

The power of demonstration

Supporting reform of professional development for vocational teachers and trainers



Drafted by Julian Stanley, ETF expert

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Introduction

This publication offers learning from practice for policy makers and practitioners who have an interest in bringing about improvements in the continuing professional development (CPD) of vocational teachers and trainers. It draws upon the experience of 12 relatively small 'demonstration projects' that were supported by the European Training Foundation (ETF) in South Eastern Europe and Turkey¹ in 2016 and 2017. Each project was distinct - designed

by local actors to initiate or refresh implementation of reforms in professional development. Each project ran for at least one year and had an annual budget of EUR 10 000. The projects benefited from support mentoring, monitoring and communication - from the ETF, and in some cases, from the Network of Education Policy Centres. This publication provides some evidence, across different national, political and institutional

frameworks, of how demonstration projects can influence practitioners and/or policy makers in their thinking and behaviour². It also aims to assist those implementing policy to understand the value of piloting and modelling reforms, the conditions for success and the challenges to overcome. Finally, it offers advice to policy makers and project leaders on how to run demonstration projects so that their benefits can be maximised.

A **Demonstration Project** is a short-term, small-scale practical activity, which is designed to demonstrate exemplary modes of practice to practitioners and, at the same time, to inform policy makers on how and whether particular policies may be implemented or improved.

¹ Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia and Turkey. * This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ opinion on the Kosovo declaration of independence, hereinafter 'Kosovo'.

² Icon (2017). <u>Evaluation of ETF activities in improving continuing professional development of vocational teachers and trainers.</u>

Key findings

Demonstration projects can:

- 1. engage additional actors in implementation, for example, employers, teachers, university academics, NGOs this not only adds capacity, resources and know-how but, in addition, it can help to build consensus for reform;
- 2. empower teachers, giving them the opportunity to shape change, to be creative and to renew their own professional ambitions this contributes to reforms that are better adapted and consequently more effective;
- 3. prioritise a particular implementation initiative if well-targeted and designed, they can bring about collective successes that serve to build confidence and underpin other reforms;
- 4. be designed in response to the expressed needs of teachers and trainers in the framework of national strategies because they are customised, short-term and they address priorities;
- 5. provide an opportunity to test out modern methods of CPD that offer both risks and rewards, for example, peer-based, in-school training and online networks;
- 6. be targeted at those schools and practitioners that are ready to innovate -making for an incremental approach to implementation.

In addition it is clear that active involvement from the relevant ministry and/or national agency raises the profile of a demonstration project and makes national roll out relatively easy.

In general, demonstration projects have a greater impact when:

- 1. CPD activities are extended over time (at least six months), embedded in schools or training centres and directly linked to teaching practice;
- projects are coordinated with the political cycle so that they visibly enact a declared policy which gives status and relevance to the project and accompanies the decision-making process;
- national ministries or agencies authorise and contribute to the project but ownership is shared with practitioners and training institutions that are motivated to make implementation succeed;
- 4. CPD activity is recorded and shared through training materials, guidance and tools so that the new practice is shared and open to discussion and criticism;
- 5. teachers and trainers have the opportunity to grow professionally, to work collaboratively and to act as mentors and peer educators;
- 6. projects are supported by expertise and by formative evaluation, so that new approaches are tested and revised.

Challenges

Demonstration projects could contribute more to the reform of education and training providing that some challenges are met, in particular:

- developing and sustaining international, national and sub-national mechanisms which generate and select demonstration projects in a timely fashion and align them with relevant reform agendas;
- 2. communicating outcomes and outputs effectively so that they are relevant to practitioners and policy makers;
- 3. constructing partnerships between actors so that project teams have credibility, capacity and energy in proportion to the scale and scope of each project.

Theory of action

The demonstration projects were designed according to a theory of action, that is, a view about which factors are expected to bring about the desired improvements in CPD.

It was planned that the projects should address implementation. ETF's research into CPD in South Eastern Europe and Turkey found that much policy has not been implemented³. Research into educational reform suggests that top-down and bottom-up methods should complement one another because policy makers and teachers each have the power to block reform that is driven unilaterally. A complementary approach was operationalised in the project application process: applicants were invited to design a project which helped to implement an existing national policy commitment and which enjoyed support from national policy makers and training organisations.

Unfortunately, the history of the projects demonstrates that sustaining participation and commitment of both policy makers and practitioners was not easy.

All but one of the projects included a phase where some professional development was delivered to teachers or trainers. Requiring that projects contain an element of concrete provision was intended to focus attention on making professional development responsive to needs and effective in terms of an impact upon teaching and learning. A positive consequence of this approach is that most of the demonstration projects model CPD, which has been designed to make a difference to teaching. On the other hand, this has sometimes made the projects seem to be very particular in their influence - and to obscure their wider impact.

The projects were intended to shape, sustain and multiply educational reform by means of the practical experience that comes from testing a particular kind of professional development. Successful implementation of professional development reform requires problem solving and it implies getting buy-in from practitioners and gatekeepers. A demonstration project offers the chance to identify and address the problems of implementation at a manageable scale and it provides a 'learning zone' where practitioners and policy makers can voluntarily explore new ideas and try out new behaviours - without having to fully reconcile these changes to time-tested beliefs, habits and norms. The demonstration projects provide evidence that practical experience is a persuasive force for change. However, if key practitioners or decision makers do not participate greatly then they

³ ETF (2018). Continuing professional development of vocational teachers and trainers in the Western Balkans and Turkey.

are less persuaded. It follows that demonstration projects should be designed with a view to how learning from practical experience can be effectively disseminated.

Demonstration projects were intended to give understanding, skills and dispositions to their participants: for example, trainee teachers in a project in Bosnia and Herzegovina encountered and took up new pedagogical approaches, whilst in Turkey teachers learnt to use and create new digital instructional materials. In a Serbian project, teachers were helped to develop a better understanding of their own teaching and training experience. Not surprisingly, given that the projects were designed to be responsive, they were usually concerned about deepening or extending an existing understanding or practice. In addition, the projects provided opportunities to develop the understanding and practice of teacher trainers, for example

by sharing tools for module writing or training pedagogies. Although there are relatively small numbers of teacher trainers, it is reasonable to expect that their professional development will, over time, have a multiplied effect.

Most of the projects were structured in such a way that a first cohort of teachers were trained and they then cascaded that training to other teachers. In Kosovo, for example, 20 teachers were trained to use computer-aided design (CAD) technology in their teaching and they then cascaded this training to more than 100 other teachers in their own schools. This kind of cascading seems to have been more successful when extended over time, rather than taking the form of a one-off workshop, and when supported by school principals. Cascading is a 'voluntaristic' mode of professional development: the trainees who have become enthusiastic adopters of change (usually a minority of

those trained) inspire some of their colleagues (usually a relatively small number) to learn and experiment. Cascading is effective because it builds upon the strong trust and respect that can exist between teachers who work together and it transforms these relationships into learning relationships. However, without some kind of recognition or stimulus, either from an outside agency or from the school leadership, this kind of peer learning is not usually self-sustaining.

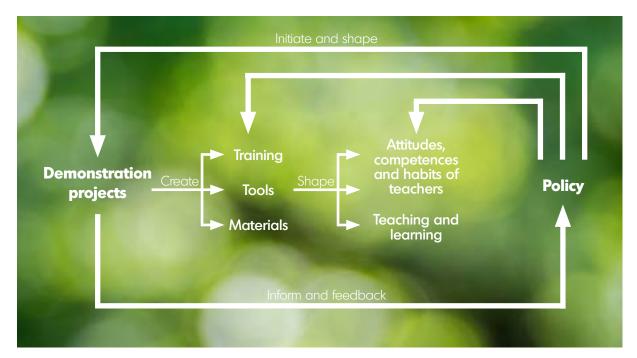
The projects were intended to have an effect on policy makers as well as upon practitioners. In almost all cases, the projects were designed to address policy priorities and in all cases, relevant and senior policy makers were made aware of both the processes and the achievements of the projects in their countries. The ETF, which has a relatively high political status in participating countries, was well placed to draw the attention of policy

makers to improvements in practice manifested in the projects, even projects that might be led by teachers rather than by civil servants. In countries where there is a tradition of centralised decision making in relation to public services, the projects revealed the leadership potential of teachers and principals in the field of professional development, which is otherwise neglected.

It is more difficult to pinpoint the conditions under which projects have led to changes in formal policy, which then in turn have led to progress in implementation. In Albania, for example, one project was designed to serve as a pilot for a national system of school development units (SDUs) and the experience from the project has informed national-level work in planning, designing and

lobbying in relation to SDUs. Currently, donor organisations are preparing to support the roll out of SDUs. We cannot say that the demonstration project in Albania was either necessary or sufficient to bring about the implementation of the policy on SDUs – but stakeholders and the external evaluators agree that it has contributed.

Theory of action: Interactions between demonstration projects and policy



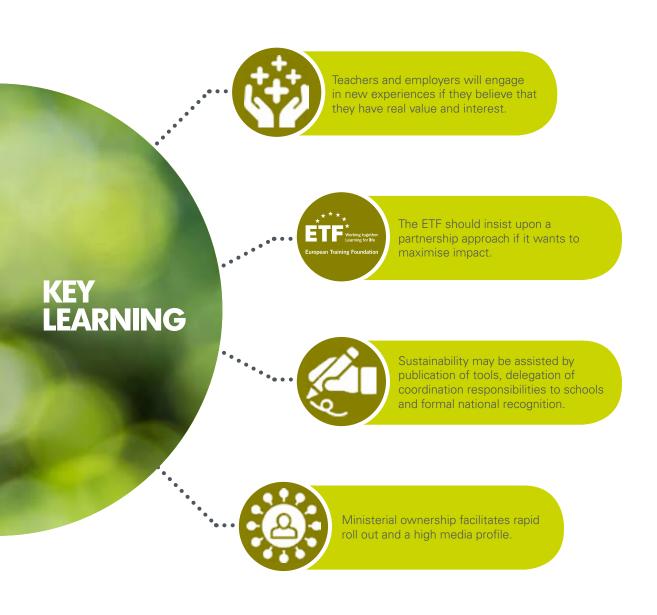








This project set up a **pilot industry placement programme** for teachers and, over two years, developed this into a national programme with formal recognition. It mobilised good will and commitment from teachers, employers and national agencies and substantially enriched national CPD provision.



In Montenegro there is a policy commitment to making vocational education more practical and better oriented towards the work place, and professional development is regarded as a key tool to bring about improvements in teaching and learning. Placements in industry help teachers to teach their subjects in a practical and work-based manner. Teachers can draw on their placements to design learning experiences which are authentic and engaging – both for learners and the teacher.

What happened?

In Montenegro, the Ministry for Education came together with the VET Centre and the Chamber of Economy to propose a demonstration project to develop a teacher placement programme. The ministry coordinated school-based coordinators, visited and monitored teachers on placement and prepared guidance, and the Chamber of Economy encouraged its members to offer placements. The ETF provided expertise and funding. In 2016, 20 vocational teachers were placed for three to five days each across five businesses. In 2017 the scheme was expanded to 98 vocational teachers and practical instructors from 12 different schools nationwide. Partnership between the VET Centre and the Chamber of Economy has permitted the scheme to be formally recognised as contributing to the required 40 hours of CPD every five years.

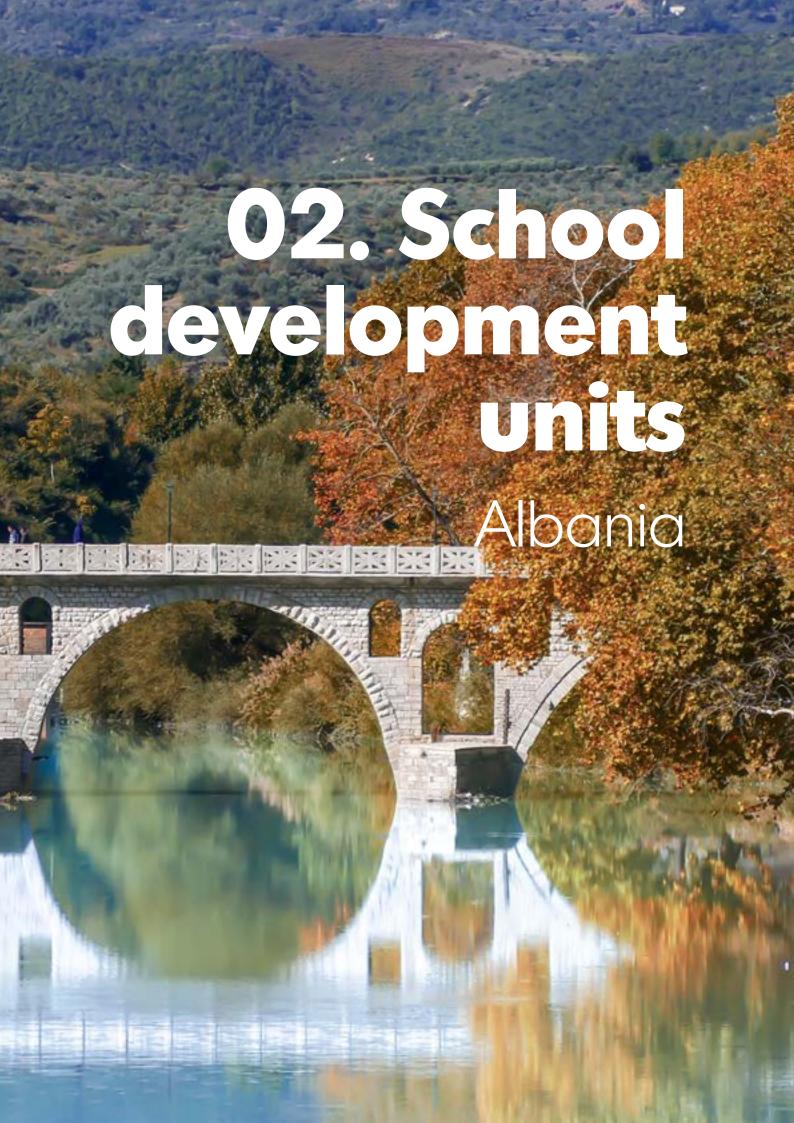
Evaluation demonstrates that most of the teachers greatly valued their placements. Some teachers described the modules and lessons that they will teach in the light of their experiences and spoke enthusiastically of what they had learnt themselves. The project has also demonstrated the readiness of employers to provide (at no cost) learning opportunities for teachers whilst teachers were often motivated to give up their 'free' time to participate in placements.

Success factors and challenges

This programme places an additional responsibility on the school coordinator of practice (responsible for organising placements for students) but it also creates an opportunity to develop a better understanding and cooperation between businesses and particular schools. Particular challenges have been to fit teachers' teaching commitments with their placements and, for some teachers, to find appropriate and accessible placements.

This demonstration project was driven from the ministry and it reflected a national policy priority. Take up at ground level has been strong – because it responded to a genuine need. The project has persuaded actors at all levels that this kind of CPD is worthwhile and that it works in Montenegro. Nevertheless, the survival of the teacher placement programme depends on the ongoing commitment of employers and national and school coordinators.





This project provided support, materials and training to permit a particular vocational school to pilot a **systematic approach to school-based professional development**. The pilot supported advocacy and informed preparation for legislation and funding decisions.



Albania had already made a political commitment to establish school development units (SDU) – that is, school-based teams with responsibility for staff training, curriculum development, liaison with business and for career education and guidance. Donor-funded projects have permitted some school-based CPD in the past. In this context, an Albanian educational NGO – the Centre for Competitiveness Promotion – proposed to pilot a SDU with support from the National Agency of Vocational Education Training and Qualifications (NAVETQ) and a number of schools.

What happened?

The demonstration project engaged and informed the appropriate ministry, national education agencies and donor bodies through an initial roundtable. The Centre for Competitiveness Promotion designed and provided three training sessions for staff from three schools and one vocational training centre – building their capacity to research, design and provide school-based CPD⁴.

In Beqir Cela vocational school, a team of teachers set up and piloted a SDU carrying out training needs analysis, planning and then delivering some training sessions for its staff. Teachers from Beqir Cela attended the national dissemination meeting – to which all vocational schools in Albania were invited – where they were able to show what they had achieved and advocate their own practice to other schools.

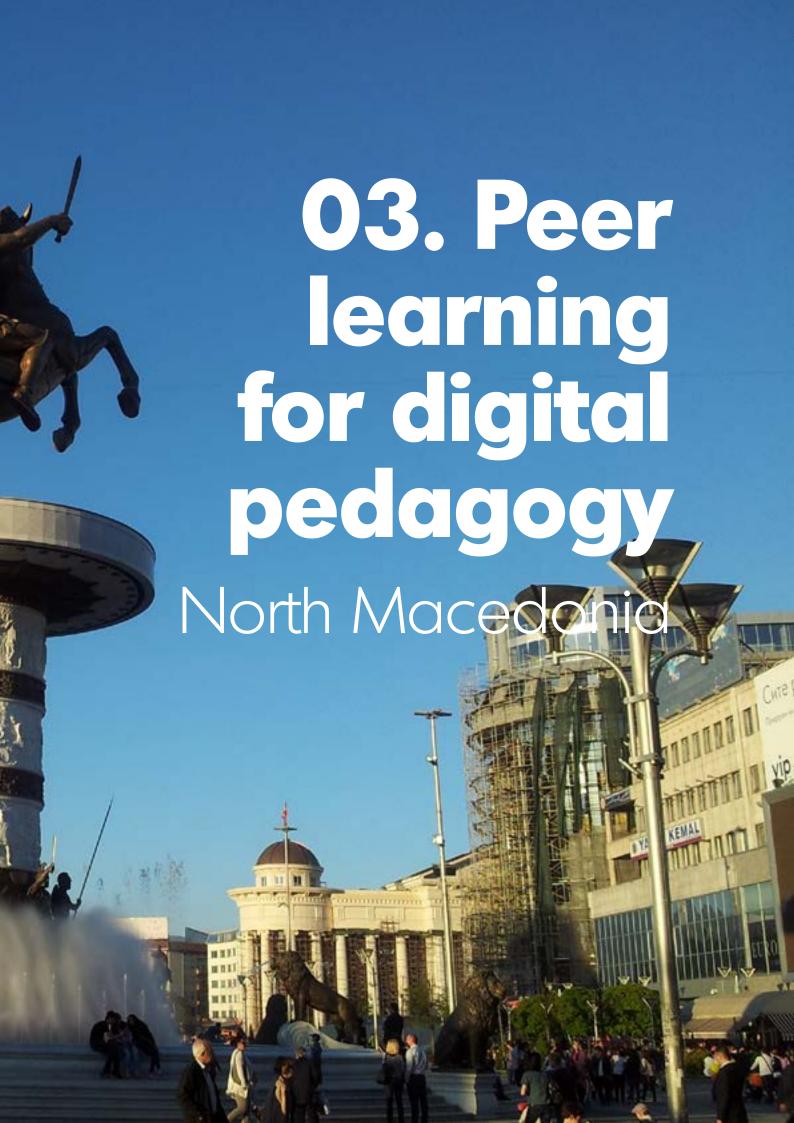
Although the concept of a SDU was not new in Albania, progress in implementation has been, and continues to be, slow. The demonstration project showed that such a unit could be operational quickly and economically, and that some teachers were ready to take up the opportunities for leadership and able to provide CPD valued by their colleagues. The pilot ran in parallel with the enactment of a new VET Law, which provides the legal framework for school development units. It helped those drafting bylaws to understand the manpower and resource requirements. The project has created freely available tools to support the set up and operation of SDUs and prepared teachers ready to take up posts in these units. It has also helped to sustain the political will to establish SDUs in every Albanian secondary school – and, with the support of donors, the set up of SDUs was expected to commence in 2018.

Success factors and challenges

It is important that needs analysis and planning do actually lead to useful training so that expectations are met – but this may have cost implications. It is challenging to ensure that piloting at school level communicates with policy making at national level. In the case of this project, this was made possible by involving national policy makers in the pilot from the beginning. It may be necessary, however, to interrupt and delay a pilot in order to coordinate it with the stop-start process of national decision making.

⁴ Vocational School Begir Çela, Shkozet, Durrës; Multifunctional Vocational School of Kamza, Tirana; Vocational School Petro Sota, Fier; Public Vocational Training Centre, Fier.





<u>Digitalschool.mk</u> was a two-year pilot project to help vocational teachers in North Macedonia to make use of **digital instructional tools in their teaching**.



North Macedonia's <u>VET Strategy 2013–2020</u> highlights the value of ICT in teaching and learning for developing digital skills among VET students⁵ but training offers to address this need were lacking.

What happened?

Two teachers, Goce Nedelovski and Vlatko Butlevski, proposed a project which led to the development of 13 training modules and the training of 15 lead teachers – in three schools in and close to Prilep – who then trained and mentored a further 96 teachers in their schools to use a variety of Moodle tools in their classes⁶. By November 2016 there were 1 137 active users (out of 2 548 registered), 288 courses, 6 298 assignments and 2 077 quiz questions on digitalschool.mk platform.

In 2017 the project was extended for a second year engaging a further eight schools⁷. Across the south of the country 20 lead teachers were trained who then, supported through monthly network meetings, went on to train and mentor a further 150 teachers. Teachers selected those tools that suited their particular subjects and topics, but quizzes, programmed learning and videos were particularly popular. Each participating school created its own Moodle network. In addition, the schools set up a web-based portal through which they could communicate and share resources. Some 112 teachers were awarded a certificate that recognised their learning. Students like learning without pen and paper and welcome the immediate feedback that they receive. In the classroom, teachers can give personalised support to learners because computer-assisted learning frees them up from class control and lecturing. By December 2017 there were 2 897 active users (out of 5 119 registered), 702 courses, 13 205 assignments and 10 564 quiz questions on digitalschool.mk platform. Approximately 40% of the trained teachers were actively using the platform. The networks were still active in mid-2018.

Success factors and challenges

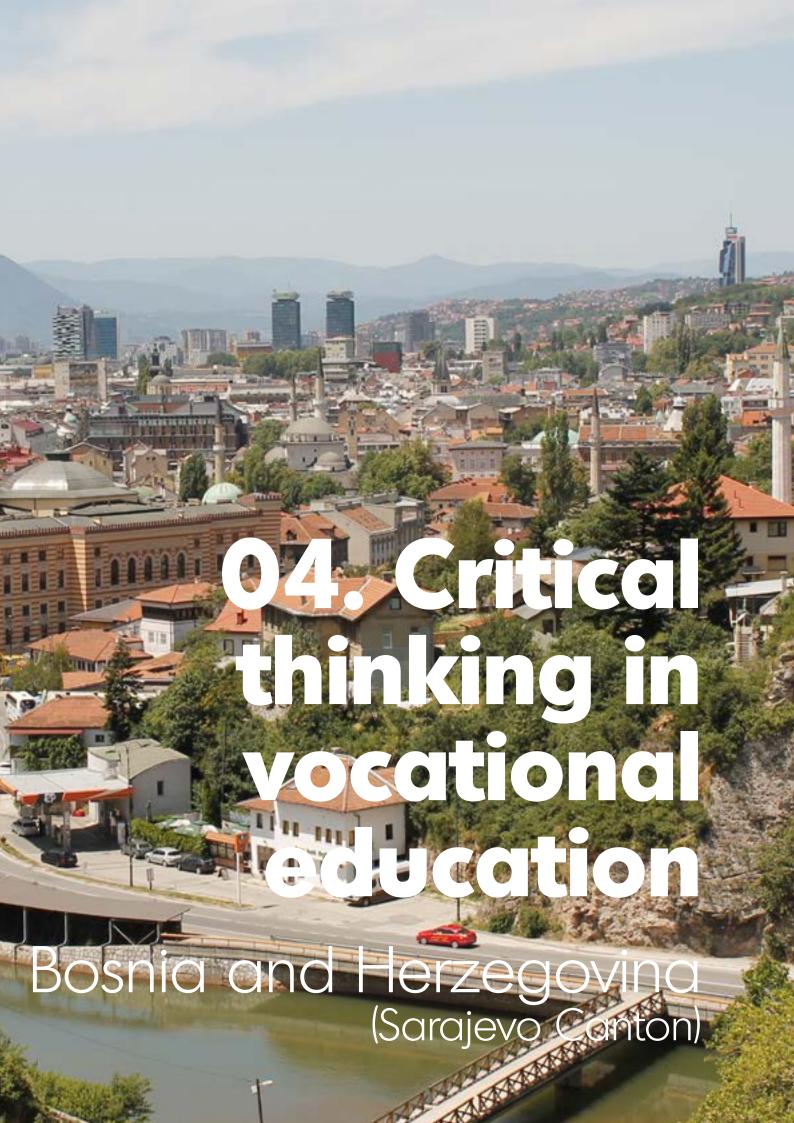
Key success factors include the enthusiasm of local teachers who have invested their creativity and technical skills in developing tools and networks and in supporting colleagues. Teachers were put in charge – designing the websites, the materials, the training and the support process, – which motivated them to experiment and to encourage their colleagues. Thanks to these enthusiasts, it was estimated that about 50% of all teachers trained would have designed and taught with digital materials by the end of the year. The take up is strong in schools where directors have encouraged participation and supported lead teachers in their school to share good practice.

The main challenges are that in many schools, teachers find it difficult to get access to computers for their classes and that sometimes the internet is unreliable. Despite the popularity of the project, the Ministry of Education has not taken up the opportunity to encourage other schools and teachers to participate – perhaps because the project is regarded as 'local' and relatively small.

⁵ ETF (2018). Digital skills and online learning in the former Yugoslav Republic of Macedonia.

^{6 39} in SOU Gorche Petrov, Prilep; 37 in SOU Riste Risteski Richko, Prilep; and 20 in SOU Naum Naumovski Borche Krushevo. 7 SOU Krste Petkov Misirkov, Demir Hisar; SOU Car Samoil, Resen; OEMUC Sv. Naum Ohridski, Ohrid; SOSU Sv. Kiril i Metodij, Ohrid; SOU Takiu Daskalo, Bitola; SOEU Jane Sandanski, Bitola; SOU Orde Copela, Prilep; SOEPTU Kuzman Josifiski Pitu, Prilep.





This project enabled 25 teachers to learn about and then to put into practice project-based learning in five vocational schools in the Sarajevo Canton. The project shows how CPD can not only explain new ideas but also go beyond that to assist teachers in changing their practice and reflecting upon this change.

Project-based learning is a teaching method in which students gain knowledge and skills by working over an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge.



Many vocational teachers in Bosnia and Herzegovina depend upon traditional 'frontal' methods with an emphasis on transmitting information and demonstrating skills. Unfortunately, often CPD adopts this approach and is not designed so that it brings about changes in teaching and learning. This project shows how an intensive CPD experience can enable vocational teachers to transform their pedagogical practice in a sustained manner.

What happened?

Seven one-day workshops were organised monthly for 25 selected teachers from five vocational schools in the Sarajevo Canton. The workshops encouraged teachers to explore issues around motivation and alternative pedagogies, and to reflect upon their own practice. Working in small groups, teachers were challenged to apply the new knowledge and skills in their schools, with their students. For the majority of teachers this was their first experience in project-based teaching. The teachers were mentored and encouraged to support one another within and between schools. Teachers were also shown how they could engage parents and their local community and present their projects.

School project activities took place both within and outside of conventional lesson time. In general, teachers worked in groups of about five whilst students sometimes worked in large groups (up to 20) and sometimes in smaller groups. Most of the activities addressed multiple competences: planning, research, design, technical knowledge, creativity, analysis, team skills and communication:

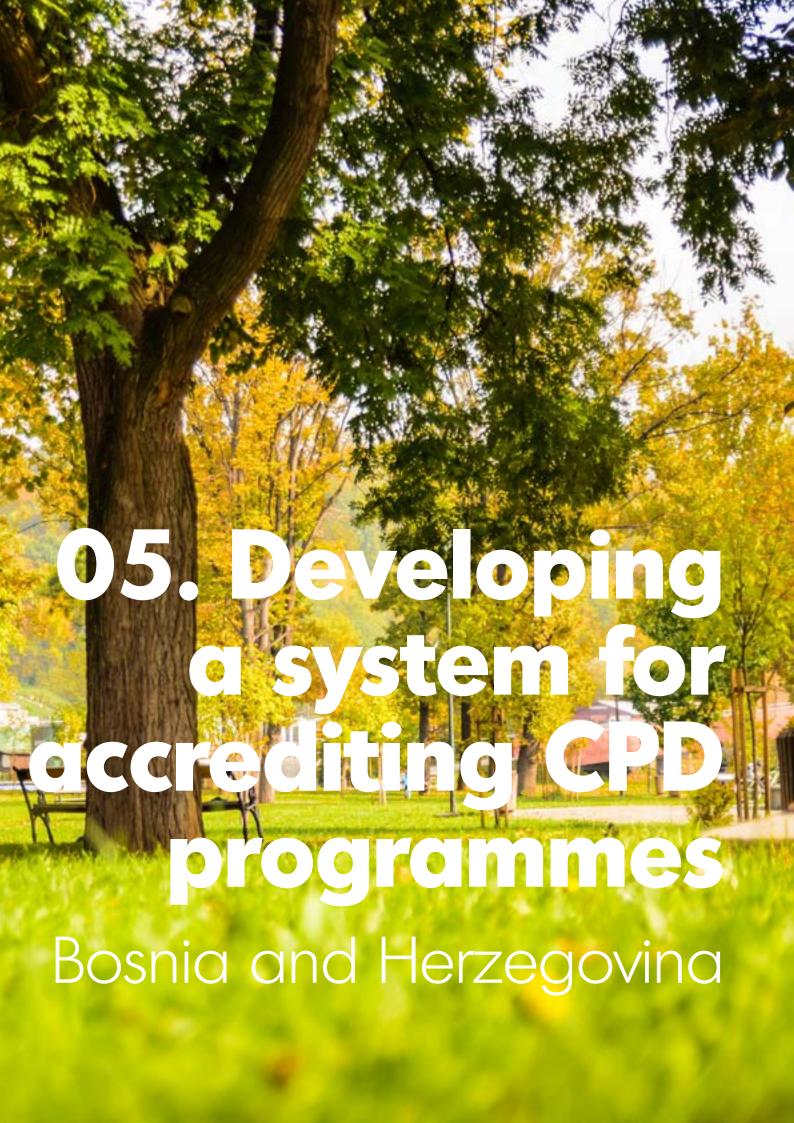
- Buy domestic! Marketing campaign, Economic High School
- Rainproof benches Mechanical Technical High School
- Development of postal boxes High School of Transportation and Communication
- How to ensure a safe railway crossing Railway School
- Microbiological analysis of air High School Hadžići
- Reading is important! High School of Transportation and Communication

The project achievements were collectively recognised in a formal ceremony at which they were presented to teachers and learners.

Success factors and challenges

The project was led by an experienced local NGO, which could draw upon tried and tested approaches, capable trainers and a strong reputation. The CPD included tools and encouragement to bring about take up: small groups, mentoring, presentations. However, access to the project was limited to the Sarajevo Canton with Step-by-Step as the sole provider. There is a need to develop systems and agreements that would permit successful CPD to be shared more widely in Bosnia and Herzegovina. Access could be extended if this CPD were formally accredited and included in a national catalogue.





This project created and tested standards for the accreditation of teacher training programmes for participating cantons in Bosnia and Herzegovina along with supporting documentation.



CPD provision for vocational teachers in Bosnia and Herzegovina is the lowest in South Eastern Europe. Pedagogical institutes and ministries at canton level are too small to offer extensive specialised CPD and independent providers cannot easily sustain an offer across the country. Shared standards and accreditation procedures can help to make CPD more effective and more widely available and to motivate providers to generate additional offers and teachers to take them up.

What happened?

The national Agency for Pre-Primary, Primary and Secondary Education (APOSO) was able to engage four partner institutions in the project: the Ministries of Education, Science, Culture and Sport of Una-Sana Canton and of Tuzla Canton, and the Pedagogical Institutes of Tuzla Canton and of Una-Sana Canton. Supported by an international expert, the partners held a number of workshops in Banja Luka to:

- 1. understand the purpose and scope of accreditation nationally and internationally (February 2017);
- 2. work together in the workshop and online to draft and revise standards, criteria, guidelines, an application form and an evaluation tool (June 2017);
- 3. consult with teachers to validate the documents and to understand better the professional development needs of practitioners (October 2017).

The documents were developed and tested by applying them to four existing teacher training programmes – confirming the usefulness of the standards and criteria but revealing gaps in the current design of CPD.

In February 2018, the project results were disseminated at a national meeting attended by representatives from the Republic of Srpska, the Brčko District and six cantons of the Federation of Bosnia and Herzegovina.

One of the partners, the Pedagogical Institute of the Tuzla Canton, decided to pilot the accreditation system in 2018. Another canton, Posavina Canton, decided to monitor this pilot in order to prepare for possible implementation in the future.

Success factors and challenges

The project set realistic objectives – both technically and politically. Local representatives were supported by an international expert who spoke Bosnian. Cooperation aimed to improve quality of provision in each canton. Teacher involvement and testing helped to ensure that system-level developments stayed in touch with reality. Extensive and inclusive consultation is not easy to achieve. Sustaining cooperation between different political entities in Bosnia and Herzegovina is challenging.





Teachers were trained and supported to create individual **e-portfolios as part of a process of professional reflection.** The pilot was used to inform policy makers about the merits of e-portfolios, in particular with reference to the development of teachers' capacity to teach 21st century skills to learners.



Professional portfolios for teachers can serve as a tool to identify training needs and to motivate teachers to shape and valorise their own CPD. Good practice exists in a number of European countries. There has been policy discussion about the relevance of portfolios in Serbia and they offer a tool to address the digital and online learning agenda.

What happened?

A training programme was developed taking account of participants' training needs and international practice. Twenty teachers recruited from seven vocational schools were provided with face-to-face and online training (incorporating video tutorials) to help them to evaluate their own teaching competences and to build their own e-portfolios using a dedicated e-Reflect platform on Moodle. Subsequently, these teachers acted as trainers and mentors in their own schools, also making use of the training materials on e-Reflect to cascade their learning to a further 58 teachers.

Workshops and online training were highly rated by feedback and participants demonstrated that they had acquired new competences. However, developing the capacity to reflect constructively on one's own practice was difficult for many practitioners.

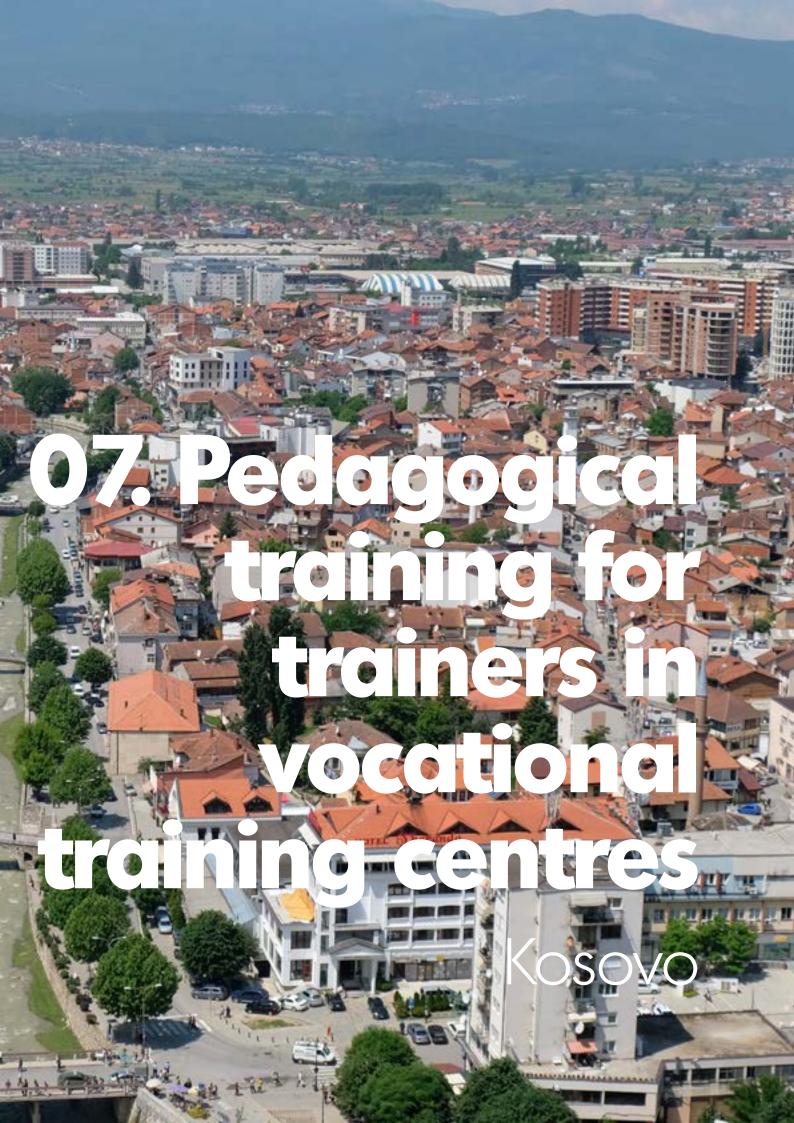
This project has provided a rich legacy of outcomes on the e-Reflect platform: research documents, training modules, video tutorials and 61 e-portfolios. The mentors and materials will support e-portfolio activity in Serbia and beyond.

The project contributed to a discussion on the e-portfolio at a national Educational Technology Conference in Serbia and presented its work to the Moodle community: <u>7th Western Balkans & Serbian Moodle Moot 2017.</u>

Success factors and challenges

The project was able to build upon international practice. Training methods were sophisticated and efficient. Teachers were motivated to become mentors and advocates. On the other hand, although the project fed into policy discussions it was less successful at addressing the issue of whole school development agenda. While the project demonstrated that individual teachers value e-portfolios, it is not yet clear how they connect to national and institutional developments. Nevertheless, e-portfolios meet individual professional and personal needs and, consequently, the tools created by this project are likely to be taken up voluntarily by some teachers.





Some 21 trainers received a total of 22 days of training addressing **pedagogical and methodological competences.** This training was designed and delivered by a private training provider, the Institute for Training and Economic Development (ITED), partly through workshops and partly through mentoring in the vocational training centres.



Vocational teacher education was a priority in the Kosovo Education Strategic Plan (2011–16) and the majority of vocational teachers and trainers have never received an initial pedagogical training.

What happened?

The needs of the participating teachers were researched in order to design 10 training modules. These modules were designed to model interactive pedagogy and were subjected to critical review and revision. After delivery and review, the modules were published as open education resources to encourage their re-use.

The trainers were visited in their training centres with a view to observing and supporting implementation. Some 15 out of the 21 trainers were able to demonstrate that they were preparing plans that incorporated their learning from the training. Communication between the participants was facilitated by a dedicated <u>Facebook</u> group. The impact of the training upon teachers was measured through a survey.

The findings from the programme were fed back to policy makers and other stakeholders in a workshop. The project offers a model, for policy makers and practitioners, of how pedagogical training might be provided to teachers and trainers in Kosovo on a long-term basis.

Success factors and challenges

The CPD training provider had a strong relationship with many of the vocational training centres and trainers, which gave participants confidence in the training. The length of the training made it possible for participants to integrate their learning with their work and to make visible improvements in their teaching. Some of the participants were not willing or able to change their teaching. Mentoring focused more on the development of written programmes than on the practice of teaching and assessing learners. The training was not well integrated with the work of the vocational training centres as institutions, nor was it formally recognised as it is not formally accredited.





Teachers from 12 vocational schools received 30 hours of training in **AutoCad 2D by a certified AutoCad trainer**. The training was then cascaded to a further 118 teachers in 16 Kosovar schools.



Private training providers can work together with schools and national educational agencies to meet teachers' professional training needs and to devise processes for sharing training widely.



High-status professional training programmes (e.g. training leading to 'vendor qualifications') can be attractive to vocational teachers as they confirm professional identity and may support professional advancement.

KEY LEARNING



It is essential that professional training for teachers be closely related to teaching responsibilities and to the availability of hardware and software in schools – otherwise training cannot directly support teaching and learning.



Training must be complemented by ongoing support and mentoring if new skills and knowledge are to feed into teaching and learning.



Early involvement of school principals can help to increase school ownership in CPD and support wider take up of new practices at school level.

In Kosovo and elsewhere in South Eastern Europe there is relatively little CPD that addresses the technical and occupational skills of vocational teachers. Computer-aided design (CAD) technology has relevance to several profiles. This project showed how up-to-date professional skills can be transmitted at low cost across a small country.

What happened?

A 'vendor certified' private training company was commissioned to adapt an existing training programme and training materials to meet the needs of teachers. The national Agency for Vocational Education and Training and Adult Education (AVETAE) helped to identify training needs and to select the teachers to be trained. During the first phase of the programme, 17 participants (divided into two groups) received four hours of training per week for seven to eight weeks, a total of 30 hours of training.

Feedback showed that the trainers rated the relevance and the quality of the training very highly and that teachers intended to make greater use of AutoCad in their teaching.

During the second phase of the programme, the initial participants cascaded their training to interested colleagues in 16 schools. Typically, these school-based sessions consisted of about five three-hour sessions for about seven participants.

Success factors and challenges

The status and effectiveness of the training were enhanced by the involvement of a professionally accredited training organisation. Participating vocational teachers were pleased to have the chance to develop their occupational skills in a professional environment. AVETAE helped to coordinate dissemination – ensuring that schools under its responsibility fulfilled their commitments. Currently, insufficient hardware and outdated software limit the large-scale take up of AutoCad in teaching and learning. Most of the trainers were unable to obtain an AutoCad diploma because of the cost of certification and the requirement to undertake the test in English.



09. Equipping teachers to use technica drawing software Turkey (Antalya)

Led by the educational faculty of Akdeniz University, this project **developed** and delivered training to over 300 teachers in the Antalya Province. The process was supported by a practitioner network and by the Antalya Provincial Directorate of National Education. The project was disseminated nationally and subject to robust evaluation.



Technical drawing is taught in many vocational schools in Turkey and the existence of a national licence for Adobe Illustrator made wide-scale take up possible. Teachers in Antalya are motivated to master this tool, which offers a way of making the curriculum more relevant to the needs of industry.

What happened?

A training strategy was designed and approval obtained from the Antalya Provincial Directorate of National Education. Training materials were developed. Some 15 vocational school teachers were trained for 40 hours to become teacher trainers in using Adobe Illustrator to deliver the technical drawing curriculum. The first phase of the training was evaluated with pre- and post-training questionnaires and interviews.

The 15 teacher trainers conducted training workshops for 303 other teachers across the Antalya Province. Paired samples t-test analysis was applied on the average scores of the pre- and post-training questionnaires, which investigated the skills, knowledge and intentions of trainees. According to the analysis, there was a significant statistical difference between these scores⁸.

Implementation was supported through a Facebook site (712 visitors) and a WhatsApp group. A seminar was held at Akdeniz University Faculty of Education with the participation of 202 people to disseminate the project findings. The project was also presented at an event at the Ministry of National Education in Ankara in 2016, in the context of CPD strategic development across Turkey. The evaluation was published in an international journal⁹.

Success factors and challenges

Akdeniz University was enterprising at bringing together expertise and engaging stakeholders while the Provincial Authority gave formal recognition to the training. Although the training could easily be replicated outside of Antalya, there is currently no leadership to make this happen. More generally, provincial authorities in Turkey are constrained through funding and red tape, which discourages them from initiating or adopting CPD programmes.

⁸ Pre-test average is X = 2.17. Post-test average is X = 4.52. p = .000.

⁹ Günbayi, İ., Yörük, T. and Vezne, R. (2017). 'Improving technical drawing software skills of vocational teachers', International Journal of Vocational Education and Training, Vol. 24(1).





More than 140 vocational teachers were trained to design and make use of digital instructional tools within a learning management system (LMS). Some of these teachers were supported to make use of their new skills in their teaching. The training was led by a school working together with a university and the district educational authority.



Vocational teachers need to re-learn instructional techniques in order to address new learning needs and new learning modes. Learning management systems offer opportunities for collaboration and provide tried and tested digital tools for teaching, learning and assessment. Turkey has committed to using digital technologies in education and has invested massively in hardware, e-content and training. However, vocational teachers' skills have been relatively neglected.

What happened?

The project built on previous initiatives to develop an operational learning management system at school level and the training experience of Yasar University. The project was led by a particular vocational school, Gazeteci Cetin Altan MTAL, in partnership with the local education authority, Bayraklı District National Education Directorate. A Turkish version of the manual for the open source Sakai learning management system was developed and published.

Two cohorts of teachers (149 in total) from more than 50 schools and 15 branches received training in learning management systems, blended and remote learning, design, course planning and digital pedagogy. Training included instruction, investigation of good practice and the practical development of content. According to the evaluation, 97% of participants intend to use digital instruction tools with their own classes.

After the training, visits were carried out to four of the schools to mentor teachers seeking to apply their new skills to teaching and assessment.

The training package was subsequently repeated as part of the offer of Izmir Provincial Directorate of National Education and discussions took place to build links with the national platform for digital learning, EBA. The programme has attracted national interest and a presentation was made at the Turkish TAIEX event 'Raising the capacity of teachers'.

Success factors and challenges

The project was driven by a teacher with a vision to transform teaching. Supported by his director and colleagues, a partnership with the local university and the district educational authority, this teacher was able to share his vision at district level. The project capitalised on prior investments in infrastructure, open source software and a policy environment that favours digital learning in Turkey. However, without ongoing support, one-off training events are insufficient to change the practice of most teachers. Although Turkey is committed to the digital agenda, it is not yet providing support and training to vocational teachers to engage them in the development, sharing and ongoing use of digital instructional materials.





This project provided CPD to Serbian vocational teachers with a view to deepening their knowledge of pedagogy and enabling them to produce high-quality instructional materials. Learning from this project informed policy discussion about the development of digital instructional materials and recommendations to policy makers.



The Serbian Ministry of Education, Science and Technological Development and teachers agree that there is a lack of high-quality, up-to-date textbooks for vocational subjects. The new Law on textbooks ¹⁰ envisages electronic additions to textbooks as a means of enriching and extending their life. This implies that teachers, working collaboratively, should be able to create, evaluate and deploy digital instructional materials – something that the current generation of teachers have not been trained to do.

What happened?

The project team included expertise in digital instructional design and pedagogy. Drawing on local networks, 60 teachers covering eight profiles from 10 vocational schools were invited to participate in two workshops (each of two days) addressing pedagogy and instructional design using Moodle. Needs analysis revealed different levels of familiarity with Moodle and low use of textbooks. The training modules and delivery were structured to take account of teachers' different learning needs. Teacher feedback was positive, providing evidence of changes in attitude and development of competences.

During the second phase of the project, the teachers worked in 17 groups to develop digital instructional materials. Each school was visited twice by the trainers and teachers were offered support through e-mails and chats on the Moodle platform. The resulting 10 sets of e-materials were published either on the national Moodle Network or on school networks.

Schools responded differently. For example, in one school group work was independently sustained, with general subject teachers working in an inter-disciplinary way. The school principal participated in the project and encouraged other teachers to overcome a lifetime's habit of working as individuals. By contrast, in another school group work was not well sustained and there was no support from the school principal.

The project produced a set of recommendations relating to the training of teachers and the production of e-materials. One senior policy maker participated in the training. The project also fed into a policy discussion by some 60 practitioners at the sixth MoodleMoot conference in Novi Sad in 2016.

Success factors and challenges

The programme was informed by an understanding of the diverse needs of participants and delivery was designed to make the training relevant to teaching practice. The CPD addressed a topic of importance to both practitioners and policy makers in Serbia. National and school Moodle networks already exist in the country so there is a community of existing users. However, there is an inertia amongst many teachers, which is attributed to concerns about salary, status and governance. Readiness to innovate was boosted, in some schools, by school culture and leadership – which compensated for low morale.





A private training company, Irisoft Education, carried out a **training needs analysis** with five Albanian vocational schools, which informed the development and provision of pedagogical and ICT training programmes. A portal was developed to share materials and teachers were encouraged to share their practice by posting instructional materials.



Private training companies can be effective in providing CPD in a responsive manner to teachers and to schools. They may possess the enterprise to bring together the know-how and relationships required to meet gaps in training. They may be able to adapt existing programmes and resources to meet the needs of teachers. This project explored the strengths and weaknesses of this model.

What happened?

Irisoft used its existing networks to recruit five vocational schools with whom agreements were signed ¹¹. Meetings were held in all schools to explore training needs, market the training offer and share expectations. Teachers from all schools participated in a suite of four different three-hour training sessions, delivered in each school, focusing on pedagogical topics such as planning and communication. The workshops included interactive learning and encouraged teachers to reflect critically upon their practice.

Building on these workshops Irisoft went on to provide two-hour training workshops to groups of interested teachers in all schools. These focused on the skills relevant to researching, creating and sharing digital materials. Subsequently, teachers were encouraged to upload the materials to a dedicated portal. Teachers were supported with guidance, templates and examples. A small committee was set up to quality assure the materials.

Although the project received only EUR 10 000 of funding it proved efficient at engaging participation: over 200 vocational teachers were involved in more than 40 different workshops or training sessions. More than 100 digital instructional materials were uploaded to the portal. More than 15 trainers, experts and managers contributed to the project.

Success factors and challenges

The training provider had a good reputation and was ready to invest time in talking to teachers and school principals to discover their needs. Some of the training modules were reviewed, which led to a more interactive training approach. The training provider was able to add value by linking the training to other projects and networks, particularly in publishing and technical training. However, short inputs of pedagogical training are not very effective at changing attitudes or teaching behaviours. To make pedagogical training effective it should be supported by mentoring and observation.

¹¹ Hospitality and Tourism School in Tirana, Technical Economical School in Tirana, Industrial Mechanical School Ali Myftiu in Elbasan, Technical Electrical School Gjergji Canco, Technical Electrical School Hermann Gmeiner

Conclusions

Sustainability

It is reasonable to expect a demonstration project to have a lasting effect of some kind. However, it would be unrealistic to expect that, after the funding runs out, an activity will continue as before. The project case studies demonstrate different kinds of enduring effects.

- Skills acquired continue to be used by some participants.
- Paper or digital educational materials generated in the project continue to be used by some.
- Programmes (created in the project) continue to be offered after the completion of the project or there is reasonable expectation that they will be offered in the future when certain conditions are met.
- The project generated a process that continues to shape new activities, e.g. needs analysis.

Alternatively, a demonstration project may target policy makers rather than practitioners, in which case positive impact may take the form of a decision about strategy, funding or cooperation.

Environment

There is a risk that demonstration projects are 'out of touch' with reality if they do not fit with the institutions or culture around them. On the other hand, it is the nature of demonstration projects that they offer an experiment: an alternative way of working. Demonstration projects must possess the resources and legitimacy proportionate to the scope of their activity: to bring about school-wide transformation it is essential that the school director buy in to the project; nationwide change implies that the ministry is explicitly supporting the project.

IT training should be designed to complement software and hardware availability. The

project in Anatalya enjoyed wide take up because the Turkish government had already negotiated a national deal to make Adobe Illustrator available in schools. In both Kosovo and North Macedonia take up by teachers was constrained by outdated hardware.

Motivation

Demonstration projects have the potential to incentivise provision and motivate participation. Where a school or a university is empowered to initiate and take charge of CPD, this motivates them to achieve excellent results, and these results, in turn, boost motivation. Demonstration projects may increase the motivation of trainees if, for example, colleagues who already trust one another support one another in learning and applying new skills.

Ownership and leadership

Where the ministry or the national teacher development agency leads a demonstration project, this will encourage participation and raise the profile of the activity. If senior policy makers themselves propose the demonstration project, they are likely to be committed to its success and they will be able to align the project to national priorities. The risk with centrally driven projects is that local ownership may be neglected and that project resources may be absorbed in central administration. The hierarchical and competitive character of the State sometimes works against the development of genuine partnership between different government institutions, schools, CPD providers and stakeholders.

In larger countries, local authorities can lead projects. In Turkey, local authorities supported demonstration projects, which made it possible to scale them up to involve several hundred teachers

Demonstration projects can also be led by nongovernmental agencies: charities, teachers, schools, employers' associations. In this

way demonstration projects empower and mobilise actors who are directly interested in implementation (e.g. teachers) as well as those without whom policy could not be successfully implemented (e.g. employers' associations). A number of projects empowered teachers and headteachers so that they were no longer the passive consumers of CPD but were able to become CPD providers and shapers, steering CPD to meet the development goals of their schools. In such cases, headteachers become enthusiastic promoters and teachers become champions - increasing the human energy driving change.

Organisations that specialise in educational project management can help national agencies. Such partnerships serve to extend the capacity and skills of small national VET agencies in a flexible way, and they build upon existing networks and norms.

Independent training companies demonstrated their capacity to mobilise trainers and programme designers and to provide infrastructure. They are able to innovate, quality assure and market CPD, and may be motivated

by both commercial and philanthropic goals. Involving practitioners and stakeholders in project development helps to extend participation in policy implementation.

Can demonstration projects contribute to systemic change?

Demonstration projects can impact upon their participants within the lifetime of the project but also upon others: practitioners, stakeholders, funding agencies and policy makers. A small project may encourage a policy process that is already underway, providing concrete practice that helps to confirm that a policy is workable and affordable. This implies that the policy cycle is fairly well advanced. However, it is likely to take two or more years to test a policy. In a larger country, projects will need to be scaled up if they are to demonstrate implementation in a convincing manner. Even if a project persuades policy makers and stakeholders, national implementation will depend upon other factors such as funding and legislation. Demonstration projects can have a delayed

impact if, for example, they act as a model, which can be referenced at a later point of time.

Small demonstration projects can influence a relatively large number of practitioners: most of the demonstration projects involved more than 50 teachers and trainers and several projects involved more than 100 participants. Training was usually sustained over several months and in most cases, teachers were offered ongoing support when applying new skills in their schools. Where training focused on particular schools, teachers carried out CPD with colleagues, helping to embed new practices in schools. The projects demonstrated that teachers can be strong advocates of new approaches and effective peer trainers, particularly if they are supported by expert practitioners, good materials and networks.

Communicating demonstration projects

The logic of demonstration projects implies that the results and learning from the projects are communicated to policy makers and to practitioners outside of the project, resulting in changed

awareness, beliefs, behaviours etc. Communication was most effective in those projects that were able to engage highlevel policy makers in the project from the start, as their involvement made it easier to exploit national media to help communicate nationally. Workshops and conferences provided opportunities to engage with policy makers and key stakeholders. Webbased communication engaged wider national and international interest and offered a platform for enduring access to resources and practices. Videos offer a way of making a development more vivid and persuasive.

Can the demonstration project approach become a systematic process?

In many countries, projects are used systematically to implement educational reforms. Typically, the national authorities define the policy priorities and the framework within which the projects will operate. Then schools, teachers or other actors are invited to define project objectives and bid for resources to achieve these objectives over a

defined period of time. The project approach supports practitioner engagement, generates good practice and advocacy and enables diverse modes of implementation. The project approach to implementation is used systematically by the European Union, in Key Actions 2 and 3 of the Erasmus+ programme where the project approach permits contextualisation to national systems and development.

By definition, projects are selective. In most cases, this makes possible selfselection by teachers and head teachers so that new opportunities and additional resources are channelled to those most able and willing to innovate. This helps to make demonstration projects successful and it may also help to endorse innovative behaviours. However, strategic development authorities will want to plan project work to ensure that demonstration projects do not entrench unequal distribution of resources.

Getting the most out of demonstration projects

Goals

Demonstration projects may be designed to fulfil different goals, for example, influencing policy makers or engaging practitioners. Attention should be given to designing goals, both by those making calls and those responding to them. In this way, the virtues of the project approach – that it is flexible and targeted – can be exploited to maximum effect.

Leadership

Projects can compensate for a lack of systemic provision of CPD: in this way, they can act as pathfinders for national approaches. However, the absence of systemic provision implies that there are constraints, such as a lack of resources, incentives or know-how. A project creates the special conditions for overcoming these constraints. Projects are often financed by donors. The innovative, short-term character of projects can help to incentivise participation, at least for some teachers. The project approach to implementation favours enterprising outward-facing organisations who take the opportunities they are offered to achieve their own goals. Some national agencies or even ministerial departments may possess these qualities, but they are more likely to reside in independent NGOs or training companies.

Selection of projects and participants

The selection process offers an opportunity to favour projects that are particularly likely to succeed, perhaps because they address a policy at a critical moment or because they mobilise critical actors. Impact may be increased by rejecting weak proposals that are not expected to have much wider influence - even if this means that no project is supported in a particular country. Selection will be more effective if the opportunity to make proposals is widely promoted and clearly explained so that strong proposals are generated. Support for the development of proposals helps to reduce disappointment.

Improving and supporting demonstration projects

Project development provides a good environment for partnership building.
Project designers should be encouraged and supported to set objectives that are proportionate to resources and realistic in their political and institutional framework.

A greater emphasis on formative evaluation could help to improve results. This might be achieved by defining intermediate outputs more precisely and by offering better support for evaluation.

More investment and expertise is required to communicate the findings of demonstration projects, particularly with respect to policy makers, practitioners and stakeholders. In particular, project managers should be assisted to make use of local media to communicate the merits of new practices. Social media and videos should be used to deepen engagement. More planning and expertise is required in building and sustaining audiences and communities.

Demonstration projects should be closely coordinated with the political cycle - so that projects are designed to provide evidence and mobilise stakeholders. The political cycle is not always easy to forecast; however, expectations should be taken into account. An otherwise attractive project should be rejected if there is no prospect of any relevant policy decision being made in the near future.

More support should be offered to inform the design of projects. Designing projects could be made into an arena for exploring policy implementation. Such a process might be extended over time, supported by expertise with opportunities for collaboration.

Learning from demonstration projects has relevance for the operation of other larger scale programmes such as Erasmus+ and EU programmes such as IPA (Instrument for Pre-Accession Assistance). If some Erasmus+ projects were designed to be pathfinders for national policies, their impact could be greater. Equally, if more IPA-type programmes took the form of demonstration projects rather than services delivered by international consultancies. then these interventions could be more effective in engaging teachers and trainers and turning them into beneficiaries and advocates of change.

Development agencies should explore how they can make greater use of demonstration projects alongside other methods of intervention.

As stated above, dissemination should be anticipated in all aspects of the design of demonstration projects. The definition of ownership, media, outputs, participation, time scale and scope should optimise the engagement of target groups from the beginning to the end of the project life cycle.

Resources

The projects showed that expectations in relation to the quality of plans and materials for CPD are often low. Quality can be improved by insisting on a critical review of modules and instructional materials and by sharing planning templates. Trainers sometimes need mentoring to update their own pedagogical approach.

A project-by-project approach to funding encourages the duplication of training materials. It is more efficient if projects fund the production of open education resources that can be re-used, adapted and translated. Insisting upon the publication and sharing of resources is also a means of quality assurance as it permits peer review.

Evaluation

The scale of these projects being modest made robust quantitative evaluation relatively expensive. Projects that included academic researchers were more likely to produce robust evaluations. The use of pre- and postproject questionnaires improved the quality of evidence whilst digital projects were able to generate quantitative evidence on the extent of the activity. There is scope to exploit new technologies to find quick and efficient ways of measuring learning. All projects had opportunities for formative evaluation, which in some cases led to learning and improved approaches.

Acronyms

AVETAE Agency for Vocational Education and Training and Adult Education (Kosovo)

CAD computer-aided design

CPD continuing professional development

ETF European Training Foundation

EUR euro (currency)

ICT information and communication technology

IPA Instrument for Pre-Accession Assistance

NGO non-governmental organisation

SDU school development unit

VET vocational education and training

Where to find out more

Website

www.etf.europa.eu

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linkedin.com/company/european-training-foundation

E-mail

info@etf.europa.eu



