



DIGITAL FACTSHEET OCTOBER 2017

DIGITAL SKILLS AND ONLINE LEARNING IN MONTENEGRO



DIGITAL SKILLS FOR VET STUDENTS

Vision and policy

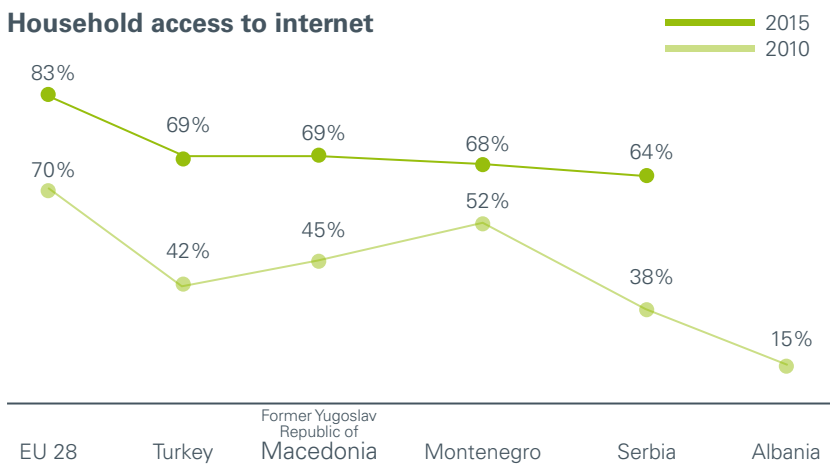
Montenegro has a digital agenda¹. The ICT department of the Ministry of Education is responsible for its implementation in education and training.

The legislation on teaching and learning contains no explicit rules or reference concerning the use of technology or the development of digital skills in vocational education and training (VET). However, the strategy for introducing the European Computer Driving Licence (ECDL) advocates reforming VET curricula to provide students with the digital skills covered by the ECDL modules².

Currently, VET students acquire digital skills through compulsory ICT lessons (72 hours per year for two years) and through their compulsory and elective vocational subjects. Three-year VET students are also obliged to study ICT in their first year with two lessons a week. VET students are therefore expected to acquire basic digital skills in a cross-curricular manner.

There is no formal framework and monitoring system to measure students' progress in acquiring digital skills and competences in line with the relevant national strategy and policies.

Household access to internet



Facts

The ESPAD report 2015³ reveals that:

- Montenegrin students, including those in VET, used the internet on 4.9 days in the seven days preceding the survey.
- 65% of students used the internet for social media activity regularly on four or more days in the last seven.
- Just under one third of the students used the internet regularly (at least four times in the last seven days) for searching and browsing information (43% on average), and one third used it for streaming/downloading (35%).

According to Eurostat,

- 50% of households in Montenegro have access to the internet.

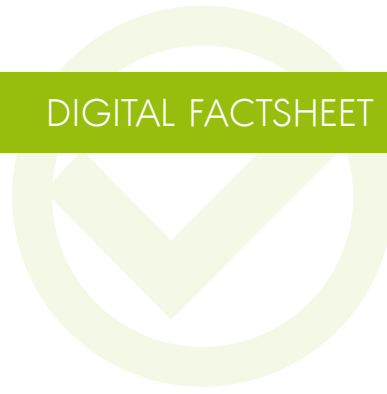
The networked school

The Vaso Aligrudić technical school for engineering and electronics in Podgorica has an up-to-date ICT infrastructure. It has 135 computers, classrooms equipped with smart boards, a classroom for online testing and a multimedia classroom for interactive teaching in which students participate actively using tablet devices. The school has also created a website for teachers and students, including an online learning platform based on the open source learning platform Moodle. www.elektrogp.me

¹ Information society development strategy 2016–2020: www.mid.gov.me/ResourceManager/FileDownload.aspx?rid=250376&rType=2&file=Strategija%20razvoja%20ID%202020.pdf

² <http://ecdcl.org/about-ecdcl>

³ www.espad.org/sites/espad.org/files/ESPAD_report_2015.pdf



DIGITAL SKILLS FOR VET TEACHERS AND TRAINERS

Vision and policy

The Strategy for Vocational Education and Training 2015–2020 advocates the introduction of different forms of continuing professional development (CPD), including digital and online learning and platforms for sharing good practice and provide teachers and trainers with formal and non-formal options to improve their digital skills. However, entering the VET teaching profession requires a university diploma in a relevant field, with no specific requirement for digital skills, which are assessed neither on recruitment, nor during the exercise of the profession.

Montenegro's national strategy on teachers' education 2017–2025⁴ emphasises the need for the CPD of teachers and training to focus on digital skills.

After obtaining their teaching licence, VET teachers are obliged to have 40 hours of officially accredited training over five years in order to renew their licences. These hours should include 24 hours of general professional development, and 16 hours on teaching methods and psychology. Among these 40 hours, VET teachers can include digital skills in their professional development portfolio.

The Bureau for Education Services recently adopted standards for the development of teachers' digital skills for the use of innovative teaching methods. An EU project on introducing the European Computer Driving Licence (ECDL) in Montenegro⁵ also established the ECDL standard level as a reference for basic digital skills and competences for all teachers and the ECDL advanced level as a reference for ICT teachers.

Collaboration platform for VET teachers

In 2014, an EU IPA project on the introduction of competence-based curricula required the development of cross-subject learning units in VET tourism and agriculture programmes, involving 13 initial VET schools. A learning management system called Chamilo (<https://chamilo.org/>) was introduced to facilitate the sharing of experience and learning materials among VET teachers, thus offering them non-formal opportunities to develop their digital skills and competences.

Unfortunately, despite a strong initial engagement and commitment of teachers and institutions, the use of the platform was not maintained at the end of the project.

Facts⁶

- All teachers in Montenegro, including those in VET, have been trained on how to use the Montenegrin Education Information System application.
- In 2015, a quarter of the VET teachers (24.9%) had received ICT training in the preceding 12 months as part of their professional development portfolio.
- Most teachers (90%) have a home computer and an internet connection.
- A vast majority (90%) are ready to learn more on using IT in teaching.
- Some 60% of teachers have a certificate testifying to their ICT knowledge, and 60% of those without a certificate say that they can use a computer.
- The number of accredited training programmes including the development of digital skills of VET teachers rose sharply from 9 to 37 between 2014 and 2015⁷.
- There are no training programmes including the development of digital skills of trainers in continuing VET.
- Teachers and students in initial VET use around 35 different software programmes⁸.

⁴Strategy for teachers education in Montenegro 2017–2025

⁵www.ecdlfor.me/

⁶[www.etf.europa.eu/webatt.nsf/0/540EF2E075AF90F3C1257FCD005FA124/\\$file/CPD Montenegro.pdf](http://www.etf.europa.eu/webatt.nsf/0/540EF2E075AF90F3C1257FCD005FA124/$file/CPD%20Montenegro.pdf)

⁷Annual catalogue of training programmes for VET teacher and trainer, VET Centre, 2015

⁸Web portal for teachers, Ministry of Education: www.skolskiportal.edu.me/Pages/Default.aspx



DIGITAL AND ONLINE LEARNING IN INITIAL VET

Pedagogy

In Montenegro, several strategies highlight the value of using digital and online learning in education and training. For example, the Information Society Development Strategy 2016–2020⁹ recommends the use of digital and online methods in education to diversify knowledge acquisition and develop students' digital skills. However, there is no explicit reference to digital and online learning in VET curricula.

There are few initial VET schools in which teachers and students regularly use digital methods. When they do, it is mainly limited to using projectors and smart boards, with teaching focused on delivering traditional lessons by digital means (e.g. PowerPoint). Application of digitally innovative teaching methods is limited. In some technical VET schools, VET-specific teaching software or simulators are used to reproduce work-like context and practices.

The use of the internet domain edu.me is limited. Most VET schools have created Facebook profiles as the most convenient means of communicating with students. The most interesting examples of online portals to support digital learning in VET are:

- a VET-specific portal maintained by the Vocational Education and Training Centre (www.cso.edu.me) that also serves as a platform for the exchange of good practice;
- a general portal, primarily for teachers, with online libraries and forum organised by subject – including a forum focusing on ICT to support the use of technologies in education (www.skolskiportal.edu.me).

As a result, students attain different levels of digital skills in the same VET programme, mainly relying on the enthusiasm and initiative of individual teachers at a pace depending on the ICT infrastructure.

Use of computers by VET teachers (%)

	Always	Often	Sometimes	Never
VET teachers use computers for:				
Teaching materials and manuals for students	33.4	16.6	16.6	33.4
Tests and other written assessments	42.8	51.7	5.5	–
Presentation of contents which are new to students	–	11.1	33.4	55.5

Facts

According to a 2016 survey on the use of digital and online learning in initial VET¹⁰:

- All initial VET schools have an internet connection, ADSL 4+MB. Some schools have more than one connection. Most schools have Wi-Fi (86.2%).
- On a scale of 1 (lowest) to 5 (highest), VET schools self-assessed their ICT infrastructure as 2 (17.8%), 3 (50%), 4 (28.5%), and 5 (3.5%).
- Shortage or inadequacy of software makes teaching more difficult in 37.9% of VET schools, and very difficult in 24.01%.

Virtual companies

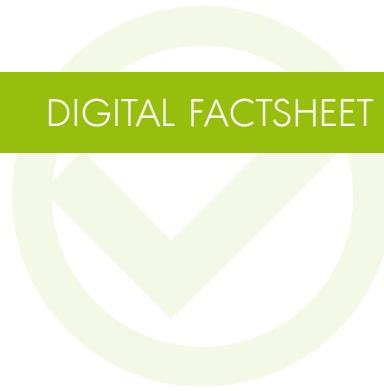
In some VET schools, students attending courses in economy, tourism and business administration can practice at school by using specially designed software that simulate an entire or large part of a company process. Those software are becoming more and more relevant as they are increasingly part of real work processes.

Virtual work environments

Students at the Ivan Uskoković VET school follow courses relating to the railway sector. The school cooperates with the Railways of Montenegro, which has equipped it with tools and software to simulate the management of a railway station. However, the most expensive equipment is available only in railway stations, so students also have practical training in the real work environment.

⁹ www.mid.gov.me/ResourceManager/FileDownload.aspx?rid=250376&rType=2&file=Strategija%20razvoja%20ID%202020.pdf

¹⁰ Questionnaire distributed among upper-secondary VET schools in Montenegro in 2016



DIGITAL AND ONLINE LEARNING IN CONTINUING VET

Vision and policy

The Information Society Development Strategy 2016–2020 recognises the relevance of digital skills and the use of digital and online learning in adult education in Montenegro.

The adult education system is developed primarily by the Ministry of Education and the Centre for Vocational Education and Training, in cooperation with other institutions. It is regulated by the Law on Adult Education, the Law on National Vocational Qualifications, the Law on the National Qualifications Framework, the General Law on Education, and other secondary legislation. In compliance with the Law on Adult Education, this area is an integral part of the national education system.

Licensed adult education providers offer training for occupations, programmes for key competence improvement, including digital skills and competences, as well as special professional training programmes, and professional and personal development.

To date, digital skills remain under-developed in continuing VET. Most continuing VET providers report a lack of up-to-date hardware and a shortage of licensed teaching software, which is a major obstacle to digital and online learning.

The virtual enterprise

Through the concept of virtual enterprises, the PAMARK training centre helps its students develop digital skills alongside other skills such as entrepreneurship using specifically designed software. <http://pamark.me/>

Maritime schools

The Kotor Maritime School offers an intensive six-month course in marine engineering and nautical science. The school is an example of good practice in digital skills in continuing VET. Classrooms have computers for teachers and students. In addition, the school's partners provide specialised teaching software for a genuine digital learning experience. www.pomorskakotor.com

Facts

- So far, 100 adult education providers, including a number of secondary VET schools licensed to provide adult education, offer continuing VET programmes. Some 51 adult education providers offer 92 VET programmes (mainly levels 2 and 3) leading to vocational qualifications¹¹. Another 30 VET programmes for adults focus on developing key competences, including digital skills.
- Only a few ICT and telecommunication companies, such as Telenor and Telecom, offer training on digital skills to their employees for specific job profiles in the company. These courses are usually delivered by external providers
- The EPALE (Electronic Platform for Adult Learning) project in Montenegro¹² aims to raise the awareness of stakeholders on the significance of online networking and the use of different digital learning resources, and the promotion of digital and online learning in adult education at national and international levels. The National Support Service (VET Centre in Montenegro) is responsible for promoting EPALE in the country.

¹¹ According to the Law on the National Qualifications Framework, there are three types of qualifications: education level qualification, vocational and other qualification.

¹² <https://ec.europa.eu/epale/en/content/presentation-epale-project-members-nss-montenegro>