottaly 12 learning situations for the three-year programme.

The work teams for learning situations are responsible for drawing up the plan for the individual learning situation, which is then implemented collaboratively, for communication with the teachers of general subjects for the purpose of cross-curricular linking, for mutually linked implementation of the learning situation and for reflection on the quality of implementation. To this end the teachers within individual teams meet independently of the rest of the PTP.

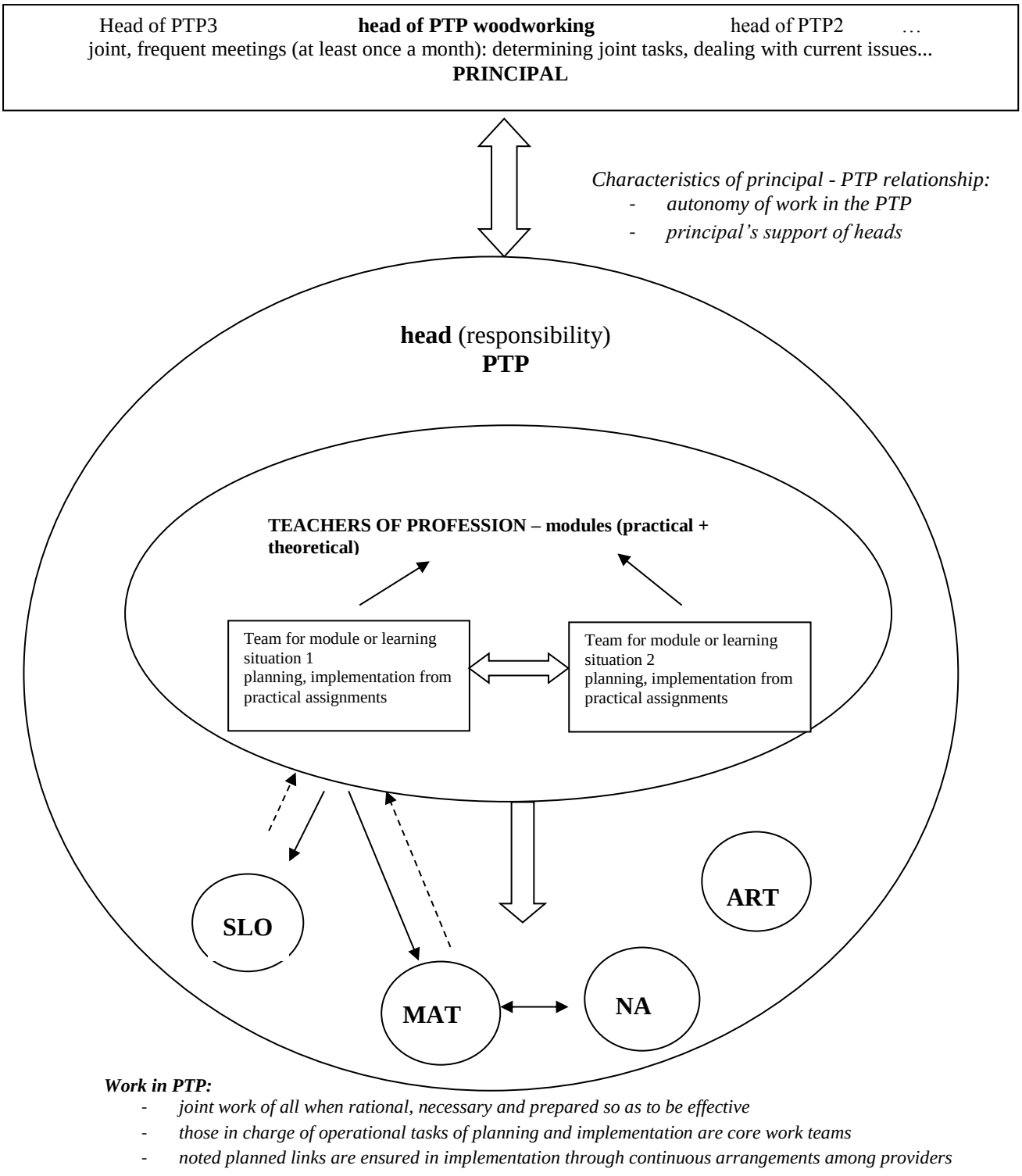
In the described case, meetings, expert work and ongoing arrangements are conducted in small work teams of teachers, while the whole PTP meets whenever it makes sense for the purpose of mutual information and presents the progress in student knowledge. The PTP meetings, at which there are many participants, have a clearly defined objective, which all those invited know about in advance, and they are carefully prepared and structured.

It is important to mention the existence of the superior team, comprising the heads of all the school PTPs and the principal. The school also provides mechanical and transport programmes. In this superior team, which meets once a month, discussions are held on the common principles for managing the PTPs, the rules of procedure at PTPs, the roles of various subgroups at PTPs, the further direction of developing teaching practices and so forth. One of the purposes of the superior team is the mutual support and the active involvement of the principal.

As we can see, the organisation of teamwork in the described teaching staff is highly varied. The PTP does not tackle planning, implementation and monitoring of instruction as one indivisible whole. Within the PTP there are small work teams in charge of work assignments.

It is also important to note the team for the profession, the superior team, the sectoral teacher panel, individual groups of teachers for general subjects and more. Each of these groups has a clearly defined purpose, a clearly defined role, expected results, professional responsibility and autonomy. There are rational relationships between them, and systematically managed and carefully considered reciprocal information and collaboration. Individual teachers can belong to multiple groups that have slightly different roles. They contribute to each group in slightly different ways, depending on the aims, purpose and tasks of the specific group. This involves a network organisation with autonomous teams (from Schwenger, 2008), which is the most appropriate organisation of teamwork in the case of tackling complex and highly variable work assignments (Schwenger, 2008, ibid.). Joint planning, implementing and monitoring of instruction, which seek to address the needs of numerous interest groups (needs of the labour market, local employers, various student groups, the expression by teachers of their own talents, the expectations of the management and the systemic level), in our opinion, certanly represent complex and highly variable work assignments. Therefore, in this case, network organisation with autonomous teams is the most appropriate organisation of team work.

Figure 1. **Organisation chart showing the internal organisation of teachers who teach the Joiner programme and their links to other programme teacher panels (PTP) at the school. The organisation chart was created by the head of the PTP**.



Legend: SLO= Slovenian Language, MAT= Mathematics, NAT= Natural sciences, ART= Art

B.2.4 Cooperation with local companies

In the described case the teachers develop cooperation with employers. The basis for the learning situation is not only the vocational standard. The aims and content are also defined in terms of the current picture of labour market needs, which they formulate in contact with local employers. They have exploited particularly the open curriculum in order to respond to the needs of local employers, especially craft establishments.

In the open curriculum they designed the module 'Projects from Practice'. Owing to the required previous knowledge in the area of joinery, the module is placed in the final year of the vocational technical course Wood Technician, which is structured from the three-year vocational course Joiner and the additional two-year course for obtaining the title 'Wood Technician'.

Students are assisted by a mentor at the workplace to take on a demanding order from one of the establishment's customers or they propose some innovative product. This is followed by a series of activities for the student, such as:

- seeking possible solutions;
- deciding on the optimal solution;
- preparing the necessary construction documents;
- planning the necessary technology with calculations;
- planning the time needed for manufacture;
- calculating the price of the product;
- making a sample product or prototype;
- analysis based on a comparison of the actual process of manufacture with what is planned;
- public exhibition of the product;
- presentation and defence of the product in front of a professional group.

The Projects from Practice module is linked to practical training at the employer, where the student accepts a customer order and in some cases also makes a prototype. Each year the craft establishments reward the best products. The path to a product with market appeal is not easy for students.

The creators of the case (Kovačič and Špacapan, 2012, p. 79) say that with this module students get used to making professional decisions independently (such as the decision regarding the product design, the appropriate choice of materials, the functionality of products, etc.) in line with the customers' needs and preferences. In parallel, students are

steered towards making environmentally friendly products that are affordable. The orientation objectives of the Projects from Practice module are:

- Students independently complete a specific project, from conception, through manufacture to promotion and public presentation.
- Students plan and implement all phases and processes that are part of the project, especially technical documentation, price calculation and market offer.
- Students seek functional and aesthetic solutions in design, taking account of the properties of wood.
- Students use natural materials and select materials that are more environment-friendly.
- Students develop critical thinking in the selection of materials and technology in terms of their friendliness to the environment or environmental impact.
- Students get to know and get used to teamwork.
- Students independently seek information and sources of information.
- Students develop clear and target-oriented spoken and technical communication in all phases of the project.
- Students consider the appropriate forms of promoting the product on the market.
- Students develop public skills of discourse.
- Students develop ITC literacy.

Students prepare all the construction, technological, operational and entrepreneurial documentation using modern computer tools. They seek the most favourable suppliers of materials on the internet.

In the described case we may therefore see that learning situations and especially the open curriculum module enable teachers to create a learning environment in which students have the possibility to develop:

- critical thinking;
- creativity;
- entrepreneurship;
- the capacity to solve problems;
- cooperation with each other and with craft establishments in the local environment;
- skills to present themselves in public;
- confidence to express their own initiative and to propose and carry out their ideas;

- learning skills, for they themselves seek out both sources of information and information;
- ITC literacy.

These are the characteristics required for innovativeness.

C. What we learned

C.1. What we learned: school level

The team of teachers that created the described case, state that the greatest achievement in the process of introducing reformed education programmes is the awareness that there is a constant need for evaluation and self-evaluation to seek better solutions for the implemented curriculum and to adapt the implementedg curriculum to the guidelines of the developing profession, the needs of the labour market, the needs of students and so on.

'A curriculum designed well or poorly on the national level cannot be an excuse, since the national level cannot respond as rapidly to changing circumstances as a school can'
(Kovačič and Špacapan, 2012, p. 75).

They also emphasise that the open curriculum is one of the best possibilities offered by the reformed programme.

C.2. Opportunities and challenges

The creators of the case claim that modernisation and development progress depend on the willingness and professional responsibility of teachers who may often feel unrewarded.

They also claim that social partners (mentors of students in companies), who have an important role in the education process, have not played it well enough. Yet the school is having trouble maintaining an adequate number of study places for practical training through work (which takes place at companies). Thus, to determone study places the schools has to compromise and use places of lower quality.

They also point out that many times the barrier to constant development and progress is a lack of motivation among those who are involved, including both mentors at companies and teachers.

Conclusions

The case of this PTP was monitored several times by the VET Institute, including monitoring of the quality of processes of team planning and carrying out the implementing curriculum (Grašič, 2010/2011; Tome, 2006; Vončina, 2008).

The actual monitoring of a teamwork showed that the following are vital for the quality of plans for instruction and the collaborative implementation of instruction:

- quality in the cooperation among teachers;
- active rather than declarative support from the management;
- motivation of those involved;
- ongoing reflection on own practices in search for improvements.

The functional PTPs were characterised by an innovative method of work: those in charge of work assignments were the core professional teams that operated proactively. There was a lot of discussions, arranging, seeking potential paths, reflection on past experience and seeking for solutions. The implementing curriculum had the status of a procedural and developmental document, which was supplemented and developed during the year. Those interviewed also explained the way that the knowledge of students in the new lesson concept was more usable and interdisciplinary, and even the students supposedly developed a higher self-esteem. According to the interviewed teachers, employers hasve also recognised the usefulness of improved knowledge of students after the reform (Grašič, 2010/2011; Slivar, 2010).

References

Grašič, S. (2010/2011). *Kakovost v procesih timskega načrtovanja in izvajanja izvedbenega kurikula (Quality of processes in team work for the purpose of curricula planning and implementation).* Nova Gorica: Consortium of School Centres of Slovenia.

Grašič, S. (2012). *Ustreznost stilov vodenja glede na usposobljenost in motivacijo vodenih oseb ter stopnjo razvoja skupinske dinamike v Zborniku strokovnih prispevkov Na poti k učeči se družbi – z uspešno prenovo poklicnega in strokovnega šolstva (The appropriateness of management styles in terms of training and motivation of managed people and the level of development of the group dynamic in the Collection of Professional Papers On the Path to a Learning Society – through successful reform of vocational education and training.* Nova Gorica: Consortium of School Centres of Slovenia).
https://munus2.scng.si/files/2012/10/Munus2_Zbornik_strokovnih_prispevkov.pdf
[accessed 27.11.2014].

Grašič, S.; Harb, D. (2012). *Ali število ljudi v timu in medsebojne razlike med člani vplivajo na delovno učinkovitost, zadovoljstvo pri delu in medsebojne odnose v timu v Zborniku strokovnih prispevkov Na poti k učeči se družbi – z uspešno prenovo poklicnega in strokovnega šolstva (Does the number of people in a team and the mutual differences among members affect working efficiency, job satisfaction and mutual relations in the team in the Collection of Professional Papers On the Path to a Learning Society – through successful reform of vocational education and training).* Nova Gorica: Consortium of School Centres of Slovenia.
https://munus2.scng.si/files/2012/10/Munus2_Zbornik_strokovnih_prispevkov.pdf
[accessed 27.11.2014].

Grašič, S.; Zevnik, M. (2006). *Proces večanja avtonomije učiteljev in šol v prenovljenih programih srednjega poklicnega in strokovnega izobraževanja (Increased Autonomy of Teachers and Schools in Reformed Secondary VET Programmes).* ATEE conference, Portorož, 21-25 October 2006.

Jeznik, K. et al. (2008). *Zaključni izpiti v izobraževalnem programu Avtoserviser – Priloga B k Zaključnemu poročilu o poteku izvajanja izobraževalnega programa Avtoserviser (Final exam in the Car Mechatronic programme – Annex B to the Final Report on the progress of implementing the Car Mechatronic education programme).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training.

http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/0607/prilogaBavtoserviser.pdf [accessed 27.11.2014].

Jeznik, K. et. al. (2008). *Zaključno poročilo o poteku izvajanja izobraževalnega programa Avtoserviser (Final Report on the progress of implementing the Car Mechatronic education programme).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/Publikacije/Zakljucno_porocilo_web.pdf [accessed 27.11.2014].

Kovačič, B. and Špacapan, A. (2012). *Kompetenčno zasnovani in modularno zgrajeni izobraževalni programi v Zborniku strokovnih prispevkov Na poti k učeči se družbi – z uspešno prenovo poklicnega in strokovnega šolstva (Competence-based and modular structured education programmes in the Collection of Professional Papers On the Path to a Learning Society – through successful reform of vocational education and training).* Nova Gorica: Consortium of School Centres of Slovenia. https://munus2.scng.si/files/2012/10/Munus2_Zbornik_strokovnih_prispevkov.pdf [accessed 27.11.2014].

Marentič, U. et. al. (2013). *Poklicni standardi in nacionalne poklicne kvalifikacije 2000 – 2012 (Vocational standards and national professional qualifications – 2000-2012).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training.

Medveš, Z. et. al. (2001). *Izhodišča za pripravo izobraževalnih programov nižjega in srednjega poklicnega izobraževanja ter programov srednjega strokovnega izobraževanja (Guidelines for the preparation of educational programmes in Short vocational, Vocational and Technical upper secondary education).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/Datoteke/Izhodisca_za_pripravo_visjesolskih_studijskih_programov.pdf [accessed 27.11.2014].

Milekšič, V. et. al. (2010). *Učna tema in učna situacija – od načrtovanja do ocenjevanja (Learning theme and learning situation – from planning to assessment).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/Datoteke/Publikacije/Ucna_tema_in_ucna_situacija_8-9.pdf [accessed 3.12.2014].

Pevec Grm, S. et. al. (2006). *Kurikul na nacionalni in šolski ravni v poklicnem in strokovnem izobraževanju (Curriculum at the National and School Level in Vocational Education and*

Training). Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/Publikacije/kurikul.pdf [accessed 27.11.2014].

Pravilnik o ocenjevanju znanja v srednjih šolah (Rules on assessment of knowledge in secondary schools (2010). Ljubljana: Official Gazette of the Republic of Slovenia, no. 60/2010. http://www.uradni-list.si/1/objava.jsp?urlurid=20103343 [accessed 15.12.2014].

ReferNet article (2014). *Innovation in VET*. Thessaloniki: ReferNet.

Rutar Ilc, Z. and Skubic Ermenc, K. (2006). *Sklepno poročilo - Analiza preizkusov znanja v programu Avtoseviser – Priloga C k Drugemu poročilu o poteku poskusnega izvajanja izobraževalnega programa Avtoserviser (Concluding report – Analysis of tests of knowledge in the Car Mechanic programme – Annex C to the Second Report on the progress of implementing the Car Mechanic education programme).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/avtoserviser/prilogaC.pdf [accessed 4.12.2014].

Schwenger, U. (2008). *Teams in the Centre of School Organisation Development*, materials for the study visit of northern Germany in the project MUNUS 2.

Skubic Ermenc, K. (2005). *Racionalna evalvacija izvedbenih kurikulov in načrtovanja projektnih dni v projektu »Uvajanje in spremljanje novega izobraževalnega programa Avtoserviser« in nekaj predlogov za izboljšavo. Poročilo o poteku poskusnega izvajanja izobraževalnega programa Avtoserviser, Priloga E (Rational evaluation of implementing curricula and planning project days in the project ' Introducing and monitoring the new Car Mechatronic education programme' and some suggestions for improvement. Final Report on trial implementation Car Mechatronic education programme, Annex E.).* http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/avtoserviser/sklop2/prilogaE.pdf [accessed 27.11.2014].

Skubic Ermenc, K. (2007). *Priprava izvedbenega kurikula: dva primera dobre prakse (Preparation of the implementing curriculum: two examples of good practice).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/Publikacije/priprava_izvedbenega_kurikula.pdf [accessed 27.11.2014].

Skubic Ermenc, K. et. al. (2008). *Poročilo o delovanju programskih učiteljskih zborov (Report on functioning of programme teacher panels).* Ljubljana: Center RS za poklicno

izobraževanje. http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/07-08/PorociloODelovanjuProgramskihUciteljskihZborov.pdf [accessed 18.12.2014].

Slivar, B. (2010). *Kakovost v procesih načrtovanja in izvajanja izvedbenega kurikula* (*Quality in processes of planning and carrying out the implementing curriculum).* Nova Gorica: Consortium of School Centres of Slovenia.

Štefanc, D. et. al. (2012). *Učne situacije v poklicnem in strokovnem izobraževanju. (Learning situations in vocational education and training).* http://www.cpi.si/files/cpi/userfiles/Publikacije/zbornik_Ucne-situacije_WEB.pdf [accessed 3.12.2014].

Tome, M. (2008). *Avtonomija poklicnih in strokovnih šol. (Autonomy of Secundary Vocational and Secundary Technical Schools).* Ljubljana: Center RS za poklicno izobraževanje.

Vončina, V. et. al. (2005). *Poročilo o intervjujih z ravnatelji – Priloga Č Poročilu o poteku poskusnega izvajanja izobraževalnega programa Avtoserviser. (Report on interviews with principals – Annex Č to the Report on the progress of trial implementation of the Car Mechatronic education programme).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/avtoserviser/sklop2/prilogaC1.pdf [accessed 4.12.2014].

Vončina, V. et. al. (2005). *Poročilo o poteku poskusnega izvajanja izobraževalnega programa Avtoserviser. Razvojni program za podporo implementaciji Izhodišč za pripravo izobraževalnih programov nižjega in srednjega poklicnega ter srednjega strokovnega izobraževanja - Projekt poskusno uvajanje Izhodišč v pilotnih šolah (P8) – Uvajanje in spremljanje novega izobraževalnega programa avtoserviser (Report on the progress of trial implementation of the Car Mechatronic education programme. Development programme to support implementation of the Guidelines for the preparation of educational programmes in Short vocational, Vocational and Technical upper secondary education – Project of trial introduction of the Guidelines in pilot schools (P8) – Introduction and monitoring of the new Car Mechatronic education programme).* Ljubljana: Institute of the Republic of Slovenia for Vocational Education and Training. http://www.cpi.si/files/cpi/userfiles/evalvacija%20in%20spremljanje/avtoserviser/sklop2/POROCILO.pdf [accessed 4.12.2014].

Zakon o poklicnem in strokovnem izobraževanju (Vocational Education Act). Official Gazette of the Republic of Slovenia, no. 79/06. http://www.uradni-list.si/1/objava.jsp?urlurid=20063449 [accessed 4.12.2014].