INNOVATIVE SCHOOLS IN SOUTH EASTERN EUROPE: A COMPENDIUM

Edited by David Oldroyd

Working Document of the ETF LEARN project

Contents and summary of case studies

- ***Introduction and Background: Seven Years of Support for Innovation (page 5)***
- ***Innovative schools: the state of the art (page 8)***
- ***Ten Case Studies (pages18-86)*** – one from each of 8 SEE countries involved in the ETF LEARN Project + 2 schools in Slovenia & Denmark investigated on study visits
- ***Conclusion (page 87)***
- ***Appendices (pages 89-94) –*** Other resources and previous Compendiums; The Learning Organisation; Professional Learning Communities

Summaries of the ten case studies

1. Albania – Korce Agribusiness School (page 18)

"Providing 'real life' learning of practical skills"
Dhimitri Xhambazi, Director

With donor assistance, this school has changed its profile from agricultural to agro-business in response to the changing labour market. In doing so it has established a training firm and a didactic farm both of which provide 'real life' working and entrepreneurial experience for its students.

2. Bosnia and Herzegovina – Bijeljina Economics School Case Study (page 27)

"Innovative e-Learning for Entrepreneurship and International Collaboration"
Mr Svetislav Vujic, Principal & Brankica Njegus, Teacher of English Language

International collaboration with a VET College in England to create an e-learning platform and courses relevant to local labour market needs has led to development of interactive learning using new technologies, along with simulated companies, entrepreneurial and leadership skills and better engagement with employers for both staff and students.

3. Croatia - School of Electro-technics, Zagreb (page 34)

"Modern Approaches to Teaching of Key Competencies"
Ivo Klaric, Director & Nenad Vakanjac, Independent Consultant

This school is transforming the way teachers create learning environments for developing key competencies by means of intensive in-service training, 'peer VET teaching', a virtual learning community of specialist teachers and procuring new specialist equipment. Financial and technical support has been provided through the EU CARDS development programme.

4. Denmark – SDE College, Odense (page 41)

"Continuous development and the use of national and international partnerships"

Hans Joergen Knudsen, Consultant

This highly developed college was visited by LEARN project participants as a model for continuous development and partnerships in many areas. These include capacity-building with schools in other countries, mentoring and e-portfolio developments based on annual strategic plans to establish internal systems and external relations.

5. Former Yugoslavia Republic of Macedonia – Skopje Traffic School (page 48)

"Mentorship"

Sonia Ristovska, Vice-director for Research, Training and Development

Establishing a programme of teacher mentoring that supports creativity in the classroom in one innovative school and then networking the mentoring programme to other schools. The school's vice-director has a special role in leading human resource development. Supplementary activities are used to generate income and an entrepreneurial spirit among students and staff.

6. Kosovo[1] – Suhareka Technical School (page 54)

"Modernising teaching and learning in engineering subjects"

Remzi Bytyqi, Director & Rame Likaj, Translator

This rapidly developing school has concentrated on modernising the curriculum and improving the training of it teachers in modern teaching and learning approaches using newly installed specialist equipment in the field of engineering provided as part of a number of donor projects. E-learning, study visits and 'learning by doing' workshops have supported these developments.

[1] *as under UNSCR 1244

7. Montenegro – Plav Combined High School "Beco Basic" (page 61)

"Student-centred approaches to raising the level of practical learning"
Ramo Kolašinac, Principal; Bakovic Dzana, Psychologist; Basic Omar, ICT coordinator and Toskić Selma, Translator

The school has many practical approaches for improving the educational process. They include:
a Quality Group of teachers to provide continuous evaluation and feedback on professional work; professional tuition for teachers; a Study Centre for students with 20 learning areas; many outdoor and environmental activities and strong community links and international links.

8. Serbia – Zrenjanin Technical School (page 68)

A multi-project approach to improvement to improving staff morale and skills
Director Jugoslav Bogdanovic, Director

With a vision of "the school of positive and creative people" parallel innovations have been implemented: multi-media classrooms; a programme in training rural adults in biogas production; career guidance and counselling; and the creation of a Centre for Continuing Adult Education. Results include re-skilled teachers and stronger connections with the community.

9. Slovenia –Biotechnical Centre, Naklo (page 77)

"Individual teaching plans and teacher teamwork"
Soren Nielsen, ETF

Aided by generous European Social Funding, the Slovenian National VET Centre (CPI) and reform that introduced considerable decentralisation in decision-making and income generating to schools, this school organised Programme Teacher Assemblies – teams of teachers to innovate learning based on contracts with individual students – and has built strong links with its local community. A study investigation of this school was made by LEARN Project participants.

10. Turkey - Istanbul Bahcelievler Erkan Avci Vocational High School (page 82)

"Innovative e-Learning for in-service training of VET teachers"
Kenan Tirak, VET Teacher

As a first example in Turkey, the school collaborated with the Technical Education Faculty (TEF) of Sakarya University in developing and using an e-learning programme in three technical areas to upgrade the knowledge and skills of VET teachers in the fields of electrical-electronics and information technologies.

Introduction and Background: Seven Years of Support for Innovation

The need

The reform of ETF partner country VET systems has been underway for more than a decade. Initially major efforts were focused on reforming the curricula of the VET schools and training centres to align them better with the rapidly changing needs of the labour market. EU funded programmes like IPA have led to numerous projects, and the creation of the European Training Foundation has provided the means for exchanging examples of good practice through exchange of VET materials, expertise and personnel, institutional links and national reforms all contributing to the modernization of VET systems. However, educational reform is not only about changing policies, regulations, curricula and teaching materials. The pivotal point for implementing reform that impacts on VET students and trainees is teachers and schools. This is why a high priority is now increasingly given to VET teacher training (TT) in EC policies and the IPA education strategy papers for partner countries. With the EC initiative on Schools for the 21st Century[2] a sharpened focus is set on competence development of teachers in a whole school development perspective.

The purpose

The purpose of this collection of examples of good practice in innovative VET school development in South East Europe is to develop a shared interest and to stimulate developmental thinking for improved VET schools with an emphasis on competence development of teachers. Through independent, informal and responsive collaboration within an already well-established network, organized as a Community of Practice, participating countries have found it worthwhile to support the dissemination and continuing exchange of ideas and practices with a view to learning from each other and with each other, to solve common problems and develop new ideas, to use their own human resources, and possibly to move from talking to acting. The examples relate specifically to VET school development. All except two are drawn from South East European pre-accession and candidate countries and illustrate approaches to solve the problems of policy, provision and practice that may help school principals and teachers to come to terms with the massive changes around them.

The background

The ETF VET TT Network for South East Europe was launched in 2002 and always involved school principals and teachers from each country. Development and network activities were considerable increased through the LEARN project 2007-09 which was designed to stimulate national VET Centres to engage with local VET schools in promoting school-based innovation work. It has become increasingly clear during these years that a genuine but still untapped potential for local school development exists in all participating countries. It has recently been said that today educational policy runs ahead of educational research, cf. the EC VET policy framework developments. This statement can even be

2

sharpened through our observation that in SEE countries local school development progresses much faster than national educational policies. This trend can be seen also in many EU countries but is probably stronger in countries in transition due to the many donor-financed pilot school activities. An interesting main finding of evaluations of the early EC education action programmes like PETRA, FORCE and SOCRATES was thus that participation in just a minor transnational collaboration project, which opened schools to the outside world, was able to transform the school culture.

So the challenge for the LEARN project was mainly to identify these innovative schools – we knew all the time that they were out there somewhere. The VET TT Network experience has made it possible for us to identify some of these schools and ETF has found it important to present portraits of these VET schools because they probably will become strong nuclei of change in the coming years.

A Compendium of Innovative VET Schools in South East Europe

During 2004 and 2005 ETF, as part of its SEE VET TT networking project, compiled two *Compendiums of Good Practice in VET TT*. They consisted of case studies written by a variety of practitioners from the region based on a similar set of questions. The first volume included case material from EU countries, the second being exclusively from the SEE region.[3] The case studies recorded successful improvement promoted in VET schools through their own efforts and as a result of donor-supported projects.

In the LEARN project the focus of our networking has moved from a teacher perspective towards a whole-school perspective, a trend now clearly visible also in other international organisations. This is because the organisational setting for classroom innovation is crucial to sustaining good practice. Bijeljina, an innovative VET school in Bosnia and Herzegovina, drafted an inspiring portrait of its own work that served as a starter for the new Compendium. The Third Compendium was launched in the study tour to Ljubljana in May 2009 and the final draft was presented and discussed at the last SEE Regional Conference at Sakarya University, Turkey, in November 2009.

VET schools are here perceived as the unit of analysis and intervention, the locus of innovation, so it has made sense to find and work with relevant schools to write case studies to be included in such a Compendium. The VET Centres have been able to identify suitable schools and will benefit from exposing their good practice and lessons learned.

A set of questions to structure the case studies was produced which incorporate the broader focus on schools. The editors have played a pro-active role in recruiting contributors. Bearing in mind that we want to have contributions written in native languages, we have relied on in-county LEARN participants to a significant degree. The commitment and time available of the local in-country link person have been the crucial link in the chain. We have created a platform where schools could present their development profiles and examples of experiences with good practice, and we have invited schools to come forward themselves, instead of just individual teachers.

[3] See Appendix 1 for further details

The initiative taken by the VET school in Bijeljina in BiH triggered other schools, teachers and not least school directors, to come forward and send in their information. School directors have indeed been very eager to contribute and the members of the project Steering Group and the VET Centres have contributed a lot to stimulate this interest. The Compendium should also be an excellent platform for National Ministries of Education, EC Delegations, and international and bilateral donors to build on.

The following instrument or tool was developed to structure the description, analysis and presentation of examples of good practice concerning whole school development.

Framework for the Case Studies

Project:_____

1. *Who are we?*
2. *Why are we making this change?*
3. *What are we doing?*
4. *For whom?*
5. *How are we doing it?*
6. *With which results?*

a. input indicators – what did we invest in resources, time and personnel?
b. output indicators – what were our immediate results (materials, documents, etc.)?
c. outcome indicators – what have been the longer-term benefits?

7. *Lessons learned that might benefit others – what did not work as well as we had hoped and why?*

This last question would allow reflection and analysis on failed initiatives because the creative and innovative person, school and system should not fear failure in this EU Year of Creativity and Innovation 2009 – "to fail is to learn" and "feedback is the breakfast of champions".

Innovative schools: The state of the art

What is innovation?

Innovation is a widely used but confusing term. The confusion arises from its defining criteria – how new and how radical a change of reform may be. The scope of planned changes in education ranges from small improvements and significant modifications to genuinely creative innovative practice which are associated respectively with the verbs:

- *adopt* – make small improvements based on models from elsewhere (*re-equip, re-new)*
- *adapt* – make significant modifications to fit local situation (*re-process; re-train)*
- *create* - essentially untried, original innovative practice (*re-structure, re-culture, re-form)*

Only radical and creative change that does more than adopt or adapt what is known and used elsewhere can truly be regarded as 'innovation'. But in SEE for the purpose of this compendium, our cases to include both adopting and adapting of practices new to the school in question. Innovative schools obviously make changes that range from simple to very complex. The most innovative schools actually change the mind-sets of their staff to welcome change and to be willing to take the risks that are always associated with radical change. In terms of VET schools this could be called an 'entrepreneurial mind set' that is much needed by people entering competitive professions.

Why educational innovation is difficult, especially in SEE

Educational reform can be called a 'wicked problem',[4] that is to say, "a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. Moreover, because of complex interdependencies, the effort to solve one aspect of a wicked problem may reveal or create other problems". The transition countries of SEE have a record of unstable political, economic and social systems and the main lever for educational reform has been the interventions funded by donors. Some of these have been system-wide, others focused on 'pilot schools' but they have been very hard to sustain and usually fail to become embedded into local structures and cultures. This is probably due to three things:

[4] According to Conklin (2006), *Wicked Problems & Social Complexity* http://cognexus.org/wpf/wickedproblems.pdf, the four defining characteristics of wicked problems are:

1. The problem is not understood until after formulation of a solution.
2. Stakeholders have radically different world views and different frames for understanding the problem.
3. Constraints and resources to solve the problem change over time.
4. The problem is never fully solved.

- most of these reforms involve problems whose solution requires large groups of individuals to change their mindsets (core beliefs about themselves and their situation) and behaviours, both at the level of the political and administrative system and in individual educational institutions.
- all change is at root personal change (psychological) but it occurs within complex social systems with processes, structures and cultures that either promote or hinder people who are trying to innovate.
- values, behaviours and cultures take much longer to change than laws, regulations and economic inputs, especially in post-conflict regions . Ralf Dahrendorf once suggested that in transition societies following the end of communism, it might take 6 months to change the laws, 6 years the economies but 60 years to change the cultures (the way people see, believe and their habits of behaviour).

A metaphor for educational systems and schools

Education systems and institutions are not machines. They are better described by the metaphor of an organism. Ministries, training institutes and schools (policy-makers, providers of professional support and practitioners) are not like vehicles that can be tinkered with and repaired, they are complex social systems made up of hundreds of individuals each with their own drives, distractions, purposes. Each person as an actor in the unfolding scenario of change has to deal with new:

- laws, policies, regulations and plans (administrative demands)
- materials (financial and material resources)
- behaviours (skills, competences and performance)
- beliefs or mind-sets (values and attitudes that motivate a desire to change)

As Dahrendorf suggested, laws and materials are much easier to change than the knowledge, behaviours and beliefs of people. New mind-sets (core beliefs, values and attitudes) are often required for substantial innovations such as decentralising authority from ministries to VET Centres and schools or the role of teacher from lecturing to facilitating student problem-based and project 'real-life' learning. In the case studies that follow, innovative school leaders have adopted more open-minded and democratic approaches and teachers have become more student-centred, ready to overcome their lack of familiarity with information and communications technology (ICT) and showing willingness to change habits and beliefs into which they were socialised in former times. Our societies are being rapidly driven by technological innovation, particularly the rise of the internet that is making many of our systems and institutions obsolete. Networks are replacing hierarchies and the impact of the internet is changing the global economy at an unprecedented and accelerating rate. We are also becoming more aware of the many 'wicked problems' such as climate change and widespread poverty that we have created for the next generation. In such challenging environments, schools resemble complex organisms consisting of different organs and cells. The 'cells' of a school are the living, conscious individuals, who depend on one another and need to be nurtured in a healthy environment in order to function properly within the learning organisation. This means positive support from the 'ecosystem' of ministries, regional directorates and VET Centres/universities of which the schools are a part. It also

means creating and maintaining internal processes, structures and a culture of self-development in the same way that an organism preserves its own wellbeing.

What sort of innovations?

There is a paradox that in order to introduce change IN the school sometimes there must be change OF the school. This is why the role of school leadership is crucial to any form of school-based change. This does not necessarily mean the role of the principal alone. It is possible for specific departments and teachers to be innovative despite the lack of support from the principal, but it is much easier if the principal creates a culture, policies and resources that encourage risk-taking and continuing professional action and reflection to make a better learning environment for students and teachers alike.

The ultimate purpose of educational innovation must be its impact on what and how students learn. In a rare empirical study of classroom interactions in schools in SEE, a substantial World Bank research survey used detailed observations of classroom teaching and discovered that teachers talked 70% of the time to passive students. The researchers proposed a set of innovations for improving schools in Albania where the survey was conducted.

Figure 1: Types of school development innovations proposed in SEE

Key proposals for school development from a World Bank Policy Brief:
'How Teachers Teach in Secondary School Classrooms in Albania'

1. Teaching/learning methods

a. help teachers understand the limitations of traditional presentation-recitation mode
b. use traditional presentation-recitation teaching modes in better ways
c. take initiatives to increase the amount of students' talk in learning activities

2. Curriculum reform

a. coordinate curriculum with more interactive teaching methods
b. develop facilities and learning resources for more active learning

3. School-based strategies

a. provide schools with grants to support development activity
b. encourage small-scale research projects
c. make the school the focus of change, and the give the school principal a key role

4. School leadership development

a. enhance school principals' knowledge and skills in creating productive learning environments

b. make school principals more active and systematic in following how teachers teach in their own schools

5. School culture

a. encourage changes in institutional norms, knowledge, skills and leadership

6. Teacher Training System reform

a. strengthen training capacity at national and regional levels

b. make trainers available to the schools and teachers.

One Albanian innovative school director amusingly summed up the central challenge of school innovation as that of helping teachers to develop 'bigger ears and smaller mouths', a task towards which all six of the focuses for innovation in figure 1 might be directed. The case studies in this compendium contain more examples of the first three approaches than the last three, but all feature to some degree in the self-reported cases. The emerging VET Centres will become a key part of the in-service teacher training system as has already happened in the case of Denmark and Slovenia, the two study visit countries in the LEARN project.

Spreading good practice

Innovations arise and spread in three main ways illustrated in Figure 2.

- *Top-down* – changes managed from above based on legislation or national reform programmes often donor-funded and provided with foreign technical assistance
- *Network diffusion* – peer learning and sharing across a community of practice usually voluntary and depending on peoples' willingness to share their schools' practice and support the development of other schools
- *Bottom-up* – empowering creative individuals and groups and creating the conditions and culture to encourage them to innovate for themselves, their colleagues and students

Figure 2: Three strategies of innovation in school development

<table>
<tr><th colspan="2">Top-down
'Cascading'</th><th colspan="2">Networking
'Sharing'</th><th colspan="2">Bottom-up
'Self-development'</th></tr>
<tr><td>National reforms</td><td>Multiplicator projects</td><td colspan="2">Between schools</td><td>Within the school</td><td>Individual and team self-development</td></tr>
<tr><td colspan="2">Ministry/VET Centre/Universities
↓
Schools</td><td>National</td><td>Regional</td><td colspan="2">Decentralised - Local
↗</td></tr>
</table>

All three strategies are illustrated in the case studies and, of course, can be used in combination. The emerging VET Centres in SEE countries have a key role to play in facilitating all three strategies. One response to dealing with the difficulties of educational innovation has been to see individual schools ('learning organisations') as the best locus for dealing with change. All three strategies of course must ultimately lead to improved student learning mediated through schools and the interaction between teachers and learners. Instead of the isolated teacher 'delivering' knowledge, schools need teams of leaders and teachers who learn together how to create learning environments for their students that encourage enterprise, creativity and learning to learn and the other key competences that are central to EU educational policy.[5] This requires a transformed school and a pedagogy that deals with beliefs, values and attitudes. At every level it means a less controlling and more empowering relationship between the leader and those who are led, if learning and development are to spread. Policy-makers need policy-learning; administrators need to stimulate risk-taking; school director need to encourage to teachers to experiment with new ideas; and teachers to energise student to solve problems. Such a change of mind-sets happens inside the mind of each individual which is why educational reform of this scale is indeed a 'wicked problem'.

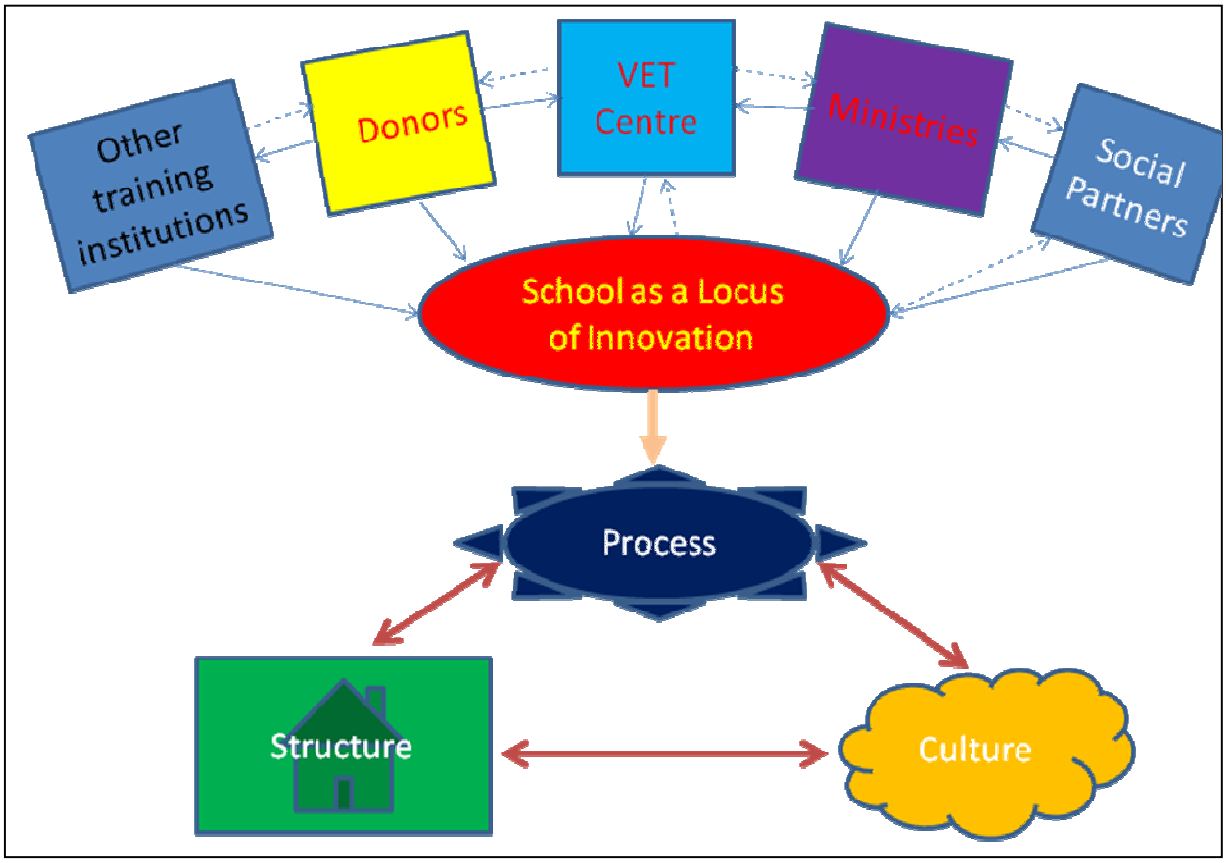
The school as the locus of innovation

In South East Europe, ministries are oriented to what the EU is doing in developing its education systems and institutions at a time when creativity and innovation (2009 was declared the EU Year of Creativity & Innovation) are a high priority in promoting economic competitiveness and environmental sustainability and making these two goals compatible. A major shift of emphasis towards school-based strategies (so-called 'bottom-up) of change has happened over the last two decades and phrases such as 'learning organisation', 'professional l earning community' (see Appendix 2) and 'community of practice' have become widely used in preference to the traditional hierarchic 'top-down' approaches of mandated or imposed change. This is based on the realisation that pressure alone is rarely enough to 're-programme' behaviours and especially beliefs or 'mind-sets'. People must take ownership and commit themselves to new ways of thinking, believing and acting. Innovation is a very personal matter as well as something that needs the support of the school and the system that supports schools.

A simple representation of the overall interconnected innovation system typical in SEE is shown in figure 3. The five upper boxes show institutions through which EU values (policy learning) and programmes of technical assistance such as CARDS and IPA are carried and filtered. In some countries Regional Education Directorates make an additional level between national and local.

[5] Communication in the mother tongue; Communication in a foreign language; Mathematical literacy and basic competences in science and technology; Digital competence; Learning-to-learn; Interpersonal and civic competences; Entrepreneurship and Cultural expression

Figure 3: The Innovation System



In addition to the complex 'organic' system of national and regional institutions for control, support and training, each school is itself is a complex social system. It is both, to move to a computing metaphor:

- *an organisation* – the 'hardware' (facilities, budget, resources) and operating system (policies, structures, rules, roles)
- *a culture of people* - the 'software' (knowledge and understanding, behaviours, habits and skills; mind-sets and beliefs (attitudes that motivate a desire to change)

All the processes within schools are like energy flowing through many channels of both the organization and the culture to energise learning. They can be grouped into four broad inter-connected processes that are illustrated in figure 4. Many of the innovations described in the case studies are related to these processes, particularly to five in the School Development quadrant: most frequently curriculum, pedagogy and ICT although e-portfolios overlap into assessment. The professional development of individual staff also features often in the innovative schools. Leadership and management are rather

implicit in most of the case descriptions rather than seen as the target for innovation. A quality assurance group for whole school review appears in Plav, but teacher appraisal and team review do not feature. Nor do professional development activity for entire staffs.

Figure 4: Improving School processes

The SEE case studies in the framework of innovation

Most of our studies are examples of change IN rather than OF the school. This may be because of the central role of donor projects in SEE VET schools. Nearly all rely on external donors and some on VET Centres to simulate and provide resources for the planned innovation or modification of practice. Thus they fit into the top-down strategy rather than network diffusion or bottom-up approaches. Few, except for the two EU cases, appear to have started from a comprehensive school-initiated planning strategy. Naklo Biotechnical Centre in Slovenia which was observed with some envy by visitors from non-EU SEE countries has benefited hugely from Slovenia's membership of the EU which has provided access to European Social Funding. It illustrates the power of the school to develop itself based on local needs when adequately funded and given high quality and extensive training by the Slovenian VET Centre. Decentralisation in Slovenia really seems to be accelerating the capacity for school based professional development and Naklo with its team structure (PTAs) seems to fit the desired model of the professional

learning community tightly linked to a community of practice with the world outside the school. The Plav Combined High School on Montenegro also has a 'Quality Group', another illustration of the force of powerful teams of teachers working together on school development. In the FYRoM case a Vice-Principal has a special role as leader of Research, Training and Development. Locating leadership for school, professional and quality development in the senior management team of a schools a long-standing tradition in several EU countries that has played a big part in making them 'learning organisations' able to adapt to an increasing number of external pressures..

Bijeljina Economic School in Bosnia and Herzegovina combined significant modification of practice (the international collaboration and the use of the 'Moodle' virtual learning platform) with more fully innovative changes that involved inventing new on-line modules that related to the needs of the local labour market. Several other cases demonstrate successful links to the community outside the school. Adopting and adapting information technology (ICT) and e-learning is featured in at least half of the case studies. The school in Istanbul also uses the same open source Moodle e-learning platform to offer in-service training for its staff. It is an example of cashing in on the fabulous opportunities offered by the internet as schools in SEE rapidly acquire the capacity and skills to take advantage

A constant theme throughout the case studies is the emphasis on placing the student at the centre of the entire schooling process. This sense of mission to create active, 'real life' problem-based learning experiences is featured in the Albanian agribusiness case, by the marketing of school produce. This particular school is taking seriously the recommendation from the World Bank study shown in figure 1.

The cases also indicate the crucial role of enthusiastic and 'deep leadership'(see Appendix 3) that can create a 'can do' culture in the school that is so essential if continuous development is to be achieved as illustrated in the schools in Denmark and Slovenia that were visited by LEARN participants. School leadership, especially in more decentralised systems, can strongly affect the school structure (Odense's pursuit of international partnerships and Naklo's self-developing teams) and perhaps even more importantly, its culture, for without attention to the well-being of staff and students alike, development will be discouraged. 'Deep learning' (Appendix 3) for both teachers and students requires a positive ethos of trust and high morale in the school and classroom if the qualities of metacommunication (talking about how we communicate) and metacognition (thinking about how we think) are to become a feature of professional dialogue in schools. A positive culture and teacher morale is a key feature of the account from Serbia.

Always, of course, schools encounter barriers. In SEE these are often associated with finances which is why so many of the case studies appear to have benefited from the temporary injection of pilot school funding accompanied by technical assistance from foreign donors. All the SEE schools featured in this Compendium fall into this category and especially the Slovenian case that has benefited hugely from that countries access the ESF funds following its accession to the EU. Maybe this is a form of the 'deep support' mentioned above, but often it is short-lived. A major challenge to ministries and VET Centres is to create more permanent conditions for sustaining school development: financial and technical support to empower colleagues within the schools to manage their own initiatives for better serving the

students and the social partners. All our cases feature projects as innovations and the challenge is to institutionalise and disseminate what the learning communities learn, first throughout the school and second to other schools across the system. This is where the responsibilities of VET Centres and ministries lie in using or selecting from the three strategies in Figure 3.

The case studies speak for themselves about the professionalism, support and pride in achievement across this sample of eight innovative VET schools in SEE. The descriptions of two VET schools in the EU also give an insight into how valuable study visits can be. Figure 5 indicates the range of innovations and strategies featured in the pages that follow.

Figure 5: Indicative list of innovations and strategies from the Case Study Schools

The Case Study School	The Innovations	Innovation Strategies
Albania - Korca Agribusiness School	New agribusiness profile School Training Firm "Super Juice" School Farm ICT laboratories	Donor support - Kultur-Education; ETF LEARN project
Bosnia and Herzegovina – Bijeljina Economics School	Innovation through e-learning Development of a curriculum Employer engagement Entrepreneurial skills for young people Leadership skills Quality standards	British Council funded e-learning project with Derby College from the UK
Croatia - School of Electro-technics, Zagreb	Modernisation of VET curricula Modern learning methods Computer networking certificate In-service teacher training Peer-VET teaching Virtual community of VET teachers	EU CARDS project Study visits to Denmark
Denmark – SDE College, Odense	Continuous development Capacity-building with schools in other countries, Mentoring E-portfolio developments	Annual strategic plan Development group Funding from both national and international programmes
Former Yugoslavia Republic of Macedonia – Skopje Traffic School	Mentorship programme School network to exchange practical experience Strategy for quality education Support teachers in innovation and creativity in teaching and learning Raise pupils' marks	Vice-principal for Research, Training and Development created specifically to lead school-based staff development Senior management team responsible for quality review and training needs analysis

	Career development process for teachers	
Kosovo – Suhareka Technical School	Installing specialised equipment Updating teachers in mechanics and electro-technology Training for teachers in modern teaching methods and student evaluation	Donor project – Swiss Kontact 'Educative' workshops Study visits E-learning
Montenegro – Plav Combined High School "Beco Basic"	Student-centred teaching methods Environmental and practical experience Creation of a Study Centre Professional tuition of teachers	A 'quality group' to assess working processes Study visits to Austrian schools Links with schools in Switzerland
Serbia – Zrenjanin Technical School	Centre for Continuing Adult Education Career guidance and counselling Multimedia classrooms methods Community biogas training project	EU - VET Reform Programme (CARDS phase I, phase II and Bridging) EBR funding
Slovenia – Naklo Biotechnic Centre	Individual study plans Programme Teacher Assembly	Support from national VET Centre (CPI) EU Social Fund support
Turkey - Istanbul Bahcelievler Erkan Avci Vocational High School	E-learning project in electronics and ICT Use of 'Moodle' web technology	Collaboration with Technical Education Faculty in University of Sakarya

Case Study 1 - "Providing 'real life' learning of practical skills"

The agribusiness school, "Irakli Terova", Korça - Albania

1. What does the school offer to the students?

The Secondary School of Agribusiness "Irakli Terova" is part of the vocational education system in Albania. It is situated in Korça city, an important agricultural centre in the South-Eastern part of Albania about 35 km from the Greek border. This school is the first school with the agribusiness profile in Albania. It has a long and very rich tradition in the field of the agricultural education. It was founded in 1953 as an agricultural school and initially was attended by students from all over Albania. Over the years, like a professional school, it has become known for its flexibility, changing its profile according to the economical developments of the region and the country. In 1993 it became the Farm School and since 2000 it has been transformed into an Agribusiness School. The actual profile has been adapted to the development trends of agriculture in Albania, towards agribusiness and the processing of agricultural and livestock products. In contrast with other vocational schools of Albania, it has only one branch: the one of ***Agribusiness.***

The education in this school lasts 4 years. The school has 8 classes with about 25 students each.

Students come mainly from the Korça region but a number of students come from the city itself. The school has a total of about 200 students and 35 % of them are girls. Since its foundation, about 4000 students have graduated and some have got important positions in different sectors of agriculture in Albania. The teaching staff, besides the teachers of general subjects, is composed of teachers of professional subjects, also: three agronomists, 1 veterinarian, 1 mechanical engineer and 2 economists. The school also has an instructor for practical subjects. Most of its life the school has been managed by specialists, mainly agronomists. The current school director is Mr. Dhimitri Xhambazi, agronomist with over 30 years of experience at the school.

The school has a rich infrastructure, classrooms, labs and workshops for students' social and professional development. After finishing the school of agribusiness the students get a school graduation diploma and a certificate of practical skills which helps them to enter in the labour market.

A number of students (about 25%) are sheltered in the school dormitory which is very near the school. Currently, Agribusiness School of Korça has the status of a "national school".

The school offers the students:

- a contemporary education
- practical skills for the labour market
- social skills
- the necessary qualifications to continue on to university education

So, it is not only an educational institution but also a centre of civic education for the students.

2. Teaching programme - areas and opportunities

The structure of the teaching programme combines two main areas:

- general subjects
- professional subjects (theoretical and practical)

In the first area are included subjects like: mathematics, physics, chemistry, biology, geography, informatics, Albanian language and foreign languages (English and Italian). The professional subjects are divided according to the profile: agronomy, veterinary, mechanical and economical subjects. The second area is composed of subjects like: crop production, fruit trees, plant protection, bases of veterinary, agricultural mechanics, accounting, marketing, general economy, business management, etc. Such a curriculum structure facilitates the acquisition of necessary theoretical and practical skills by the students, allowing them to come back to their own farms after graduation able to manage the farms in a profitable way.

On the other hand this curriculum structure equips students with the "graduation diploma", giving the opportunity to enter the university in branches they are willing to follow. Thus the student gets in this school the type of general and professional learning that fulfils both their personal needs and social expectations. After graduating from the Agribusiness Schools, about 30% of the students enter the labour market, about 60% enter university education especially in branches connected with the agriculture and environment. A small percentage (about 10%) remains unemployed.

In the first years of education the focus is towards general education subjects and gradually, in the last two years there are vocational subjects and vocational practice dominates. During the whole schooling period, the students are intensively involved in practical activities on the school farm or other farms in the region. From year to year there has been an increase in the number of the practical classes because the success of a vocational school is measured primarily by the efficiency of the practical classes and the amount of practical skills that the student masters by the time of graduation. Actually the theoretical subjects compose about 60% of the curricula, whereas the practical subjects about 40%.

The school motto has always been: *I hear – I forget; I see – I remember; I do – I understand*

The general programme takes place in the school surroundings, in classes and labs which are well equipped with didactic equipment. The school has a number of labs for science subjects.

The students are showing a particular interest for subjects such as informatics and foreign languages. The computer and the internet are an integral part of the students' life. The school has actually two computer labs in full operation

The professional programme takes place in the well equipped and

functional environments like labs, workshops and the farm. Specialist labs are available for agronomy, mechanics, veterinary and training firms.

The “training firm” is an economical practical subject. This subject has recently been included in the teaching programme according to an Austrian experience. The school training firm is named “SUPER JUICE”. Through this practical subject the students perform direct practical activities in the school lab. They perform all the economical operations of a “real company” that produces the apple juice. The most significant example of the practical activities performed in our school was the fair organized for the 55th anniversary of the school. The celebrations were organized in the form of a fair of the school products. Students themselves took part in the production and the marketing of the agricultural and husbandry products.

3. School farm: an important didactic area for developing practical skills of students

The didactic farm plays the most important role in developing practical skills of the students and this is done through direct activity in the farm.

Nearly 90% of the practical part of the curricula is carried out in the school farm. The farm is nearly 1 km. from the school, has an area of 33 ha and includes three sectors:

The agriculture sector

The livestock sector

The mechanic sector

The agriculture sector includes:

- The orchard of an area of 1.4 ha, planted with different fruit trees like: apples, plums, cherries, etc., (nearly 1300 fruit trees).
- The greenhouse in which are cultivated different types of vegetables. One of our aims is to improve its conditions because some other school activities are directly connected with the greenhouse.
- Areas planted with wheat, barley, grass, alfalfa, etc.

Students carry out different services and processes in the orchard like: digging the area under the trees, pruning, grafting, gathering and storing the products. With its income, the farm partly covers the expenses for necessary seeds, pesticides or fertilizers. The orchard is equipped with an irrigation system, established by a partnership project supported by the Austrian Kultur-Education and Agrinet. A large quantity of the fruit products, especially apples, is being processed in the farm workshops for producing fruit juice or "raki". Students take part directly in the processing of these products.

- **In the livestock sector** the farm breeds cows (10 cows) and pigs (7 pigs). Year by year the school aims to improve the stall conditions and to insure the necessary equipment for the teaching of veterinary practical subjects.

- **The sector of mechanics** includes tractors and other agriculture machines needed for different farm services. Students are trained to use tractors and agriculture machines in the farm surroundings.

The main function of the didactic farm is to serve as a suitable environment to carry out practical classes. It is a centre for teaching professional subjects and giving students practical skills through direct work in different sectors. On the other hand the farm has its products and ensures generated income through the work of its employees and by the students' practical work. This income is used to fulfil most of the farm needs for seeds, pesticides, fertilizers, etc. The Agribusiness school together with its farm has had an important role in various presentations and activities, in fairs, national and international conferences of the vocational education sector.

4. School features and advantages

The school has many features and advantages which make it outstanding in the field of agribusiness education. Let's mention some of them:

- The suitability and the flexibility of its curricula that have followed step by step the tendency of the economical development of the region and the country.

1953	**1993**	**2000**
AGRICULTURE SCHOOL	FARM SCHOOL	AGRIBUSINESS SCHOOL

- The school infrastructure is well-equipped with didactic implements in order to increase the teaching and learning level.

- The school gives students many opportunities after graduation: to enter in the labour market and to be employed, or to follow the studies at university education.
- Apart from the diploma, the students get a certificate of the practical skills they obtain after finishing the agribusiness school. This certificate facilitates entering employment.
- The teaching staff is qualified and serves the students' education in the best way. Time after time, staff training activities there are organized by foreign and Albanian partners. Recently, with the support of the LEARN Project of the European Training Foundation (ETF), the teachers are trained and are successfully implementing "project based learning" methodology in everyday teaching practice. In the context of this project, the school is also sharing experience with other Albanian schools. The school has been selected among the other vocational schools in Albania, to organize a mini-project named: "THE PRODUCTION OF THE APPLE JUICE", which took place in October 2009.
-A great advantage is the partnership of the school with different agricultural foundations. Through this collaboration, the school gets local and foreign experience in the field of agribusiness.

- The number of the students who progress to university has been increasing from year to year. Owing to the formation that the school offers, students can follow every kind of University branches without any limit.
- To the students with best results, the school offers the opportunity to follow advanced studies in "D. Perrotios" College of Agricultural Studies in Thessalonica, Greece. Since 1996, about 35 students of our school graduated from that college and the school continues to have a good partnership with this college.
- The school has taken part in local, national and international fairs, presenting products, produced by the students themselves. The school Training Firm "Super Juice" was presented in the international fair of training firms in Salzburg - Austria in March 2009 and in the national fair which took place in Tirana, in May 2009.
- The school is conceived as an educational institution and a centre of civic education as well. It gives students the experience of healthy and social living through the extracurricular activities like excursions, cultural activities, etc.

5. School challenges and priorities

The school has always aimed to serve students in the best way and to face short and long term challenges for the future. Here are some of our future priorities:

1. The consolidation of the agribusiness profile as the main trend in agricultural development in our country. In this framework the school will focus in the processing of our agricultural and livestock products.
2. To motivate and stimulate students to perform all the procedures for processing the products in the school farm.
3. To exploit to full capacity the didactic implements that the school has in order to increase the quality of teaching and learning.
4. To increase the level of practical skills that the students get after finishing the school, giving priority to the efficiency of the practical classes.
5. To reinforce the contacts and the partnership with different businesses and NGOs in our country and abroad which operate in the field of agribusiness, in order to receive the richer experience of European countries.
6. To improve the elements of infrastructure in order to create optimal teaching and learning conditions.
7. To improve the qualification level of the teaching staff, trying to be part of various development projects with foreign partners.
8. To transform the school not only as an education institution but also as a training centre for the farmers of the region in the field of agriculture and agribusiness.
9. To have stronger relations with the local and national institutions of agriculture in order to receive greater support from the state.
10. To promote the school's values and advantages not only in Korça region but throughout the country, in order to make it be more attractive and to motivate students to follow studies in the field of agribusiness.

In this framework we shall continue sharing experience with Kultur-Education of Austria which has greatly supported the school with didactic implements and teaching materials. The school will continue the activities in the context of the cooperation with ETF. We are in search of new advanced experiences in the field of agribusiness. Common projects of sharing and exchanging experience with EU countries

would be very helpful for vocational education in our country. We would also like to be member of any network of agribusiness schools in Europe,

The Agribusiness School “Irakli Terova”, serves not only the present education of its student, but also opens up perspectives for their future lives as workers, entrepreneurs and citizens.

Dhimitri Xhambazi, Principal; E/Mail: xhambazi_dhimitri@yahoo.com; ***Tel/Fax: 0035582242957*** *[English speaker]*

Case Study 2 - "Innovative e-Learning for Entrepreneurship and International Collaboration"

Bijeljina Economic School, Bosnia and Herzegovina

1. Who are we?

We are a VET School for 640 students aged 15 to 18 and 32 teaching staff in the Republika Srpska in Bosnia and Herzegovina. Bijeljina is a town of 170 000 inhabitants with an economy mainly based on commerce and agriculture. You can find out more about Bijeljina on the website www.sobijeljina.org

2. Why are we trying to be an innovative school?

Obviously our first concern is to prepare our students as well as possible for the challenges that lie ahead in this fast-changing global, inter-cultural and digital age. Bijeljina School is a part of the European Foundation Family (ETF) family and we read the ETF publication 'Live & Learn' and want to contribute to the ETF SEE VET LEARN Network initiative. Our principal has participated actively in ETF seminars. We would like, through ETF, to let others find out about what we have accomplished in intercultural dialogue in this post-conflict zone. As a school specialising in economics it seemed crucial to introduce our students to the latest digital tools and to broaden their outlook and mind-set and focus on entrepreneurial learning by engaging in a collaborative project with a similar school in the EU – Derby College in England.

3. What are we doing?

These are some of the ways in which we are trying to improve our school that provide a background to the project that is the main focus of this case study:

3.1 New Technology - We have modernised our classrooms with latest technology. There is a strong need for staff development and mobility, and the project described below is the perfect platform for facilitating this.

3.2 Interactive teaching and learning - In teaching and learning, the main principle of education of our students is to offer a student-centred interactive approach in which students are very much involved and enthusiastic. We have abandoned the old boring principle where the teacher is the only one who does the talking. Active student participation is also a need and a priority crucial to the Enterprise learning project.

3.3 Simulated Companies - We have formed simulated companies in cooperation with actual local companies. Students are employed in their own businesses. We have accountants, bank clerks, managers, directors, virtual money, promotion and firing, just as in the business world. The aim is to

ensure that when students graduate they not only know the theory of economics and wealth-creation, but also they are also equipped with practical knowledge. Employers are very interested in what we do, and our students have a head start when they apply for a job. We are proud to say that our curriculum is developed to meet the demands of modern labour market. Employer engagement is also a priority and the school wants to build on the success of its "Simulated companies" model to make direct links with the business world. For example, the development of the e-learning module on 'Finance' in the project described below will strengthen the school's link with the banks in Bijeljina, and will provide a curriculum relevant to the job market.

3.4 The e-learning project with Derby College from the UK.

Ekonomska Skola Bijeljina recognizes the need to establish trans-national links after the isolation of the previous decade and the partnership with Derby College was an opportunity to do this. The main aim of the partnership project is to promote innovative learning in the form of e-learning and enterprise learning. The main stimulus has been the partnership between the two schools. It was initiated and funded by British Council under the project Premiers' Initiative. New Technology is a priority for the school and the project provided an opportunity for working with a trans-national partner in the area of e-learning to develop e-learning modules that students in both colleges could use.

The project focused on the following main themes:

- Innovation through e-learning
- Development of a curriculum to meet industry and business needs
- Employer engagement
- Entrepreneurial skills for young people
- Leadership skills
- Quality standards

Developing a so-called ***MOODLE system of e-learning*** is a totally new experience. Moodle is designed to help educators create online courses with opportunities for rich interaction.

Moodle is a software package for producing Internet-based courses and web sites. It is a global development project designed to support a social constructionist framework of education. It is a free and open source e-learning software package or platform, also known as a Course Management System, Learning Management System, or Virtual Learning Environment. It had in February 2009 almost 50000 registered sites with over 28 million users in 2.5 million courses. It uses PHP (personal home page), a widely-used general-purpose scripting language that is especially suited for web development and can be embedded into HTML. It generally runs on a web server, taking PHP code as its input and creating web pages as output. It can be deployed on most web servers and on almost every operating system and platform free of charge. The word Moodle was originally an acronym for 'Modular Object-Oriented Dynamic Learning Environment'. It's also a verb that describes the process of lazily meandering through

something, doing things as it occurs to you to do them, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way Moodle was developed, and to the way a student or teacher might approach studying or teaching an online course. ***Extracted from Wikipedia***

4. For whom are we making these innovations?

Our students, of course are the first to benefit from the opportunities described above, but for them to break away from the boredom and lack of relevance of former traditional, teacher-centred approaches, it is the teachers who need to be supported and refreshed in order to make the efforts to use the new technologies and active teaching methods. Of course if the school principal leads by example and is actively engaged in his own development, then the teachers are encouraged to do the same. The school itself benefits from an improved reputation which, in turn, makes parents and employers more positive about the VET system. VET Centres and teacher education institutions may be interested in drawing on these success stories. Finally, the labour market and enterprises receive more creative and motivated workers who have experienced the entrepreneurial challenges of running simulated companies, are equipped with digital skills and have had contact with actual enterprises functioning in the BiH economy.

5. How are we doing it?

A project coordinator was appointed in each school to manage the coordination of activities. Each side then kept in touch using Moodle which is a useful tool which sends e-mails to all relevant Project group members. This helps to alert people to activities and deadlines. Moodle was used for managing communications along with the telephone. It was also the main innovation as the vehicle for e-learning. Learning on Moodle is different because it is not just learning by reading and writing and listening but now it is done through on-line quizzes and games and videos.

In October 2008 both Colleges prepared lists of their current curriculum and shared them with each other over Moodle. 2008-09 was the first year and a lot of the time was spent by each side putting the necessary data onto the Moodle platform. The curricula were then analysed by both sides and compared to each other. A gap was identified in both curricula and this gave us our new modules to be developed. These were identified:

- ***'Entrepreneurship'*** including the development of soft skills, in which Derby College would take the lead in designing. There is a direct link with the Derby's International Office at our site www.ekonomska.info

- ***'Finance and Accounting'*** which the International Office of Derby College could use in the UK. Mrs Nada Markovic, created this module and the aims and objectives were that the students learn how banks operate, types of banking businesses and all financial transactions between banks, theoretical and practical knowledge about the basics of banking and banking techniques, preparation for independent

work in all areas of banking using the latest techniques, including electronic transfer of money.

The 'Entrepreneurship' module was created because companies around Derbyshire in the UK and Bijeljina identified this as an urgent need. They believe that students following general curriculum courses are not creative enough and do not possess the actual skills to be able to develop their own ideas and to plan on how a product goes from an idea to actual production. Soft skills were identified as a priority because this course would run alongside their existing business course as an extra to it and not a stand-alone course (at this point). In the future we hope to be able to offer this course as a stand-alone course. The need for the Entrepreneurship module had been highlighted by S & A Foods in the UK and this need was also highlighted by Spektar Drink Ltd in Bosnia as an actual gap in both UK and Bosnian curriculum. This meant that employers were engaged from an early stage in this project and were the actual driving force behind the idea. The two companies were invited to attend meetings to discuss what was happening as the project progressed and then at the final stages the companies were part of the panel which assessed the students' final projects on both sides. A curriculum has been created mutually on Entrepreneurship in which a full business plan can then be created by the student taking the course as well as a full presentation on the designed product. These have been agreed by the relevant companies as useful to their area of expertise

Leadership skills also formed as part of the Entrepreneurship module as the students were requested to work in teams. Each group naturally developed a leader and this proved to be the winning group's strength. The winning group on both sides had taken the initiative to do something extra. One winning group organised a meeting with art students who were not originally involved in the project and this resulted in a mock product actually being created and designed. The other winning group filmed an advert to advertise their product which worked extremely well.

The whole ethos of the Entrepreneurship module is based around the students being able to use their skills to be able to go into actual business when they have finished their education. Guidance and career advice was given to both sets of students by both College careers departments in the form of presentations and leaflets and also the companies involved gave talks on future careers also which the students thanked them for and seemed very impressed by. The Moodle system enabled us to use innovative techniques in teaching both sets of students. It also enabled the Bosnian students to meet the English students without the barrier of travel. Staff in our school liked this system so much that they set their IT team the task of creating a Moodle environment for their own school. This has also proved to be highly successful.

6. <u>With which results?</u>

6.1 Input indicators

- The total financial support over 1 year was 15000 GBP from the donor.
- The time invested was on top of regular obligations. The members of the staff who were part of the project, gladly took some additional work and nobody was relieved of regular duties.

- Effective communication with our partner college was actually quite simple as we used the new "Moodle" system and as the time difference was not great there was no real barrier to communication.

6.2 Output indicators – Our immediate results have been:

- The creation of the Moodle e-learning platform
- The two e-learning courses – 'Entrepreneurship' and 'Finance & Accounting' now available on the e-platform. Every student from our school and Derby College can access it.
- 24 students took active part in the competition Entrepreneur of the Year.
- The Entrepreneur of the Year contest, where students make their own business plans to develop a business idea and to apply it in an international context.
- The prize of a unique opportunity to travel to UK of the winners from our school and having the winners from UK as our guests. This year in May, the winning group (4 students) from Bijeljina, visited England. Their visit lasted 6 days.
- A student has been offered a work placement in the UK for this year - the best prize of all imagined in the project!
- The publicity disseminated in the local press in the communities of both partner schools

The presentation of the results at a British Council event organised in Bosnia was a great success. In March, the Secondary School of Economics organised a competition in the English language and an Achievement Ceremony. Guests of honour and members of the panel were Mr Rafik Sfar Gandoura, international manager of Derby College and Ms. Larisa Halilović, representative of the British Council in Bosnia and Herzegovina. They were more than satisfied with the results. The ceremony was attended by a large number of local employers, representatives of the local community, professors from the local university, teachers and students.

6.3 Outcome indicators – The longer-term benefits to students, teachers, school culture, social partners, etc. are still waiting to be seen, given the very recent implementation of the project. This project was disseminated at a British Council event to a large network of Colleges. Derby College initiated similar projects in Libya, Saudi Arabia and India. We anticipate that in the year 2009-10 we will be granted additional funding to further develop the project and to offer the work placements to the winning groups of each country. In the long term we hope to be able to set up these courses as stand-alone courses and hopefully they may lead into direct jobs in the relevant companies or may be funded by the companies. The dissemination of the project has also led to new possibilities of partnerships which based on the reputation in Bosnia for the Bosnian College and recently for Derby College. We are proud to say that one of the guests at the Achievement Ceremony was the Deputy Minister of Education, Republika Srpska, Mr Miroslav Bobrek who was so pleased that he announced that the project will be presented in other schools in B&H. He also asked the principal and the professors to give a presentation of the project to the Assembly of Republic of Srpska.

7. Lessons learned. What did not work as well as we had hoped and why?

7.1 Working together with the partner college

The obvious barrier to the project was the initial language barrier. The Principal of Ekonomska Skola Bijeljina cannot speak English and none of the International Office staff at Derby College can speak Bosnian or Serbian. This barrier was removed initially with the help of the English teachers in Bosnia. Later on in the project a member of staff at Derby College who is Bosnian was also identified to further aid proceedings. Most of the weekly dealings between both establishments were dealt with by English speaking Bosnian staff and students therefore this barrier was overcome. Information was passed through the use of "Moodle" therefore this eliminated any file sharing or time wasting difficulties which may have occurred without using this system.

7.2 Funding

The final approval and funding for the project was delayed by 3 months. This then delayed the project by 3 months which made each of the deadlines very tight. Also better planning and more advance notice would have helped both schools. It would make sense for projects such as these to fit into and follow the academic year and not the financial year. There were also problems the Bosnian side with the currency exchange in both directions. This was sorted out by the British Council paying the second half of the funding all to Derby College and then Derby College paying back to Ekonomska Skola any money spent. The lesson learnt is that the funding should come completely to the British side of the partnership to avoid difficulties and make financial reporting easier. We would also recommend that the projects be planned into the academic year from July/August until June and not the financial year ending in March/April.

7.3 Work placements

In continuing the project, we hope that work placements can be guaranteed and also will be for international students in the partner country. The sustainability for future projects of this type depends on the backing from local companies. All of the necessary tools and procedures and systems have now been set up and are in place ready for next year and future years to continue on these projects but the added bonus of the work placements abroad and the input from the companies in general is crucial. We will be looking into company participation from an earlier stage next time in order to recruit more companies into this scheme on both sides

7.4 Working Internationally

There were complications involving movement between the two countries. A connection needs to be made between policy makers or funding bodies and the UK immigration system to speed up visa applications for persons working or studying under these projects and to ease entry into the country. The students' lives as well as professional experience will be enriched by travelling to the UK. They have

learnt about each other cultures already but they have already worked with international curricula and businesses. The staff has new experience working with different nationalities than they before and are now experienced in working with partners who cannot speak the same language. Staff also learnt how to create and present new curricula. As an added bonus, staff and institutions have now built long term friendships. .

8. How can you learn more?

All this is just a fraction of what we do here in Bijeljina, Bosnia and Herzegovina. If you are interested in what we do we will be more than happy to tell you everything in detail. You can also visit our website at www.ekonomska.info

Svetislav Vujic, Principal & Brankica Njegus, Teacher of English Language

Case Study Three - "Modern Approaches to Teaching of Key Competencies"

School of Electro-technics, Zagreb, Croatia

1. Who are we?

The School of Electro-technics Zagreb was founded in September 1991 and is the legal successor of the former "Centre for Education Končar", which was founded in 1950 as a part of the company "Končar Electro-industry" (one of the largest companies in the relevant field in former Yugoslavia).

A VET secondary school, it has approximately 750 VET students comprising 28 classes and offers the following programmes:

- 4-year programmes: Electrician – electronics, Electrician – energetics and automation, Electronic technician - computer system, Electronic technician - equipment with applied computing
- A 3-year programme: Electro-machine technician

The school is developing many innovations. Its most significant accomplishments are:

- ***Extensive modernisation of VET curricula*** in line with the needs of the labour market/modern its in co-operation with social partners and other key stakeholders (Siemens Croatia, Končar Institute, Shipping Institute Zagreb, University of Zagreb Faculty of Electrotechnics and Computing);
- A local CISCO Academy has been established at the school (one of 13 Local CISCO Academies in Croatia officially accredited by the Regional CISCO Academy and CISCO SYSTEMS Central Office); it offers ***internationally recognized training "Cisco Certified Network Associate"*** and relevant certification to VET students/adult learners that provides a foundation in and apprentice knowledge of computer networking;
- A series of ***innovations introduced in the field of in-service teacher training*** coupled with upgrading the quality of the VET laboratories.

The school has considerable experience in promoting innovations among VET students. These are shared more widely on different international exhibitions of innovations such as: IENA (Nurnberg, Germany), EUREKA (Brussels, Belgium), GENIUS (Budapest, Hungary), MOS (Celje, Slovenia), Geneve (Switzerland), ARHIMED (Moscow, Russia), BIS (London, UK), INPEX (Pittsburg, USA).

2. Why are we making this change?

The Agency for VET of the Republic of Croatia in close co-operation with key stakeholders is currently pursuing a long neglected modernisation of the VET system. There is a need to create more efficient transitions from secondary VET schools to employment and continuing training. In parallel, we are

striving to upgrade the Croatian VET system in line with EU objectives and good practice. When it comes to teacher training, minor reform steps at the national level have hitherto been undertaken via the EC funded CARDS 2001-2003 programme which has mainly supported the policy transition process.

The situation is aggravated by the absence of either a specialised VET teacher training institution in Croatia or the post-graduate or scientific education for VET teachers. There is a vast shortage of additional and continuous investment in the in-service training of the VET teachers, particularly at the advanced professional level. Given the scarcity of resources for in-service training both at the national and the VET school level, the Thematic Expert County Councils (established by the Agency for VET) are considered to be the only effective tools for transferring new knowledge, applying it to day-to-day educational practice and thus developing some school autonomy. However, this model is limited in term of the comprehensive update of relevant competences of VET teachers necessary for the introduction of innovative and does not contain enough sustainable elements (including different incentives) which may ensure continuous improvement.

This is particularly true for the VET schools in the in the fields of electrical engineering and ICT where the main challenges related to the school-based innovations are related to the relatively fast pace of technological changes and increasing demand for new types of qualifications in line with the labour market needs at both the national and the EU level.

Consequently, the School of Electro-technics Zagreb has duly recognised the need for designing more complex school development projects that are organised around the introduction of innovative in-service teacher training activities, including the upgrading of the didactic equipment for VET laboratories/workshops.

3. What are we doing?

The School of Electro-technics Zagreb obtained funding for this project within the framework of the EU CARDS 2003 grant scheme for VET schools in Croatia. The project consisted of several interrelated components:

3.1 Training of VET teachers in modern learning methods/didactics in the sectors of electro-technics and ICT

The training was designed to ensure broader, hands-on development of the teachers on the new student-centred learning approaches and modern technologies and production processes and, consequently to start each teacher on the process of adapting their own teaching practice. The following topics were covered:

a) Special VET didactics & Special VET didactics

In comparison with the regular in-service training activities of the VET teachers usually provided by the VET system, the workshops on special VET didactics tackled modern vocational didactic approaches and student centred methodology in a more comprehensive way. Special attention during the workshops was placed on the improvement of knowledge, skills and attitudes of VET teachers for modern and methods of teaching most applicable in the sectors of electrical engineering and ICT, most notably:

- Modular organisation of teaching – features of the 1st and 2nd generation of modularisation;
- Key topics and research-related approaches in day-to-day teaching, the use of different tools for visualisation (data structure and algorithms);
- Motivation and efficient learning by adolescents;
- Different scientific models for the evaluation of students - theory and practice of the evaluation of competencies;

b) Special VET didactics based on EU best-practice – Denmark (study visit)

The comprehensive reform of the VET system in Denmark and the common reform framework at the EU level was investigated. A team of Danish experts and VET teachers effectively facilitated the transfer of knowledge and skills about the development of new teaching and training methodology/pedagogical innovations to their Croatian counterparts. Even more important was the transfer of attitudes and values as regards the continuous need for the development (including quality assurance) and flexibility of the VET system. These included:

- Defining new innovative teaching methods / ways of organising student-centred learning processes;
- Defining objectives and key competencies in line with the needs of labour market;
- Determining the framework curriculum and integrating new didactic equipment;

c) Electrical engineering - Advanced Technologies in Industry and Economy (study visits)

The VET teachers had an opportunity to get fully acquainted with the resources both at the national level (Institute of Croatian Electric-power Industry) and international level (Siemens Institute Berlin) and received valuable information on the specific features of the innovations in technologies, products and services. In addition, relevant experts presented the wide-ranging competencies and expertise in the field of electrical engineering, ICT and telecommunications and relevant on-the job training mechanisms.

d) “Innovation standards”

The training was designed to ensure a comprehensive development of the knowledge and skills related to different innovation standards and also considered implications for VET students' learning of core skills and their entrepreneurial mindsets. It also tackled: Intellectual property issues; Standardisation; Compliance of products with regulation and standards; Financing of relevant initiatives;

3.2 "Peer-VET teaching" and on-the spot evaluation of new teaching approaches and the use of modern didactic equipment

The peer-VET teaching activity was set up to demonstrate to Croatian VET-teachers how teaching is conducted at the Danish VET Centre (Department of ICT and Electronics at Odense Technical College) with a more formalised action-reflection of Danish teacher and Croatian teachers on the overall performance and outcomes of the lessons and laboratory sessions. The joint-delivery of the lessons opened the way for a constructive and in-depth discussion on the issues of the flexible VET teaching and, subsequently, identifying benchmarking elements for the school-based innovations in Croatia in compliance with the current stage of the overall reform of the Croatian VET system as well as specific features of the VET schools in the field of electrical engineering and ICT.

3.3 Virtual community of VET teachers in the sector electro-technics, electronic and ICT & training in e-learning and pilot-testing

Apart from the "live" presentations and workshops, a Virtual Network (VN) of VET teachers in relevant sectors was established based on the Change Agent Team (CAT) system. This involves selected VET teachers who take responsibility for training teachers in new vocational methods in their own schools and other schools, for supporting teachers in implementing the new curricula and other innovations, as well as dealing with local businesses, the municipality and other stakeholders in matters relating to school-based innovation. Virtual communication was possible through an interactive web-portal that allowed a large group of VET teachers from the School of Electrotechnics Zagreb as well as VET teachers from other schools to communicate and exchange information. This created a common frame of reference for the changes taking place in training profession and also a sustainable platform for bottom-up approaches in the development of the VET in-service-teacher training.

The established web-portal contains the following elements suitable for extensive virtual communication between VET teachers:

- Notice board for news;
- Discussion group chats in real time /sending e-mail to groups;
- File, document and bookmark sharing;
- Pools;
- Tools for development of E-learning packages

Three teachers attended the E-learning Academy, a two-semester certificate programme developed by "CARNet", the Croatian Academic and Research Network, in cooperation with the University of British Columbia, and completed the E-learning Course Design Programme and E-learning Management Programme.

In addition to providing regular face-to-face teaching in VET schools, a specialised web-portal with developed e-learning tools enabled efficient of use of information and communication technologies in regular and extra-curricular activities in the VET schools and in general exchange of information between VET teachers and students. Because of flexible schedules and physical access outside of the normal working and teaching facilities in the VET schools, the e-learning portal created possibilities for delivering courses entirely online.

Furthermore, the VET teachers now have at their disposal an efficient ICT tool for the regular assessment of the VET students' knowledge.

3.4 The procurement and installation of specialised equipment

Given the rapid pace of technological change in the sectors of electrical engineering and ICT, the upgrading of the specialized didactic equipment sessions in the fields of Sensor Technology, Process Stimulation and Control Technology, which made up to approximately 50% of the total project budget, was an essential prerequisite for the development and pilot-testing of other project activities aimed at overall modernisation of the teaching methods and, subsequently, introduction of school-based innovations and efficient planning.

4. For whom?

The primary target group of the project was VET teachers in the fields of electrical engineering and ICT. Final beneficiaries (end-users) were young VET students in sectors of electrical engineering and ICT who will ultimately benefit from a more modern and innovative VET provision that will enable them to integrate more easily into the labour market or to establish their own SMEs.

5. How are we doing it?

Key methods of implementation in this project were as follows:

5.1 Educational workshops

Based on the "learning-by-doing" principle and perceived as a mutual learning situation, workshops create safe environment for all participants, motivate towards creativity, innovation and active involvement and ensure high level of respect and open communication between participants

5.2 Study visits

Enable teachers to:

- gain relevant up-to-date industry and career knowledge as well as practical understanding of the skills, competencies and attitudes required;
- meet colleagues, exchange views and check the level of applicability of pilot-initiatives in a particular context.

5.3 Virtual teacher network

In line with the modern application of ICT, the virtual network community is a common and cost-effective method which in many countries and international institutions serves as a discussion forum and a platform for common action for the main experts and decision-makers responsible for the training of teachers and trainers in initial and continuing training systems.

5.4 E-learning

One of the most cost-effective (reduces costs of to both providers and users in many cases) and most efficient methods for disseminating knowledge to specific target groups characterized by flexible schedules and physical access to professionals event outside of their normal working facilities

***6.* <u>With which results?</u>**

a. Input indicators – what did we invest in resources, time and personnel?

- Duration of the project: 1 year;
- 5 VET teachers and the School Director participated in the implementation of the project (overall preparation and management of activities) on the basis of 20% of their regular working time;
- 150,000 EUR for “soft” activities (including overall management of the project) and 150,000 EUR for the equipment.

b. Output indicators – what were our immediate results (materials, documents, etc.)?

- 30 VET teacher completed comprehensive in-service training (including study visits to the Danish VET Centre and national / international institutes);
- A manual on efficient use of new equipment in the VET laboratory sessions (in the fields of Sensor Technology, Process Stimulation and Control Technology) in line with EU-best-practice examples and trends in relevant industries ;
- Revision of the existing didactic equipment and development of a manual for efficient use in line with EU-best-practice examples and trends in relevant industries;
- A web-site for a virtual community of VET teachers and pilot-testing of E-learning packages designed and launched;

- 2 VET teachers appointed as Animators and Designers of E-learning packages and 1 VET teacher as an ICT Administrator;
- A set of e-learning materials available for pilot-testing.

c. Outcome indicators – what have been the longer-term benefits

- 30 VET teachers exchanged views with the leading Croatian experts in the field of didactics and pedagogy as well as EU counterparts (peer-teaching with the Danish VET teachers) on the need for a genuine change to student-centred teaching methods and how to efficiently embed this methods in the VET school realities in Croatia
- The revised annual operational programme for the VET subject "Process Stimulation" has considerably improved the support base for regular school- based innovation, i.e. development of innovative curriculum which incorporates up-to-date competencies required in field of electrical engineering;
- By the end of the project, 450 members (VET teachers and VET students) engaged on a regular basis in the design and delivery of the e-learning courses and packages as well as a-day-to-day communication and exchange of experiences.

7. Lessons learned that might benefit others – what did not work as well as we had hoped and why?

The project was completed in 12 months laid down and within the budget allocated. It is important to stress that, in comparison to the regular in-service training provided by Croatian institutions, this project set out high standards for all planned training activities based on a tailor-made approach. Lack of relevant experts in Croatia was apparent in certain seminars/workshops. This is particularly true for the experts on the special VET didactics, as currently there are only 2-3 experts in Croatia who are capable of delivering state-of-the-art training (modern concepts) in relevant field. Consequently, a fine-tuning of relevant activities was carried out in the course of the project, particularly the content of the study visit to Danish VET centre and Siemens Institute Berlin, which focused on training techniques.

8. How can you learn more?

If you are interested in what we do we will be more than happy to give you more detail. You can also visit our website at **http://www.ss-elektrotehnicka-zg.skole.hr/**

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Nenad Vakanjac (Independent Consultant) nvakanjac@inet.hr *[English-speaker]*

Case Study 4 - "Continuous development and the use of national and international partnerships"

SDE College, Odense, Denmark

1. Who are we?

SDE College is one of the biggest technical colleges in Denmark. Due to a merger between two colleges, the name was changed from Odense Technical College to SDE College in 2008.
The history of the college goes back to the establishment of Odense Technical College in 1844 and Vejle Technical College in 1855. Many things have been changed in education since then. The college is now a self-governing institution with a board of governors representing the local community (employers' organisations and trade unions – fifty-fifty - and one appointed by the municipality). Teachers and students are represented as well. The board is overall responsible for the college's economy, buildings and equipment, and staff. The director (Niels Henning Olsen) is appointed by the board, and participates in the board meeting, but without the right to vote.

The college gets money from different sources:

- The Ministry of Education, pays a certain amount of money per student (the taximeter-principle), for buildings (building taxi-meter), and also for different purposes, decided by the Ministry, and paid if (and only if) the college lives up to the Ministry's expectations
- Development projects from different national and/or international sources
- Users' fees in relation to getting tailored courses or consultancy support

The college is a business with an annual turnover (2008) of 573 million Dkr. (around 76,5 million Euros). 39 % of the turnover is related to vocational education. 49 % of all costs are salaries.
The college owns around 120.000 square meters of buildings, and it is important for SDE to invest and re-invest in up-to-date buildings and equipment.

The college provides almost all technical education programmes:

- Building and construction (including building services)
- Electronics and data
- Production and development
- Auto-repair, transport and logistics
- Media
- Health, nutrition and well-being/comfort

The number of full-time equivalents (FTE) was 5.393 in 2008 – distributed among the following areas:

Vocational education	3.412	
Upper secondary	878	
Higher education	695	
Training of adults	408	5.393

The main problem in relation to customers (students/participants) is that the drop-out rate is still too high. Especially the VET-students in the so-called basic year (the first year of education) have a high rate (16%), whereas the drop-out rate (in total) for all young students is about 7%.

Students' satisfaction is measured each year. The ambition is to have results not lower than 7 (on a scale from 1-10). In the area "planning and organisation" the score was lower than expected (in 2008), whereas the area "the education" was given a score higher than 8. All other areas (9 all together) had a score of 7 or higher. The total number of full-time staff is 868 (2008), most of them are teachers.

2. What are we doing?

What we do is to develop as much as we can – continuously. In order to be able to do that, the changes must be strategically important, and there must be resources enough to do it. If something is important for the EU, money normally will be allocated to the purpose, and that goes for the Ministry, the Social Partners, regional and/or local authorities and the school as well.

The development, therefore, builds on what is strategically important for those stakeholders. The main questions are:

1. What is needed for SDE to develop in order to stay strong and attractive?
2. Which of the identified areas are also important for stakeholders like the EU, the Ministry, the Social Partners and the like?
3. How is it possible to combine activities, able to improve things in SDE, and at the same time contribute to development of one of the areas funded by the above mentioned funding bodies?
4. How can one or more development projects be established and who can contribute to the development process as a whole?
5. To what extent will SDE's needs be met and is SDE (the strategic management of the college) willing to pay what is not funded by others?

The SDE-college works out (each year) a strategic plan, and a development group keeps an eye on development programmes from national and international sources in order to find out how to find external money for the needed and wanted SDE-development.

Another part of this (for the development group) is to be in constant contact (like a network) with potential partners, able to supply SDE's own competence and maybe even with access to other sources in the same area(s).

In this context very many projects have been carried out – several projects with international partners – for instance:

1. Mentoring:

- Several projects funded by the Ministry of Education and funded by SDE itself
- A project about reduction of the drop-out rate together with colleagues from the UK, Cyprus, Belgium and Italy
- A national project about motivation of immigrant-students by using the idea of mentorship and an international mentor with the right background and experience

2. Capacity building

- Long experience with competence-development and many projects funded by the Danish Ministry of Education and other national sources (SCKK)
- A project about establishment of a competence-centre in Macedonia
- A project about establishment of a business-centre in Kaliningrad

3. Regional development

- Several years of experience with regional development and several projects funded by regional authorities
- A project about competence-development of entrepreneurs in Azerbaijan
- A project about learning from neighbours in cooperation between Lithuania and Belarus

4. E-Portfolio

- Worked with e-portfolio for several years. The first projects got national funding (the Ministry of Education and SCKK) and the rest was funded internally.
- A project about developing an e-portfolio to students in cooperation with Turkey, Romania, Greece and the UK
- A project about competence development of adults by using e-portfolio – in cooperation with Italy, Romania, Sweden and Lithuania

The e-portfolio system also has been introduced to Montenegro. Initially, it is being used mainly for teachers.

Working internationally is part of SDE's strategy. It's possible to learn a lot from each other, and it is possible to have a needed and wanted development funded by international sources. The knowledge and the experience about the above mentioned areas have been developed in Danish projects, with Danish partners, and funded by Danish sources – and have (to a large extent) been further developed in

international projects as well. This means that funding from both national and international programmes has played an important role in SDE's strategic development.

3. Why are we doing it?

Continuous development is a must for SDE. Education seems to be a key factor in relation to realizing ambitions from the EU (the Lisbon strategy), the Danish Ministry of Education, the Danish Social Partners and the labour market. Most Danish citizens are well aware of the need to possess adequate qualifications and the right competence for continuously to be in accordance with what is required by the world of work.

Danish VET-colleges, therefore, meet new and higher expectations from the legislation (initiated by the EU or the Danish Government), from the companies and from the participants (young students as well as adults). Expectations are related to both the content (personal or professional) and to how education is delivered. One important aspect is that Danish companies (and the Danish workforce) should be able to cooperate and to compete internationally. A good relationship with international partners is therefore important, and international cooperation normally contributes to improvement and development in both SDE and partners' institutions.
In order to continue being an attractive college to students, and also a well recognised provider of post-graduate courses and labour-market training for adults, it is necessary to change and improve provision (content and form of delivery) all the time. This, of course, is both difficult and expensive, and therefore, development as such must be professionalized, and must take place as an integrated element of daily operations on the one hand and considered strategically important on the other.

The concrete development activities are in most cases funded (in the first place) by Danish sources. Later on the achieved experience and knowledge can be used in new settings – including international cooperation. In many cases this will lead to even better knowledge for both parties. That is the reason why SDE emphasises international cooperation so much, and why so many development projects, with a mutual benefit have been carried out with institutions from other parts of the world.

4. For whom?

As indicated above, change, development and improvement will be initiated 1) if based on an SDE-strategy, 2) if it is possible to have it funded, and 3) if it can be carried out.

In the end, the customers to profit from improvements are normally the students (participants). It's in most cases to improve students' and/or participants' competence or their motivation and ability to learn and to achieve goals and ambitions that changes and improvements are initiated.

In order to do that, teachers' competence must be improved first, and that means that development projects aim at improving teachers' competence by participating in projects and by doing that to improve students' competence because they now can get a better education.

More specifically each development project has its own target-group, own goals and ambitions and own means and participants.

5. How are we doing it?

As already mentioned, development projects are always (almost) part of an SDE-strategy. If not they are not interesting and will not last for long – probably not produce any important results either.

Elements of the SDE-strategy, on the other hand, stem from different sources. It can be needs and wishes from the college itself or it can be something that is required by the Ministry of Education or some other authority. In many cases there will be accordance between them.

This implies certain questions:

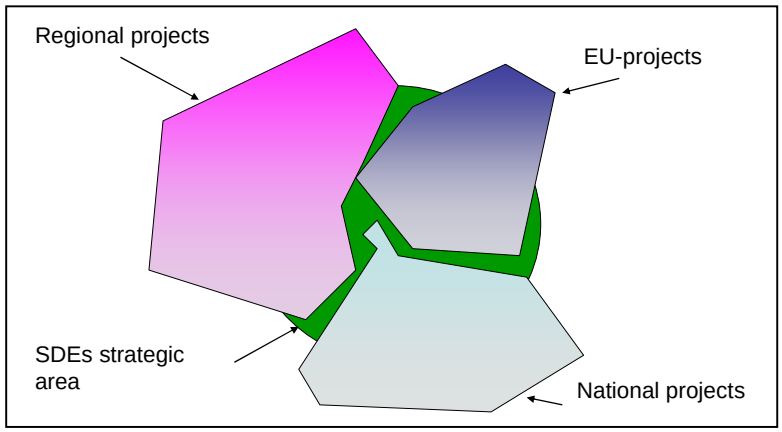
- What does SDE need to improve, and where is it possible to find the money to support that improvement?
- Are there any good ideas to get from reading national and or international support-programmes?
- Would it be possible to get a better funding by cooperating with some other national or international institution?

This is a process involving a development group and members of the management group. It ends up with the choice of certain areas to be developed and appointment of staff-members to establish the projects and to find the money.

Projects of this kind will normally be rather complicated and will in many cases consist of several sub-projects, with funding from different sources and with participation of several other institutions, forming a partnership.

The first step is to choose so-called interesting (from a strategic point of view) areas. The next steps are to commit the SDE-staff and to establish partnerships with other institutions (local, regional, national and/or international).

To establish the right partnerships is probably the most important factor in the whole development process. By working seriously with the partnership-concept, it is possible to cover most of the chosen areas – but only because several projects and several partners are involved:



Regional projects could take place in a partnership between SDE, the regional university-college (UCL) and the regional university (SDU). National projects will normally be funded by the Ministry of Education and take place in a partnership between SDE and a number of other VET-colleges in Denmark, and EU-projects take place in a partnership between SDE and a number of other countries covering for instance universities and/or VET schools (colleges).

As shown in the figure above not all parts of the strategic area (the green circle) is covered by external funding. The rest, therefore, must be funded by SDEs own money – or maybe not covered at all.

Both SDE and its partners will benefit from the projects in which they are involved. In many cases results exceed what is needed. That may give some unexpected competence, useful in other areas.

It takes time and energy to work this way, and therefore it is necessary that the whole process (applications and establishment of partnerships) is successful – otherwise it's too time consuming and too expensive.

5. With which results?

Most project-areas are strategic by nature and therefore also part of SDEs long- and short-term planning. They are planned and expected and will in most cases be described as input indicators in SDEs development plan.

All projects will be described with their expected output – in most cases directly related to the strategic area to which they belong. Projects may give better output than expected - or maybe less. The system itself ensures that something comes out of the efforts – all project-results must be documented, and since they are part of the strategic development plan, they are followed carefully by the college-management.

The most important outcome is that the heavy weight on continuous development and partnerships ensures that the college has a sound economy, satisfied students and participants, fine relations to customers and partners and a good reputation among national as well as local/regional stakeholders – including the Ministry of Education.

It is a strategic decision to work this way, it takes time to establish internal systems and external relations but is has been worth the while and SDE, therefore, continues to ensure its own development by running projects together with national and international partners.

6. How can you learn more?

If you want to learn more:

Take a look at SDEs website: www.sde.dk

Contact: Project leader Henrik Hjorth (hhj@sde.dk.)

Henrik is a well known face in many of the participating countries and was an excellent host when some of the participants visited Denmark and SDE in 2007

Hans Joergen Knudsen, Consultant

Case Study Five - "Mentoring of teachers to support innovation"

Auto-traffic School Centre – ASUC "Boro Petrushevski" Skopje, Former Yugoslav Republic of Macedonia

1. Who are we?

ASUC Boro Petrushevski is a modern, contemporarily organised and well-equipped school centre for road traffic and other auto-technical education. Specific occupational profiles for which the 1200 students are educated include transport and forwarding technician; auto and mechatronics technician; auto mechanic; body mechanic and auto-electronic engineering. The Centre has already adopted EU standards and criteria to guide its practice. It generates income independently and follows the free-market economy, teaching pupils not only for the expert skills, but also for the entrepreneurship and self-employment.

Priorities for the school are:

- High quality education for all students
- Programmes according to EU standards
- Good quality marking, modern teaching technology,
- Well-trained staff which is the main resource which from year to year are increasing the popularity and the attraction of this kind of vocation.

Specific activities include:

- ***Technology*** - Continuous updating laboratory equipment for auto-mechanic and auto-electronic vehicle diagnosis and training for the teachers in practical part as a long-term collaboration with the Trade Chamber from Koblenz, Germany
- ***Student motivation*** - Students are motivated by the opportunity to get a driving license through free driving classes
- ***International competition and cooperation*** – the school is open for collaboration with the schools and Centres in Europe with similar profiles. Auto-mechanic junior is international competition for pupils (learning auto-mechanic) from numerous European countries This educational manifestation provides vocational standards but also exposure to different cultures. Till now pupils from our school have participated in competitions in Germany Austria, Czech Republic, Slovakia. Ukraine and Lithuania. The school has also experienced good collaboration with schools is Slovenia, Serbia and Turkey with which we exchange pupils, teachers and materials.

We are at the start of a Leonardo Da Vinci project involving three schools: ASUC "BORO PETRUSHEVSKI" Skopje, Technical School Bezigrad – Slovenia and Polytechnic School in Kragujevac (Serbia). The project is financially supported by ACER Austria.

2. Why are we trying to be an innovative school?

ASUC "Boro Petrushevski" Skopje has a long tradition of development as an innovative school. Innovation requires the improvement of the quality of school culture by means of promotion of the teachers' motivation and professional dignity and the sense of belonging to the team. We believe that many talents are already present in the school and that we have to find a development strategy for supporting the employees to bring out these talents.

Innovations help the students to get a better education, to communicate more effectively and to care for their own success. We get the benefit of a big number of interested students and greater attractiveness of the vocations that are learned in the school. Similar schools around Europe contact us with requests to collaborate with us in different projects. Also many social partners and Chambers in the region are ready to support the school in providing equipment and mobility of teachers, pupil exchanges and partnerships.

Collaboration with the ETF and participation in the LEARN project stimulated our motivation to become an innovative school and to follow the experience of the schools in other countries.

3. What do we do? Which is the direction of our development?

3.1. Education of adults – a necessity for a country in transition

The school is following the global trend for lifelong education and offers its citizens an education through specialization, modular packages, and other types of training for developing skills and competences for gaining licenses for several professions in the field of traffic. Vocational education is intended for citizens with previous formal and non-formal education according previous conditions, approved programmes and getting diplomas and certificates. (Controller of technical vehicle inspection; Driving instructor; Road traffic operator; Auto-mechanic).

In collaboration with Centre for Vocational Education and Training a modular packets have been prepared for educating Auto-mechanics, Computer diagnosis, Balancing and changing tyres. The existing modules will get accreditation from the newly founded Centre for Adult Education, and then be offered as a modern and fast opportunity for education and getting a certificate of professional competence.

The latest form of adult education in ASUC "Boro Petrusevski" Skopje is training for managers and persons authorised to train international transport for goods and passengers. ASUC "Boro Petrusevski"

Skopje also is also researching opportunities training taxi drivers, transporters of dangerous materials, plane mechanics and other popular vocations.

3.2. Entrepreneurial spirit confirmed in supplementary activities

Supplementary activities generate income for the school, such as: Technical checking of motor vehicles, certification of motor vehicles, repairing and selling used vehicles with maintenance guarantees, preparing candidates for driving tests, as well as preparation for the activity installing, repairing, checking, and inspecting tachographs and control devices of motor vehicles. (Euro-tachograph).

3.3. How do we work to develop the human resource in the school?

Internal supervision – to perfect the pattern of quality teaching
ASUC BORO PETRUSHEVSKI is now at the threshold of a new period of development, a period of qualitative progress of the teaching-educational work and career development of its employees. Hesitations about tracing of the way were resolved in long consultations with domestic and foreign experts as well as through observation of experiences from the modern western education.

The answer is right here, in front of us and it is a challenge for us to be on our own again and to look for the solution in our own potentials and development of human resources. For that purpose, we have worked out an internal concept for support and supervision of teachers and other employees, i.e. a modern pattern of supervision and internal criteria for valuation of the work.

Teacher mentoring is a strategy for quality education development that self-initiating and encourages maximum creatively. This project has involved continuous training to help teachers implement, monitor and evaluate new topics in practice. Mentoring in ASUC applies to all 70 teachers, not only to the less experienced teachers because education is a process and for successful development the involvement of everyone is necessary. The leader of this strategy for educational development, vice principal M-r Sonja Ristovska, prepared a special Manual for the use and implementation of the training, controlling and leading portfolio for the activities.

3.4. ETF Teaching and Learning project – Teacher mentoring – Transference of the best school practical experience from ASUC Boro Petrusevski to other vocational schools

The Centre for Vocational Education and the Ministry of Education in Macedonia appreciated the mentoring programme implemented in ASUC and decided to spread it via a collaborative network between schools to encourage other schools to implement it. This is how this idea for mentoring teachers became a small project that was suggested, accepted and financially supported by ETF.

The purposes of this project are following:

- establish a network between the schools to exchange best practical experience

- share the strategy for quality education
- support teachers in the process of teaching and learning
- initiate innovation and creativity in the educational process
- achieve higher marks between the pupils by developing teaching methods
- establish a planned career development process for the teachers

4. For whom we make these innovations?

This innovation is made for the teachers, pupils and the schools where the strategy for educational development is implemented. In addition to ASUC Boror Petrusevski – Skopje, this project has offered training to the VET School "Zlate Malakovski" in Gostivar and the VET School "Gjoso Vikentiev" in Kocani. The Project on Teacher Mentorship is available to every school that is oriented to quality development in the related subjects.

5. How are we doing it?

- Selection of two VET schools involved in the project Due to the lack of funding two VET schools in the Republic of Macedonia were selected on regional base with mixed ethnic structure of teachers and students
  Due to the lack of funding two VET schools in the Republic of Macedonia were selected on regional base with mixed ethnic structure of teachers and students
- Directors and teaching personal were introduced with the mentorship programme as a strategy for development quality education
- Mentors were selected according to criteria defined in the check list.
- Before the mentorship programme started, the mentors were trained on this role
- 20 Mentors were selected in each school. All of them were mentored according the programme (consulting before the lesson, monitoring of the lesson and feedback after the lesson, and writing down the points of improvement
- The mentors were helped to prepare a portfolio. The distinction was made between the relevant documents for the mentor's portfolio and teacher's portfolio.
- As a project applicant ASUC Boro Petrusevski due to the constant collaboration with all the mentors and the teachers involved, also in the last phase from the project made an evaluation of the effects from the mentorship programme through analyses, interviews and analyses of the protocol for class observation.
- A Manual on Mentorship based on one previously designed by Sonja Ristovska Vice-director for Research, Training and Development, was designed for the mentors.

6. Results and indicators

- The mentorship programme as a strategy is now institutionalized by ASUC Boro Petrusevski and has been operating for more than 2 years

- At the same time there is a programme for quality control by the leadership team in ASUC, that analyses the process of change and then identifies needs for further training
- The school completely documents the whole process as a basis for strategy improvement
- Products: - a specially design a 'Manual on Mentorship'; a plan for professional development of the teachers, a plan and instrument with criteria for receiving awards which are transparent to every participant
- A programme for compiling electronic evidence for the professional improvement of all employees
- The evaluation that shows results of the development process
- Other schools took part in this project only half year but also feel the change. Now they have the will and intention to develop and implement their development programmes
- All teachers have realised creative classroom activities according the criteria of the mentorship procedure and intend to continue such activities.

In summary, mentorship has multiple benefits. It encourages well planned and creative education which results in success among the pupils, training and career development for teachers and rewards for their motivation and effort.

6. <u>Longer term plans.</u>

- Developing human resources - Sonja Ristovska, already is doing international research that will be implemented for developing a strategy for managing the human resources in the school. The basic idea is to create systematic access to staff development, planned promotion to the managerial positions and motivation for career development. All this needs to be supported by the school
- To spread the mentorship as a strategy in most schools
- To motivate schools to develop school-based development strategies
- To collaborate with social partners
- To raise the vocational competence of pupils and adults
- To open a Centre for Adult Education

7. <u>Lessons learned that might benefit others. What did not work as well as we had hoped and why?</u>

- Time has to pass. Quality cannot be achieved overnight. The development process needs much time.
- We had no effective ways of dealing with the teachers who resisted the changes.
- We felt the need more continuing communication with the ETF programme and more contact with other European schools.
- Opportunities were modest for rewarding of the teachers for their motivation and the effort they put in.
- Managers did not always support the implementation of the policy for development.
- Need of equipment, conditions and ways of dealing with change.
- We need additional models of adult education and lifelong learning

- We are still facing the problems with the standardisation and certification of learning
- Inappropriate policy for the number of classes for different vocations
- Weak connection between the theory and practical learning activities and problems with the practical instructors with project implementation of
- No connection between the specific trades and the school programmes
- Lack of financial support for implementation of the innovative strategy in the school

8. <u>What do we recommend to others</u>?

All the schools need to follow the legal obligation of The Centre for Vocational Education and the Ministry of Education in Macedonia, but it is their own obligation to make effort to implement the educational policies. For that they need determination to maintain their commitment and to have a strong team spirit that is orientated towards shared common goals and much more care for human resources development.

Mgr Sonja Ristovska, Vice-principal for Research, Training and Development

Case Study Six - "Modernising teaching and learning in engineering subjects"

Secondary Technical School "Skënder Luarasi" – Suhareka, Kosovo

1. Who are we?

The Secondary Technical School in Suhareka, Kosovo was established in November 1994 when it separated from the Centre of Secondary Schools in Suhareka "Jeta e Re" that was established in 1967. Originally as a mixed centre of secondary schools there was an academic gymnasium, a technical school and other professional schools (agriculture, law, economy) with approximately 2700 students.

The Secondary Technical School "Skënder Luarasi" has 1127 regular students allocated to 38 classrooms and 109 students in the adult education section allocated to 6 classes and offers following programmes:

4-year programmes:

- Electro-technology Information Technology Technician, telecommunication technician, mechanics technician, Technician for electric devices
- Machinery – production operator, ironsmith
- Building Enginery – Architecture, Technician of high building engineering
- Economy – Bookkeeper
- Technology – Food technology (vegetarian and meat-based)
- Traffic – Road Traffic Technician

3-year programmes:

- Electric installer, audio-video.
- Machinery – car mechanic, water and sewage installer, heating installer, welder
- Economy – Merchant for retailing and wholesaling
- Technology – Chemistry laboratory technician, tailoring

The School is developing rapidly. The school's more important achievements are the following:

Modernisation of the curriculum of the Secondary Technical School (STS) in line with the requirements of the market with the assistance from Ministry of Education, Science and Technology (MEST) in cooperation with social partners. Cooperation in exchanging experiences in this field with professional schools in Austria such as those in Vienna, Klagenfurt, Vilah and Shtajer is a key feature of the modernisation process.

Improvements in the training of the teachers particularly those whose work is related to advancing of the quality of the laboratories and practical education of students.

The school is gradually creating considerable opportunities for promoting the work and innovations of students. These are widely exhibited in different local shows (exhibitions) of the professional schools organised by MEST and also in shows organised for "Open Doors of the School", days when parents and other citizens are invited to see students' work within the school. Some similar exhibitions were also presented in cooperation with the above-mentioned schools from Austria.

2. Why we are making these reforms?

We are trying to improve the educational system of the school in compliance with European objectives and good practice. In particular, there is a need for more efficient updating of curriculum and teaching and learning in technical secondary schools due to the continuous changes in employment and training. Substantial reforms in the training of teachers at national level have been made to improve programmes and support the transitional of professional education. However, there is a considerable lack of the additional and continuous investment in training that will be of practical use for teachers, especially in the advanced professional level. The lack of resources for training in school and limited autonomy for teachers mean that they have difficulty in transferring new practices into their daily work. Rapid developments in technology increase the demand for new national and EU qualifications and competences for the teachers. The shortage of time to keep track of these technical innovations makes continuous improvement difficult. Therefore we try to become familiar with changing technological and curriculum requirements and organise development projects for complex teacher training activities including the improvement of the didactic equipment for the school laboratories.

3. What we are doing?

The school has been funded twice for teacher training project with grants (donations) from the World Bank for Kosovo and other donors mainly from Austria. The projects have several components:

3.1 Training of teachers in modern methods/didactics in mechanics and electro-technology

The training is designed to help teachers learn how to use student-centred pedagogy and modern technologies and production processes and then to adapt these practices in their own classrooms.

Professional Didactic

Compared with the usual training activities provided by donors and the MEST for our teachers, this student-centred pedagogy seems to be more relevant to the modernisation of the teaching methods in different profiles of engineering within the school, especially:

- The organisation of teaching and learning modules;

- The use of different visual tools in day by day teaching;
- Motivation of the students by appealing to their interests;
- Different models of student evaluation – theory and practice of the competences evaluation.

Professional didactic based on the best practise of EU – Austria (research visit)

School level teams of experts in the appropriate professional subjects from Austria effectively facilitated training for methodological/pedagogic innovations for counterparts from our school. The most important focus was on transferring the attitudes and values that embrace the continuous need for the development (including quality assurance) and illustrating the flexibility of the Austrian System. These include:

- Defining and organising innovative methods of student-centred teaching ;
- Defining of the key objectives and competencies in line with the requirements of the labour market;
- Determining of the structure of the curriculum and the integration of new didactic equipment;

Electric and Mechanical Engineering – Advanced technologies in the industry (research visits)

Teachers of our school benefited from exposure to resources used in Austria at the secondary professional level that were particularly relevant for our school We got valuable information about specific particulars of the innovations in technology, production and services. Furthermore, the relevant experts presented the elaborated competences required to develop student expertise in the field of the electric and mechanical engineering.

"Innovative Standards"

The training is designed to develop knowledge and ability related to different innovative standards that outline what students need to be creative and to develop an 'innovative mind'. These standards have considerable implications for the teaching process and for the relations between teachers and their students.

3.2 Training for teachers in evaluating student achievement in the new methods of learning and use of the modern didactic equipment

The group of teachers who have been trained agreed to demonstrate the new methods to other teachers of our school, regarding electro-technology and machinery., This encouraged more formal reflection and exchanges with the Austrian teachers about the overall performance of students and the results of the classes and the laboratory sessions. The joint sharing of classes opened up a deep and constructive discussion about the issue of more flexible teaching in our school. The discussions identified specific features of schools in Austria in the field of technical and mechanical engineering that

suggested what elements were needed for basic innovation in the school in line with the general reform of the Kosovo educational system

3.3 Providing and installing specialised equipment

Rapid technological change in the sectors of electric and mechanical engineering required improvement of the specialised didactic sessions and equipment in the field of sensor technology, process, simulation and control technology. These were essential for the development of other activities of the project aimed at modernising teaching methods by means of practical innovations and efficient planning. From January 2009 the school has been equipped with two devices, costing 40000 EUR, for energy production by using solar energy and solar panels for heating which is supported by and installed jointly with experts from Austria. SWISS CONTACT provided 90000 EUR for additional equipment for practical learning.

4. <u>For whom?</u>

The main first level beneficiaries of the project comprised the group of teachers in the field of electric and mechanic engineering. Final beneficiaries (final users) were obviously students of electrical and mechanical engineering, The innovative teaching , learning and equipment will prepare them much better to integrate into the labour market or to establish their own private enterprises.

5. <u>How are we doing this?</u>

Key methods for implementing this project are the following:

5.1 Educative workshops

Based on the principle of 'learning by doing' in a situation of a mutual economical research, these trainings were done in school workshops create safe environment for all participants. They motivate them to become more creative and to make, innovations through becoming actively involved and ensuring high level of respect and open communication between participants.

5.2 Research visit

Gives opportunity to teachers to:

- gain up-to-date knowledge about industry and careers and the practical understanding of the skills, the required competences and attitudes;
- meet colleagues, exchange opinions and practical and feasible ideas for taking initiatives in their own particular context.

The participants of the training sessions in Austria have been supplied with the supporting materials from the trainings that they attended. When they came back to Suhareka the materials were analysed again and regular meetings organised in order to raise awareness and to inform their colleagues about the activities that they had in Austria. They also were obliged to find the ways to implement in their school the experience gained in Austria. The experience gained in Austria is fully implemented in the workshops of our school, both by the teachers trained in Austria and many of their colleagues.

5.3 Internet (E-learning)

Access to the internet was something new for us. We have succeeded in installing a functioning system in the school. Because of the expense we have attempted to negotiate reduced prices from providers and for the users of the internet. We see the internet as a most effective method for extending the knowledge for specific groups and we provide flexible schedules to give access to professional events that would normally not be available. We started by learning elementary things training: addresses, communication and research. All this was in English language. But the students and have made rapid progress.

6. What are the results?

a. Input indicators – what we invested in resources, duration and the personnel?

- The project started in 2003 and is ongoing;
- 11 teachers and the director of the school attended the implementation of the project (overall preparation and managing of the activities) and were allocated 20% of their regular work time for this purpose;
- 30000 EUR were budgeted for “soft activities” (including the overall managing of the project) and 350000 EUR for the purchase and installation of equipment.

Training was organised three times and the duration of training sessions were two weeks of 40 hours, providing a total of 240 working hours. The teachers successfully implemented in their classrooms and workshops what they learned.

b. Output indicators - what were the long-term benefits

- 11 teachers completed didactic and pedagogic experiences with their Austrian counterparts relating to student-centred teaching methods and how to apply them efficiently in their daily work
- The reviewed annual operational programme for our school is considerably advanced and it supports the ground for the regular school-based innovation, i.e. development of the innovative curriculum that contains fresh competencies required in the electric and mechanic engineer.
- The project is still continuing with the exchange of experiences between the teachers involved.

- Teachers have gained skills in these sectors: Metal worker, Car Mechanic, Central and Solar Heating instalment and Electric instalment. A team has been trained in Bulgaria (through the Ministry of Education, Science and Technology) for Soldering.

No formal evaluation was carried out, but the general impression is that things are gradually changing in positive direction at our school; the success of the students is improving; the interest of employers to cooperate with our school is raised and they are supporting our school more and more; students are satisfied with quality of teaching and learning provided in our premises and the enrolment of students in our school is raised.

7. Lessons learned

This project provided a high standard in all planned training activities and its effect was very positive continuing. However, the lack of relevant experts already appointed to teach in our school was obvious at the assigned workshops. This is especially true for the experts for the specialist subjects who had no previous didactic training. The recruitment and retention of appropriately qualified and experienced specialists is a problem that cannot easily be solved even by high quality training, but in the absence of such staff, the continuing professional development becomes even more important.

The language barrier had to be faced. A lot of students knew English, and there are teachers who know the English and German languages but also, a translator was appointed to help. The visit had additional positive impact in raising the awareness of the teachers and students about the importance of learning foreign languages.

The support from the donors had a very positive impact not only for a short period of time but also because of the sustainability in the process, this might be seen not only in practical part of the training but also in proper use and maintenance of equipment. This is one of the areas in which support is still continuing.

The school director's role was a key role in the all processes: in finding the donors, in logistics, in choosing the teachers who can pass the knowledge to their colleagues and in organizing of the exchange of experience from the trained teachers to the rest of the staff. He continuously monitors the teaching and learning process and the performance of the teachers, teachers are encouraged by him to use innovative approaches and the experiences gained in Austrian schools in the process and sharing their experiences with their colleagues in regular meetings of teaching council.

In general, teachers are motivated and committed, but a few in the beginning were not enthusiastic. However, during the process the positive results became obvious and the positive environment that built in our school had an impact on them, because they gradually started to practice these experiences in their teaching sessions. It was very important to give 20 % of normal teaching time to those involved in the programme and more teachers are being given additional time to innovate.

The effect is evident in the work culture and in raising standards of teaching and learning. The level of interest about professional schools has been raised a lot in the Municipality. More interest has been expressed by females who before were not so much interested in what the school provides and because of school's increasing popularity, interest is also now coming from the youth of other municipalities such as: Prizren, Shtimje, Rahovec and Malisheva.

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Case Study Seven - "Student-centred approaches to raising the level of practical learning"

Combined High School "Beco Basic" Plav, Montenegro

This school was founded in 1965/66 as an elementary school but in October 1969, Plav Municipality made it a Gymnasium, an individual educational institution with four grades. That date is celebrated as School Day. This year the school celebrates 40 years of its existence and 30 years of teaching in the Albanian language. In 2003 the school changed its name into the Public Institution Combined High School "Beco Basic" Plav. Plav is a multi-ethnic Municipality is in the northeast of Montenegro and has around 20,000 inhabitants. It is a very heterogeneous town and two languages are equally used: Montenegrin and Albanian. In the 2009/10 school year, the school's 721 students were divided into 30 classes out of which 12 are gymnasium and 18 vocational. The teaching is in both the mother tongue and the Albanian language. Different vocational programmes are offered according to the interests of both students and their parents.

The school is registered at the Ministry of Education for the following programmes:

- Gymnasium
- Mechanic and metal processing
- Trade, catering and tourism
- Traffic
- Geodesy, architecture
- Pharmacy, health and care system
- Economics, law and administration
- Agriculture, food processing and production

There are 21 programmes within these eight educational fields and 57 teachers and 17 professional associates are employed. The principal, Ramo Kolasinac, a philosophy, and sociology teacher, won the state prize "OKTOIH" in 2005 for outstanding results in the field of education. With his own engagement and working together with the school employees, the principal has enhanced the school's reputation across Montenegro.

1. <u>Why are we making these changes?</u>

Because of current changes in the labour market, the economy and in society, our school is trying to be as innovative as possible. It has recognized the need to develop tourism, trade and catering and as a result, we have already 'produced' the first generation of students who were educated to work in these fields. In the past Montenegro had to 'import' workers from neighbouring countries to do these kinds of jobs because of the lack of specialized staff. Plav is a town with rich tourism and agricultural potential and because of that in 2005 the first cohort of 4-year trained tourism technicians was initiated. In 2009

we started a new school programme for agricultural technicians. For this programme the school has managed to obtain a model farm where students can gain practical knowledge. In that way we hope that, we can produce highly qualified and competent graduates.
Special emphasis is placed on preparing students for the labour market and further education. By putting them at the centre of the teaching process, teachers are trying to develop students' skills and initiative for entry into the labour market or to continue their education.

2. What, How and For Whom?

In trying to be as innovative as possible, we were one of the first schools to accept the new curriculum for high school programmes where the focus is on the professional education of students. Therefore, our school has many practical approaches for improving the educational process.

3.1. Modern teaching methods and school equipment

Teachers use modern student-centred teaching methods in order to develop critical thinking and creativity. Every teacher of this school has attended seminars about Active Study and Applying ICT in teaching. The role of the teacher is changing from that of instructor to that of a moderator of the learning process who pays attention to every student individually.

For the specific needs of school (such as practical subjects), school employs professional associates. Seventeen professional associates work in this school at the moment and share their knowledge and experience very successfully with the students. Our school has 22 regular classrooms, 2 workshops, a library with a reading room and specialist rooms for informatics; traffic studies; practical health care; anatomy and physiology; medicine and biology; practical serving skills; chemistry; tourism; administrative technicians; and collaborative study. Classrooms and offices are equipped with modern teaching resources. A Study Centre adds to the optimal conditions for studying.

3.2. Study Centre

Opened in March 2009, the study centre was refurbished with funding from the school and labour mostly with the help of students and teachers. The investment is worth approximately 30,000 Euros. The centre is equipped with computers, literature and resources for every study programme. Different activities are performed in this study centre for promoting higher levels of knowledge. Students are free to create different activities depending on their knowledge and needs.

There are twenty different study stations in this study centre: pedagogic-didactic space for storing necessary materials; reading room – where students can study individually; intercultural cooperation; innovations in science; professional development of school; school projects; different programmes; informatics; factors of influence on students and teachers; school rules and acts; tourism; students and teachers conferencing; group study; foreign languages; local environment library; multimedia; Albanian language teaching resources; journalism; congress.

Through continuous assessment of work in this study centre we have concluded that this room has a positive influence on students, because they can be very flexible while working there and they can use different resources while doing research and project work. Because of the fact that they are free to create different activities by themselves, they feel more secure and in that way they acquire knowledge better.

3.3. Professional tuition of teachers

School managers and teachers regularly attend different seminars. The improvement process has two approaches – enhancement of pedagogical work and personal professional development. The school also organizes seminars if needed. Already seminars for high school principals from Montenegro have been organized and a few conferences about international cooperation. Teachers who teach the same subjects (for example English language, mathematics, mother tongue, etc.) regularly have meetings where they discuss different questions about teaching and learning and various problems that they have while working. In this way they try to find solutions for overcoming those problems.

3.4. Quality Group

A Quality Group continuously assesses working processes in the school and tries to improve them. The group has 5 members and works on the following areas:

1. Achievements in knowledge, skills and competencies according to educational standards
2. Quality of the teaching and learning process: general; professional and practical subjects
3. Quality of syllabi and outdoor activities
4. Spirit (ethos) of the school community
5. School management
6. Support that the school gives to students
7. Cooperation between the school and parents, social partners, other institutions and the local municipality
8. Material, technical and safety conditions of the school
9. The Quality Group makes improvement plans that include aims, activities, deadlines and success indicators.

3.5. Outdoor activities

There are 17 departments in the school dedicated to enabling student to acquire a high level of education. The school also organizes extra classes for students who want to learn more, and for students who have difficulties in certain subjects. Highly successful students participate every year in Republic competitions. Teachers help them in preparation for these competitions.

In addition to sports clubs and cultural societies, our students also participate in different ecological actions (cleaning of rivers and lakes, forestation etc.) decorations of parks and historical monuments and marking mountain paths. Many of our students are members of non-government organizations (NGOs) for example, The Greens and Pronatura. In this way our students develop ecological understanding and skills and improve working habits and responsibility towards themselves and the environment.

3.6. Practice (practical teaching)

Depending on the subject, we have different spaces where students can gain practical knowledge. Car mechanics perform their practical classes in a school workshop with six cars and students can use them to develop and improve their practical knowledge. For the students of the trade programme we have a school shop where they can really work and can develop their practical skills with teachers' help. We also have a kitchen with a restaurant for the cooks and waiters (food services industry programme). Students also do work practice in different local companies which gives them a head start when they apply for a job. Those companies usually employ our students when they finish high school education.

3.7. Support for students

This is multinational and heterogeneous but tolerant school where every student and every person is equally respected, no matter of age, sex, special needs or educational level. Students are regularly informed about their rights and also participate in making decisions about students' rights. Our principal, deputy principal, pedagogue, psychologist, and social worker cooperate with students and organize all kinds of meetings with them (celebrations, manifestations, cultural and sports activities, etc.). They also cooperate with the Students' Board and Council of Young. Students are treated individually taking into consideration their abilities and interests to train them for professional work and helps them to develop study skills through both work in groups and individual work.

3.8 Cooperation with parents, social partners, other schools and non-governmental organizations

Parents are invited to general and class meetings and individual meetings between teachers and parents. General parents' meetings are held two or three times a year, and parents are there informed about problems and tasks that the school and students experience. Connection between family and school and creative cooperation between parents and teachers are key factors in providing a successful education for the students and plays both an informative and educational role for all involved. The parents are encouraged to participate actively and to make any suggestions they wish.

The school invites cooperation with different institutions, employers and local management. Employers willingly accept our students and help them in acquiring practical knowledge. We also cooperate with different cultural and sports organizations. The school management and professional team each year visit students of the final year at three elementary schools and inform them about opportunities and choices that the Combined High School has to offer. After that we organize "Open Door Days" for the elementary students and during that event, students are free to visit our school, classrooms, workshops,

and see the premises. Another external link is with the University of Montenegro. Different representatives from the university give presentations about their faculties every year and provide students with informative brochures to aid their choices. We also consult the Labour Exchange every year when we are deciding what vocational programme we should launch to attract students who will later compete for jobs. For unemployed people we have organized English language and Computer Studies adult education courses. For many years non-governmental organizations such as CAZAS, JUVENTAS, TVRDJAVA and PRONATURA have been involved with the school through different projects, presentations and programmes.

3.9 Work on international projects

Besides school projects and projects with local community, there have been a few successful international projects. Cooperation started in 1999 with schools from Switzerland on the initiative of communes in Switzerland, because our school had given shelter to 280 students from Kosovo during the period of civil war. In 2006 two of our teachers went there for professional enhancement in the areas of catering and the food services industry. The same year three students visited Switzerland as a part of a students' exchange programme. In 2007 students from Switzerland made a professional excursion to Plav for seven days and had many joint activities and projects with our students. Later, members of our staff visited Switzerland order to compare the educational programmes and quality of teaching in the area of tourism and catering. After finishing of this project we have introduced significant innovations in these areas that have helped us to improve the quality of teaching and learning. Our Swiss friends have regularly donated computers, equipment for the students' restaurant and mechanics workshop.

Study visits were arranged with tourism schools from Austria through the project TOUR A REG in 2006 and within this project seminars for professional development of teachers and students of tourism are regularly organized. The ECO NET project has been running now for four years and within this project we have set up a tourist agency "Prokletije" to arrange tours and promote the natural beauty and tourist potentials of our municipality. The Austrian organization "Culture Contact" are providing technical assistance and have equipped a classroom with computer equipment and other necessary equipment for a tourist agency to give our students 'real life' learning of the business. From 2009 the school is a part of ACES Net (Academy of Central European Schools) and together with partner schools from Albania and Macedonia we participate in the project called "Young Europeans Can Shape Their Future by Themselves".

The Norwegian organization BIP (Business Innovation Programs) in cooperation with the Agency for development of small companies in Montenegro has supported a "Students' Companies" project for a year. Students have created six companies and they present their results at a fair in Budva at the end of 2009. The companies are real. Students work with real products, they make real profit and they all have certain functions in their companies developing their business skills by working in teams and individually. It is a genuine and relevant preparation for the actual labour market. A new initiative is with LUX Development to establish a model farm for the students of agriculture, food production and processing. We also plan to cooperate with the GTZ, an international cooperation enterprise for

sustainable development with worldwide operations and with the USAID-STARS project “Stimulating development in northern Montenegro” in the area of tourism, agriculture and professional enhancement. All these efforts are dedicated to the students for whom the school exists.

4 Lessons learned

Education and creation of human resources are at the top of national strategies of social, economic and technologic progress. Considering the fact that the effects of education are reflected not only on individuals, but on the whole of society, we can say that knowledge has become a basic factor of development. Thus, investing in education means the same as investing in human capital.

Modernization of the educational system is very complex and covers a wide spectrum – from the introduction of new and modern teaching methods and syllabus, through active participation of teachers and students in the schools’ work and decision-making, to using of computer equipment in classrooms and strengthening the relevance and connection of vocational education to the labour market. In the past few years our school has managed to fulfil almost every goal predicted with the process of reform of education and modern world trends to provide students with:

- Improved quality of work
- Progressive development of most important key skills
- Improved resource management
- Easy access to a wide range of information
- Use of multimedia equipment
- Practical application of theoretical knowledge
- Better motivation to study

Modern vocational education identifies three basic educational aspects:

- Personal - development of intellectual, emotional, aesthetic and physical skills.
- Social - preparing individuals to participate equally in social life and educational activities needed for life in society.
- Professional - preparation of students for future work. That is one of key demands of high school education and it is directly linked with society needs, economic development and other elements.

Cooperation with social partners and involvement in international projects is essential if we want to develop an educational system and through successful reform. Obviously investment of money and time is necessary in development of education and also networking of high schools gives better results.

5. What did we invest?

To provide for our many practical activities we developed and equipped 900 m2 of work space for practical teaching and learning processes. The Ministry of Education helped us financially with only 7% of all these investments. The school itself invested other financial assets from its own sources: project work, organization of courses, earnings from students' collective activities. Both employees of the school and the students of vocational programmes were involved in raising funds and giving their time. Teachers, school management and professional associates are dedicated to helping students to get the best education possible.

6. What did not work as we had hoped and why?

While we were conducting all the above activities, despite all the work and effort of the whole school (school management and staff) we experienced some misunderstanding of our initiatives in the local community which was not able to help us to finish some projects that were in the best interest of students and educational reform. We also found that the Ministry of Education did not support us as they might have when we asked for their help in realization of some projects.

Ramo Kolašinac, Principal; Bakovic Dzana, Psychologist; Basic Omar, ICT coordinator and Toskić Selma, Translator.

Case Study Eight - "A multi-project approach to improvement to improving staff morale and skills"

Chemical, Food-processing and Textile School 'Uros Predic' – The Centre for Continuing Adult Education, Zrenjanin, Serbia

1. Who are we?

The Chemical, Food-processing and Textile School 'Uros Predic' in Zrenjanin, is located in the building finished in 1938. At the request of the Chamber of Commerce and Industry, City Government in Petrovgrad (which is the former name of city of Zrenjanin) gave this building to the Chamber free of charge in order to place the Technical High School and Commercial Academy of the Chamber of Commerce and Industry in Petrovgrad. Both schools were founded in 1938. Since 1991 the technical school has been called "Uros Predic" after a famous painter from the Banat region.

Today, the Chemical, Food-processing and Textile School is a modern school which uses about 5000 m^2 of space for students and other purposes. Teaching is performed in 17 general purpose classrooms, 6 multi-media classrooms, 12 study rooms, 5 laboratories, 2 gyms, as well as in the bakery, mini diary-plant and three textile workshops. The number of employed staff is 115 and about 800 full-time students attend this school in 36 classes. We prepare students (young and the adults) for working life according to labour market demand, in a modern and efficient way. The three sectors of the curriculum are:

- chemistry and non-metals (chemical-technological technician, chemical laboratory technician, technician for the protection of environment, technician for the industrial pharmaceutical technology),
- production and food processing (food-processing technician - pilot curriculum, technician for biotechnology, baker - pilot curriculum, milk manufacturer – pilot curriculum, butcher, foodstuffs manufacturer),
- textile and leather industry (technician-model constructor of clothes, ready-made tailor, fashion tailor – pilot curriculum)

Introducing new pilot curriculum which has been implemented since 2002/2003, our school has become an active and a direct participant in the reform of secondary vocational education.

The most important social partners with whom we cooperate are: Centre for Vocational and Art Education, Regional Chamber of Commerce, National Employment Service, General Association of Entrepreneurs, the City of Zrenjanin – Local Municipality, Local Economic Development Office, secondary vocational schools in the region, local corporations and companies, Non-governmental organisation sector.

Our school has placed its own present and planned activities, its vision and strategic goals within the context of the reform of vocational education, which implies the school development based on the following principles:

- development; and project realization)
- Patient and hard work on the modernization of the system and the school
- Search for a new model of organisation
- Attention to values
- Raising of the level of human resourcefulness
- Frequent of project activities (with action planning)
- New approaches towards meeting the needs of the young students
- Further development of the Centre for Continuing Adult Education
- Social partnership development (market analysis; competence-based modular curricula and training Implementation of a spirit of competitiveness and tolerance in our school culture based on our vision – "the school of positive and creative people"
- Continuous self-evaluation to improve the quality of the work at school

2. Why are we making these improvements?

We intend to serve economic growth and to raise the level of human resources of our region in accordance with the principle of life-long learning. We see ourselves as multi-generational and multi-programme institution to serve the economy as one of the pillars of social partnership and a leader in the development of human resources in the region. We want to be a well organized school where creative and satisfied people work and where we together have a positive relation with the surrounding community.

We wish to establish our position as a progressive school with pro-European values and recognized for its enthusiastic project activities – a centre with special strengths (multi-media classrooms, internet club, the kitchen and the students' cafeteria, specific equipment, bakery, mini-dairy plant; reform orientated staff; strong relations with European programmes and funds), as well as resources and potential from the environment (Zrenjanin has beautiful architecture and cultural sites, pleasantly green surroundings and lakes; a lowland region with many pastures suitable for organic food production).

3. What are we doing?

3.1 Teaching staff how to use multimedia classrooms

The project, started in 2005, was a part of Innovation fund of CARDS 1 programme – the programme of the reform of the secondary vocational education. The school was the contractor and the Regional Chamber of Commerce of Zrenjanin was the partner on the project.

3.2 Teaching the rural population of Banat region to produce biogas

In 2005 and 2006 this 50000-euro, 10-month project was a part of a Regional Programme of socio-economic development of the Banat region, and it was financed by EU and implemented by the European Agency for Reconstruction. The school was the contractor and the partners were - the Regional Chamber of Commerce of Zrenjanin, Higher Technical School in Zrenjanin, National Employment Service – branch office in Zrenjanin, Municipality Novi Becej, Municipality Zitiste and Agricultural Institute in Zrenjanin.

3.3 Career guidance and counselling

The school was a partner in the Belgrade Open School projects: 'The implementation of a model of career guidance and counselling in secondary vocational education in Serbia' (January to September 2006); and 'Comprehensive development strategy of career guidance and counselling in Serbia' (May 2007 to January 2008). Both projects were financed by the Canadian International Development Agency (CIDA).

3.4 The Centre for Continuing Adult Education

The Centre for Continuing Adult Education (RTC – Regional Training Centre) has been developing in our school since December 2003, supported by the EU - VET Reform Programme (CARDS phase I, phase II and Bridging). The role of the Centre is to monitor market changes, identify necessary skills and develop modular and outcome-oriented training in close cooperation with the employers (based on the occupational analysis and standards). The school offers labour market-related training in the necessary knowledge, skills and competences to give trainees the opportunity to find employment easily or to continue their professional education. We cooperate closely with the other four RTCs in Serbia in Novi Beograd, Nis, Bor and Kragujevac.

4. <u>For whom?</u>

Our target group are the young – primarily our students but also adults – both employed and unemployed.

4.1. Teaching staff how to use multimedia classrooms

The training included 50 teachers from our school (60% of the total number of the staff) and 10 colleagues – representatives from the factories with which our school cooperates.

4.2 Teaching the rural population of Banat region to produce biogas

Our target groups are rural population and the students of agricultural schools. The teachers also had immediate benefit from the project. They developed competencies for the development of modular training programmes. The project boosted the social partnership network – which involves secondary vocational schools, higher education institutions, Regional Chamber of Commerce, National Employment Service, Agricultural Institute, local authorities. To implement the project unemployed but highly professional people were trained to become the trainers.

4.3 Career guidance and counselling

The target group are our students and the employers in the sectors our programmes cover. Also, immediate beneficiaries are the teachers who have the key role in the activities of students' career counselling..

4.4 The Centre for Continuing Adult Education

Short training sessions are prepared and organized just in accordance with labour market needs and requirements. In this way we help the National Employment Service and the employers. Our primary target groups are adult citizens of different ages and different education levels, either employed or unemployed. The participants gain the necessary knowledge, skills and competencies in order to get a job, keep the job, be promoted, and in general, to do something useful for themselves and their family.

5. How are we doing it?

5.1 Teaching staff to use multimedia classrooms

The idea for the project arose from a quality and needs analysis of work in the school. The aim of the project was not only for the teachers to learn how to use the computer while preparing for the class and during the class, but also to establish stronger cooperation between the school and its social partners. Consequently, representatives of the Chamber of Commerce and businesses were involved in the project as partners. Teachers were trained how to use the computer and IT equipment. They learnt how to use the Windows, Word, Excel, Power Point, the Internet and e-mail. Many different Power Point presentations were made, and in this way, the electronic base of the presentations for the lessons was also built up. The colleagues from the business world made Power Point presentations of their factories and the technological procedures, illustrated with the pictures of machines, appliances and the devices.

5.2 Teaching the rural population of Banat region to produce biogas

First the teachers developed four training modules including appropriate professional publications: the raw material for the production of biogas; the systems for the processing of biogas; and the processing technology of converting biomass into biogas. Eight unemployed highly educated people (technologists and agronomists) were trained to process biomass into biogas and also on some basic management and entrepreneurship principles. They delivered training to the target groups on the significance, possibilities

and advantages of the use of biomass in the production of biogas. Huge number of people took part in the workshops in a total of 54 villages and 5 schools.

5.3 Career guidance and counselling

In the organisation of the Belgrade Open School, two teachers, pedagogic specialists and a psychologist from our school took part in the training in career guidance and counselling. The basic topics were:

- Informing students about careers (information about employers and further education)
- Career guidance (workshops which strengthen the self-confidence of students, and motivate them to search independently for a job and to make decisions)
- Career counselling (a group of skills with which the student is trained independently to solve the problems connected with career guidance).

Activities with which we deal:

- The centre for career guidance and counselling has been set up within the school
- Roles and activities of two teachers and two associates (pedagogic specialist and psychologist) within the centre for the career guidance and counselling were defined relating to counselling students, cooperation with the social partners, workshops for students and teachers, creating and updating of the data base of educational institutions and active companies in the region.
- Graduate students are surveyed about their professional plans.
- Workshops with both graduate students and undergraduate students are provided
- Two internal trainings for the teachers of our school to acquaint and qualify them for the students' career guidance and counselling within their teaching subjects.
- Presentation and promoting our school to the parents and pupils eighth grade elementary school.
- Presentations by the university and higher education institutions for our graduating students.
- Participation at the employment and education fairs.
- Career guidance and counselling are also applied in the education of adults.

5.4 The Centre for Continuing Adult Education

Within the School-Centre we have two change agents for internal and external disseminate of acquired knowledge (market research, fundraising, the development of modular competency and outcome based trainings, team work, project planning and so on). We continually improve the training sessions in terms of programming, organisation, administration and monitoring the trainees during and after the training. Those activities are supported by participation of a large number of colleagues, cooperation with other centres for continuing adult education and by the expertise and assistance of the Unit for the Implementation of the Reform Programme (CARDS and Bridging programmes). The need for the institutional strengthening of the Centre for Continuing Adult Education in Serbia (as well as ours), has

been recognized within the strategy for development of adult education in the Republic of Serbia, and a significant acknowledgement was given in the moment of accreditation of 40 short trainings.

6. With which results?

In general, the effects of innovation from the project activities in the school have resulted in:

- the school becoming closer to the social partners and using outcome-based education
- better organisation within the school
- an improved position of school in the local environment
- curriculum innovation
- capacity building - training of teachers, associates (pedagogical specialist and psychologist) and guiding principles

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6.1. Education of teaching staff

Project and IT knowledge acquired by teachers led to an initiative to establish the multi-media classroom. At first, just one classroom was opened but four years after the end of the project, there are 6 and all are equipped with the computers, video beams, projectors, whiteboard and a flipchart. The internet is available for all staff and students. The teachers continued preparing the presentations lessons, so our data base has grown considerably. Working in a multi-media classroom proved to be interesting both for the students and the teachers.

Power Point presentations about the factories (companies), which were created by the associates from the economy, enable students to be prepared before having practical work in the factory or before visiting. The presence of the colleagues from businesses during the training acquainted them with our school's problems and strengthened connections and cooperation with them.

Project results brought ''life'' into our school. The teachers feel richer, happier, more satisfied and self-confident after the projects and they know that they now have more opportunities. They think more about preparing lessons and how to make the teaching material more diverse. They communicate more among themselves and exchange experiences. They also express the wish to have further professional training.

All CD presentations made during the project were sent to another 20 chemical, food-processing and textile schools in order to show them what we have done and to motivate them to start similar projects. We have received the reactions from some of them in which they express their gratitude and give positive feedback.

We are planning to organize an event in Zrenjanin, where we would invite a huge number of schools out of which some would be the observers, and some (which were involved in the projects) would

participate. The results of the projects would be presented as well as the projects made in schools. In this way, we would exchange experiences, disseminate our results and motivate the other to start writing projects and finding the financial resources to realize their ideas.

6.2 Education of the rural population

The outcomes of this project were:

- four new modules have been created and a book about biogas has been published
- eight new trainers were employed in school (for three months)
- the trainers visited 54 villages and 5 agricultural schools
- 1280 people participated in the process of education (training)

As an illustration how successful the project was we quote an actual statement made by one of the final beneficiaries of this project, Perica Jovanov, farmer from Melenci a nearby village:

'By processing of biomass into biogas I have solved a long-standing problem with the electricity on the farm'.

IT equipment, supplied for the needs of this project, was later used for our multi-media classrooms. Nowadays, ideas about sustainable sources of energy are in a top priority in our region and in Vojvodina. Our project presents a good start point. In 2005 the first generation of students enrolled in the new education profile (programme) – technician for the protection of environment. This is the way in which this project still lives on by means of experience transferred to those students.

6.3 Career guidance and counselling

On the basis of the results accomplished, it is evident that the school will be involved in the next project of Belgrade Open School – and the main objective will be further development of career guidance and counselling system in secondary schools in Serbia. These were the main results:

- Career guidance and counselling was established and organized within the school
- Workshops and material developed for both teachers and students
- Data bases created for: active companies in the region; employers with whom we cooperate; existing higher education schools and universities in Serbia; our students and the data on employment or further education of students who finished education within pilot programmes
- Good cooperation with the National Employment Service
- Regularly surveys of graduates about their professional plans
- Systematic cooperation with other RTCs on the issue of monitoring training.

6.4 The Centre for Continuing Adult Education

Developing the Centre have mobilized our human resources through the training; improved equipment and resources; cooperation with the social partners; better organisational planning; recognition and visibility of the School-Centre. We have initiated team work, action planning and evaluation. In general, our project-based development has produced better more positive school ethos and considerably raised both staff morale and skills. We have become closer to EU standards. On proof of this is that in August 2007 the School-Centre was given the accreditation for the Exam EBC*L centre. EBC*L is an internationally accepted standard in the field of business management and entrepreneurship. The certificate is accepted and recognized on the international level.

The Ministry of Education of the Republic of Serbia adopted the Rulebook on modular training programmes, which was published in the Official Gazette. 40 short trainings for adults were accredited and the aims were defined as well as the outcomes and the model of monitoring pilot training. These training programmes can be provided by the centres for continuing adult education in cooperation with the partners, and in response to market demand.

For the last three years the Centre has delivered 17 trainings for adults for 238 trainees. The training, preparation, organisation, administration, giving certificates, legislative and accounting processing have been raised to a satisfactory standard and the monitoring of trainees' career development has been introduced. After the end of the training for 'Physical technical security guard' in July 2009, 6 out of 20 trainees got jobs.

Some short quotations show how satisfied the trainees were. One of the women trainees said: *'The training enables me to communicate easier with the people from my surroundings, and easily find information of importance for me. After I had lost my job, I did not sit idle at home as before, but took the bull by the horns and found a new job. I feel more satisfied with myself because I worth more now.'* Another lady said the following: *'Four months after the training I applied for the job of a pharmaceutical technician in the chemist's called 'Natasa'. There were ten girls who also satisfied the requirements of the employer, but he chose me on the basis of my demonstrated knowledge about cosmetic remedies, their application and purpose.'*

One of the priorities in the near future is to work on the improvement of the organisational culture of the Centre.

7. Lessons learned. What did not work as well as we had hoped and why?

The variety and the intensity of the activities in the school did not get adequate support on the system level in the areas of legislation, finance and human resources. Also despite raised morale of many, certain problems in the motivation of the staff are also present. The cooperation with the social partners is burdened by evident lack of capacities and interest of many partners in the region. At present the problem of institutionalisation of social partnership in our society is still unsolved.

8. How can we achieve more?

Striving for the improvement, we plan to continue to strengthen the professional competencies of our staff: teaching competencies, organisational skills, innovative attitudes and the use of evaluation techniques. We want to affirm our students' results in knowledge, sport, and creative work, to make our school's name more reputable. Better human resource management would bring together our teaching staff, would give us the opportunity to manage inevitable changes, conflicts, and give teachers more motivation to share and meet our aims.

You can visit our website at www.hpts-urospredic.edu.rs

Jugoslav Bogdanovic, Principal of the Chemical, Food-processing and Textile School 'Uros Predic', Zrenjanin;
Tatijana Glisic, Centre for Vocational and Art Education, Belgrade./

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Case Study Nine - "Individual teaching plans and teacher teamwork"

Biotechnical Centre Naklo, Slovenia

1. Who are we?

The Biotechnical Centre Naklo is a modern, contemporarily organised and well-equipped school centre for horticulture, nature conservation, agriculture, food-processing and housekeeping. The Centre previously used to train learners from the whole of Yugoslavia. It is a school 'centre' in the sense that it contains three units in one: Secondary School, Vocational College and Enterprise Centre. Besides offering five ordinary 2-4 year VET programmes, the Centre also offers the biotechnical gymnasium programme as well as adult education courses within an enterprise centre. The Centre has 640 students and employs a pedagogical staff of 80 people and 16 additional staff members. The Centre, which has received considerable funding from the EU Social Fund, is 80% state funded and generates 20% of income from the market (e.g. adult training and sale of products). State funding is on a cost per student basis. The Centre has a school estate farm of 22 hectares, a dairy workshop and a school shop. It is teaching students not only for professional skills, but also for entrepreneurship and self-employment.

Priorities for the school are:

- To adjust learning to every individual student
- To provide high quality education for all students
- To ensure quality care, invest in up-to-date teaching technology,
- To capitalise on the new national Teacher Assembly strategy to increase the popularity and the attraction of the Centre.

2. Why are we trying to be an innovative school?

The Biotechnical Centre Naklo has a long tradition for collaboration with enterprises. Students have at least 8 weeks of work experience in company placements each year and the Centre collaborates with 138 external learning places for practical training in 2009. In addition, there is close cooperation with institutions and enterprises outside the school through activities for the market such as planting and setting traffic roundabouts, green areas, realization of weddings, decoration of exhibition halls, selling horticultural and farm products from the school's own operations as well as food-processed in the school.

Another important driver behind innovation is the changed national VET policy in Slovenia towards decentralised governance and more autonomous schools. In 2002 Slovenia almost completely reformed its VET programmes which became designed on the basis of vocational standards and the needs of the

economy. New framework curricula are structured as modules, incorporate competences and credit evaluation and 20% are left open to suit regional/local needs, which has stimulated co-operation between schools and local companies. An important novelty is the obligatory preparation of the school curriculum, which must be prepared by each school based on the national framework curriculum and in accordance with an analysis of the school environment. In this process members of the Programme Teacher Assemblies, employers and students are involved in planning of the school curriculum. This new open curriculum system has created a lot of developmental and innovative space for VET schools. The school has set up a system of quality assurance, the so-called quality committee, made up of representatives of teachers, employers, pupils and parents. Self-evaluation must be performed regularly by the schools and a report on quality has to be posted annually on the website.

3. What are we doing and how are we doing it?

3.1. Individual study plans

New open curriculum principles and the preparation of the school curriculum has given the Biotechnical Centre Naklo and its teachers easier and more didactic room to adapt study plans according to the various groups of learners, including the weakest students for whom individual plans have to be prepared. A folder of documentation of learning outcomes (portfolio) emphasizes formative assessment and provides a record of learning outcomes achieved by individual students.

The individualisation of learning has been taken very seriously by the school. The individual study plans are important tools to meet the requirements of various student backgrounds: special needs based on, for example, being athletes, students who come from other vocations, students with special learning and physical needs, students who do not reach minimal standards of knowledge, etc. The number of students with individual pedagogical 'contracts' in the school year 2008-09 was 79 students or 19.2%. The school also organises extra-curricular activities that meet the personal interests of students who can gain extra credits for this effort.

Based on three common goals – learning success, vocational qualification and development of students to take responsibility for their own professional learning pathways – the school develops individual plans in the following way:

1. Discovering and more precisely identifying the concrete learning needs of the individual student
2. Forming a professional team: principal, school counsellor, class teacher, subject teachers
3. Personal conversation with the student to agree on aims and frameworks based on needs identification
4. Setting concrete and measurable goals in the professional team involving the student, parents and the members of the professional teams.

The realisation of the individual study plans is based on a contract between student and school. The main component of the contract is the written record of the agreement. Other elements are

requirements for class/lesson attendance, time-table of the obligations, procedures for implementing the plan with set dates – and specified in terms of who, what and when for the student, parents, class teacher, subject teachers, school counsellor, and principal.

VET schools need more autonomy but also enhanced teacher professionalism to cope with personalised learning plans. In collaboration with the national VET Centre (CPI) schools organise school-based training and consultancy with regular monthly meetings to prepare teachers for conducting individual study plans.

3.2. Programme Teacher Assembly

The open curriculum structure requires strong planning mechanisms within the school. An important role is played by the Programme Teacher Assemblies (PTAs) in the Biotechnical Centre Naklo. Since 2004 the CPI has supported every professional teacher team in VET schools with training and counselling; training is mostly connected with curricular planning and assessment of knowledge and skills. The required school curriculum is a novelty and is planned by professional teachers' team. The PTAs are managed by experienced teachers who have a mainly consultative role and advise on planning and assessment of syllabi. This internal organisation of teacher teams enables sharing of examples of good practice, constant quality care and helps to promote and develop commitment, culture and the positive learning environment in the school and in every teacher to monitor critically his/her work, maintain high quality and improve deficiencies in performance. PTAs in Naklo are perceived as an important platform for stimulating the creation of a development oriented and high-quality school which puts the student at the centre.

In the Biotechnical Centre Naklo the headmaster and teachers found that the new VET programme structure has ensured more school autonomy, that this autonomy enables a teacher to be more innovative, that the school curriculum with autonomous design makes it possible for the school to better adapt to local environment needs, and that the individualised study plans improve student school performance and provide for a higher level of knowledge and relevant skills among VET students.

The school director decides on the contents related to the school environment to be included in the open curriculum in cooperation with the PTAs. Increased autonomy enables the headmaster to plan school development, equipment and human resource development and also the allocation of tasks and the remuneration of the teachers. Teacher autonomy makes it possible to bring together VET school students in common subjects or content units, and regular teacher co-operation is a prerequisite for successful inter-subject and project learning. Teachers today have more opportunities to engage in creative and team teaching work. The essential task of instruction defined at Naklo is to develop "dynamic" skills (independent learning, ability to co-operate, socially responsible actions) meaning that there is an increased demand for participation of all actors in the process.

4. For whom do we make these innovations?

This innovation is made for the students, teachers and the school but is, of course, based on the national VET reform. VET programmes used to be traditionally structured and consisted of three loosely connected curricular parts: general subjects, professional-theoretical subjects and practical training, all strictly prescribed at national level. Evaluations showed that students could not apply their knowledge in practical work situations. Students' generic, vocational and key competences were also badly developed, e.g. methodological competences, problem solving, social and communication skills and learning to learn. Dropout remained high and far too many students left VET after 2-3 years without acquiring any formal qualifications. Almost no innovation took place in schools and teachers did not cooperate. So the innovations must be seen on the backdrop of the overall national goals for VET:

- Improving flexibility and responsiveness
- Clearly defined learning outcomes in the from of acquired vocational and key competences
- Strengthening developmental role of schools by decentralisation of curriculum
- Reducing drop-out, individualisation of study plans, and support of personalised learning
- Strengthening collaboration with local partners and employers to meet local needs and interests;

The Naklo Biotechnical Centre was very eager to capitalise on the new VET reform possibilities and embarked on learner individualisation because students are becoming increasingly individual and have different needs. It was also seen as important to keep unmotivated students onboard. More immigrants with linguistic difficulties have become common in Slovenia, and a differentiated approach is necessary to cope with both high and low achievers as well as handicapped students.

5. With which results?

The Biotechnical Centre Naklo is a very successful VET school and has designed and implemented a wealth of innovations over the last couple of years. One measurable success criterion is the number of students, which has increased and more and more students come from outside the town and students come from a higher number of primary schools than before. One interesting novelty is the fact that 3000 children from primary schools have an introductory activity every year. The collaboration between parents, school counsellors, teachers and students to make a contract to find a way out of challenges for learners is functioning very well and has reduced dropout rates. Key qualifications are gained by having a positive climate in the school: when students see teachers work together in teams to plan curricula and make individual study programme 'contracts', they see the positive aspects of this method. Co-operation with local firms is exceptional (materials, funding, know-how, etc.) and one interesting example is the sponsorship by the electricity board for the impressive solar panels on the school roof. An important success factor is also that the rate of employment for school graduates is very high especially for florists and gardeners.

6. <u>What did not work as well as we had hoped?</u>

One risk is that continued funding of the innovations which are a costly investment may fall away. The school – and the VET system - has received substantial ESF funding and will the investments be possible when ESF money is discontinued? Funding per student stimulates schools to form classes up to a ceiling of the norm and to retain VET school students at all costs. If student numbers fall then teachers fear losing their jobs, but large classes can make difficulties for managing individualised learning and contribute to a lower level of knowledge.

Teacher roles are reversed 180° - the teacher goes from being the emperor of the classroom to a team member while students must now be treated as individuals - with big challenges for teachers' work and identity. Teacher autonomy is coupled with additional work, responsibility and inter-subject coordination. There is also the risk of a lot of new pressures and possible complaints from parents and companies. All these factors may prevent teachers from having the necessary space needed for creative teaching. Additional training is required for teachers to support them with individualised student work as well as with introduction of different active instruction methods.

Research has shown that some problems were encountered during the introduction of new programmes in the context of autonomy. An interesting finding is the fact that the majority of school directors, including the Biotechnical Centre Naklo, wish to maintain their more autonomous role in future, while most heads of Programme Teacher Assemblies did not express similar wishes. This might indicate that those experienced teachers playing advisory roles in PTAs are in a difficult position of role conflict where they must balance the acceptance of the director and at the same time be a colleague among peers.

The reality of increased school and teacher autonomy is also that there are no old and well-trodden paths to seek for answers. The best way forward is probably to enhance teacher professionalisation – which is also the preferred strategy in the Biotechnical Centre Naklo.

7. <u>Where can you learn more</u>?

If you want to learn more take a look at the school Centre website: www.bc-naklo.si or contact the school at info@bc-naklo.si.

Our mission statement is, "We make ideas come true".

Contact person: Monika Rant, Strahinj 99, 4202 Naklo, Slovenia *[English speaker].*

Case Study Ten - "Innovative e-Learning for in-service training of VET teachers"

Bahçelievler Erkan Avcı Technical and Vocational High School, Turkey.

1. Who are we?

We are a VET School for 4000 students aged 15 to 18 and with 170 teaching staff in Bahcelievler, Istanbul. Our school was founded in 1978 and started as a Vocational Education High School with two departments (Mechanics and Electrical Installation) as Bahcelievler Technical and Vocational High School. Today we have 6 occupational fields of VET: Computer Software; Electricity -Electronic Technics; Furniture and Wood Working; Machine and Fitting; Metal Working and Architecture.

Istanbul is a metropolitan city of 13.5 million inhabitants with an economy mainly based on commerce and industry. It will be a European cultural capital in 2010.

2. Why are we trying to be an innovative school?

In our school the VET teachers' average age is between 30 and 40 years old. Since most of them graduated from their Universities there has been rapid progress in every type o technology. It is obviously hard for them to keep up-to-date with all these advances by reading books. In addition, our National Ministry of Education (MoNE) has changed all curricula in order to bring them into line with recent developments. Therefore teachers must learn rapidly and in a short space of time how to improve their performance and plan more relevant lessons. The MoNE the Department of Education for In-service is not able to give sophisticated training to all VET teachers. Thus other approaches need to be found. As a result, our school decided to take some gain some professional development support from the Technical Education Faculty (TEF) of Sakarya University by e-learning. This method is being used for the first time in Turkey and represents an innovative method for training in Turkey which, unlike many neighbouring countries ahs a huge population with very large numbers of VET teachers.

3. What are we doing?

In our school we consulted our teachers to decide in which areas of their work they most needed trainings. We then sent our proposed list of priorities to TEF of Sakarya University. The final list of topics was decided mutually and the names of participant teachers were submitted to the Republic of Turkey MoNE Department of In-service Training.

3.1 The e-learning project with Technical Education Faculty in University of Sakarya

The nucleus of Sakarya University has been the School of Engineering and Architecture which was opened in 1970. In 1971 the institution was transformed into an Academy. The University of Sakarya

functioned under the name of State Architecture and Engineering Academy. Between the years 1982-1992 Sakarya University worked as a faculty affiliated to Istanbul Technical University. On 3rd July 1992 by Law Number 3837, The University of Sakarya was founded. Among the universities which were established after 1990s, Sakarya University has a unique place with its complete technical infrastructure and number of full time teaching staff. Sakarya University is the only state university that holds a ISO2002 Quality Certificate. With its huge investment in Information Technology, Sakarya University is making a significant contribution to the development and progress of the information technology IT sector in Turkey.

3.2 Summary of the project

The project aims to provide efficient in-service training to the vocational / technical school teachers who are the target group of the project in the fields of electrical, electronics and computing. Within the framework of this project web-based in-service training courses were designed and implemented for working vocational / technical school teachers in the following schedule:

- Web-based in-service training electrical programme,
- Web-based in-service training electronics programme,
- Web-based in-service training information / communication technologies programme

Web-based inservice learning and training is a viable option for technical teachers who need to balance a full-time job and family obligations with pursuing career development. In addition, web-based inservice training is considered to be a suitable method of arranging courses for a large number of learners simultaneously. On the other hand, scientific and technological developments are emerging in the fields of electrical-electronics and information technologies so rapidly and with such complexity that vocational teachers are having to update their overall knowledge frequently.

The aims of the project are:

1. To contribute to increasing the professional competencies of vocational teachers and the provide quality assurance and quality control elements for the European Vocational Education Qualifications.
2. To elevate the place and promote the attractiveness of vocational schools as preferred educational institutes in the society and as a stronger actor in the building of innovative and expanding knowledge-based economies and societies.
3. To add value to and increase the employment standards of industrial enterprises.
4. To provide an effective example of the concept of continuous professional learning and thus produce a multiplier effect to local, regional, nationwide and Europe-wide levels.

Web- based training enables teachers to spend part of their time working conventionally and the other part at training courses. Thus, this approach allows them access to mainstream training and educational

facilities. Also, as a result of the training programmes, the organisation and supervision of the classroom practice of the teachers is positively influenced. The results will be disseminated in the other partner countries and finally Europe-wide. Vocational high schools will become more competitive institutions with their teachers updated despite many demands on their time. In consequence, vocational school students will acquire the theoretical knowledge and practical skills they need to meet the expectations of a competitive employment environment. Educational institutions will communicate, cooperate and collaborate at both a national and international scale during the various projects. In addition, industrial companies will have the opportunity to employ vocational school graduates equipped with renewed and current technical skills and the use of modern tools necessary for industrial practice.

3.3 The main target group of the project

- Technical teachers who work at the field of electrical, electronics and information technologies in vocational / technical high schools
- Vocational teachers who work at Vocational Training Centre

The proposed project will help to strengthen the knowledge triangle between training, research and innovation. For promoting positive attitudes toward European-wide cooperation and collaboration there will be a wide partnership of organisations. Throughout the project, most effective connections will be made with local and central policy makers regarding the potential impact of the project to the training/educational strategies.

The proposed project has more than one added-value compared to previous projects. Not only will new courses be developed, but also new application areas (web-based in-service training) will be created. In addition, a web-based in-service training certificate program will be arranged at MSc level in future.

Training material designed and produced both in printed and electronic form for the training programme courses will also be distributed to National Ministries of Education in order to get feedback from involved sides and beneficiaries. The fact that one of the partners (namely, the Educational Research and Development Department of the National Ministry of Education of the promoter partner's country) is preparing to conduct a research on the in-service training shows the extent to which the proposal is expected to will deliver the expected outcomes.

3.4 New Technology

Moodle is a software package that we use for producing Internet-based courses and web sites. It is a global development project designed to support a social constructivist framework of education. Moodle is provided freely as Open Source software (under the GNU Public License). Basically this means that Moodle is copyrighted, but that you have additional freedoms. You are allowed to copy, use and modify Moodle provided that you agree to:

- provide the source to others;
- not modify or remove the original license and copyrights;
- apply this same license to any derivative work.

Moodle can be installed on any computer that can run PHP, and can be run on Windows, Mac and Linux operating systems. The word Moodle was originally an acronym for Modular Object-Oriented Dynamic Learning Environment, which is mostly useful to programmers and education theorists. It's also a verb that describes the process of 'lazily meandering through something' or doing things as they occur to you, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way Moodle was developed, and to the way a student or teacher might approach studying or teaching an online course. Anyone who uses Moodle is a Moodler. Our teachers follow their studies by becoming Moodlers!

4. For whom are we making these innovations?

Our colleagues work three different fields. We build three teams one from each of these fields. Each team has 5 teachers. The fields are field of Electricity Technology following a Digital Electronic programme; Electronic Technology following a Microcontroller programme; and field of Information technology following Graphic Design. These programmes are designed to make the participants operationally proficient.

5. How are we doing it?

5.1 Implementing the programmes

The Instructors prepared the documents for training in the electronic environment. They started from participant teachers' personal information and provided log in names and passwords for access to the e-learning system. The training contains two steps. One step offers theoretical study for 14 weeks for specific issues. The other step involves one week of application. Participants followed these lessons each week part by part using the web-site. Sometimes each group as a team assembled to evaluate their work. At the end of the first step each group went to the Faculty of Technical Education in Sakarya University. In each application training one supervisor from MoNE the Department of Education In-service joined each team to observe the learning process. Instructors examined all participants on the last day of training. A Success Certificate was awarded after the examination to all those who passed the exam.

5.2 Finance and Accounting

The training was financed in part by ETF and in part by the MoNE Department of Education In-service. ETF paid the fees of the Instructors. MoNE the Department of Education In-service financed the cost of transportation, accommodation and subsistence for the participants.

6. With which results?

6.1 Input indicators

This training that is similar to trainings available in the private sector but it is the first of its type to be supported by MoNE. In the public sector the organization is more amenable ot schools and cheaper than private sector training. Our teachers paid no fees for their studies.

6.2 Output indicators

The teachers increased their proficiencies in teaching the skills related to the fields in which the followed the e-learning programmes. The advantage of the training will become evident in new session in the up-coming 'Education and Training Year'. Without doubt, this training is a first and positive model for MoNE of the benefits of e-learning.

7. How can we learn more?

If MoNE the Department of Education In-service accept the results of this training and believes in the effectiveness of e-learning, this system will be disseminated widely in the public sector as well as the private sector that already uses similar e-learning systems. Also the training can be developed to become more interactive and to be applied in additional fields. In school we would like to establish an in-service department for teachers of the sort that exists in a number of west European countries to promote continuing professional development within the school itself.

Kenan Tırak (VET Teacher)

Conclusion: Towards a systems approach to school development in SEE

As the countries of SEE travel the road to modernization down which the cases study schools have already made their start, they will be guided by the values, policies and practices of education systems and schools in the EU. Eventual accession to the EU is a clear driver in many sectors of public service in SEE and especially in the education sector which is central because of its key role in preparing the next generation of citizens, employees and entrepreneurs. Both in SEE or the EU, this generation will face unprecedented challenges; environment; economic; social and political at all levels: global; regional; national and local. Transformation of systems, organizations and people, their mind-sets and their life-styles will be needed to cope with the turbulent times and the 'wicked problems' that lie ahead.

VET schools are a small portion of the complex inter-connected systems that will have to adapt creatively and innovate to survive and thrive in this demanding future and eventually accede into the European community of nations. The case study descriptions suggest that the present stage of school development is largely about making innovations IN the school, stimulated by donor projects that use both top-down and networking strategies. Some of the case study schools are now entering a second and more advanced phase of innovation OF the school. This recognises that schools essentially have, like organisms, to become self-developing in response to the changing environments around them. The transition of school development to the next stage will be:

- *FROM* - managing separate, often unconnected externally-stimulated initiatives usually introduced into the schools as projects – the school as a target for donor and VET Centre assistance
- *TO* - a model of 'change from within' that is embedded in structures, processes and an entrepreneurial culture of development – the school as a learning organization that is connected to similar schools and to its local community .

Many of our case study schools are moving towards this next stage. It will involve a more holistic type of 'systems thinking' (See figure 4 on page 13) and new 'mental maps' on the part of the school leadership and teaching staff. Such strategic systems thinking will also be needed in Ministries and VET Centres and the other institutions that support school-based development. The next stage will move beyond adopting and adapting changes and will turn the schools into professional learning communities where self-renewing, genuine innovation is built into the school and becomes a normal part of the culture. The notion of the learning organisation was spread around the English-speaking world following the publication of Senge's book in 1990 *The Fifth Discipline: the Art and Practice of the Learning Organization.* A brief summary if the 'five disciplines' is provided in Appendix 2.

The LEARN project has made its contribution to re-building a community of practice between policy-makers, providers and practitioners within and between the VET systems of the SEE region as a small step beyond the conflicts of the previous decade. This compendium of innovative schools is a source of hope as well as inspiration for moving schools forward. It exists for several reasons:

- The commitment of EU institutions and other donor development agencies to invest in development in education in SEE;
- The particular commitment of ETF, through the LEARN project to offer the opportunity to policy-makers, providers and practitioners in SEE to build their own network, decide and run their own projects and share with others their successes and their failures through a community of practice, namely, to LEARN;
- The enthusiasm and voluntary efforts of the recruiters, writers, supporters and editors who gave their time to compile this glimpse into school development in SEE.

APPENDIX 1: Links to additional useful sources and contents of previous Compendiums

Compendium of Good Practice: ***Dissemination of good practice in VET teacher and trainer training to the West Balkans,*** Sören Nielsen & David Oldroyd (eds.), March, 2002

Contents

1. European Training Foundation donor co-operation project on VET TTT in Latvia and Lithuania
2. Using the EU Leonardo da Vinci programme as a platform for developing VET TTT policy & strategy (Lithuania)
3. Development of a national VET TT pre-service pedagogical education (Latvia)
4. Supporting school-based curriculum reform with school-based teacher education (Cyprus)
5. A strategy to give added value to the TTT component in the CARDS programme - formulation of Terms of Reference (Croatia)
6. Mentors in VET teacher training (Slovenia and Lithuania)
7. Teacher training through "twinning" arrangements – Phare VET (Bosnia-Herzegovina)
8. Teacher training: The Pedagogical ICT ´Driver's Licence´ for VET teachers (Denmark)
9. Production School Practice and Pedagogy (Kosovo)
10. Regional Centres for VET TTT (Hungary and Lithuania)
11. School-based dissemination of Reading and Writing for Creative Thinking Programme (Croatia)
12. Teacher teams as a vehicle for innovation (UK)
13. School-based staff development activities for teacher development (UK**)**

Compendium of Good Practice in VET Teacher and Trainer Training in Southern Eastern Europe
David Oldroyd & Sören Nielsen (eds.), August 2005

Contents

1. Developing teaching portfolios in "Hotel-Tourism" schools (Albania)
2. Teacher training through "twinning" arrangements – Phare VET (Bosnia-Herzegovina)
3. Building a network of mentors (Bosnia-Herzegovina)
4. In-service training for the 'psycho-education' of adolescents in tutorials (Bosnia-Herzegovina)
5. Teacher training in schools: peering into classes (Bosnia-Herzegovina)
6. Counteracting student passivity in a teacher education course on 'Andragogy' (Bulgaria)
7. Developing partnerships in the field of electronics through a Leonardo da Vinci mobility project (Bulgaria)
8. Framework for Development of National State Examination Programmes on Vocational Theory and Practice (Bulgaria)
9. A strategy to give added value to the TTT component in the CARDS programme - formulation of Terms of Reference (Croatia)
10. Developing 'quality practice' in VET school (Croatia)

11. School-based dissemination of Reading and Writing for Creative Thinking Programme (Croatia)
12. Production School Practice and Pedagogy (Kosovo)
13. Continuous teacher training: a key factor for successful reform in VET (FyR Macedonia)
14. Strategy for Development of Pre-service and In-service Teacher Training System (Romania)
15. TTT in Tourism and Economic VET High Schools (Romania)
16. The Innovation Fund – a tool for building teachers' capacity (Serbia)

APPENDIX 2: The Learning Organisation

Peter Senge, Chairperson of the Society for Organisational Learning, and his colleagues at MIT in the USA made the concept of the learning organisation famous with the publication of *The Fifth Discipline* in 1990 and a related 'fieldbook' (Senge, 1994) four years later sub-titled *Strategies and Tools for Building a Learning Organisation.* These were meant for all types of public and private organisations and the ideas based on the five disciplines: systems thinking; personal mastery; mental models; building shared vision and team learning have been widely applied in school improvement in many countries.

What is The Learning Organization?

In the Learning Organization:

- people continually expand their capacity to achieve the results they truly desire
- new and expansive patterns of thinking are nurtured
- collective aspiration is set free
- people are continually learning how to learn together"

Like "a `great team' where people:

- trust one another
- complement each other's strengths
- compensate for each others' limitations
- have common goals larger than individual goals"

Where work is `sacred' rather than `instrumental'. People work not just for to earn an income, but for its intrinsic benefits of satisfying higher aspirations such as self-esteem, self-actualisation and making the world a better place.

How is it developed?

To get from the idea for improvement to the `innovation' that makes the idea a practical reality requires 5 `disciplines' (a body of theory and technique to be mastered and put into practice) as follows:

1. ***Systems Thinking*** - a conceptual framework, a body of knowledge and tools to make full patterns clearer, and to help us see how to change them effectively.

2. ***Personal Mastery -*** a special level of proficiency, clarifying what really matters, living our lives in the service of our highest aspirations.

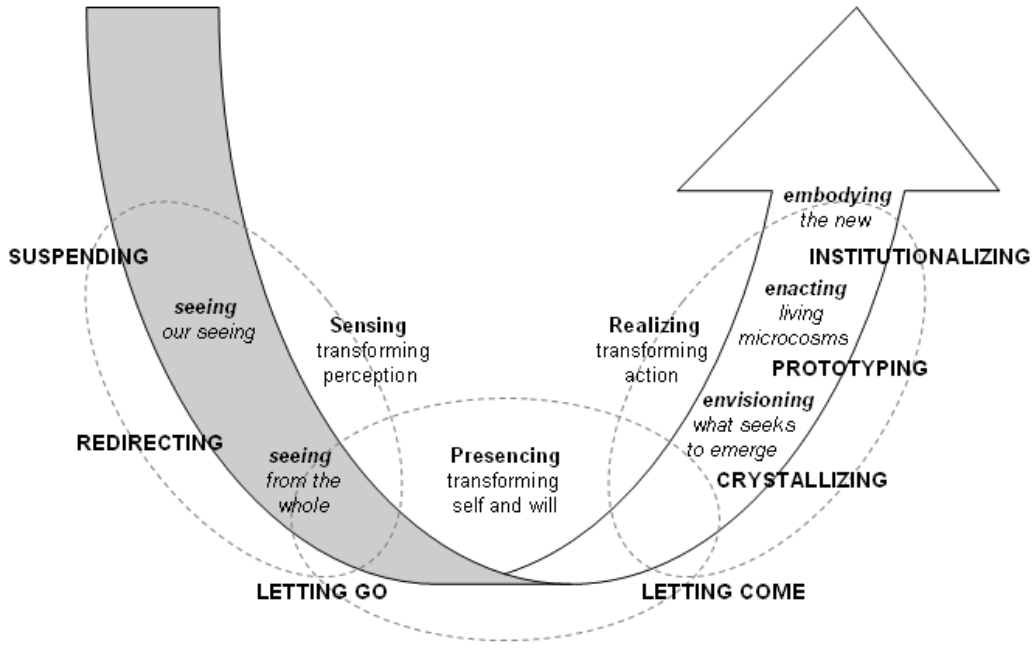
3. ***Mental Models*** - ability to unearth, through `learningful conversations', deeply ingrained assumptions, generalisations, images that influence how we understand the world and how we take action.

4. ***Building Shared Vision*** - the capacity to hold a shared picture of the future we seek to create, binding people together around a common identity and sense of destiny: a set of principles and guiding practices.

5. ***Team Learning -*** the discipline of `dialogue' (more than discussion) thinking together without defensiveness, group discovery of insights not attainable individually: without team learning, the organization cannot learn.

SYSTEMS THINKING is the FIFTH DISCIPLINE which integrates the five `technologies' so that individual and organizations engage in DEEP LEARNING (not acquiring information, but becoming able to generate new abilities, perceptions, capacities, creations)

Senge's latest theory – Theory 'U'



Seven Capacities of the U Movement

Recently Senge has collaborated with C. Otto Scharmer in refining approaches to what they term 'profound changes in people, organisations and society' in a book entitled *Presence* (2004). They present a model of changing that is based on life systems in living organisms. Their 'Theory 'U'' sees the innovation process as moving through three stages:

- *Sensing* – transforming perception though intense observation of how organisations and people interact
- *Presencing* – transforming self and will by reflecting to connect inner psychological and external 'realities'
- *Realising* – transforming action by acting swiftly to create something new

They use the term 'co-creation' which means 'learning together to generate new meanings and processes' to describe what lies at the heart of successful change. They strongly recognise that without connecting the self of each individual to the larger organisational process, profound change is unlikely to occur. Individual psychology, reflection, collaboration and creative dialogue and action are seen as key elements. It has to be said that the sophisticated theorising of these learning organisation 'gurus' seems far removed from the everyday realities of schools in SEE as several of the case studies indicate, but it is sensible to keep SEE professionals informed of latest thinking. And the simple notion embedded in the theorising cannot be disputed - effective innovation depends on 'people + people + people' and what goes on in their minds and how they work together to create change.

The detail of this 'Theory U' approach needs to be studied in the original work, but the key point is that three transformations (perception + self and will + action) are required for substantial sustainable reform to be achieved. Given the limited scope of the LEARN project, our case studies are focused on the perceptions and actions and were not able to report on the deeper aspects of transforming the self and the will of the individual actors involved.

References

Senge, P. (1990) *The Fifth Discipline* London: Century Business

Senge, P. Kleiner, A. Roberts, C. Ross, R and Smith, B. (1994) *The Fifth Discipline Fieldbook* London: Nicholas Brearley

Senge, P. Otto Scharmer, C. Jaworski, J and Flowers, B.S. (2004) *Presence: An exploration of profound change in people, organisations and society* New York: Currency Doubleday

APPENDIX 3: Professional Learning Communities

Learning organisations are also referred to a 'professional learning communities' because schools as organisations cannot themselves learn. Learning happens in the minds and hearts of the members of the organisation who have to change themselves (materials, skills, beliefs) first if the school is to change. New policies, learning materials and equipment can be brought into schools but they can only lead to change if leaders, teachers and students learn new skills and adopt new attitudes. This is particularly true of 'significant modifications and innovations' as opposed to 'small improvements'. A recent formulation (Harris, 2008) of what underlies successful school-based innovation is presented as four 'deeps':

- *Deep Leadership* – shared leadership that is distributed across the school and based on collaborating teams encouraging student participation and spreading decision-making so that there is widespread 'ownership' of innovation.
- *Deep Learning* – involving the students in decisions and feedback about changes, using assessment for learning not judgement, learning to learn to use metacognition and metacommunication
- *Deep Experience* – enriching students' experience of schools by means of improved curriculum, cooperative problem-based learning, work experience and use of modern technologies such as pod-casting, blogging, virtual learning environments and on-line learning
- *Deep Support* – a high level of collaboration between students, teachers and schools and external support agencies to encourage communities of practice, mutual support, coaching, mentoring and peer support for deep learning.

Reference

Harris, A (2008) **'***Leading Innovation and Change: knowledge creation by schools for schools'* **European Journal of Education** Vol. 43, No. 2