Quality Assurance of digital tools and delivery in VET

Summary Report from the EQAVET Peer Learning Activity

22-23 November 2023

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1. Setting the scene

The Council Recommendation on VET underlines the importance of digital transition and calls that the EQAVET National Reference Points (NRPs) provide support to "self-evaluation as a complementary and effective means of quality assurance to allow the measurement of success and the identification of areas for improvement, including with respect to digital readiness of VET systems and institutions[1]" (page 8). In connection to the digital (and green) transition, a focus on digital skills is mentioned and the provision of VET should become more attractive and be delivered with enhanced quality. The EQAVET Framework was designed as a flexible tool for use in all learning environments: school-based as well as work-based VET, IVET as well as CVET, and for programmes addressing school leavers as well as those addressing adults.

The EQAVET Network has previously discussed the impact of digital vocational education and training (VET) provision on quality assurance (QA). During the 2023 EQAVET Annual Network Meeting, a panel discussion with network members from Estonia, Italy, and Montenegro draw several conclusions. For example, there has been a lot of progress in understanding how digital tools and delivery can be used in VET. To support this, teachers need to be equipped with digital competences, there needs to be sufficient equipment and pedagogical approaches fit for online learning. It is important to acknowledge that the move to digital learning affects students differently, students from less advantaged socio-economic backgrounds can find it more difficult to access resources.

2. Objectives of the PLA

The EQAVET Work Programme for 2021-2023 lists a set of thematic priorities, including Reinforcing Quality Assurance for all formats of VET delivery, including work-based learning, individualised and digital learning (e-based/blended learning), and its assessment/recognition/certification.[2] In that context, the PLA focused on exploring:

- how the use of new digital tools and new forms of delivery changes teaching and learning, and
- what impact this has on the quality assurance of input, process, output and outcomes.
- It was discussed:
    - how we can ensure that digital tools and delivery generate high quality VET, and
    - to what extent quality assurance arrangements at system- and provider level need to be adapted to meet these requirements of innovation and digitalisation.

The following questions were discussed during the PLA:

- System level: Across the Member States, what examples exists to quality assure policy strategies supporting the digital transition in VET?
- Provider level: Across the Member States, what types of digital tools and delivery of VET exist (incl. incl. blended learning, use of AI and online assessment) and how are they quality assured by VET providers?
- How is the EQAVET framework, through its indicators and indicative descriptors, currently used to cover the needs of quality assuring the digital tools and online delivery of VET programmes?

[1] celex_32020h120201_en_txt.pdf (europa.eu)
[2] EQAVET governance and work programme - Employment, Social Affairs & Inclusion - European Commission (europa.eu)

    - How are the indicators/descriptors specifically addressing to quality assure digital tools and delivery in practice?
    - How are other indicators/descriptors used to quality assure digital tools and delivery?
    - Is there a need of further updating the EQAVET Framework, and if so, how?
- What other EU initiatives (DigComp, SELFIE, EDSC) can support the quality assurance of digital VET?

3. Introduction to the PLA topic

Digitalisation is one of the current megatrends affecting all parts of society including VET. New tools for learning are used and new (digital) learning environments emerge, generating discussions at national and EU levels. At EU level, the role of artificial intelligence (AI) in shaping work was discussed lately during the European Employment & Social Rights Forum 2023. The Council also adopted two Recommendations on the key enabling factors for successful digital education and training as well as on improving the provision of digital skills and competences in education and training. The Recommendations invite Member States to develop national strategies for digital education, including to mainstream the topic and responsibility for digitalisation across ministries and to ensure adequate investment in equipment.

The PLA was an opportunity for the EQAVET Network to reflect on these trends and developments including on consequences for quality assurance, whether the measures and procedures in place are sufficient and if there is a need for a shift of paradigm at country level that would impact the EQAVET framework.

Digital tools and digital learning environments can entail new professional roles, new ways of learning, different pedagogical techniques and different types of assessments. Digitalisation can have an impact on the quality assurance of input, process, output and outcomes of VET. There is a need to reflect on the impact of digitalisation for students, whether new learning outcomes should be developed or if the current are flexible enough to be applied.

The EQAVET Network had previously identified six main areas relevant for quality assurance of digitalisation in VET:

- **Digital learning in VET**: in the last years, and especially with the covid-19 pandemic, schools have quickly introduced online and blended VET and used AI. It has proven very challenging for work-based learning and schools faced difficulty to ensure continuity in the training.
- **Digital skills and competences**: learners need digital skills to find jobs and trainers and teachers need a high level of digital skills, and the capacity to use pedagogical approaches that suit these new forms of learning.
- **Teacher training**: VET teachers and trainers need support, training and guidance to seize the digital transition.
- **Equipment and accessibility**: the move to online and blended learning affects students differently. VET students from less advantaged social or economic backgrounds can find this change more difficult and have less access to resources which will be essential to their working life. Similarly, some VET providers might have better, more up-to-date equipment than others.
- **Soft skills**: VET providers have experienced challenges in developing learners' self-confidence, 'soft' and social skills when the amount of face-to-face training is reduced.

However, students still need a lot of soft skills for their future jobs (e.g., attitude or ability to discuss with customers and clients). Online training leads to a decrease in interactions for students and can have an impact on their confidence.

- **Specialised staff**: the recruitment and retention of specialist IT staff in the VET sector is difficult. Countries have developed different types of strategic approaches to meet a potential shortage of specialists. It is also important that responsibility for digitalisation is not led by a single person, but the mission of the full educational team to ensure mainstreaming and sizing of the mission by all members. This will also force them to be trained on the topic.

EQAVET is based on a quality assurance and improvement cycle and a selection of descriptors and indicators applicable to quality management at both VET system and VET provider levels. EQAVET does not prescribe a specific system or approaches but instead provides a framework of common principles to help Member States in assessing and improving the quality of their VET systems and VET provision. EQAVET can be regarded as a toolbox, open and flexible to be used in all types of learning environments, whether school-based or work-based.

The EU has adopted a strategic policy framework on digital skills to support Member States including:

- European skills agenda;
- Digital education action plan;
- European pillar of social rights action plan;
- 2030 digital compass.

There are also several policy initiatives that are relevant for the digitalisation of VET. The 2020 Council Recommendation on VET which includes EQAVET, refers to digital learning for instance to have digital trainers with the right skills, as well as the Osnabrück declaration, the 2022 Council Recommendations on micro-credentials and individual learning accounts.

EU tools are available to support digital skills:

- Digital Competence Framework (with the updated version DigComp 2.2)
- SEFLIE: a self-reflection tool for schools to assess their use of digital technologies in eight different areas and bring together the view of different stakeholders (school leaders, teachers and students). A new module 'SELFIE for WBL' supports VET schools and companies for work-based learning.
- Centres of Vocational Excellence
- European Digital Skills Certificate: a pilot is being ran out in five countries. The certificate aims to allow people to present their level of digital skills.

4. System level initiatives

Estonia

Rita Kask, Ministry of Education and Research, Estonia, presented the approach to digitalisation of education in Estonia.

The Ministry of Education and Research of Estonia adopted an education strategy 2021-2025 with three main goals:

- Enable seamless learning paths: the aim is to have a holistic approach designed as a lifelong learning process where learners can adapt their programme to their needs. Learning opportunities are diverse and the education system should enable for smooth transition between different levels and types of education;
- Have competent and motivated teachers to implement the strategy;
- Meet societal needs by offering learning options that are responsive to the labour market needs.

Estonia also has targets for 2035 that include:

- **Digital pedagogy**: teachers and trainers should have sufficient digital skills to master new trends, risks and methods, and digital learning should be used meaningfully;
- **IT education**: All age groups should have digital skills that allow for equal opportunities and increased competitiveness.

The digitalisation of education in Estonia has improved the accessibility, diversity and efficiency of the system, and schools have high-level digital infrastructures. However, teachers and trainers' skills in diversifying the learning process and environment are uneven. Similarly, the level of digital skills varies in all age groups.

The education strategy comprises several actions for digitalisation such as developing personalised and diversified learning, developing digital solutions for learning and for the management of individual educational paths and careers and assessment of skills, promoting the development and implementation of diverse methods of learning and teaching and raising awareness of opportunities and risks linked to digitalisation. Actions are especially supported by ESF+ funding.

The Ministry developed quality assessment criteria to assist schools in monitoring the development of the strategy and targets. The learning environment (e.g., materials, tools and technology) should support the learners in achieving the learning outcomes. The organisation of practical work should be adapted to learners and supports them in achieving the learning outcomes. Finally, the professional development of teachers should be based on curricula, learners' needs and feedback from parties and self-analyses.

The vocation education quality assessment 2022 shows that virtual environments and collaboration tools are used in Estonia. Technological support is provided to both learners and teachers, and e-courses and e-learning are available to support self-directed learning. However, digital skills of teachers vary, there is a variety of information systems and e-learning material quality is inconsistent.

A quality label for e-course was also developed a few years back to improve the quality of e-courses and share best practices. The label indicates the good quality of a course and the high-level integration of digital technologies in the learning process. E-course self-evaluation and assessment criteria are set and regularly updated.

Czechia

Martin Úlovec, Ministry of Education, Youth and Sports, Czechia, presented the priorities in digital education and digital transformation of VET in the country. A new version of the curriculum was introduced with transversal development of digital skills and computational thinking and new educational content in the field of informatics to be implemented by schools by 2025. The revised curriculum focuses on:

- **digital skills development**;

- **digital wellbeing and cyber prevention**: a cyber prevention catalogue gives an overview of programmes and methodologies available to increase safe behaviours in the cyberspace for students, teachers, and parents; the new committee for digital education makes a priority of cyber prevention in its agenda; national methodological cabinets are accessible to support teachers.
- **integration and effective usage of AI and other digital technologies**.

Massive support is available to the schools for the development of digital education and transformation. The Czech NRP is trying to manage quality assurance of the digital education as well. A network of specialists helps schools to integrate digital technologies, with administration, connectivity, and security. New standards were developed to monitor the developments linked to digital education.

The development of digital education relies especially on teachers. Therefore, the Ministry support teachers' training and development. Study programmes for teachers' training are developed in cooperation with universities and focus on the three main goals of the digital education and transformation policy. There is a particular focal point on practical training, innovation, and new forms of training. Teachers are also supported via NRP activities such as webinars and regional ICT methodologist networks. Educational programmes on digital skills development and the usage of technologies will be developed further in the future. Czechia uses the EU tool SELFIE for teachers but also Teacher21 which is a national tool to monitor demands from teachers in schools.

Quality assurance of the new curriculum is currently under development. Data coverage should be widened and will serve to measure how Czechia is developing digital skills compared to the EU digital decade. Future priorities include:

- Enable **sustainable development of the digital infrastructure** of schools;
- Further **develop high-speed internet connection** in schools;
- **Ensure access to the internet to all and prevent the digital divide** as the State noticed that during the covid-19 pandemic, while they were able to deliver equipment to schools and students, hardware is not enough as students with lower background did not have sufficient internet connection to use it;
- **Increase ICT experts training and the share of women in ICT related professions**;
- **Integrate AI effectively in teaching**: The Ministry is preparing to incorporate AI in education content, strengthen support to schools in using AI, expand the training offers for teachers on AI, ensure the safe usage of AI, develop personalised teaching forms and methods using AI to fulfil the individual educational needs of students, and update the national AI strategy.

Various stakeholders in digital education from the public, private and non-profit sectors are involved in the Czech national coalition for digital skills and jobs. The cooperation aims to allow the transfer of information and coordinate activities of the different actors as well as to work jointly on strategies and recommendations while reflecting the implemented and planned activities of the relevant ministries and institutions.

The Ministry is preparing a new strategic framework for digital education for 2023-2027. Priority areas are the development of digital skills in a lifelong perspective, reflecting the changing needs of the labour market in the context of digitalisation, preventing the digital divide and strengthening the coordination between the different stakeholders of the sector.

The Netherlands

Ester Scholten, CINOP/MBO Digitaal, the Netherlands, highlighted the importance of digital competence for VET teachers. The Dutch sub-programme 'Digital competence' aims to monitor and provide insight on the digital competence of teachers at institutional level. The sub-programme should help to have a realistic overview of teachers' real digital skills as well develop relevant policies. This is a pro-active dynamic with actions to raise awareness, explain what is meant by digital competence, why it is an important topic for all teachers and how digital competence can be enabled by focusing on co-creation and training.

The Digital competence sub-programme relates for instance to indicator 2 of the EQAVET framework to invest in training of teachers and trainers. This relates to the content of the training, but also to teaching methodologies. The Dutch NRP specified in its objectives that digital skills should be incorporated in the curricula. Teachers should work on their initial and continued professional development to provide high quality education, which comprises technical and digital skills such as teaching in a virtual environment.

Teaching teams are the core of educational quality. All teachers and trainers should have a minimum level of competence, and everyone has a role to play to make sure teachers are trained well to deliver education of higher quality. Therefore, in the Netherlands, everything surrounding teachers (policy, schools) is aligned with digital competences and skills.

The NRP has identified various points where a shift is necessary to enable digital competence of teachers:

- Instead of working on tools, in the future there should be a focus on a **wider range of digital competences** such as knowing how to use equipment and digital platforms for e-learning. The NRP developed indicators in collaboration with the Dutch centre of expertise on learning and teaching with ICT for teachers, digital literacy for students or designing ICT rich learning arrangements of evaluating ICT processes. It is important that teachers see the value of digital competence, including for facilitating their work.
- The **responsibility of digitalisation** should not be assigned to one coordinator but lies with all team members and go beyond teachers.
- **Continuous learning** should replace teacher training as a quick fix, to avoid the decrease of skills overtime. Research in the Netherlands showed that having one training only does not have long lasting effects on teachers compared to group settings where teachers can share knowledge from their context and exchange during a longer period.
- Teacher education and training shouldn't focus only on teachings strategies but respond to a more **holistic approach**. The best way to change teachers' behaviour is to have an impact on their beliefs and values. Indeed, if teachers do not see the added value of digital skills in their job, they will not change their behaviour in the long term.

5. Provider level initiatives

AgriNext project

Luka Orehar, Biotechnical Centre Naklo (BC Naklo), Slovenia, presented the Erasmus+ funded Centre of Vocational Excellence project AgriNext. BC Naklo is an education research and development institution focused on nature, health food production and food processes amongst other topics with the approach of encouraging entrepreneurship and innovation.

AgriNext is an agricultural and rural excellence incubator and platform the exchange of competences, contributing to the aim of creating a learning environment that responds to the skills demand on the agricultural job market. The project started in June 2022 and runs until May 2026 and involves ten partners from four EU countries. AgriNext has several objectives including developing a guidance service model (GSM) responding to the changing labour market, empower teachers in responding to the labour market, create physical and virtual environments for interactions and learning as well as increasing the digital competences of both students and teachers.

In October 2023, the AgriNext project carried out an in-person test implementation of the developed curriculum for guidance service providers. The curriculum is adapted to both online and blended learning. An analysis of teachers' competences has also been carried out.

The project utilises several digital tools and delivery approaches, include online collaborate platforms, online document editing, digital storytelling tools, online surveys and the EU Portal for funding and tenders.

A lot of the digital approaches at BC Naklo and in the AgriNext project were enhanced during the COVID-19 pandemic including the development of improved QA processes. To quality assure the use of digital tools in AgriNext, the project team takes on the following steps:

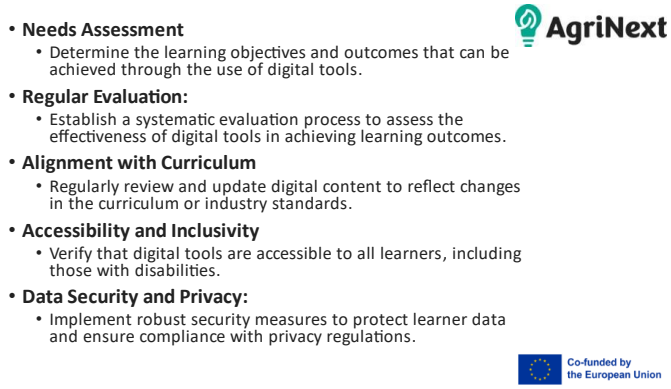

Figure 1: Presentation slide: Luka Orehar, BC Naklo/AgriNext, 23 November 2023.

In discussion with the PLA participants, the presenter clarified the aspects below:

- AT BC Naklo, VET-courses are currently being transformed into online formats. Students are involved in the pilot implementation to make sure learning outcomes are accessible.
- To continue with this process, AgriNext is advocating for a change in national policy to allow for more flexibility in the VET system to use digital tools in their implementation.
- Later in the AgriNext project cycle, an incubator will be organised to engage start-up companies and entrepreneurs.
- When discussing QA of digital tools, it is imperative to ask what constitutes a high-quality digital tool – what is the added value, what do they do that we cannot achieve without them.
- The importance of digital competences in the agricultural sector are not always obvious and the sector tends adapt slower to new technologies. Digital competences to learn online were crucial to ensure continuity of teaching and learning during the COVID-19 pandemic. However, online learning competence can also help to ensure accessibility of learning, given the rural and remote settings of many learning venues in the sector.

POVE Water Scale-up project

Guido Helmerhorst, Warp VR, POVE Water Scale-up project, presented how Virtual Reality (VR) can be used to train students in situational learning and in particular challenging situations that are difficult to replicate in offline environments, such as evacuation training. Guido is the co-founder of Warp VR and the lead developer in the POVE project.

He stated that VR responds to many challenges in VET and overall education and can provide identical training experiences for a large group of learners located in different geographical areas and can be made available at a time that fits the individual learner:

Figure 2: presentation slide by Guido Helmerhorst, Warp VR, POVE Water Scale-up project 23 November 2023

In this sense, VR technology can also enable learning opportunities to be scaled. Guido provided several examples of how VR technology is used to create courses for different clients including how Spanish farmers could see how a farm was being ran in the Netherlands, how airport colleague students in the aviation industry could train on evacuation scenarios and how to deal with difficult customers.

The presenter referred to the EQAVET reference framework and made an attempt to connect the EQAVET indicators to the use of VR technology in VET:

EQAVET Indicators	Impact of VR technology on VET
Indicator 2: Investment in training of teachers and trainers	Teachers are trained to create their own training scenarios using VR
Indicator 3: Participation rate in VET programmes	Can increase participation rate due to accessibility
Indicator 4: Completion rate in VET programmes	Situation learning able you to show knowledge and skills under pressure
Indicator 6: Utilisation of acquired skills at the workplace	VR can help to learn skills in settings of work environments.
Indicator 8: Prevalence of vulnerable groups	VR can bring learning closer to vulnerable groups
Indicator 9: Mechanisms to identify training needs in the labour market	VR can be used to collaborate with companies to understand what is needed on the labour market
Indicator 10: Schemes used to promote better access to VET and provide guidance to (potential) VET learners	A learner only needs a mobile phone to access the training.

In discussion with the PLA participants, the presenter added information on the below aspects:

- For the assessment of learning outcomes, the Warp VR uses pre-evaluation or pre-self-evaluation for soft skills scenarios and then a post evaluation. They have also applied peer reviews between learners.
- Learning objectives are the start of creating a VR course, and the basis for the learning scenarios. Students are also able to create their own scenarios.

6. Workshop discussions

Day 1: What needs for quality assurance emerge from new and digital forms of VET delivery including tools?

The PLA participants went on to discuss needs for QA that emerge from the new digital VET tools and delivery. Three participants kicked off the discussions with examples from their contexts, raising questions for further discussion:

Laura Ferri Ramirez shared reflections on how stakeholders are consulted/involved in the QA of digital tools from the context of **Spain**. Spain is currently using the 'Selfie' tool (i.e., more than 15000 schools have used it and more than 400000 teachers have taken the self-assessment test). Laura stressed the importance of involving more stakeholders in the use of these types of tools – to understand digital competences of regional authorities, companies, and rural and urban differences etc. For example, are countries considering trade unions when implementing QA on digital aspects and which type of stakeholders are targeted (students, families, people trying to re-enter education etc.)?

Eimear Joyce addressed QA of e-portfolio, as an example of a digital tool from the context of **Ireland**. In Dublin, schools have been provided with e-portfolios (including templates, assessments, feedback, and reflections) to help students keep record of their development. The QA reviews have positively rated the use of e-portfolio, but analyses of potential risks and challenges are also being carried out – including the fact that the service is provided by Microsoft (OneNote). What are the experiences of others, especially regarding QA?

Tomi Ahokas discussed QA of digital learning environments from the context of **Finland.** Finland is currently discussing how to use digital simulations (for example with VR) to showcase VET career opportunities as well as to identify students prior learning and create an understanding of what competences that needs to be complemented. National agencies provide funding for digital tools, encourage collaborations between providers (for example on buying expensive equipment). The national agency decided which content that should be delivered in VET programmes, but providers have strong autonomy and can chose the methodology and tools used for delivering education. Should there be QA standards and requirements stipulated from the system level?

The summary below shows the key points from the ensuing discussion:

- We need to consider that we do not have a complete understanding of digitalisation and its impact on the education system and the wider society, for example, we do not have enough knowledge of digital pedagogics. In some sectors, digital changes are obvious, and in others, it is difficult to see the changes.
- From the trade unions perspective, digitalisation is often talked about, and trainings are available. It is important to not replace in-person training with online offers since students tend to miss human contact. Furthermore, digitalisation including delivery and tools can be very useful on certain areas/sectors and less applicable for others.

- When designing digital tools, it is important to consider the target group and their level of digital competences and literacy. Teaching and tools need to be constantly adapted to the changes of the labour market and technological advancements – to make sure that both teachers and students are prepared.
- The use of digital tools developed by big international tech companies makes QA difficult as the public sector has little control over key aspects like privacy and data security etc.
- Digitalisation impacts everything, there is a need to consider if we should have indicators for all these changes and how we want the EQAVET reference framework to capture it. The understanding of digitalisation cannot be made in isolation of schools and the education system – we need to consider further investments, industry transitions etc. it is therefore important to involve stakeholders like companies and trade unions in designing the tools. When involving multiple stakeholders, we need to ensure that trust and transparency is ensured.
- Some developed procedures for reviewing offline content for education purposes could be transferred to the use of digital tools. Support should be provided to teachers in how to evaluate tools and how to decide on which tools that fits the purpose and needs.
- There are many school-company apprenticeships, and many companies provide tools for VET schools to prepare for future apprenticeships. This kind of cooperation should be encouraged and be based on an equal partnership.

Day 2: What follows for the EQAVET Framework and QA in general?

During the second day of the EQAVET PLA, the participants were divided into two groups for discussions. The first group focused on how the EQAVET reference framework responds to digital tools and delivery and the other group discussed QA linked to digital tools and delivery more general terms. The two groups discussed the strengths of the EQAVET reference framework in the context of digitalisation, and – if need be - what could need to be done to improve the EQAVET reference framework to respond to the challenges and opportunities we are facing.

Group 1

In this group, participants with longstanding experience and a good understanding of the EQAVET reference framework discussed if there is a need for reviewing the framework due to the growing role of digital tools and delivery in VET. Below a summary of the reflections:

- EQAVET is a reference framework, designed to be sufficiently flexible to cover various learning environments and emerging issues. The version from 2020 already includes indicators on digital aspects. Consequently, there does not seem to be an immediate need to update EQAVET. It was discussed if a complementary guidance note could serve the purpose of providing more support to national agencies and providers. Yet is important to bear in mind that digitalisation is not the only pertinent issue at stake as other topics are equally high on the Agenda (e.g., green skills and sustainability, work-based learning), and issuing guidance for all these would entail a lot of work for the Network. Moreover, there are several guidelines available on digitalisation from other contexts, so it would be important to avoid duplication of work.
- It was discussed that the real work will have to be done at national level, but that QA of digitalisation should not be approached as something separate but be embedded in the wider QA work, possibly defining quality descriptors or indicators related to digitalisation. This is in line with previous discussions within the EQAVET Network

related to QA of eLearning, where a dedicated working group concluded that we do not need a separate system for eLearning, but rather it should be incorporated in the overall QA system and align with other tools of learning.

- Digitalisation links many indicators already, including on investments (in teacher training, equipment, micro credentials etc.) and it should also be focused on the impact of quality VET. An idea could be to ask countries to analyse the EQAVET descriptors and indicators and to match them with how digital tools and delivery is taking place in their VET systems.
- There are many ways of digital learning, using a variety of tools, and thus, learning outcomes can now be achieved in more ways. This means that we need to think of the quality of tools and delivery. With in-person education, there are procedures for how books are approved, standards to adhere to but these processes have become much more complex.
- The delivery of education on digital competences can be challenging for teachers, and they need support on this. For instance, there are many commercial digital tools for learning, and often it is up to teachers to choose the tools. It is important to set up procedures with support from national level and to not leave it up to the teachers. Teachers also need to receive training on how to assess digital tools (are they safe to use, do they help to reach learning outcomes etc.). The assessment of digital tools needs to be linked to standards and QA processes. National agencies will have an important role in coordinating different stakeholders (regional authorities, providers, teachers etc.) to make sure that everyone shares the same approach.
- An important question to consider is if training regulations should include digital skills and competences. This can be difficult since they are constantly evolving, however, for this purpose there is the DigComp framework and national reference frameworks to draw upon.

Group 2

The second group discussed the topic from the view of QA needs emerging from digitalisation in general. The below table gives an overview on the main discussion points.

What elements make QA effective in the context of digitalisation? What are the strengths?	***What could need to be done to improve QA, given the challenges and opportunities we are facing?***
The provision of VET can become more accessible and may attract more young people that are interested to learn via digital tools.	The accessibility of online VET depends on the connectivity and internet connection – which can differ between rural and urban areas. But: Digital learning cannot replace in-person learning, students need the real interaction with other people.
Digitalisation will enable stakeholders including QA personnel to share good practices. The same is true at country level: Mutual learning is important to share experiences and find inspiration.	In many countries education providers are very autonomous, and it can be difficult to share best practices and a challenge to change mindsets of relevant stakeholders.

What elements make QA effective in the context of digitalisation? What are the strengths?	*What could need to be done to improve QA, given the challenges and opportunities we are facing?*
QA practices can be helped by digital tools and in turn, QA can also help to improve digital tools. **Digital tools enable education to be recorded. Recording (and other aspects of digital tools) can help the data collection for QA.** **Digital tools can bring more transparency for QA and ensure better record of data.**	The capacity and competences of teachers should be improved to ensure a level of digital literacy and understanding of how digital tools can complement existing practices.
Digitalisation can contribute to less paperwork and changing the workload. If we introduce digital tools in a good way, we remove some admin burdens of teachers and administrative staff.	It is important to acknowledge that digitalisation does not happen overnight but takes time. It is important to change the paradigm, for example PDF versions and paper are almost the same thing, we need to start thinking bigger. What can we do with all these new tools?
Virtual learning can open for more in-depth information which we did not have in the past. It can also create new learning situations, such as how to practice an emergency. **Digital tools can be cheaper since less resources used for the same learning outcomes.**	Need to consider if we are training for new skills or if we are applying our skills in a digital environment. Learning versus practicing.
Teachers can be described as both strengths and challenges linked to the use of digital tools and delivery in VET. Before the pandemic, teachers were sceptical to using digital tools, but the pandemic helped to overcome resistance and **showed that everyone can use these tools.**	The evolving digital tools can be a challenge in the sense that it is difficult to keep up with. It can be difficult to ensure a consistency of skills and ensuring that stakeholders are motivated to use- and comfortable with digital tools. With digitalisation, there is a lot of information –and stakeholders need to be able to distinguish the sources and owners. Teachers have a difficult task to select the right digital tools.

The group also discussed future visions, wishes and ambitions for how digital tools and delivery can impact QA in VET. Participants discussed the idea of a comprehensive system (such as a joint software) that integrates all parts linked to QA, meaning that each stakeholder can input their relevant information (teachers, administrators etc.). Another topic to exchange on is how a more digitalised approach to QA could lead to less administrative work for teachers.

7. Concluding remarks

Digitalisation is here to stay and enables students to learn in many ways, the possibilities are almost endless. There is a series of tools at EU level, including EQAVET, that can be useful in terms of quality assurance, but the real work needs to be done at national level. From the discussions, the following key guiding questions emerged, that may help to structure the process:

- **1st key question: Why?** When introducing forms of digital teaching and learning, the benefits should be clear: what are the challenges we want to address with forms of digital learning? What is the added value of digital tools or digital delivery formats, related to sectors and regions? For instance, there were a few examples referring to gains in terms outreach and efficiency: overcoming geographical boundaries, saving time, efficiency, practising at low costs, but new challenges were also mentioned, including data privacy and cybersecurity. The gains should clearly outweigh the risks.
- **2nd key question: Strategy and goals.** What do we want to achieve and what is the best strategy in our context to get there? Do we have clear, measurable targets, e.g., at the policy level (e.g., desired level of proficiency of VET graduates, population in general), and at the provider level (e.g., number of students transitioning into certain tech-intensive sectors)?
- **3rd key question**: **Definitions.** Do we have a clear and common understanding of the related concepts, e.g., what do we mean when we talk about digital skills, competences, learning outcomes, and how can that be developed and communicated?
- **4th key question: Pedagogical concept and vision.** How do we quality assure the quality of teaching in the digital context and investment in teachers? Teachers are the ones deciding on what digital tools to use, so they may need guidance in terms of aligning with the agreed pedagogical vision.
- **5th key question: Collaboration.** Besides policy makers and VET providers, employers also have a great responsibility in training and upskilling students and workers. How do we understand and approach stakeholder engagement? It was also mentioned that VET providers should work together as individual, piecemeal solutions can be very expensive.
- **6th key question: Team effort.** How do we approach QA of digital tools and delivery together? As the CINOP presentation showed, digitalisation in schools is a team effort, and concepts and job profiles need to be developed (Technical ICT coordinator, pedagogical ICT coordinator, etc.).
- **7th key question**: **The use of tools.** Digital tools bring new QA needs, something that is different from an analogue world is enhanced dependency on commercial developers and the EdTech sector. How to develop forms of independent assessments? The provider level presentations showcased that a high number of commercial tools are being used and this can have implications, should QA cover topics like data security, data privacy and cybersecurity? For instance, Estonia developed a Quality Label for e-courses.

The EQAVET PLA participants were also asked to share some final reflections at the end of the event using Sli.do. Below follows a few extracts of what was shared:

- “The potential for QA is exciting. Digital capture and reporting can be more efficient and beneficial for all. To streamline the current reporting systems.”
- “Proper use of digital tools can improve the quality of VET, but it requires highly trained teachers and trainers.”

- “Digitalisation is already part of the VET provision system. Thus, QA is already in it, in a way. Just a more targeted inputs specifically on QA needed, to have it in focus”.
- “Very interesting PLA, we have a big challenge in front of us and I could notice that all the countries are facing the same issues and have similar worries. Very helpful to share and learn from each other!”