



DIGITAL FACTSHEET DECEMBER 2019

DIGITAL SKILLS AND ONLINE LEARNING IN GEORGIA



DIGITAL SKILLS FOR VET STUDENTS

Policies, strategies, initiatives, practices

Developing an efficient technical and vocational education and training (TVET) system to meet the needs of the workforce has been a priority for educational stakeholders in Georgia over the past decade. The main policy document, Vocational Education and Training Development Strategy for 2013–2020, underlines the importance of the integration into educational programmes of modern teaching and assessment methods based on information and communication technologies (ICT). It calls for the development of vocational education and training (VET) programmes in response to labour market needs. As well as specialised modules, all VET programmes include compulsory modules, including on information technology (IT).

The Georgian government has prioritised the overall process of educational reform, with plans for funding for the education sector to be gradually raised to 6% of gross domestic product. The main impact is expected to be from the New School programme, which focuses, among other things, on enhancing technology skills and digital competences across the general education sector, with further possible expansion to TVET.

Other national initiatives could also be considered impactful. These include the Georgian Innovation and Technology Agency's ICT skills development programmes piloted in 2015–2016, the World Bank's Georgian Innovation Ecosystem support project, and the e-Georgia Strategy 2014–2018 incorporated in the Public Administration Reforms action plan.

The new qualifications framework was introduced in 2019 to ensure better alignment to updated international standards (ISCED-F 2013). ICT-related qualifications that were previously included in the engineering field are now listed separately.

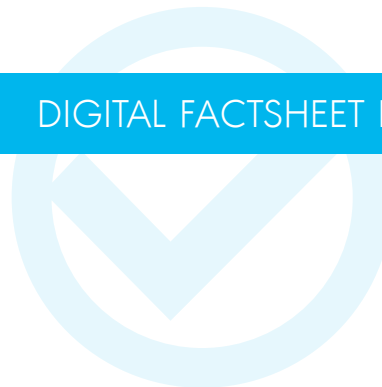
There is currently no specific formally adopted policy introducing any of the commonly used digital skills and competence (DSC) frameworks, despite stakeholders' readiness to consider their implementation. In practice, there is a voluntary graduation exam for third-level graduates based on the European Computer Driving Licence (ECDL) basic framework. Another exam, for fifth-level graduates, assesses more advanced digital competences, including installations.

New School programme

This concept, adopted by the Ministry of Education, Science, Culture and Sports (MoESCS) prioritises the development of DSC and DOL in general education under Action line 3: Integration of digital technologies into the education process. The aim is to integrate digital technologies into teachers' working processes and ensure the efficient use of electronic educational resources in teaching and learning. Minecraft: Education Edition and Scratch are expected to contribute to the development of DSC and algorithmic and creative thinking.

Millennium Challenge Corporation

The Millennium Challenge Corporation has invested about USD 16 million in supporting VET development. For DSC, a consortium of nine VET institutions focuses specifically on the development of IT education. These institutions have designed and launched a unified curriculum for ICT-related specialisations. There is a core focus on the Cisco curriculum, delivered through the online tvet.ge portal.



Since 2015 a modular approach has been implemented across the VET system in Georgia. Basic digital competences are mandatory for all I–III-level VET students and are measured according to the standard VET assessment framework implemented across the system. These essential DSC modules focus on basic usage of computer equipment, office applications and the internet. The core module is a 75-hour course with 60 contact hours of face-to-face delivery, 8 hours of independent work and 7 hours of assessment. Variations of the course are tailored to the specific needs of certain specialisations (e.g. enhanced Microsoft Excel in financial accounting).

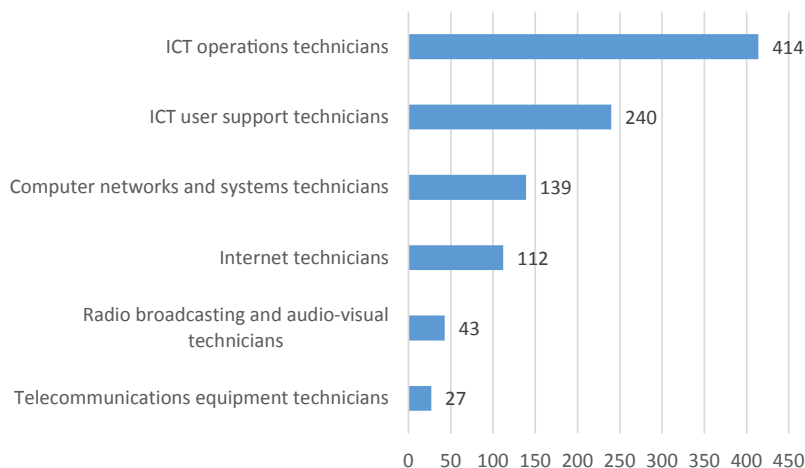
Facts and trends

IT profession-specific modules and DSC in other profession-related modules are provided in 21 TVET institutions across the country.

About 1 500 students (8–10% of all TVET admissions) are admitted annually to IT specialisations. There are five main qualifications for the ICT domain: web technology, fourth level; software development, fifth level; IT support, third level; computer networks and systems, fourth level; and computer network administration, fifth level.

Around 8 000 people are currently working as ICT or computer specialists in Georgia¹. According to the Labour Market Analysis for 2018², there were 350 vacancies for ICT specialists (higher education required) and almost 1 000 for ICT technicians.

ICT technician vacancies by category



¹ Ministry of Economy and Sustainable Development, Enterprises Skills Demand Survey, 2017.

² Ministry of Economy and Sustainable Development, Labour Market Analysis, 2018.



DIGITAL SKILLS FOR VET TEACHERS AND TRAINERS

Policies, strategies, initiatives, practices

Basic digital competences are considered essential for entering the VET teaching profession. However, even for IT subject teachers, relevant certification (e.g. Cisco) is desirable rather than mandatory.

The Teachers' Professional Development Centre under the Ministry of Education, Science, Culture and Sports (MoESCS) is responsible for teacher training in public schools and public VET. There are up to 2 000 teachers in the VET system, with about 1 000 in colleges. This is significantly fewer than the 60 000 teachers in general education.

Since the introduction of the modular curriculum, there is no formal teacher-training process in DSC or the pedagogical use of ICT across the curriculum. Previously, 60% of VET teachers passed the in-service courses in basic DSC (two levels) and 50% passed the advanced Intel Teach Essentials course in ICT-enriched project-based learning.

There are no explicit specifications for DSC development in continuing professional development. Module-specific teacher training is provided through state and donor-supported initiatives. It includes training for IT teachers and training in module-related digital resources, methodology and assessment. Other opportunities for peer learning and training include participation in professional online networks and platforms. The tvet.ge platform is considered successful in providing resources, methodology, a standard curriculum for teaching IT specialisation courses, and peer learning.

A new framework for teacher-training programmes and respective monitoring mechanisms are planned under the new World Bank-managed UK Development Assistance project Strengthening Teacher Quality in Vocational Education and Training, launched in June 2019³.

Resources for teachers

The Teachers' Professional Development Centre provides more than 50 digital and video guides for teachers.

Online resources for teachers are available on the Centre's sub-portal, ict.tpdcenter.org, which was launched in 2014. These include tutorials on:

- Google services (Gmail, Drive, YouTube, Blogger);
- creating educational videos and animations;
- creating interactive quizzes and exercises;
- Edmodo Virtual Classroom;
- creating digital textbooks.

Some popular video guides have had more than 4 000 unique visitors.

The portal is referenced in all ICT-related continuing professional development courses offered by the Centre.

³ World Bank, 'Georgia: Strengthening Teacher Quality in Vocational Education and Training', press release No 2019/ECA/131, May 2019. www.worldbank.org/en/news/press-release/2019/05/31/world-bank-and-government-of-united-kingdom-to-support-development-of-vocational-education-and-training-in-georgia



Facts and trends

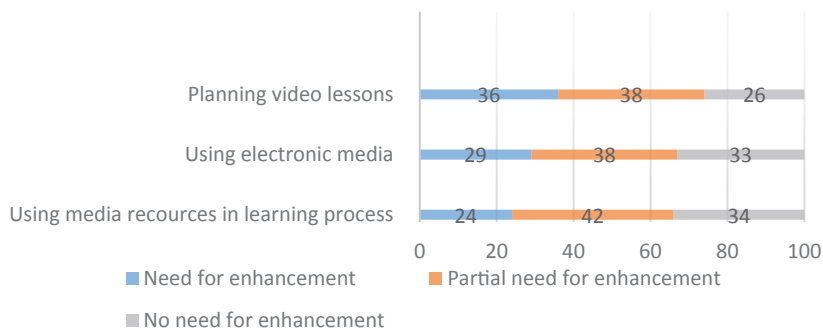
Office 365 is being actively promoted among teachers in general education following a renewed agreement with Microsoft. This could potentially be expanded to VET teachers, for sharing resources, collaboration and peer learning.

Informal training provision for TVET teachers is mostly limited to companies' initiatives aiming to prepare teachers to work in their newly launched VET programmes or to deliver general digital competence training.

The main challenge for continuing professional development and for attracting new teachers into the profession is the current low basic hourly rate of pay, GEL 8 (EUR 2.6). This is being reviewed, with the first increase, 30%, introduced in 2019.

Ad hoc assessments of VET teachers' training needs are conducted under donor-supported projects. Specific ICT-related needs identified in a Millennium Challenge Account survey are presented below.

VET teachers' training needs⁴



Flipped classroom

The flipped classroom methodology was piloted in two TVET colleges in 2017 under the Millennium Challenge Account small grants project implemented by Mindworks (mindworks.ge).

Through the 13-week training programme a small cohort of teachers was trained to apply the flipped classroom tools, to create video lessons and to master other innovative methodologies that work best with flipped learning, i.e. peer instruction, project-based learning, mobile learning, and universal design for learning. They were also given help to redesign their teaching plans and to launch the flipped classroom methodology.

More information about the flipped classroom project: <http://iswd.ge/uploads/Good%20Practices%20Electronic%20Handbook%202018%20ENG.pdf> (pp. 15–16)

A video about the project (subtitled in English): <https://youtu.be/GDvP8vMelxY>

Teacher handbook (in Georgian): <http://iswd.ge/uploads/Flipped%20Classroom%20Teacher%20Handbook.pdf>

⁴ Millennium Challenge Account-Georgia Industry-led Skills and Workforce Development project, Training Needs Analysis of VET Teachers, 2016.



DIGITAL AND ONLINE LEARNING IN INITIAL VET

Policies, strategies, initiatives, practices

Since 2008 there has been no separate department within central educational governing bodies to support digital education in schools. Several sub-agencies under the MoESCS share responsibility for different aspects of DSC and digital and online learning (DOL), with the VET department serving as the main coordination and policy implementation agency for VET.

Over the past decade, VET institutions in Georgia have been significantly re-equipped with computer labs and infrastructure through various state or donor-supported initiatives. Fabrication Laboratories (FabLabs) – with 3D printers, wood and computer numerical control (CNC) cutters, plotters, etc. – were provided to 14 TVET schools through the Georgian Innovation and Technology Agency's programme.

The use of DOL has been steadily increasing, especially in terms of occupation-specific software and instruments. Since 2011, the United Nations Development Programme (UNDP) and other donors have contributed to the deployment of DOL in initial VET. Various subject-specific labs and simulators are also available. However, efficient pedagogical use of the modern equipment is not yet a mainstream practice. Available e-resources have not been analysed, catalogued or consolidated.

With online learning not recognised by Georgian law, the implementation of blended learning is considered a priority in Millennium Challenge Corporation, UNDP and other donor-supported programmes.

Online and electronic resources are considered a useful complementary tool in delivering ICT-related and other vocational programmes. The official portal vet.ge, maintained by the MoESCS, has descriptions of all modules, standards and subjects, including standards for DOL integration. Textbook digitisation is mostly limited to PDF versions of printed books. However, an important database of literature relating to occupations, standards and EU guidelines has been translated and published online.

School-based e-learning

Distance learning and e-learning schemes have been implemented in selected vocational colleges and secondary schools (Tetnaldi and Lakada colleges, Agara secondary school) under the EU-funded UNDP project 'Deepening linkages between the formal/non-formal VET system and labour market needs in the context of lifelong learning in Georgia'. The model would serve as a pilot for deploying VET programmes in secondary schools.

Virtual simulations

Blended physical-digital simulations developed at Georgian Technical University Virtual Modelling and Construction Centre have been integrated into e-learning portals and projects in several VET colleges. Simulations are provided for eight specialisms and include demonstrations, interactive quizzes and process visualisations. The innovative blending of physical lab tests with digital measurements or visualisations has the potential to enrich students' hands-on experiences.

www.timer.ge/gacockhlebultsigni-virtualuri-cdebi-da-realuri-shegrdznebebi-ualternativo-gamogoneba-teqniki-universitetisgan/?fbclid=IwAR3cl7agz1t8BxoB97mh6RxaqjaOBcJnJ4BQbITZ6OBNFfWNj54u2Rq-PuE (in Georgian)

<http://gtu.ge/News/8255/> (in Georgian)

<http://parliament.ge/en/saparlameto-saqmianoba/komitetebi/ganatilebis-mecnierebis-da-kulturis-komiteti/axali-ambebi-ganatileba/mariam-djashma-tbilis-saxelmwifo-teqniki-univesritetis-virtualuri-da-realuri-laboratoriebi-daatvaliera.page>

⁵ www.facebook.com/VocationalFabLabs/



Facts and trends

Some vocational schools equipped with FabLabs have hired an ICT manager with a mainly technical support function, although this is not mandatory. The network for TVET FabLab ICT managers⁵ is gaining momentum.

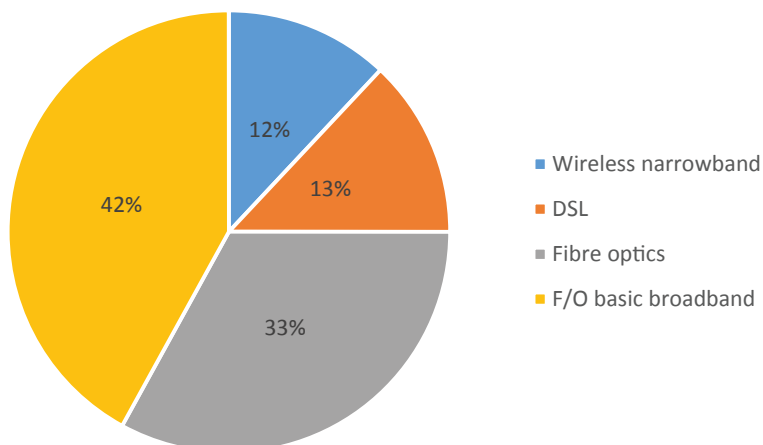
Some colleges offer vocational courses (e.g. fish processing, electrician) that include Moodle-based learning management systems, video demos and illustrative or interactive digital content. Test assessment is also available through learning management systems. Detailed support materials describing each step in a given practical process are available for teachers and students.

A number of occupation-specific simulators have been integrated into the initial VET curriculum and have proved to be both successful and in demand. These examples include crane operations, ship manoeuvring, welding, construction process, tractors and locomotives.

The authorisation standard for VET provider schools includes a requirement to have a computer lab, internet access and a functioning website. There is also a requirement for ICT to be used both for educational purposes and for managing the institution.

The average student-computer ratio in VET colleges is 3:1. The average number of computers in a VET college is 200, and all VET schools are connected to the internet⁶.

Percentage share of internet connection types in TVET schools



⁶ Data collected by the MoESCS VET department at the request of the author.



DIGITAL AND ONLINE LEARNING IN CONTINUING VET

Policies, strategies, initiatives, practices

The Vocational Education and Training Development Strategy for 2013–2020 underlines the importance of distance learning in VET for adults. Through a recent policy initiative (2019), private companies and training centres, along with public and private VET providers, can implement short-term (two–six months) TVET training and retraining courses and issue a state-recognised certificate if the course meets the required standards, including:

- training that meets labour market demand;
- learning outcomes aligned with the national qualifications framework;
- transparent and valid assessment system;
- sufficient human and material resources;
- robust administration⁷.

For priority specialisations (including IT), the state also provides financial support through a one-off voucher (up to the value of around EUR 300) for the recently launched training and retraining programme for unemployed jobseekers. Preference is given to those from vulnerable groups. Thus, formal support for adult education has been consolidated by state institutions, namely the MoESCS VET department and the Social Service Agency of the Ministry of Health, Labour and Social Affairs. DOL for adults is still at an early stage.

Facts and trends

The emerging trend is for private companies to invest in their own vocational programmes, with IT companies and the hospitality and construction sectors leading the way.

Another notable example is the state-supported provision of short-term TVET programmes, including popular IT courses for prisoners, probationers, former prisoners and their family members. During the past five years more than 500 people have passed IT courses, out of 3 200 participants overall.

Vocational training through distance learning

A distance e-learning platform was developed for car mechanics and electricians using virtual, interactive, Georgian-language simulator software.

Forty employees of the company Georgian Manganese were trained remotely by the teachers of vocational college 'Modusi' in Rustavi, with Georgian distance-learning software and using an interactive simulator.

www.modusi.ge

GeoLab

IT training centre GeoLab is a working space for young people interested in ICT. The centre provides regular training courses in web and mobile programming, gaming, coding, digital marketing and graphic design. GeoLab offers distance learning and a student internship programme that is open not only to its trainees, but to everyone. Alumni of GeoLab programmes regularly find employment with various organisations.

geolab.edu.ge

⁷ Government ordinance No 131, March 2019.



About 20 training centres (including university-based short-course programmes) offer IT courses in graphics suites, operating systems, popular graphics/design suites and animation, web development, computers and network administration. Half of these centres provide advanced courses in Cisco certification, databases, Java and .NET programming, IT project management, mobile programming, game development, etc.⁸. Some training providers have created popular courses (e.g. on basics of web programming, social media marketing) that include a significant DOL component and remote tutoring, and these could be considered blended courses. The total enrolment in these institutions amounts to several hundred students per year.

Although distance-learning practices are gradually gaining ground, MOOCs are not widely used. The exception is the occasional use of popular global platforms that are used informally for personal professional growth.

Some DOL content in Georgian is available online through different organisations' portals. This includes 2 000+ videos from Khan Academy, 250 video lessons in school subjects and basic office applications on the kodala.ge educational portal, resources for farmers and agribusiness on agroface.ge, the private skills.ge portal, and newly launched online courses in export management, IT project management with Scrum, and freelancing on education.mindworks.ge.

The World Bank GENIE programme, launched in 2016 to support the Georgian Innovation Ecosystem, includes developing DSC among the general population, especially in rural and remote areas. The programme has also trained local small and medium-sized enterprises and individual entrepreneurs in the basics of digital marketing, e-commerce and financial reporting.

The main challenge identified in a number of reports is that educational institutions do not provide appropriate knowledge and skills to match the needs of the labour market. Another challenge is that apprenticeships are almost non-existent⁹. Thus, self-education and practical experience remain the de-facto standard track to employment in the ICT sector or in ICT professions.

⁸ Innovation and Technology in Georgia, Annual Report 2017.

⁹ Georgian Innovation and Technology Agency, IT Skills Needs Assessment, 2017.

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