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Digitalization and Learning

Cases to inspire innovation

A collection of eight projects from three continents that tackle Covid restrictions, (co-)funded by the Swiss Agency for Development and Cooperation (SDC).

April 2021

Rich insights into Digitalization & Learning

With the documentation of ICT-supported solutions we intend to inspire and guide project partners of the Swiss Agency for Development and Cooperation (SDC) in their mission to overcome Covid-19 restrictions to continue implementing effective vocational education and training (VET).

In a first phase, we have **interviewed representatives of eight ICT4VET projects** who have openly shared their experiences:

- **Challenges** that they had to tackle
- **New approaches** developed to overcome the challenges
- **Activities** and measures that they found particularly effective
- **Costs** which occur and how to manage them
- **Lessons learned** from their pioneering experience

This document summarizes the answers of **eight ICT4VET projects from three continents:**

1. Developing skills for jobs via comprehensive blended learning in **Albania**
2. Training young health workers in **Bangladesh** on social media and Google Classroom
3. Upskilling VET-providers in digital marketing in **Bolivia**
4. Strengthening TVET in **Bosnia and Herzegovina**
5. Improving the qualification of hospitality workers in **Cambodia** through live cooking sessions
6. Offering Blended learning in **Honduras**
7. Coaching female farmers in **Kosovo** via instant messaging
8. Supporting online training and market access in **North Macedonia**

The result is a multifaceted collection of practical findings – valuable hints for projects who are new to this field, and inspiration for experienced project leaders. We hope that this small collection will encourage further discussion and continued improvement.

We also invite projects in **basic education and lifelong learning** to **share their experience**. Please contact urs.groehbiel@snbi.ch for further information.

Lars Büchler (IED Team), Marie Brüning (EDU Network)

Urs Gröhbiel, Christoph Pimmer (SNBI)

Content

List of abbreviations

BiH	Bosnia and Herzegovina
FB	Facebook
ICT	Information and Communications Technology
MoE	Ministry of Education
SDC	Swiss Development and Cooperation
SFIVET	Swiss Federal Institute for Vocational Education and Training
TVET	Technical and Vocational Education and Training (Term used by GiZ)
VET	Vocational Education and Training
VSD	Vocational Skills Development

1 Skills for Jobs Albania: comprehensive blended learning

Rich forms of blended learning and practical learning of 7'000 students on a national scale have led to increased motivation, a change of learning and teaching behaviour and skills development of learners and several other stakeholders.

Background and pre-Covid situation

Skills for Jobs (S4J) aims to offer about 7'000 young people in 9 schools and 1 VET centre in Albania effective vocational education and training. Better skills will help young people to get a job that they love and that will make them thrive. At the core of S4J are work-based learning, the use of technology in the classroom, blended and individualized learning, making the VET offer relevant for students, training on industry standards, and the application of a business mindset in the management of VET institutions.

Up-scaling in several fields of the VSD typology

In the first phase, before the emergence of Covid-19, several ICT-supported solutions have been implemented. Examples: In 2018, the Moodle-based online platform "MesoVET" was launched and used by about 300 users in 6 partner schools. The platform serves as an all-inclusive solution that replaces classroom teaching and supports independent learning of students and apprentices. Several schools and companies piloted the use of social media and digital collaboration applications in various subjects. E-content has been produced by professionals and some teachers.

Covid-challenge: abrupt shut down, severely restricted practical learning

In Spring 2020, schools were closed literally within a day. The situation was marked by high levels of uncertainty. VET schools lacked learning materials (no books, no electronic materials) and many students, especially in rural areas, had inadequate digital infrastructure at home including poor or no internet connection. Both students and teachers had limited digital skills. Learning and teaching could not be monitored. There was no national plan how to tackle this situation. School directors did not know what to do in this situation. The vulnerability of the system was exposed through the crisis.

As most of the companies were closed during the full lockdown for 3 months, the lack of practical learning was a big issue. Extracurricular activities were seen as "luxury" and did not take place any longer.

All these developments impacted the outputs of the project: Employability was heavily impeded. Schools were closed for the remaining academic year and learning took place sporadically and via WhatsApp. Placements could not be realised and the number of companies that offered apprenticeship diminished.

ICT-supported response: Reinforcing a broad ICT-support

The project reacted with an immediate adaptation and extension of their online solutions and support. Two out of several interventions are described here.

The online platform "MesoVET" supported the **preparation for the Matura and level exams**, providing online teaching material, assignments, assessments, and mock exams, facilitated by the teachers. The level exams were successfully carried out on the MesoVET platform by S4J partner providers. The platform was not offered only to the 9 partner schools, but to all 34 public VET-schools in Albania. After 3-4 weeks, 62% of the teachers at project partner schools were using MesoVET exclusively or in combination with other tools such as Zoom or Google Classroom. Initially, most of the students used WhatsApp with its limited features to support online learning. However, as 80% of students were able to access the MesoVET platform, the total number of users rose from 400 to 4'000 within weeks (March 2021: 8'000).

A student during online classes with MesoVET

Several schools and companies supported **practical learning** with the tools outlined before. Some examples are:

- IT teachers from different schools implemented various **extra-curricular activities** to motivate the students. In the Kolin Gjoka school for example, a hackathon targeting 150 ICT students was organized. In this activity, individuals or groups of students developed 25 projects to provide innovative solutions related to health/Covid-issues, such as a smart device to measure temperature or smart disinfectant bottles. In this competition, three proud winners were selected by a jury of teachers representing different VET schools.
- **Economics** teachers gave assignments related to current economic problems to 6 groups of students. The solutions were discussed in an online session.
- In a **hospitality** competition/challenge, students had to prepare meals at their homes with a given set of ingredients within a given time. They were very eager to participate and presented their preparation via Zoom. A mentor coached them through each challenge. 2 apprentices made it to the finals and got the opportunity to present their skills in a local TV broadcast.

The implementation of the above solutions and services required a considerable **re-allocation of funds within the existing budget**. Because of the lockdown many costs could be reduced, such as travel and accommodation expenses, conference rooms and per diems. The type and modality of training and support offered to partner providers was re-designed. Inputs and activities were reconceptualised, such as using resources to improve the virtual learning platform instead of investing in face-to-face blended learning classroom. The reduced costs were then used to cover other aspects and interventions, such as the development of teaching materials.

To continue the development of digital learning content for around 85% of the students in the public VET system in Albania (about 15'000 students), the project team estimates the need for an investment of about **CHF 250'000 over 3 years** for activities such as training & coaching, e-content development, and platform maintenance.

Impact and success factors

Observed effects

- **Students** used the MesoVET platform and the other ICT-tools extensively, they liked the online offer, showed increased motivation, and improved their ICT-skills. In short, they **learned to use ICT not only for pleasure, but also for learning**.
- Some 400 **teachers** demonstrated **increased online teaching skills** in a very short time. Their online engagement increased significantly, e.g. in communities of practice or in Facebook groups.
- The **trust of school directors** in the potential of blended learning has grown. This has led to a reinforcement of teacher activities in this field.
- The boost of ICT-use has led to an **integration of the MesoVET platform** into the teaching activities of partner schools. The platform has been endorsed by government representatives.

Innovation

- Teachers and students learned to leverage the platform for **active, self-directed learning** and teaching – not only as a repository of learning material.
- Teachers recognised the importance and effectiveness of **communicating to students**, reading assignments, and giving feedback. They "rediscovered" their students online (who showed a different behaviour online compared to the classroom).
- Teachers were surprised that **students** could also learn online and "**got what they needed**". There was a change of mentality: blended learning is now seen as helpful by many teachers.
- **Teachers** from across different schools **worked in groups** to design and develop digital learning content. Teachers participated widely in **online knowledge sharing** events sharing challenges and experiences.

Students at 'Hamdi Bushati' school in 'Tourism-Hospitality' working with MesoVET platform after return to class

Contributing activities

- In three **surveys** for teachers and students, challenges, needs and expectations were analysed systematically. The feedback was used to improve and tailor the interventions.
- **Training** of teachers in producing and using online learning content included: Applying meaningful pedagogical designs to online teaching, creating assignments and assessment, uploading materials on the platform, and accompanying students online.
- **Coaching** of teachers: started out with Zoom webinars with a high participation but low interactivity and shifted to smaller groups of 2-4 teachers from the same subject or field of application, or even 1:1 coaching, achieving much more intensive participation, peer-interaction, and observable increase of skills.
- Involving teachers in **piloting**. Everyone learned a lot. "Power users" passed on their experience to peers in communities of practice.
- In **weekly meetings school directors** and administrative staff learned how to organize and support online training from a management perspective.

Webinar for teachers on online and blended learning

- **Digital content** was created and improved for future use. Digital content for practical subjects was developed by teachers offering online materials to 67% of students in the public VET system in Albania.

Expertise that was pivotal for the project:

- **Pedagogical** expertise of the S4J-team and the external provider to train, coach and support teachers in the design and facilitation of online learning.
- **Educational media** expertise (external provider: LerNetz) to train, coach, and support teachers in the production of interactive online learning content.
- **ICT** expertise of the S4J-team and an external provider to customize and upgrade MesoVET.
- **Communication** expertise of the S4J team to facilitate communities of practice for the exchange of experiences and challenges and the co-development of efficient solutions.
- **Project management** expertise to manage a complex network of stakeholders on different levels.

Challenges and lessons learned

Challenges

- Lack of digital skills of teachers and students
- Lack of willingness of teachers to get involved in participatory training and use of ICT. There was a need for a mentality shift.
- Lack of monitoring and reporting modalities from and towards national agencies, making it not imperative for teachers and directors to actually provide online learning.
- Lack of clarity and of endorsement from governments, poor top-down support for changes in teaching, learning and collaboration with companies.
- Lack of infrastructure, e.g. laptops in schools, smartphones and internet access of students and teachers, to access learning content and participate in communication and interaction.

Lessons learned

One-to-one coaching through the platform

- **User feedback** deserves very high attention, but it requires time: listening to what users say, considering their needs, reflecting on the perspectives of team members.
- **Continuously monitor** the effects of the activities! If one is in a hurry, opportunities to tailor the offer are missed out.
- Working in big groups is not very helpful. Reaching many people in a short time seems tempting, but it is not effective. As an introduction to new topics, it is okay, but **coaching 1:1 and in small groups** is the key to learning and change!
- **Blended learning**: The use of ICT can be very effective, but face-to-face contacts are still very important. Going to the classrooms, meeting teachers and students, and discussing their views, questions and problems will lead to essential insights.

Links and contact

The following links lead you to **interesting and valuable resources** of the project:

Online tools and content

1. MESOVET platform: www.mesovet.al
2. S4J position paper: Starting an academic year in the new reality.
3. 12 Best Practice cases of distance learning by S4J (Booklet, 17 pages)
4. Great variety of **interesting case studies, reports, and leaflets**
5. **Webinar** recording: S4J experience on developing digital learning materials
6. YouTube Playlist on S4J presenting its experience in online learning to international communities

Project websites

- https://skillsforjobs.al/
- Promoting communities of practice on Facebook
- Website on cooking competition (in Albanian)
- Frymeso YouTube Vlog
- YouTube Playlist of S4J partner schools featuring in the A2 **TV morning show**

Contact

- Erka Caro, Deputy Project Manager, Line Manager for New Ways of Inclusive Learning, erka.caro@swisscontact.org
  expertise: monitoring and results measurement, action research, project design

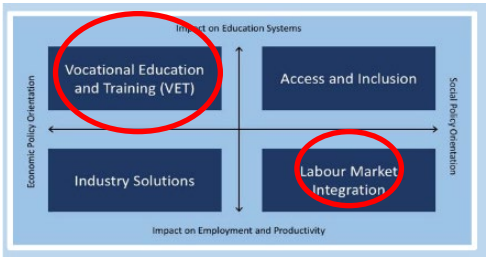
- Eltjana Plaku, MRM specialist of S4J,
  Expertise: monitoring and results measurement

2 Training young adults as health workers in Bangladesh

Using Facebook has helped to reach practitioners in a very short time. The training of teachers and the provision of infrastructure have opened new opportunities for online learning and teaching.

Background and pre-Covid situation

The project ASTHA (**A**chieving **S**ustainability **T**owards **H**ealthcare **A**ccess) has been facilitating the training of some 5'000 young adults as skilled health workers since 2011. ASTHA seeks to promote the development and growth of a nationally accredited course called Community Paramedic (CP) that enables students to become mid-level healthcare professionals and, in so doing, caters to the primary healthcare needs of rural people. With the intention to create an enabling environment for this profession in the healthcare sector, ASTHA also focuses on the capacity development of graduate trainees (CPs). It creates awareness and influences stakeholders as well as policy makers.



The project is up-scaling, focusing on VET, with some activities in the area of "Labour Market Integration".

The goal is to improve the health and living conditions of the rural communities and to address the national problem of the high number of un- and underemployed youth.

ASTHA also facilitates and supports continuous education of graduate trainees across the country in partnerships with 23 training providers.

In the context of curriculum improvement and training, different forms of ICT use, such as virtual reality, e-content and a learning platform, have been piloted and implemented before the pandemic.

Covid-challenges: Closure and delays

The biggest Covid-related restriction was limited mobility, which led the students into an unprecedented educational crisis. A nationwide shutdown closed all the schools and training institutes and, for a few months at the beginning of 2020, the entire education system was on hold. However, on-the-job training (6 months of a 2-years course) continued in different hospitals and clinics.

Continuous medical education training for graduates and practitioners, known as 'Scientific Seminar', stopped as well. On the other hand, the need for such seminars increased during pandemic to suppress the spread of Covid-19 in rural communities. However, during the pandemic it was not possible for the project and the partners to organize face-to-face training sessions because of the mobility restrictions. The restriction led to huge delays. Some training institutes resumed classes online through Facebook Messenger and Zoom. However, the number of students participating in class was not satisfactory and they faced difficulties with adjusting to the 'new normal' and subsequently, the quality of training was compromised. Additionally, the shortcomings of the IT-infrastructures of the schools also became apparent during this time. All the teachers and 80% of the students have smartphones, but they have little knowledge on how to effectively use these tools for learning and many do not have money to buy airtime.

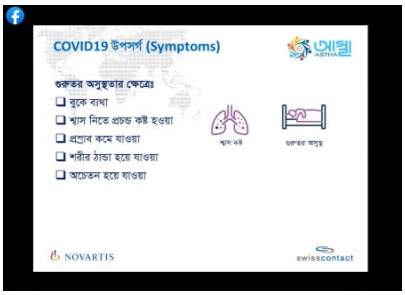
ICT-supported response: Social media, training, and infrastructure

The project had to respond very quickly to the new situation, taking several immediate measures:

- Supporting licenced graduates (Community Paramedics/CPs) in communities in Covid-related training in an existing **Facebook-page** with some 800 members. The project team uploaded recorded PowerPoint presentations and answered questions of CPs. The videos had more than 2'000 views on average.
- Providing 3 days on-site **"orientation meetings"** for 40 trainers from 12 schools, giving them hands-on orientation training on how to effectively support online learning with tools that some schools had started to use, such as Google Classroom, Zoom or Padlet. Focusing on online pedagogy (assignments, assessments etc.) in practical training and 1:1 trouble shooting.
- **Improving IT-infrastructure** in 23 partner schools, implementing conference systems, laptops for teachers and projectors.

Orientation meeting on e-learning tools

E-content development by converting the textbook based curriculum into digital materials was intensified, focusing on 3D modelling, presentation of existing textbooks by implementing visualisations, interactive features on selected human anatomy and organs, and virtual reality components.



Online content on Facebook

In an attempt to create the right balance between face-to-face and online training, the project has also started working on the creation of an **e-learning platform** for continued medical education of graduate trainees in a partnership with digital education service providers.

The project mainly used existing **budget** lines of related outputs:

- The facilitation of the Facebook page required about 2 days of work, which was performed in the context of current activities of continuous education. A central source on this page was a video, which was initially an hour long but was later shortened to smaller clips of 20 minutes.
- The training was developed by pedagogical experts of a partner company and costed approx. 2'500 CHF for 36-40 teachers, + expenses of about CHF 2'700.
- Content development required 3.5 man-months for the development of the first 2 modules, and 2 classes for each topic to cover in the classroom.

IT equipment distribution ceremony

The purchase and support of the hardware for 23 schools was financed with additional funds of CHF 40'000.

Impact and success factors

Observed effects

- The **ad-hoc support of practitioners (graduates) on Facebook** resulted in quick answers to a huge number of questions and queries regarding the provision of primary healthcare services, creating awareness on how to restrict the spread of the virus in the local communities. Many of the practitioners went back to Facebook to look up and request specific information. These healthcare guardians have a strong influence in their local environment and communities, which is why it was imperative to update them about the new virus and recommend immediate courses of actions.
- Quick **analysis of requirements** and contextual solutions led to the organisation of orientation workshops on e-learning tools for the trainers and teachers. These workshops contributed to a fast and targeted dissemination of expertise and solutions on conducting and managing distant learning methods by using various ICT applications and online tools.
- **Power users**: Teachers, who participated in the orientation meetings, passed on their knowledge to the peers in their own and neighbouring schools.
- Schools have discovered the potential of online tools and have, for example, started to use Google forms for online assessment.
- Distance learning helped the teachers/trainers rediscover the importance of e-content (3D modelling)

Innovation

- For both teachers and students, the **use of IT tools** such as Google Classroom was new and satisfying. They realized that online learning is possible. Most of them were impressed when experiencing breakout rooms or taking small quizzes in Zoom.
- For most teachers and the management of the schools **the e-learning approach** was a novel experience that they have never thought of before.

Students experiencing virtual reality in the classroom

Contributing activities

- Analysing existing channels of practitioners (former students) and using them purposefully to boost ICT communication and adaptation.
- Communicating with partner schools, identifying pilots with learning management systems and providing the solutions and IT infrastructures for all the partners.
- Observing students' behaviour and reacting to it, e.g. shortening video presentations.

Expertise

- An IT-company provided pedagogical expertise on remote learning.
- Partners with vast experience in media and ICT production in other educational and commercial sectors implemented the digitisation of the content.
- A Continued Medical Education training expert was hired as a consultant who prepared and presented the contents of the online Scientific Seminar on the Facebook page.
- The project team with a holistic view of the training programme provided partners with a thorough understanding of the context and the needs of the target groups and stakeholders.

Challenges and lessons learned

Challenges

- Airtime is expensive. It is tricky to find fair solutions on how to support students in poorer communities without allowing or creating inequalities.
- The use of ICT requires the development of a new business model with additional stakeholders and the investment in effective innovative activities, capitalizing on economies of scale.

The following **Lessons learned** are most valuable for the project team:

- **Understanding the user-perspective** can take a lot of time and thought. User context and motivations need to be carefully analysed to avoid a lack of engagement or drop-out. Understanding this perspective is an important prerequisite to create awareness, trigger motivation and facilitate learning activities.
- It is pivotal to **analyse the many limitations** of the target group and spend enough time with the team and experts to develop creative solutions that overcome the limitations.
- **Use of social media as an immediate response** has been very fruitful. The reach of the videos exceeded the project's expectations and responding to practitioners was easier via Facebook in the context of continuing education.
- **Measuring learning activities** is very important! It helps to understand the situation of learners, teachers, and schools in their local context.
- Online content needs to be **engaging and targeted** to the very different ways in which people consume information and learn.
- There is a need to find a healthy **balance** between face-to-face interaction and online interaction.

Links and contact

The following links lead you to **interesting and valuable resources** of the project:

Online tools: https://www.facebook.com/swisscontact.org

Project websites

- Project website
- Website of partner for e-learning tools orientation
- Partner for developing e-content-VR and 3D modelling

Contact

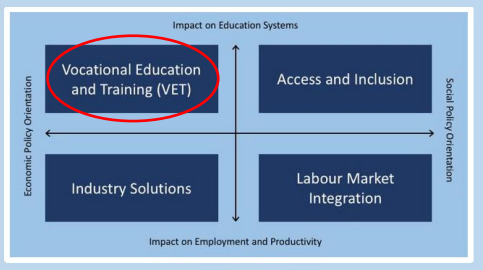
- Razik Fazle, Team Leader, ASTHA project: Overall programme direction, also on ICT.
  Contact: fazle.razik@swisscontact.org.
- Nowsheen Sharmila, Officer - Policy and Communications, ASTHA project. Facilitation and lead of ICT-related interventions
  Contact: nowsheen.sharmila@swisscontact.org

3 Online course for VET-providers in digital marketing in Bolivia

An online seminar helped VET teachers and directors to significantly enhance their online and social media marketing which allowed them to attract and recruit new learners in unprecedented ways.

Background and pre-Covid situation

The "Technical Vocational Training project" fosters equal access to technical training and lifelong education and promotes youth employment. The broader goal is to reduce poverty, boost economic growth and contribute to sustainable development.



Promoting VET: First implementation phase

To achieve these goals, the project supports 72 VET training providers in their marketing activities, fighting against the devalued image of VET in the country and improving their online presence. VET providers are being trained in workshops in these and other aspects.

Before Covid, some of the face-to-face courses were supported by state or private e-learning platforms but this was not a constant or systematic practice.

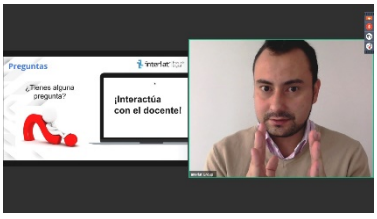
Covid-challenge: Marketing of VET schools severely restricted

Most of the marketing activities of VET institutions, such as trade fairs, presentation of training offers to schools, or specialised courses were restricted to door-to-door visits or to occasional radio broadcasts in selected areas. Online communication and marketing became vital with the changing context and the pandemic.

Only a few centres were using websites and social media pages and most centres did not maintain sufficient or up-to-date information in these spaces. Key products and services were not described, descriptions were not gender-sensitive and there were many irrelevant personal messages posted on social media. Many institutions did not have a Facebook (FB) page, although Facebook is used by 7.5 out of 11.59 million people in Bolivia.

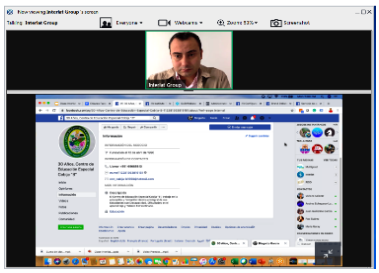
ICT-supported response: Online courses on digital marketing

The project offered two online courses in which 100 directors and teachers from 72 technical training centres and alternative training centres participated, using the conferencing system "GoToWebinar".



Webinar: trainer in action

The goal of the courses was to help the participants in the creation of valuable and convincing content to attract young learners: not only information on courses and careers, but also the description and visualization of special activities, success stories of graduates or the presentation of products that are sold by the schools, such as honey from beekeeping.



Webinar: trainer in action

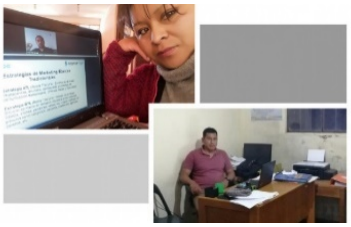
The participants learned how to improve their social media offer and present their training offers on Facebook in 4 modules of 3 lessons each: 1) Basics of FB, such as how to set up a followers page, get more followers, set up page information and relevant data, 2) advanced FB-skills, such as paid or free ads, visitor statistics 3) designing e-content (graphs, videos etc.) and 4) follow-up on FB for visitors retention. To foster active learning the course offered Q&A sessions and the participants had to do homework. A competition on the design and content of Facebook pages of participating schools and institutes encouraged engagement and learning to improve their visibility in the medium and to their audiences.

The solution was **implemented within the existing budget**: The course fees for online course costed **USD 5'000** for about 100 participants. Because classes for the centres were initially suspended by the Bolivian government due to the health crisis, the teachers could allocate their time during the pandemic period. This was favourable, but teachers also would need to be paid for their **additional time**; however, because of the lock-down, there was no compensation needed, as they had free time.

Success and contributing factors

Observed effects

- The participants proved their learning achievement: A competition among the technical training institutes and centres has led to the **creation of new Facebook-pages** or a significant improvement of existing pages. Some have attracted up to 1'000 followers, they could communicate much faster, received quick responses to their posts and saved a lot of time, compared to face-to-face campaigns.
- The project has **won the 1st prize** in an international competition on the use of social media (s. link below) confirming that training for teachers on the virtualisation of their offerings is a trend that needs to be addressed in order to generate value.
- **Participating in an online course as learners**, teachers obtained a better understanding of the student interaction they need to facilitate. And the visibility they need so that professionals from the centres can enter the world as recognised or valued professionals in the field.



Teachers and directors participated from their offices

Innovation

- The online course was a **creative reaction to challenging restrictions** generated in the pandemic. The virtual learning activities were novel to most of the participants. The participants had time to participate and were interested in the new form of training, showing a lot of enthusiasm.

Contributing activities

- A careful **analysis of the context** helped to identify the needs of the institutions, defining the purpose of training, tender and to analyse 2-3 offers of external providers to select the provider responsible for the webinar.
- The **use of an existing Facebook page** with 9'000 followers and WhatsApp groups permitted the project to communicate quickly with potential participants and to stay in informal contact.
- Teachers consulted some **students as power-users** to support their marketing activities.

Expertise

- Two project members had good communication skills such as graphic design for social media, writing valuable content and knew the context and needs of the partnering schools very well.
- The project could mandate an experienced Colombian company with more than 14 years of experience in e-learning processes. Their marketing expertise in social media and experience in offering engaging online courses helped them to master all the tasks related to the online course which included the reporting and the follow-up of participants.

Challenges and lessons learned

Challenges

1. Some participants had **no electricity** and/or **internet** access (especially via smart phones), when the course took place. A link to the recording was sent to the participants and interested people to deepen specific topics and to carry out the necessary practices.
2. **Authorisation** from the Bolivian Ministry of Education is necessary for this kind of course involving teachers from the public system. This requires more planning and preparation time in order to be compatible with state regulations.
3. Participants had very **different levels of skills** and experience. In the future, online courses will be offered on different levels (at least two: with FB-experience and starters).
4. Students should also participate in this kind of course. They have valuable potential to promote their schools (user perspective, social media skills, innovative ideas etc.).

Lessons learned

1. The creation of courses with about **10 people per course** (instead of 50) would allow to target the content better and involve the participants (if possible, within budget and organisation).
2. It is important to **reconcile** the different perspectives concerning visualisation in the networks between the **views of the directors of the technical training centres** (with a focus on "technical" content) and marketing/social media experts (with a focus on user needs and communication habits).
3. It is challenging to convince "conventional" teachers to understand marketing activities as an added value for the institution and to invest time for a FB-page. Many see it as a loss of time.

Links and contact

The following links lead you to **interesting information** on the project:

Short clip of the marketing course describing the purpose of the course.

Facebook pages and fan pages of public training institutes that participated in the course (in Spanish):

- Instituto Tecnológico Bolivia Mar
- Instituto Superior Tecnologico Agroindustrial Monteagudo
- Instituto Tecnológico Superior "José Martí"

Contact

- Denisse Hanna, Communication coordinator “Formación técnica profesional”, Swisscontact.
  denisse.hanna@swisscontact.org
  Experience: development of skills in new technologies related to social networks and web pages.

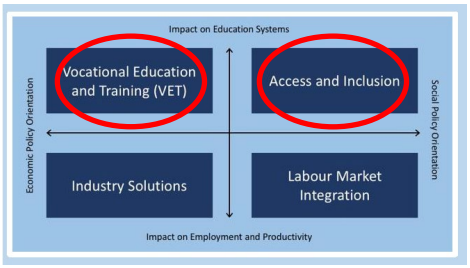
The team of the Swisscontact - FAUTAPO consortium.

4 Strengthening TVET in Bosnia and Herzegovina

Online courses on tools and digital pedagogy and the provision of hardware have helped teachers, administrators, and directors of TVET schools to prepare and conduct online teaching.

Background and pre-Covid situation

The project "TVET in BiH" supports the exchange between public and private players to foster dual organized TVET and systematically strengthen it as an educational pillar. It supports TVET schools, formal economy, pedagogical institutes, Ministries of Education (MoE) and intermediary institutions like chambers and employer associations. Six reformed TVET programmes with a focus on labour market needs and a high share of practical training in companies have been implemented. TVET professions are being promoted systematically through video clips, brochures, social media campaigns etc.



Up scaling the dissemination of TVET and supporting market access

Before Covid-19, the partner schools were equipped with computers and software to implement the reformed curricula and with ICT-equipment for the practical training in the metal departments of the schools. Apart from this, there was no direct ICT-support for teaching or learning.

Covid-challenge: All schools and most companies closed

The country experienced a hard lockdown and all schools had to close from one moment to another and switch from "normal" learning to distance learning. Geographical movement within the country was blocked, most forms of economic activities came to a halt – and with it the practical training in companies in the setting of TVET. Even after some relaxation of the lockdown measures it remained impossible for most apprentices to resume their practical training in companies because it was either forbidden by national or local regulations or by internal company policies.

Most schools did not have any experience in implementing and supporting learning online. In some parts of the country, schools had already piloted pre-Covid-19 online weeks and were thus slightly better prepared than others, but not to the extent demanded by the novel situation. Under the restrictions imposed, the schools, businesses, pedagogical institutes, and ministries struggled with fulfilling their task of equipping young people with competencies needed in the labour market.

ICT-supported response: Training of staff and provision of hardware

The project "TVET in BiH" supported more than 2000 teachers, administrators, and directors of 42 schools through the following measures.

- Short-term training of 2 days on the use of MS Teams as a platform for education (school management, administering student and teacher accounts, organising lessons, etc.)
- 5-day training on online pedagogy to increase the quality of digital learning (basics of online pedagogy, planning of a digital lesson, different methods, assessment in an online environment, etc.)

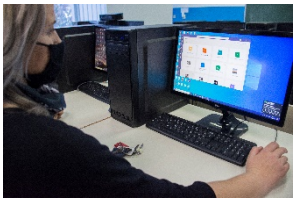
Training of staff on the use of MS365

In addition, partner schools were equipped with 3D-printers to produce face shields for public institutions, such as health centres and police. The printers can be fully integrated into the practical training in schools. These activities were financed with an **additional budget** of 122.000 Euro:

- Training on tools: EUR 35.000
- Didactical training: EUR 50.000
- Hardware for 7 partner schools, pedagogical institutes and MoE: EUR 37.000

Impact and success factors

Observed effects



Learning to use MS365 to teach, learn and communicate

- Increased **quality** of online teaching in TVET schools: Before the training, some teachers were unable to provide any online education. The training enabled them to support learning online. Teachers with previous digital competencies learned how to implement richer forms of digital teaching. However, an upscaling of this development is still needed.
- Improved **communication** between stakeholders: The teachers, school directors, IT administrators of schools, and representatives from pedagogical institutes, ministries, etc. worked together very well and it could be seen that they were professional crisis managers; the cooperation was deemed much more pragmatic and effective than under 'normal' circumstances.
- Pedagogical institutes developed and strengthened **competencies in digital pedagogy**. In addition, the staff members were part of the training and acted as multipliers, especially for teacher training, disseminating the competencies to many teacher communities.

Innovation

- The entire **online teaching process**, using new tools, working with e-content, communicating online etc. was new to most teachers, administration staff, and directors. They managed to design and deliver online lessons and to remain in touch with students via online channels.
- Schools and their stakeholders learned how to respond quickly to new needs and changing conditions, using mostly **online communication tools**.

Contributing activities

- The need for training and support was identified and discussed in meetings with the schools.
- Based on the identified local resources and needs of the partners, **lacking infrastructure was provided**: computers, laptops, Office 365, internet connections, and headphones.
- Manuals on how to use the tools were developed and circulated.
- **Exchange and learning were facilitated** between MoE, 4 pedagogical institutes and 7 schools from different sectors.

Expertise that was pivotal for the project:

- Digital pedagogy expertise of international experts
- Expertise on software use of national experts
- Expertise on pedagogy, didactics, and adult education of project team members:

Challenges and lessons learned

Challenges

- **No company access** for practical training: How can competencies relevant for the labour market be developed through an online approach and limited involvement of the companies?
- **Cooperation with companies**: How can the students be brought back to the companies?
- **Poor infrastructure**: Lack of internet access, devices for students and IT equipment for schools.

Lessons learned:

- **Frequent contact and exchange with local partners** were most important!
- **Learning by doing**: as this situation has been new for everyone, the project team had to learn while doing. E.g. through online workshops including a big number of stakeholders where complex issues in the context of a TVET reform were discussed.
- Stay relaxed and flexible! 😊

Links and contact

The following links lead you to **interesting and valuable resources on …**

- the project: #GIZBiH #officialwebsite #VirtualLibrary #GIZBiH, #officialFBpage #IchooseTVET, #IGpage #official
- MS365 and online school: #MS365 #virtualclassrooms, #onlineschool #MS365, #onlineschool #MS365, #2300teachers #MS365
- Online didactics: #onlineschool #teachers, #virtualclasrooms #distancelearning, #onlinedidactics
- 3D-printers: #faceshields #pandemic, #facemasks #3Dprinters, #Prijedor #3Dprinters, #Tešanj #3Dprinters

Contact

- Majda Tolić, TVET Advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, majda.tolic@giz.de, Master in European Studies

5 Live cooking sessions to better qualify hospitality workers in Cambodia

Training, practical learning and assessment of hospitality workers in Cambodia with the goal to enhance their employability. Using Zoom and Google Classroom for online learning with digital materials.

Background and pre-Covid situation

One of the challenges of the Cambodian labour market is the high number of unskilled and low-skilled workers. The goal of Swisscontact is to improve market entry and enhance qualifications and employability of this target group through upskilling and certification. The idea/concept of the programme is for the training to be carried out and financed independently by the private sector. The training model is termed Hospitality Kampuchea (HoKa).

One of the key target groups are hospitality workers. To date, the programme has made it possible that 900 young men (37%) and women (63%) from disadvantaged settings have acquired and enhanced their professional skills in hospitality. The activities of HoKa are in the implementation phase, replicating of the model has started in additional two provinces.

Replication of a model to support market integration

Before Covid-19 the training had not been supported through ICT. Whereas 80% of the students use smartphones, they had no experience in using ICT for learning – and neither had the trainers.

Covid-challenge: travel ban and fear of returning to colleges

The government enforced a travel ban. 90% of the hotels were closed and the hospitality industry collapsed. Schools closed and reopened several times.

When colleges re-opened, only few students returned. Many people feared meeting other people. Face-to-face training was not feasible anymore. The motivation of students to access training in this situation (also online) was rather low.

Cooking class before the pandemic

ICT-supported response: cooking practice and online learning

The project started to support online learning in two ways:

1. **A pilot programme to support cooking practice.**
   15 students participated in a training for the occupation “cook assistant”. The students had to buy and present their ingredients and preparations, do the cooking in their homes, and present their completed meal in a Zoom session with 2-3 other students and a trainer. The trainer guided the students and assessed their activities. He also demonstrated activities and theory via Zoom.

2. The students were also provided with an **online cookbook and they carried out written assessments** on different subjects, using the platform Google Classroom. Oral assessment interviews were conducted with Zoom.

   In addition to Zoom and Google Classroom, the trainers used further communication channels that the students had on their smartphones, such as Messenger, Telegram, WhatsApp, or Skype, in order to coordinate the students.

The project **did not require additional budget**. It could even **reduce costs** for travel and refreshments. The involved project members invested less than one week for training, testing, and preparing the online environment. But continuous adjustments were needed based on the experience the team was getting from the implementation of the training (i.e., trial and error with different software).

A learner proudly presents the practical work she has accomplished.

Impact and success factors

Observed and expected effects

Learners became more active and motivated

- The learning setting has led to **increased communication, participative learning, and a change of the mindset** of many students who started to understand learning as a conversational process.
- Using digital channels to support learning during practical phases permitted for **more flexibility**. New opportunities for learning were created. Students could decide when and where to learn.
- Although the **trainer could not test the result by tasting** the final dishes, there was a **sense that students learned much about cooking** through the digital support.

Innovation

- Learning with technology triggered **new learning activities** and the development of independent study skills, such as the **self-directed search** for relevant information.
- The **use of Zoom** as a synchronous conferencing system was new for both trainers and students.
- While **Google Classroom** seemed like a practical tool at first, it **was not used** as learners were struggling with it.
- **Kahoot and Mentimeter** were used for **interaction and engagement** during the synchronous learning sessions (quizzes, games, etc.), as well as for the evaluation of the course modules.

Contributing activities

- **Careful design** of a digital learning setting to foster active learning, using open questions and assignments, some with automated scoring, as well as through the diligent preparation of online activities, creating e-mail accounts and configuration of platforms.

- **Face-to-face technical support** by the project's field team at the learners' homes to set up their computers and teach them how to use the tools.
- **Using existing material** (digitalizing print material, using existing e-content) and supplementing this material with self-produced e-content, such as videos, led to a rich repository of relevant learning material.

Expertise

- Sound pedagogical expertise was the basis of the successful delivery of training.
- Subject experts at schools and in industry
- Experienced contractor to facilitate the cooking course
- In-house support from the Monitoring and Results Measurement team on software and tools (Zoom, Google Classroom, Kahoot, Mentimeter, etc.)

Challenges and lessons learned

Challenges

Most learners do not have computers and follow the sessions via their phones

- Because of varying internet connectivity, **online cooking sessions were often interrupted**. The trainer had to call learners and arrange other appointments which caused delays.
- There were also interruptions caused by the fact that learners were **distracted in their homes**.
- Some students demonstrated **weak ICT skills** and needed some support using Zoom. Google Classroom was challenging for the learners to navigate.
- Some students showed **little motivation** and it was important to apply different engagement strategies such as explaining the purpose of the online activities, sending repeated reminders and acknowledging students' contributions.
- **Interaction and communication via online channels were limited**, especially in the context of **practical learning**. This restriction deserves special attention in design and preparation. Online activities should be combined with face-to-face activities, if possible.

Lessons learned

- Blended learning, i.e. education that consists of the integration of face-to-face training and online learning, will be practiced also in the future (e.g., in flipped classroom settings: cover theory online and discuss questions in class); it will even have the potential to save costs.
- Low computer literacy of learners in the project context required intensive (face-to-face) support by project staff.

Links and contact

Project website: https://www.swisscontact.org/en/projects/sdp

Contact

- Dara Kong, Intervention Manager, Dara.kong@swisscontact.org. Pedagogy/Training Delivery, hospitality expert, facilitation of online-based hospitality training.

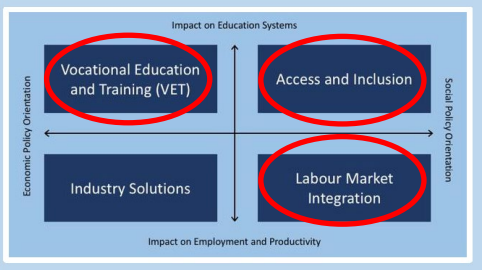
- Erica Wu, Hospitality Training Advisor SDP/Swisscontact, erica.wu@swisscontact.org, Overall technical support.

6 Blended learning in Honduras

Face-to-face and online learning helped vulnerable youth to complete their VET training. This was made possible through teacher training and the provision of psychosocial support and safety protocols that supported students in keeping on learning in a safe environment.

Background and pre-Covid situation

The main objective of the project "ProJoven" is to ensure the integration of vulnerable youth into the labour market. The project trains some 7'500 at-risk youth and aims at bringing 80% of them into employment. To do so, it supports public and private institutions and the productive sectors in offering training relevant to market demands. Before Covid, different activities were offered to instructors, such as workshops with trainers from several centres.



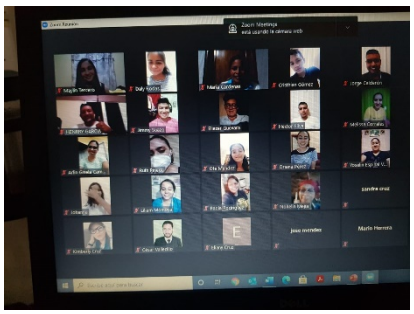
Up-scaling in several areas of the VSD typology

Covid-challenges: Curfew, travel restrictions and business restrictions

Schools and TVET institutions were closed at the beginning of Covid. A strict curfew with severely restricted geographical movement (which was only possible during one day every two weeks) was imposed. Much of the economic activities came to a halt and there was a partial re-opening of the economy only months later, with only 20% of employees who were allowed back in companies. This resulted in many at-risk-learners who could not attend any training on site and had to exclusively rely on virtual tools to access training.

ICT-supported response: Social media, platforms and psychosocial support

In 2020, ProJoven has trained more than 1'200 young people in a blended learning approach (60% virtual training, 40% in the training venues).



Online class with virtual platform

In an initial phase, **WhatsApp** and **Google Classroom** were used to provide some 340 learners with digital learning material, such as videos, infographics, ebooks, games and exams, as well as their videos produced during live practices. The instructors facilitated learning activities such as discussions in forums, information search, problem solving, simulation games, and practical work. Moreover, after one month the project managed to incorporate the platform "**Capacitate Para El Empleo**" of the Carlos Slim Foundation with existing online learning material, assignments, and assessments. Some adaptations were made regarding content and length in different subjects such as sales, cooking, motorcycle mechanics, networks, graphic design.

Moreover, volunteer psychologists counselled young people on issues such as anxiety, depression, grief, or suicidal thoughts through a **24/7 phone hotline**.

The implementation required an additional **budget of about 160'000 USD** ($700 per student) and additional expenses for the trainers. The budget included training cost, subsidy of internet connectivity for students, external trainers for capacity development and experts for the digitisation of content (USD 18'000). Extra working time of 20 trainers for the preparation and training (180 hours, 2-3 h/day). These efforts put pressure on the trainers and the team in addition to the general stress caused by the pandemic. Estimated time provided by the volunteer psychologists: 380 hours Capacity development and experts for the digitisation of content 320 hours. The use of the platform Capacitate Para El Empleo was free.

Impact and success factors

Observed and expected effects

- About 1'200 students **completed their technical training** despite the difficulties.
- 270 VET-instructors and 70 teachers of formal education have **acquired basic skills** of **online training and participative learning**.
- The students have **learned to set short-, medium- and long-term goals**. Many reported having developed more positive aspirations, optimistic perspectives, and a vision to learn.

Student accessing online course

Contributing activities

- The **diligent analysis** of the ICT-skills of students and teachers helped to identify skill gaps related to the use of the platforms.
- Investing time in the **training of instructors and students in digital tools** was very important: in biweekly workshops, teachers learned how to foster participatory learning by applying online teaching methods and using new tools and media, (e.g. videos, games).
- In an **induction week** (before starting their studies) students learned how to use the platform.
- **Systematic evaluation** of tools and online platforms under consideration of criteria such as accessibility for youth and user-friendliness).
- **Leveraging know-how and resources of partners**, e.g. safety protocols of one university for the on-site part of blended learning (sanitisation measures, physical distancing) were further shared with participants and private training centres.
- **Discussion with the training providers** whether, and if so, how the equipment in the on-site workshops can be used by the students. Corporate decision that allowed young people to use the equipment on the day they can move freely (20% of their learning time).

Practical activities in the training centre

- Development of an **online curriculum**: Design of the virtual parts of the training (60%) to continue 26 TVET courses in different professions.
- **Digitise** the existing content. Capitalising on existing manuals, e.g. on the use of simulators.

Expertise

- ICT-expertise (selection of a platform, use of ICT tools) by external experts
- Pedagogical expertise in online learning: external experts (the project partners were not specialized in online learning, but learned very quickly)

Challenges and lessons learned

Challenges

- The **digital divide** among students as well as among teachers has been a big problem.
- The **cost of internet connection** has been a problem for most students.
- Most of the participants did not have the knowledge about how to use ICT devices to study.
- Students have missed many lessons because of the lockdown. The project invested **two additional weeks to help them catching up**.

Lessons learned

- **Managing change**: The adaptation of learning processes and -materials takes a lot of time. Flexibility of the instructors is a key point during the transition.
  The role of the instructor changes fundamentally in the online learning process. Instructors need continual support after the training to assure a high quality of teaching. Some institutions could not react quickly, but the project played an important role in developing a crises response within a few weeks.
- The **innovation process** has been an exciting experience, giving students the opportunity to create new things and it has also prompted great teamwork!
- Keeping up the **motivation of students** and avoiding dropouts are challenging. Students have experienced high levels of stress and often lacked the motivation to learn. It is important to monitor the activities of students deliberately, as they cannot be observed in the same way as in the classroom. Professional psychosocial help in addition to the support provided by parents and instructors has been very valuable. Trainers and teachers need to be trained and supported in their efforts to provide online student support.
- **Students can be a great inspirational resource** on which teachers can draw. The pairing of students with higher and lower levels of knowledge and skills (to leverage peer support) and the organisation of groups of four students has found to aid the learning process. Skilled students were even involved successfully in national forums together with instructors, where they brought in their perspectives and developed innovative ideas.

Psychosocial training for instructors and young participants

Links and contact

The following links lead you to **interesting and valuable resources** of the project:

Online tools and content

- CapacitateParaElEmpleo: Platform to support online learning (Spanish/English/Portuguese)
- Platform on biosafety standards
- Platform on psycho-social training
- Tool to support teachers and students in carrying out their classes virtually
- Kahoot! Tool to create contests in the classroom to learn or reinforce learning
- Mentimeter: online tool to ask questions, surveys and games to an audience
- Google Sites: Tool for creating web pages

Project websites (project descriptions, students projects, webpages of important partners etc.)

Some examples of courses developed by the instructors (in Spanish, information about goals and programme, restricted access to course material)

- Docente de Cocina
- Ventas y marcadeo
- Soldadura
- Barismo

Contact:

- Olga Leída Tinoco Tejeda, *COP,* ProJoven Swisscontact.
  olga.tinoco@swisscontact.org
  19 years of experience working with youth in employment, entrepreneurship, and violence prevention issues.

Support for a young entrepreneur

7 Coaching female farmers in Kosovo via instant messaging

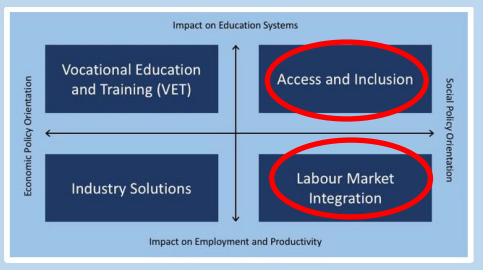
The instant messenger Viber provided novel opportunities for video-training and coaching of female farmers in Kosovo to increase their business readiness.

Background and pre-Covid situation

The project "Promoting Private Sector Employment" focuses on market system development. In this context, the project supports empowerment and inclusion of 2'000 women and men in gainful work in two sectors: food and natural ingredients as well as in tourism. The aim is to increase their productivity and efficiency, improving their market offer and competitiveness.

The cultivation and selling of medicinal aromatic plants are one of several areas of potential gainful work. The farmers need to acquire skills on how to cultivate and market medical plants and learn to "think outside the box".

Before Covid restrictions, the project has not deployed ICT for training purposes but has implemented other ICT-tools such as a hotel booking platform or an online directory of women-owned businesses.



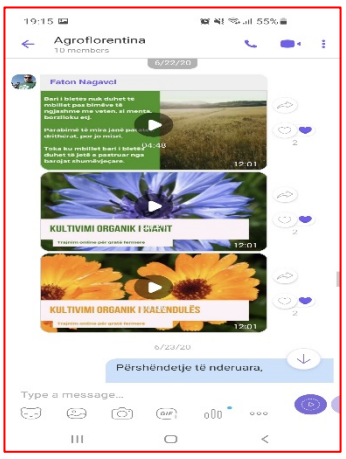
Implementation phase is completed

Covid-challenges: Limited training and business opportunities

When the Government ordered a lockdown, no gatherings were allowed, and travelling was restricted. Training for women farmers on cultivating medicinal aromatic plants and bringing them to the market could not be held in person. As they could not attend workshops, they did not receive the support needed and obtain responses to relevant questions. Trade fair participation and other networking and promotion opportunities were also heavily restricted, and these constraints resulted in less income and even in layoffs.

ICT-supported response: Instant messaging support groups on Viber

The project launched several initiatives in both the tourism and agriculture sector. This case focuses on support and learning activities related to farming.



As most women were very familiar with the instant messaging app Viber, Linda Baleta, a Communications Manager of the project, decided to use this app to support them online. The project staff in collaboration with partner organization, the Association ORGANIKA, invited 27 women of 5 companies in different regions to join five different Viber groups to receive training and coaching. The women received short video instructions via Viber for 6 weeks (the time originally planned for on-site coaching). *(see illustration: The weekly videos with information and tips about the cultivation of lemon balm, cyan, and calendula followed by the trainer's message to the participants.)* Some of them used the app to ask questions. Two

trainers provided short answers to participants' questions either directly in the Viber groups or they offered phone support for more extensive queries.

The solution was implemented within the existing **budget for communication and training**:

- Video production (10 days, communication staff)
- Site meetings for coaching 100 EUR / 3 days (two people)
- Viber coaching for 6 weeks (approx. 2-3 working days, including research to give answers) 100 EUR / day. (two people)

Impact and success factors

Observed and expected effects

- **Training via Viber** was deemed to be effective: 27 participants felt very comfortable in learning and communicating via Viber and they appreciated the opportunity to re-watch the videos ("It's like having the trainer in the pocket"). The Viber groups remained active after the official duration of the training of 6 weeks.
- The **e-content** was produced in three steps: 1) involving experts to draft a sophisticated base of training material, 2) simplifying and shortening this content, and 3) designing attractive presentations.
- The production of e-content led to "**mobile" training material** which supported its application and dissemination in several ways: Family members and neighbours also watched the videos and benefitted from this form of training. Moreover, the training association reused the videos also on their Facebook-site and their website. The online material was printed and used for local training by one woman.
- As a result, the partner association has developed best practices on designing and delivering this type of training. Participating businesses are moving towards this new way of thinking and training.

Arbesa Lushtaku, a young agronomist of Agroflorentina, checking the health of cultivated plants. Videos of the Viber-based training helped her to obtain useful information while conducting field inspections.

Success factors

- The **focus on freely available tools**, Viber for communication and Canva for video production, made a quick implementation with a very small budget possible. The usability of the tools was also much appreciated.
- The **involvement of training providers** who were used to face-to-face training was very important because this experience encouraged them to experiment with conversational learning on Viber.

Expertise

- Two team members of the project contributed with their expertise in agronomy and digital communication.
- Two external trainers contributed subject matter expertise and training expertise. They acquired online coaching experience through learning by doing.

Challenges and lessons learned

Challenges

- In the development of the videos, the biggest challenge was to **adapt the highly technical training information to a level which was appropriate for the target group**.
- The **planning and preparation of the online support** and training was more time consuming than anticipated.

Lessons learned

Havushe Bajrami, owner of MAP processing company 99LULE, delivering training to her network of women farmers.

- It is vital to **understand the needs of the participants** to be able to communicate the purpose of the training effectively. In the future, it is planned to have one-on-one conversations with participants at the very beginning of planning.
- Not all **participants** were equally participating, and some **needed more "nudging"** to engage in conversations. A future measure will be the design of a more dynamic facilitation of the Viber groups, like having individual conversations before beginning the training, to explain to the training participants the concept of such online training, its potential, the importance of active participation and what is expected of them.
- The design options of the free tools for video production were limited. For future productions the purchase of the **professional video tool** will be considered – as will be the involvement of a videographer. This also depends on the budget available.
- To **constantly improve** the activities, evaluation during and after the intervention is needed.
- **Innovation is** not about using the newest technology, but **about finding the right tools that have an effect on people's learning and lives**.

Links and contact

The following links lead you to **interesting and valuable resources** of the project:

Online tools and content: www.canva.com, www.viber.com, Various free online tools for video conversion, video trimming, picture editing.

Project websites (project descriptions, students projects, webpages of important partners etc.)

- A video on women beneficiaries
- www.kosovapass.com or www.shitjaonline.com: online sales channels for local producers, platform for selling tour packages online
- www.ppse-kosovo.org, www.organika-ks.org

Contact:

- Linda Baleta, PR & Communications Manager Swisscontact Kosovo, PPSE project. linda.baleta@swisscontact.org
  Expertise: communication, training development and delivery

Linda Baleta, PR & Communications Manager at Swisscontact, Kosovo.

8 Supporting online training and market access in North Macedonia

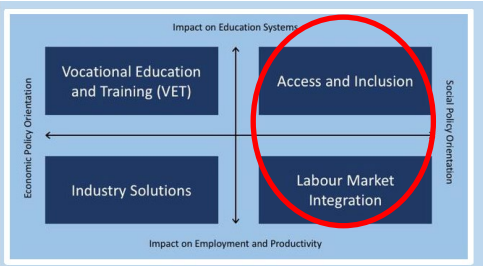
Launch of an online learning platform for VET teachers and a matchmaking platform for businesses and schools for practical training in North Macedonia.

Background and pre-Covid situation

The project Education for Employment in North Macedonia (E4E@mk) contributes towards gainful employment of youth in a socially inclusive and sustainable way.

By creating 55 market-demanded offers about 700 people gained market access, 1'500 people were trained in non-formal vocational skills development, out of whom 64% are youth, 50% are women, and 12.3% are vulnerable groups.

Moreover, formal education is supported by strengthening the cooperation between actors from the public and private sector on both policy and implementation level.



First implementation phase: facilitating access and inclusion / Labour Market integration

Before Covid-19, different ICT-supported activities were launched in the country. Some VET schools piloted content development or produced instructional videos (with Canvas LMS) together with a company. The online platform "EDUINO" had been introduced to pre-school and primary schools and teachers learned to use MS Teams.

Covid-challenges: Lock down and limited practical learning

The lockdown concerned all schools and paralysed the hospitality sector. In other economic sectors there were time-bound restrictions. Practical learning in formal education was constrained, visits to companies and promotional initiatives and meeting representatives were impossible (production sites which were not open to the public, e.g. machinery sector).

ICT-supported response: Online platform, training, and matchmaking portal

To support the actors who were directly involved in the implementation of VET provision, and through them, young learners, the following online offers are currently being realised:

- An **online platform** for professional development (EDUINO.VET) is being developed to serve vocational school staff. Various forms of training will be digitised. On the platform, e-content will be shared, and course materials will be developed; activities and progress of the participants will be tracked, and portfolios of learners will be documented. The national VET centre will support the schools through introducing the platform.
- **Video content development**: The VET Centre is coordinating the production of videos on **learning results as instructional material for students**.
- **Training**: The VET centre followed a webinar organized by SFIVET on pedagogy of blended learning. A group of teachers were trained through 5 workshop sessions and asynchronous work (a total of 30 training hours) on pedagogy of distant learning. They were trained on

how to develop didactic scenarios, integrate digital tools in the teaching and learning process, create online assessments, upload content or facilitate synchronous training.

- **A matchmaking portal for businesses and schools** (Economic Chamber owned) is in development. It will provide an overview of verified companies that can host the practical training, a register of VET-providers (sector qualifications), training for mentors offered by the chamber and other events, as well as information on work-based learning/dual education (guidelines, templates, legislation etc.).

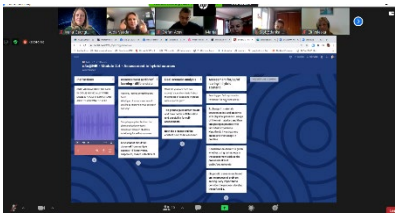
The initiatives were funded with the following budget:

- Teacher professional development (EDUINO.VET platform): EUR 25'000
- Matchmaking portal: EUR 40'000
- Canvas LMS (platform licence and training): Customization for the company and the schools, 350 user licences for 3 years (EUR 30'000)
- Video production (EUR 65'000, estimation, in progress)

Impact and success factors

Observed and expected effects

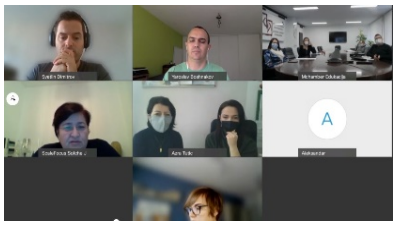
- The development of the platforms and the digital learning materials is an investment in the resilience of the entire system. The "way of doing things" in the national VET system is expected to be improved.
- These developments and the use of the platforms change the way of working. The project partners learn how to use digital technology effectively.



Combining different expertise to design online training

Contributing activities

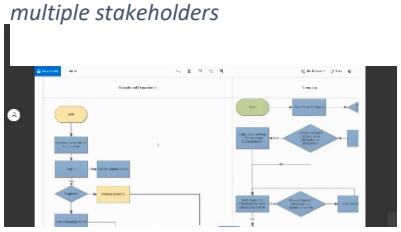
- These interventions are in the development phase, so effects are to be seen once they are fully functional. The work done so far was on role clarification with the different actors from VET, companies, and government, as well as requirements engineering for a systematic design of the online platform and the matchmaking portal.



Challenging online communication – partially efficient coordination of multiple stakeholders

Expertise

- Economic Chamber of Macedonia contribution on work-based learning expertise
- Pedagogical expertise by the national VET-centre
- Technical expertise of two ICT-providers for the development of the platform and portal
- Project management, managing interventions, engineering and facilitation of involved actors by E4E.



Comprehensive requirements engineering to achieve a useful online environment

Challenges and lessons learned

Challenges

- The fact that **lessons are only held online** is the greatest challenge of working under the pandemic situation – especially for practical training.
- **Not all students have access to digital devices** which means that the services introduced are not available for everybody.

Lessons learned

- There is a necessity of a better understanding of the **appropriate use of technology** in teaching and learning processes so that it can lead to the desired effect.

Links and contact

The following links lead you to **interesting and valuable resources** of the project:

Online tools and content

- EDUINO: learning platform where the video learning materials for VET will be placed (EDUINO.VET is expected to be available in May 2021)
- CANVAS: learning content for students, interaction among the business, the teachers and the students during the teaching and learning process
- Matchmaking portal (expected to be available later in 2021)

Project website: https://www.e4e.mk

Contact

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  Vocational Education and Training Expert, leading the formal education component in the project (including the related digitalization interventions in the same)