REPORT

PROJECT NUMBER: 2022-1-ES01-KA220-VET-000086946

Administrative solutions to improve digitalisation in VET

Co-funded by
the European Union

This project has been funded with support from the European Commission.
This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

TECHNOVET

Project Consortium

IFC INTERNATIONAL FORMATION CENTER

BZB Bildungszentren des Baugewerbes e.V.

CC BY SA

VESK Verslo ir svetingumo profesinės karjeros centras

SCUOLA COSTRUZIONI VICENZA Andrea Palladio formazione, sicurezza per l'edilizia del futuro

CENTRE IFAPME Liège-Huy-Verviers

TALENTBRÜCKE

INTERAKTIV

LUX IMPULS® STRATEGISCH & MUTIG

>_ abstract IT Experience. Experience it.

TECHNOVET

TABLE OF CONTENTS

Introduction

The report “Administrative solutions to improve digitalisation in VET” produced in TechnoVET Work Package 4 provides a comprehensive guideline for vocational schools and training centres to navigate the complexities of digital transformation.

This report is structured into three main parts, each addressing the specific needs of VET & training centres, learners, and educators.

1. Establishing and Implementing a Digital Strategy

The first part is dedicated to guide VET centres in the development of a digital strategy, and it includes:

- **Digital Level Assessment** to evaluate existing digital capabilities, infrastructure, and literacy.
- **Needs Assessment** to identify gaps in training, administration, and support for staff and learners.
- **Priorities and Planning** set short- and long-term goals, allocate resources, and address financial challenges, such as budgeting, public funding, and partnerships.
- **Infrastructure** recommendations include minimum technology standards, like high-speed internet and personal devices, supported by proposals for phased equipment upgrades.
- **Sustainable Practices** suggest reducing paper usage, improving energy efficiency, and integrating sustainability topics into the curriculum.
- **Staff Training** offers personalised learning paths, regular sessions, and recognition programs to motivate ongoing professional development.
- **Monitoring** with Key Performance Indicators (KPIs) tracks progress and ensures continuous improvement in the digital strategy.

2. Designing and Delivering Digital Learning Programs

The second section focuses on enhancing digital learning experiences for VET learners:

- **Learner-Centred Design** integrates interactive modules, gamification, and real-world applications.
- **New Curricula** use online platforms, virtual classrooms, and multimedia content to meet learners' specific needs. Personalised learning paths cater to individual strengths and career goals.
- **Collaborative Learning** promotes group projects and forums to foster community, while regular feedback helps learners monitor their progress.

3. Professional Development and Training of Teachers and Trainers

The third section emphasises the crucial role of educators in the digital transformation:

- **Digital Literacy for Educators** focuses on foundational skills, Learning Management Systems (LMS), collaborative tools, assessment methods, and cybersecurity.
- **Best Practices** include conducting needs assessments, offering blended learning and peer collaboration, and providing incentives for professional development.
- **Implementation Scenarios** address different levels of resource availability, offering ideal, moderate, and minimal strategies for digital training.

Conclusion

The Report “Administrative solutions to improve digitalisation in VET” advocates for a phased, adaptive approach to digital transformation by addressing the challenges faced by centres, learners and educators helping to implement a successful innovative digitalisation strategy.

Establishing and implementing a digital strategy

1.Strategy development

The first step in creating a digital strategy is assessing current digital capabilities through a **Digital Level Assessment Test.** This identifies strengths and weaknesses. Following this, a **Needs Assessment** will determine specific digital requirements, considering factors such as student demographics, course offerings, and industry demands. **Priorities and Planning** for digital initiatives follow, addressing critical needs first. **Financial Challenges** must be managed to ensure the strategy's sustainability and scalability.

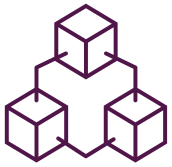
1.1 Digital level assessment

Before starting a digital transformation, it's crucial to assess the institution's current digital capabilities. The **Digital Level Assessment Test** helps develop a strategy by showing the state of digital infrastructure, tools, skills, and practices.

The primary purpose of the test is to identify the **strengths and weaknesses of the institution's existing digital ecosystem**. This assessment should cover various areas, such as:

- Infrastructure: Evaluate the quality and reliability of internet connections, hardware, and software.
- Digital Literacy: Assess the digital skills of staff, trainers and learners.
- Current Usage: Analyse how existing digital tools and platforms are currently used in teaching, learning, and administration.
- Security and Privacy: Review the measures in place to protect data and ensure compliance with relevant regulations.

To conduct a comprehensive test, vocational schools and training centres should use survey or interview staff, trainers and learners to gather insights into the current digital literacy levels and the effectiveness of existing tools and platforms. Technical audits should also be performed to evaluate the state of the institution's IT infrastructure. The results of this assessment will provide a baseline for setting realistic goals and expectations for the digital strategy.



Example of a Digital Level Assessment Test

1. Technological Infrastructure

Internet access

Does the training centre have a stable, high-speed internet connection?

Yes No

Devices

Do students have access to computers, tablets, or other digital devices during lessons?

Yes No

Software

Does the centre use specific learning management software (LMS - Learning Management System)?

Yes No

2. Digital Teaching Materials

Online Resources

Are learning materials available online for students?

Yes No

E-Books

Does the centre offer access to e-books and other digital resources?

Yes No

Video Lessons

Are recorded video lessons available for students?

Yes No

3. Teaching Methodologies

Does the centre use e-learning platforms for distance lessons?

Yes No

E-Learning

Is the flipped classroom method adopted?

Yes No

Flipped Classroom

Are gamification elements used in the courses?

Yes No

Gamification

4. Training and Support

Have teaching staff received training in the use of digital technologies

Yes No

Training for staff

Is technical support available to resolve technology-related issues?

Yes No

Technical Support

5. Communication and Collaboration

Are digital tools used for internal communication (email, chat, etc.)?

Yes No

Communication tools

Do students have access to online collaboration tools (e.g. Google Drive, Microsoft Teams)?

Yes No

Online Collaborations

6. Evaluation and Feedback

Are the assessments also carried out via quizzes and online tests?

Yes No

Online quizzes and Tests

Do students receive digital feedback on their progress?

Yes No

Digital Feedback

Evaluation of the Results
Maximum score: 15 points (Assign 1 point for each yes)

Interpretation:

- **13-15 points:** High level of digitalization
- **10-12 points:** Good level of digitalization
- **7-9 points:** Moderate level of digitalization
- **4-6 points:** Low level of digitalization
- **0-3 points:** Absence of digitalization

This test can be used as a diagnostic tool to identify areas for improvement and plan the interventions necessary to increase the level of digitalization of the training centre.

Good practice example – SELFIE

SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational Technologies) is a digital tool developed by the European Commission to help educational institutions, assess their digital readiness and integrate technology more effectively into their practices.

SELFIE anonymously gathers the views of students, teachers and school leaders on how technology is used in their school. This is done using short statements and questions and a simple 1-5 answer scale. The questions and statements take around 20 minutes to complete. Based on this input, the tool generates a report – a snapshot ('SELFIE') of a school's strengths and weaknesses in their use of technology.

SELFIE is available for any primary, secondary and vocational schools in Europe and beyond, and in over 30 languages. It can be used by any school – not just those with advanced levels of infrastructure, equipment and technology use.

https://education.ec.europa.eu/selfie

SELFIE for work-based learning (WBL) is a free online tool for Vocational Education and Training (VET) schools and companies. It supports them in making the most of digital technologies for teaching, learning and training. It is a specific part of the SELFIE tool, adapted to match the requirements of work-based learning.

https://education.ec.europa.eu/selfie/selfie-for-work-based-learning

1.2 Needs assessment

Once the current digital level is understood, the next step is to assess the specific needs of the institution. This process involves identifying the gaps between the current state and the desired outcomes, as well as prioritising the needs that will have the most significant impact on the institution's mission.

The Needs Assessment should focus on **identifying gaps** in:

- **Training offer**:
  Are there areas where digital tools could enhance the quality or accessibility of training?

- **Administrative Processes**:
  Which administrative tasks could be streamlined through digital solutions?

- **Staff and Learner Support**:
  What additional training or resources are needed to ensure that staff and learners can effectively use digital tools?

Involving **key stakeholders** in the Needs Assessment process is crucial. This includes:

- **Educators**:
  Teachers and trainers who can provide insights into the challenges and opportunities for digital learning in their specific fields.

- **Administrators**:
  School leaders who understand the broader operational needs of the institution.

- **Students**:
  Learners who can share their experiences and expectations regarding digital tools and resources.

- **Industry Partners**:
  Representatives from the industries that the institution serves, who can offer perspectives on the skills and knowledge required in the workforce.

By involving these stakeholders, vocational schools and training centres can ensure that the digital strategy addresses the real needs of the institution and its community.

1.3 Priorities and planning

With a clear understanding of the institution's current digital level and specific needs, the next step is to establish priorities and create a detailed plan for implementing the digital strategy. This phase involves setting short-term and long-term goals, allocating resources, and developing a timeline for implementation.

Setting Priorities

Prioritising digital initiatives is critical to ensuring that the strategy is both effective and manageable. Priorities should be set based on:

- **Impact on Learning Outcomes**: Prioritise initiatives that have the greatest potential to improve student learning outcomes and employability.
- **Feasibility**: Consider the technical and financial feasibility of each initiative. Some projects may require significant investment or complex infrastructure changes, making them longer-term priorities.
- **Stakeholder Support**: Initiatives that have strong support from staff, students, and industry partners should be prioritised to ensure smoother implementation.
- **Alignment with Institutional Goals**: Ensure that the digital strategy aligns with the broader goals of the institution, such as increasing enrolment, enhancing student satisfaction, or expanding the training offer.
- **Scalability:** Prioritise initiatives that can be scaled or expanded as the institution's digital capabilities grow.

Strategic Planning

Once priorities are established, the next step is to develop a strategic plan that outlines how the digital transformation will be executed. This plan should include:

- **Vision and Mission Statement**: A clear articulation of the institution's vision for digital transformation and its mission to achieve this vision.
- **SMART objectives**: Specific, measurable, achievable, relevant, and time-bound (SMART) objectives that the digital strategy aims to accomplish.
- **Initiatives and Projects**: A detailed list of initiatives and projects, along with timelines, milestones, and responsible parties.
- **Resource Allocation**: An outline of the resources required for each initiative, including financial, human, and technological resources.

Creating an Implementation Roadmap

The strategic plan should be accompanied by an implementation roadmap that provides a clear timeline and sequence for executing the digital strategy.
This roadmap should include:

- **Short-term Actions**: Immediate steps that can be taken to kickstart the digital transformation. These might include quick wins such as upgrading software or launching a pilot project.
- **Medium-term Projects**: Initiatives that require more time and resources, such as developing new online courses or overhauling the institution's IT infrastruc-ture.
- **Long-term Goals**: Ambitious goals that may take several years to achieve, such as fully integrating digital tools into all aspects of the curriculum or becoming a leader in digital training

Risk Management

Once priorities are established, the next step is to develop a strategic plan that outlines how the digital transformation will be executed. This plan should include:

- **Vision and Mission Statement**: A clear articulation of the institution's vision for digital transformation and its mission to achieve this vision.
- **SMART objectives**: Specific, measurable, achievable, relevant, and time-bound (SMART) objectives that the digital strategy aims to accomplish.
- **Initiatives and Projects**: A detailed list of initiatives and projects, along with timelines, milestones, and responsible parties.
- **Resource Allocation**: An outline of the resources required for each initiative, including financial, human, and technological resources.

Good practice example – GROOVE Toolkite

The GROOVE Toolkit is a practical guide that can be used by VET providers/trainers as supplementary material to advance their professional practices towards digitalisation.

It provides knowledge and understanding of digitalisation in the VET sector, the importance of vital digital skills for educators and learners, and how to develop a digitalisation strategy.

https://grooveproject.eu/wp-content/uploads/toolkit/index.html

1.4 Financial challenges

Significant challenges in implementing digital strategy is managing the financial aspects. Vocational schools and training centres often operate with limited budgets, making it essential to carefully plan and prioritise spending. Addressing this, requires a strategic approach to budgeting, resource management, and securing funding.

Budgeting for Digital Transformation

Creating a detailed budget is a critical step in the financial planning process. The budget should account for:

- **Infrastructure Upgrades:** The cost of upgrading or expanding the institution's IT infrastructure, including hardware, software, and connectivity.
- **Digital Tools and Platforms:** Licensing fees, subscription costs, and ongoing maintenance for digital tools and platforms.
- **Training and Support:** Costs associated with staff training, student support, and technical assistance.
- **Inclusion**: Explore ways to finance digital end devices for learners who lack access and cannot afford digital tools.
- **Contingency Funds:** Setting aside funds for unexpected expenses or emergencies.

Funding Sources

To address the financial challenges, vocational schools and training centres should explore various funding sources, including:

- **Public subsidies**: Many public institutions offer grants and funding programs to support digital transformation in education. Institutions should research and apply for relevant grants.
- **Industry Partnerships**: Collaborating with industry partners can provide access to funding, technology, and expertise. These partnerships can be mutually beneficial, as they help companies develop a skilled workforce.
- **Philanthropic Organisations**: Some philan-thropic organisations provide funding for educational initiatives, particularly those that promote digital literacy and inclusion.

Cost-saving Strategies

To manage costs, institutions can adopt several cost-saving strategies:

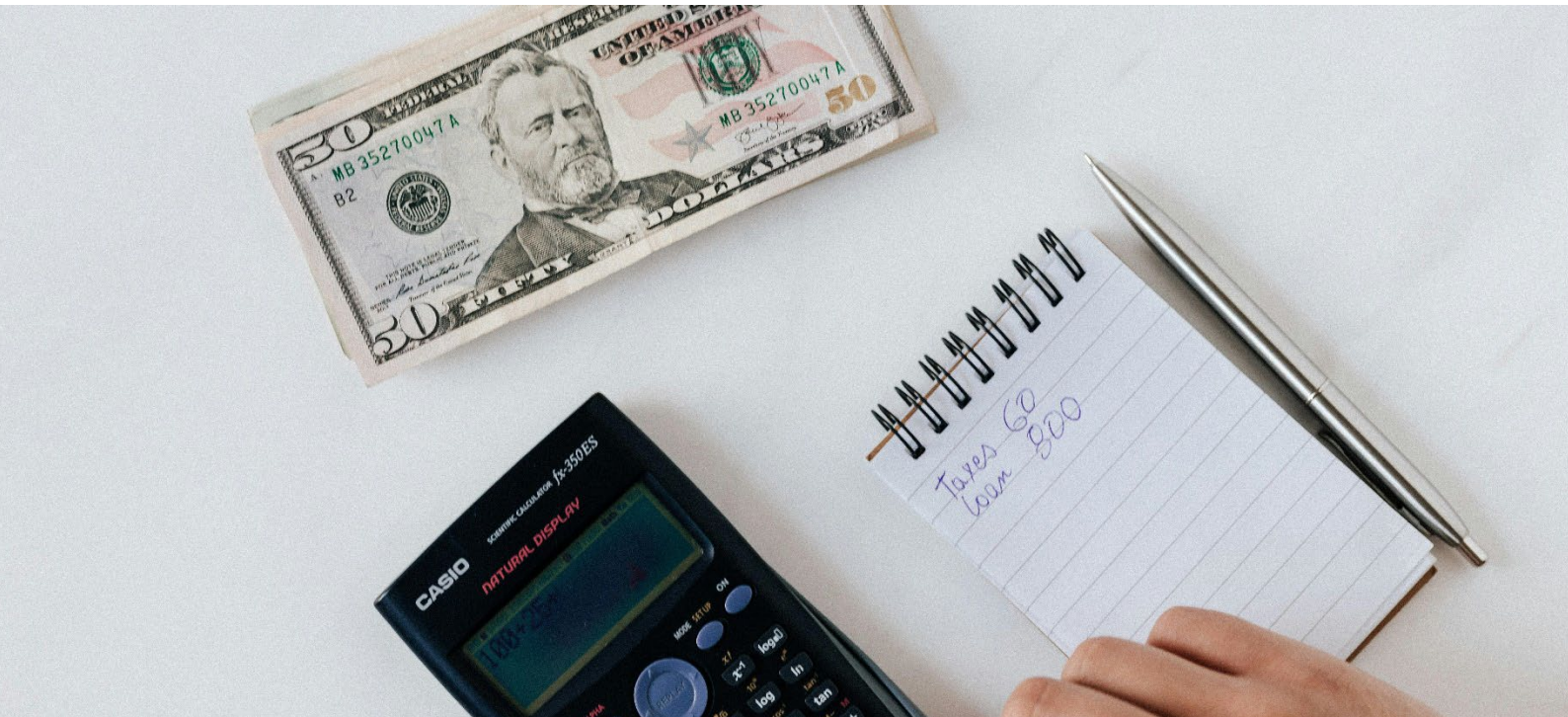
- **Open-source Software**: Utilise open-source software where possible to reduce licensing costs.
- **Cloud Computing**: Adopt cloud-based solutions to minimise the need for expensive on-premises hardware and reduce maintenance costs.
- **Shared Services**: Partner with other institutions to share digital resources, such as e-learning platforms or IT support services.
- **Energy Efficiency**: Implement energy-efficient technologies and practices to reduce operational costs associated with running IT infrastructure.

Cost-Benefit Analysis

Conducting a cost-benefit analysis can help justify the investment in digital initiatives and demonstrate long-term financial sustainability.

This analysis should consider:

- **Long-Term Savings:** Digital tools and systems can lead to long-term savings by reducing operational costs, improving efficiency, and increasing student retention.
- **Enhanced Learning Outcomes:** Improved learning outcomes can lead to higher student satisfaction, increased enrolment, and better job placement rates.
- **Competitive Advantage:** A strong digital strategy can differentiate the institution from competitors, attracting more students and partners.
- **Revenue Generation**: Explore opportunities for revenue generation through digital initiatives, such as offering online courses to a broader audience or partnering with industry for sponsored programs.



2. Infrastructure and equipment

In our survey, it became evident that the provision and improvement of technical equipment in schools for teachers and students represents a central challenge. Not all students can afford the necessary equipment, which poses a significant barrier to accessing digital learning opportunities. The importance of a fast internet connection in schools was also highlighted, as well as the need to provide teachers with permanent access to communication platforms like Zoom without being limited to a 40-minute duration.

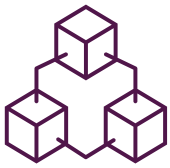
The range of experiences and the availability of technical infrastructure vary greatly, as examples from several European countries show. While fast internet is a prerequisite for effective digital learning, we focus on solutions that can be implemented at a local or administrative level.

Based on these results, we recommend the following good practice proposals for improving infrastructure and equipment in vocational education and training schools:

2.1 Good practice proposal 1: The digital baseline proposal

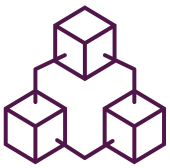
In our survey, it was clear that while some schools possess a robust digital infrastructure and tools, others are deficient in fundamental setups. We propose the creation of universal guidelines for educational institutions outlining a minimum standard for digital tools and their application. Those guidelines could contain the following recommendations:

Minimum Technology Standards for Classrooms:



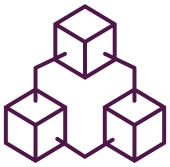
- Ensure every classroom has access to a high-speed internet connection, capable of handling simultaneous connections for all students and digital tools in use.
- Provide each student and teacher with a personal device (laptop, tablet, or similar) that meets the requirements for running educational software and applications needed for their courses.
- Equipped classrooms with smart boards or interactive whiteboards to enhance teaching and learning through interactive lessons.

Software and Learning Platforms



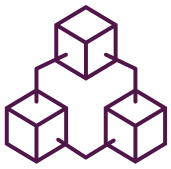
- Adopt a standardised Learning Management System (LMS) across the institution to organise course materials, assignments, and assessments, facilitating both in-person and remote learning.
- Implement collaborative tools and platforms (such as Google Workspace for Education or Microsoft Teams for Education) to promote teamwork, communication, and project management skills.
- Provide access to educational software and applications that are relevant to the curriculum, including programming environments, design tools, and simulation software.

Technical Support and Maintenance



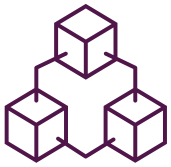
- Establish a dedicated IT support team to assist teachers and students with technical issues, ensuring minimal disruption to learning.
- Implement a regular maintenance and upgrade schedule for all digital tools and infrastructure to keep technology up-to-date and functioning efficiently.

Data Security and Privacy



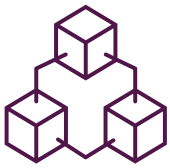
- Adopt strong data protection policies to safeguard student and staff information, ensuring compliance with relevant privacy laws.
- Educate students and staff on data security practices, including password security, recognising phishing attempts, and protecting personal information online.

Data Security and Privacy



- Adopt strong data protection policies to safeguard student and staff information, ensuring compliance with relevant privacy laws.
- Educate students and staff on data security practices, including password security, recognising phishing attempts, and protecting personal information online.

Flexible Access to Digital Resources



- Ensure that digital learning resources and course materials are accessible outside of school hours to support homework and self-directed learning.
- Provide options for offline access to learning materials for students with limited or no internet access at home.

By adhering to these recommendations, educational institutions can establish a minimum standard of digital tools and their usage in classes, thereby enhancing the learning experience and preparing students for a technology-driven world.

Good practice example – Digital Technology Infrastructure Guide for School Leadership

Written specifically for school leaders, this guide to digital technology infrastructure in schools aims to recommend, in a non-technical way, minimum technical specifications in a number of areas of digital technology infrastructure.

https://www.oidetechnologyineducation.ie/app/uploads/2022/10/DT-Infrastructure-Guide-for-School-Leadership2.pdf

2.2 Good practice proposal 2: The Blueprint Proposal

This proposal outlines a comprehensive blueprint for equipping educational centres with digital tools and infrastructure, tailored to three distinct scenarios: Ideal, Moderate, and Minimal. Each scenario is designed to guide educational institutions in their digital transformation journey, ensuring they can provide a dynamic and inclusive learning environment regardless of their resources.

Ideal Scenario:

In the ideal setting, educational centres are fully equipped with cutting-edge technology, including high-speed internet throughout the campus, personal devices for every student and teacher, advanced interactive whiteboards in every classroom, and a wide array of specialised software and tools for all subjects. The curriculum is fully integrated with digital learning, offering a seamless blend of in-person and remote education. Professional development for staff is continuous, focusing on innovative teaching methods and the latest technological advancements.

Moderate Scenario:

The moderate scenario ensures a solid digital foundation with reliable high-speed internet, shared devices available for students in need, interactive projectors in classrooms, and essential educational software and platforms. The focus is on leveraging existing resources to enhance teaching and learning, with regular professional development opportunities for staff to maintain effective digital integration in teaching practices.

Minimal Scenario:

In the minimal scenario, the emphasis is on essential digital capabilities. This includes basic internet access in key areas, a computer lab for shared use, basic digital tools for teaching (such as projectors and a limited number of tablets or laptops for

classroom activities), and access to a core set of online learning resources. Training for teachers prioritises digital literacy and the effective use of limited resources to support student learning.

This blueprint aims to provide actionable guidance for educational institutions at different stages of digital readiness, ensuring that every student has access to quality education supported by appropriate digital tools and infrastructure. By recognising the different levels of resource availability, this proposal underlines the importance of strategic planning and investment in technology to meet the educational needs of all learners and teachers.

Good practice example – Framework for the Digital Maturity of Schools

The Croatian Framework for the Digital Maturity of Schools is a document which defines the areas and levels of the digital maturity of schools. It is being developed as part of the e-Schools pilot project and is coordinated with the DigCompOrg European framework which is applicable to all educational institutions.

The Framework for the Digital Maturity of Schools is the basis for a common understanding of the digital maturity of all the stakeholders in the educational system. This includes the schools, the schools' founders (cities and counties), the agencies and the institutions in the system of the Ministry of Science, Education and Sports, as well as the Ministry of Science, Education and Sports itself. The Croatian Framework for the Digital Maturity of Schools consists of five areas and five levels of the digital maturity of schools.

https://pilot.e-skole.hr/en/results/digital-maturity-of-schools/framework-for-the-digital-maturity-of-schools/ [Link only accessible without SSL]

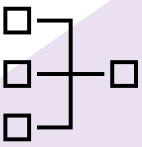
2.3 Good practice proposal 3: The certification proposal

Building upon the foundational blueprint for digital equipment in educational centres across ideal, moderate, and minimal scenarios, this proposal introduces an official certification process designed to recognise and incentivise schools' progress and commitment towards comprehensive digitalization. This certification process, encompassing a structured assessment and award system, aims to provide educational institutions with a clear, objective benchmark of their digital maturity, encouraging continuous improvement and innovation in their digital learning environments.

Certification Framework:

The certification framework consists of a detailed set of criteria aligned with the three digital readiness scenarios: Ideal, Moderate, and Minimal. These criteria assess various aspects of digital integration, including infrastructure, tools, pedagogical use of technology, digital literacy among teachers and students, data security, and the inclusivity of digital learning resources.

Assessment Process:

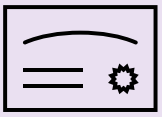


Educational institutions will undergo a thorough assessment conducted by a panel of experts in educational technology and digital pedagogy. The assessment includes site visits, review of digital learning practices, surveys of teachers and students, and analysis of technological infrastructure.

Certification Levels:

Based on the assessment, schools will be awarded a certification label and certificate corresponding to their level of digitalization: Digital Pioneer (Ideal), Digital Innovator (Moderate), or Digital Starter (Minimal). Each level comes with specific recommendations for advancement to the next stage of digital maturity.

Benefits of Certification:



Certified institutions will enjoy recognition for their commitment to digital excellence, becoming more attractive to prospective students and staff. They will also have access to a network of similarly recognised institutions for collaboration and sharing good practices. Additionally, certification may provide eligibility for funding and grants aimed at further digital development

Continuous Improvement and Reassessment:

The certification is not a one-time achievement but part of a continuous improvement process. Institutions are encouraged to progress to higher levels of certification, with reassessments conducted every three years to ensure ongoing development and adaptation to emerging technologies and pedagogical strategies.

Implementation and Support:

To facilitate institutions in their journey towards certification, a range of support mechanisms will be established. This includes workshops, training sessions, and consultancy services, designed to help schools understand the criteria, prepare for the assessment, and implement necessary changes to meet the desired certification level. This certification proposal aims to create a culture of excellence and continuous improvement in digital education, providing schools with a clear goal and pathway towards achieving and showcasing their digitalisation efforts. By establishing a recognised standard of digital maturity, it seeks to elevate the quality and accessibility of digital learning across all educational institutions.

Good practice example – Certificate “Digital School”

A "Guide for digital schools" has been developed under the leadership of the German Informatics Society. With these guidelines, as well as the possibility of having them evaluated by experts, schools can carry out a location determination or self-assessment on the topic of "digitalisation" and receive suggestions on how their digital profile can be sharpened. All schools can apply for the new "Digital School" award. If the assessment is successful, the school will then be honoured as a "Digital School". To date, around 700 schools in Germany have successfully applied for the "Digital School" label.

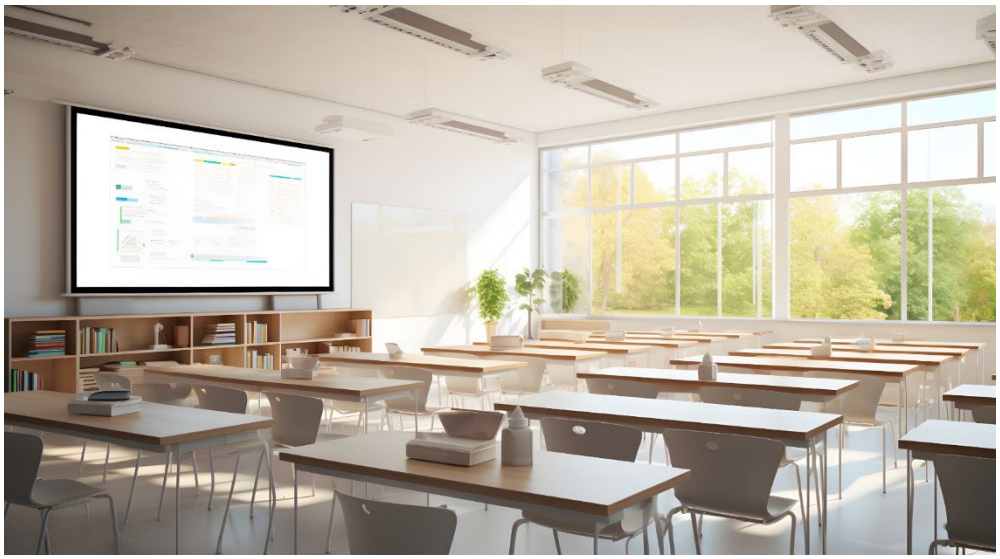
https://mintzukunftschaffen.de/digitale-schule/ (German only)

3. General administrative organisation

Streamlining administrative processes is crucial in a digital strategy. Digital transformation should extend beyond the classroom to include the institution's administrative organisation. By reducing manual, paper-based processes, resources are freed up for teaching and learning.

Key processes include:

- **Automating enrolment and registration** with online forms and digital signatures.
- **Tracking student attendance** using digital tools with automated alerts for absences and tardiness.
- **Implementing a digital document management system** to organise, store, and retrieve documents efficiently.



3.1 Key Tools for Administrative Efficiency

Student Information Systems (SIS)

Student Information System (SIS) is a central platform that manages a wide range of student data, offering a comprehensive solution for tracking and maintaining student-related information.

Enrollment Management: SIS platforms streamline the enrolment process by automating student registrations, admissions, and course enrolments. They allow for real-time tracking of student applications, reducing manual entry errors and processing times.

Attendance Tracking: These systems provide automated attendance tracking, which can include daily attendance records, tardiness, and absences. Integrated alerts and notifications help in maintaining student discipline and ensuring regular attendance.

Grade Management: SIS systems offer tools for recording and analysing student grades, including mid-term and final assessments. Educators can input grades directly into the system, and students and parents can access these records through online portals.

Student Records: Comprehensive student records, including personal details, academic history, disciplinary records, and extracurricular activities, are securely stored and easily accessible for administrative and educational staff.

HR and Payroll Systems

Human Resources (HR) and payroll systems are essential for managing the administrative tasks related to staff within the institution.

Automated Payroll Processing: Payroll systems automate the calculation of salaries, deductions, and taxes, ensuring timely and accurate payments to employees. These systems can also manage multiple pay plans, bonuses, and benefits.

Leave Management: HR systems streamline the leave management process, allowing employees to request leave through an online portal. Administrators can approve or deny leave requests, track leave balances, and generate reports on leave usage.

Performance Reviews: Performance management modules within HR systems facilitate the regular review of employees' performance, setting of objectives, and tracking of professional development goals. Automated reminders and templates ensure that reviews are conducted consistently and fairly.

Financial Management Systems

Financial management systems provide the tools necessary to manage the financial operations of vocational schools and training centres efficiently.

Budgeting: These systems support the creation, management, and monitoring of institutional budgets. Administrators can allocate funds to various departments, track expenditures, and adjust as necessary to stay within budget.

Expense Tracking: Financial systems offer detailed tracking of all expenses, from daily operational costs to large capital expenditures. This transparency helps in identifying cost-saving opportunities and ensuring accountability.

Financial Reporting: Tools like QuickBooks, SAP, or similar platforms generate comprehensive financial reports, including income statements, balance sheets, and cash flow statements. These reports provide insights into the financial health of the institution and support informed decision-making.

Digital Signatures

The adoption of digital signatures can significantly reduce the reliance on paper-based processes, improving efficiency and reducing environmental impact. Digital signatures also offer enhanced security features, such as encryption and audit trails, that help prevent fraud and ensure the authenticity of documents.To implement digital signatures, vocational schools and training centres should:

Choose a Platform: Select a digital signature platform that meets the institution's needs, such as DocuSign, Adobe Sign, or HelloSign.

Train Staff: Provide training for employees on how to use digital signature tools, including best practices for security and compliance.

Update Policies: Update institutional policies to recognise digital signatures as legally binding and acceptable for official documents.

3.2 Best Practices for Using Administrative Tools

Integration

- **Seamless Workflow**: Integrating administrative tools (SIS, HR, financial systems) with the LMS and other digital platforms ensures smooth information flow, reduces effort duplication, and minimises errors.

- **Data Synchronisation**: enable real-time data synchronisation, automatically updating information across all platforms, saving time and ensuring data consistency.

- **Enhanced Reporting**: creates comprehensive reports from multiple systems, providing a holistic view of operations. For example, integrating financial systems with the SIS allows detailed analysis of tuition fees, scholarships, and other student financial data.

Security

- **Data Protection**: Administrative systems handle sensitive data like personal info, financial records, and academic histories. Robust security measures are essential to protect this data from unauthorised access and breaches-

- **Encryption**: All data transmitted and stored should be encrypted to prevent interception and unauthorised access. This ensures that even if a breach occurs, the data remains unreadable without the decryption key.

- **Access Controls**: Implement strict access controls to ensure only authorised personnel access sensitive data, using role-based access controls (RBAC) for different access levels.

- **Regular Audits**: Conduct regular security audits to identify vulnerabilities and ensure data protection measures are current, including software, hardware, and regulatory compliance assessments.

Training

- **Ongoing Training Programs**: Regularly update training to keep administrative employees proficient with digital tools, reflecting software changes and best practices.

- **Hands-On Workshops**: Offer workshops for practical experience with new tools, reducing the learning curve and boosting confidence.

- **Customised Training**: Tailor training to different skill levels, ensuring all staff can effectively use relevant tools.

- **Support Resources**: Provide user manuals, online tutorials, and help desk access to assist employees, especially during initial implementation and major updates.

4. Remote activities

One of the biggest challenges in vocational education and training centres is the organisation of classes (theoretical and practical), exams, and info sessions in a remote setting. This section will explore best practices for delivering hands-on training and assessments online, ensuring that students can achieve the necessary competencies even when physical attendance is not possible. These solutions aim to facilitate the smooth and effective organisation of classes, tests, and exams in a remote learning environment, ensuring continuity in education and assessment processes.

4.1 Remote Theoretical Classes

One of the biggest challenges in vocational education and training centres is the organisation of classes (theoretical and practical), exams, and info sessions in a remote setting. This section will explore best practices for delivering hands-on training and assessments online, ensuring that students can achieve the necessary competencies even when physical attendance is not possible. These solutions aim to facilitate the smooth and effective organisation of classes, tests, and exams in a remote learning environment, ensuring continuity in education and assessment processes.

Key Strategies

Interactive Webinars, Real-Time Chats, and Ongoing Discussion Forums: Use live webinars and videoconferencing chat features for real-time interaction, alongside discussion forums for ongoing collaboration and Q&A outside class time.

Synchronous and Asynchronous Lectures: Offer a mix of live (synchronous) sessions for real-time engagement and pre-recorded (asynchronous) lectures for flexible, self-paced learning.

Collaborative Group Work: Leverage videoconferencing breakout rooms and chat functions to facilitate subgroup discussions and teamwork, promoting effective peer collaboration in a remote setting.

Best Practices

Structured Agendas for Webinars: Create clear agendas for live webinars and discussion forums to keep sessions focused.

Balanced Content Delivery: Plan a strategic balance between synchronous and asynchronous content. Ensure live sessions focus on interactive discussions, problem-solving, or Q&A, while pre-recorded lectures cover foundational knowledge that students can review at their own pace.

Clear Guidance for Group Work: Provide students with clear objectives, timelines, and roles for collaborative group tasks. Use breakout rooms during live sessions and enable chat functions to allow students to communicate easily within their subgroups, ensuring they stay on track.

Consistent Participation and Feedback: Encourage consistent participation by integrating short quizzes, polls, or assignments after both synchronous and asynchronous sessions. Provide timely feedback on group discussions and individual contributions to foster engagement and accountability.

4.2 Remote Practical Classes

Practical training is a core component of vocational education and delivering it remotely requires careful planning and the use of appropriate tools.

Key Strategies

Virtual Labs: Use virtual lab platforms that simulate real-world environments and allow students to practise skills remotely.

Video Demonstrations: Create video demonstrations of practical tasks that students can watch and follow along with at home.

Remote Supervision: Use video conferencing tools to supervise students as they perform practical tasks, providing real-time feedback and guidance.

Best Practices

Clear Instructions: Provide clear and detailed instructions for remote practical tasks, including step-by-step guides and video tutorials.

Safety Considerations: Ensure that students have a safe environment to practise skills at home and provide guidance on safety precautions.

Assessment: Use video submissions, virtual simulations, or live demonstrations to assess students' practical skills remotely.

4.3 Remote Exams and Tests

Assessing students remotely presents unique challenges, particularly in ensuring the integrity and fairness of exams and tests.

Key Strategies

Online Proctoring: Use online proctoring tools to monitor students during exams, ensuring that they adhere to academic integrity standards.

Open-Book Exams: Consider using open-book exams that focus on critical thinking and problem-solving rather than memorization.

Timed Assessments: Implement timed assessments to reduce the risk of cheating, ensuring that students complete exams within a set timeframe.

Best Practices

Clear Guidelines: Provide students with clear guidelines on how remote exams will be conducted, including technical requirements and behavior expectations.

Technical Support: Offer technical support to students during remote exams to address any issues that may arise.

Security Measures: Implement security measures, such as plagiarism detection software and secure exam platforms, to protect the integrity of remote assessments.

4.4 Remote Info Sessions

Remote info sessions are an effective way to engage with prospective students, provide information about programs, and answer questions.

Key Strategies

Digital Documents: Replace paper-based documents with digital versions, including forms, contracts, and reports.

E-Books and Digital Resources: Encourage the use of e-books and digital resources instead of printed textbooks and materials.

Online Submissions: Require students to submit assignments and projects online, reducing the need for printed copies.

Best Practices

Engaging Content: Create engaging content for info sessions, including presentations, videos, and interactive elements.

Follow-Up: Follow up with attendees after the session with additional information, resources, and contact details for further questions.

Feedback: Collect feedback from attendees to improve future info sessions and address any concerns or questions that were not covered.

5. Promotion of green and sustainable practices

Digital strategy should also promote Green and Sustainable Practices. By reducing paper usage, optimising energy consumption, and encouraging responsible digital behavior, vocational schools and training centres can contribute to environmental sustainability while enhancing their digital infrastructure.

This section explores how digital tools and practices can contribute to environmental sustainability.

5.1 Reducing Paper Usage

One of the most immediate benefits of digital transformation is the reduction of paper usage, which has a significant positive impact on the environment.

Key Strategies

Digital Documents: Replace paper-based documents with digital versions, including forms, contracts, and reports.

E-Books and Digital Resources: Encourage the use of e-books and digital resources instead of printed textbooks and materials.

Online Submissions: Require students to submit assignments and projects online, reducing the need for printed copies.

Best Practices

Digital Signatures: Use digital signatures to eliminate the need for printed documents and physical signatures.

Cloud Storage: Implement cloud storage solutions to reduce the need for physical file storage and printing.

Awareness Campaigns: Educate staff and students on the environmental benefits of reducing paper usage and encourage sustainable practices.

5.2 Energy Efficiency

Digital tools and systems can also contribute to energy efficiency, reducing the institution's carbon footprint.

Key Strategies

Energy-Efficient Devices: Invest in energy-efficient devices, such as laptops, servers, and networking equipment.

Power Management: Implement power management settings on all devices to reduce energy consumption during periods of inactivity.

Virtualization: Use virtualization technologies to consolidate servers and reduce energy consumption in data centres.

Best Practices

Monitoring and Reporting: Monitor energy usage across the institution and report on progress toward energy efficiency goals.

Sustainable Procurement: When purchasing new equipment, consider sustainability criteria such as energy efficiency ratings and recycling capabilities.

Green Certifications: Seek out green certifications for the institution, such as LEED or Energy Star, to demonstrate a commitment to sustainability.

5.3 Promoting Sustainable Practices in Training

Vocational schools and training centres have a role to play in educating students about sustainability and preparing them for green careers.

Key Strategies

Sustainable Curriculum: Integrate sustainability topics into the curriculum, such as renewable energy, green building practices, and sustainable agriculture.

Industry Partnerships: Partner with industries that prioritise sustainability to offer students opportunities for green internships, apprenticeships, and jobs.

Student Projects: Encourage students to work on projects that focus on sustainability, such as energy audits, waste reduction programs, or green product design.

Best Practices

Faculty Training: Provide training for faculty on how to integrate sustainability into their teaching and curriculum.

Student Engagement: Engage students in sustainability initiatives on campus, such as recycling programs, energy-saving campaigns, or community service projects.

Recognition: Recognise and reward students and staff who contribute to sustainability efforts, such as through awards, scholarships, or public acknowledgment.

Good practice example – GoBeEco Digital Edu Skills Handbook

The GoBeEco Digital Edu Skills Handbook, available in multiple languages, offers valuable insights into green skills and digital tools for education, work, and daily life. It aims to enhance educators' digital competence, enabling them to design curricula that foster sustainable development and eco-friendly habits. The handbook, along with the GoBeEco Gamification tool, provides practical lesson plans, quizzes, and missions to promote environmental awareness.

https://www. gobeeco.eu/results/

6. Strategies for staff continuing training

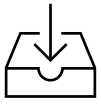
The effective adoption and integration of digital administrative solutions within any institution hinges on the continuous training of staff. Ensuring that educators and administrators are proficient in using digital tools, platforms, and systems is essential for maintaining operational efficiency, keeping pace with technological advancements, and fostering a culture of innovation within the organisation.

This section outlines strategies for equipping staff with the skills and knowledge necessary to thrive in a digitally driven administrative environment.

6.1 Regular Training Sessions

Workshop

Organise regular workshops focused on specific digital administrative tools and tailor these sessions to address the unique needs of different departments, ensuring that all staff are proficient in the tools they use daily.

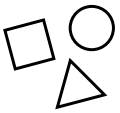


Webinars

Host webinars that cover emerging trends and innovations in digital administration, featuring insights from industry experts and leaders. These sessions provide employees with a broader understanding of how digital tools can be leveraged for strategic advantage.

Peer Learning

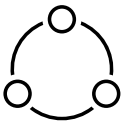
Foster a culture of peer learning by establishing mentorship programs where experienced staff can share their expertise in digital tools with their colleagues. This not only enhances individual skills but also builds a supportive learning community within the institution.



6.2 Personalised Learning Paths

Skills Assessment

Implement regular skills assessments to determine each staff member's proficiency with digital administrative tools. Use these assessments to create personalised learning paths that target areas for improvement, ensuring that training is both relevant and effective.

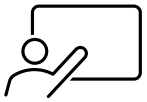


Online Courses

Provide access to a curated selection of online courses and certifications that staff can complete at their own pace. These courses should cover a range of topics, from basic digital literacy to advanced system management, allowing staff to progress according to their skill level and job requirements.

Feedback and Reflection

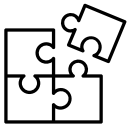
Integrate a feedback loop into the training process, enabling staff to evaluate their progress and identify areas where additional support or training may be needed. Regular reflection helps staff internalise their learning and apply it effectively in their roles.



6.3 Incentives and Recognition

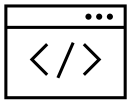
Professional Development Credits

Offer professional development credits for completing training programs, which can be applied towards career advancement opportunities. This incentivises continuous learning and underscores the value the institution places on skill development.



Recognition Programs

Establish recognition programs that highlight staff members who have shown exceptional commitment to mastering digital administrative tools. Public acknowledgment or awards can motivate others to engage more deeply with training opportunities.



Career Advancement Opportunities

Link training completion to tangible career benefits, such as eligibility for promotions, salary increases, or leadership roles. This approach not only encourages participation in training programs but also aligns personal growth with institutional success.

6.4 Best Practices for Digital Administrative Training

Relevance

Ensure that all training programs are directly aligned with the practical needs of staff in their specific roles, focusing on the digital tools and systems they use most frequently.

Accessibility

Make training resources easily accessible to all staff, regardless of their location, work schedule, or current level of digital literacy. This could include on-demand webinars, interactive tutorials, and downloadable guides.

Ongoing Support

Provide continuous support to staff as they integrate new skills into their daily work. This could include access to a help desk, online forums, or one-on-one coaching sessions. Ensuring that employees have the resources they need to troubleshoot issues and refine their skills will maximise the long-term impact of the training programs.

7. Monitoring and improvement of strategy

The ongoing monitoring and enhancement of a digital administrative strategy are essential for maintaining its effectiveness in an ever-evolving educational landscape. Vocational schools and training centres must regularly assess and update their digital administrative strategies to ensure they remain aligned with institutional goals, respond to new challenges, and leverage emerging opportunities.

7.1 Key Performance Indicators (KPIs)

To effectively monitor and assess the success of a digital administrative strategy, institutions should establish clear and measurable Key Performance Indicators (KPIs) in the following areas:

- **Staff Performance**: Track how employees adopt and use digital administrative tools. This includes participation in training programs, the efficiency of task completion using digital platforms, and overall productivity improvements resulting from digital initiatives.

- **Operational Efficiency**: Evaluate improvements in operational efficiency, such as reduced paperwork, improved data management, faster communication, and cost savings achieved through the implementation of digital solutions. This KPI will highlight the impact of digital tools on day-to-day administrative processes.

- **Technology Usage**: Monitor the usage patterns of digital tools and platforms, focusing on user adoption rates, system reliability, and user satisfaction.

  This data will help identify which tools are most effective and where there may be challenges or resistance to adoption.

- **Compliance and Security**: Ensure that digital administrative tools comply with relevant regulations and standards, such as data protection laws and cybersecurity protocols. Track incidents of non-compliance or security breaches to assess and mitigate risks associated with digital strategies.

7.2 Continuous Improvement

Continuous improvement is essential to ensure that the digital administrative strategy remains effective and responsive to changing needs. This involves regular evaluations, updates, and innovations to keep the strategy aligned with institutional goals and technological advancements.

Regular Reviews

- **Strategy Review Meetings**: Conduct regular strategy review meetings with key stakeholders, including administrators, IT staff, and external partners, to discuss the progress of digital initiatives. These meetings should focus on assessing the effectiveness of the current strategy, identifying areas for improvement, and planning for future updates.

- **Feedback Loops**: Establish feedback loops allowing employees, students, and other stakeholders to provide input on the effectiveness of digital administrative tools and processes. This feedback is vital for identifying pain points, gauging user satisfaction, and generating ideas for improvement.

- **Agility**: Maintain an agile approach to implementing and refining the digital strategy. This flexibility allows the institution to quickly adapt to new challenges, such as changes in technology, regulations, or institutional priorities, and to refine the strategy as needed.

Innovation and Experimentation

- **Pilot Programs**: Launch pilot programs to test new digital tools, platforms, or administrative processes before fully integrating them across the institution. This approach helps identify potential issues, gather user feedback, and make necessary adjustments before a broader rollout.

- **Incentives**: Offer incentives to employees who propose and implement new digital administrative initiatives that align with the institution's strategic goals. This encourages creativity and empowers staff to take an active role in shaping the digital strategy.

- **Collaboration**: Promote collaboration across departments and with external partners to share best practices, resources, and innovative ideas. Collaborative efforts can lead to the development of more effective and integrated digital solutions, enhancing overall institutional performance

7.3 Best Practices for Monitoring and Improvement

- **Clear Objectives**: Define clear, measurable objectives for the digital administrative strategy that align with the institution's mission and long-term goals. These objectives will serve as benchmarks for evaluating the success of the strategy and guiding continuous improvement efforts.

- **Transparency**: Ensure transparency in the monitoring and improvement process by regularly sharing progress reports, KPIs, and updates with all stakeholders. This openness builds trust and encourages broader engagement in the digital strategy.

- **Flexibility**: Be prepared to adapt the digital strategy in response to new challenges, opportunities, and technological advancements. Flexibility is key to ensuring that the strategy remains relevant and effective in a rapidly changing environment.

- **Sustainability**: Focus on sustainability when planning and implementing digital initiatives. This involves ensuring that digital solutions are scalable, cost-effective, and environmentally responsible, contributing to the long-term success and viability of the institution.

By prioritising ongoing monitoring and continuous improvement, vocational schools and training centres can ensure that their digital administrative strategies remain dynamic, effective, and aligned with their overall mission, ultimately leading to enhanced institutional performance and success.

7.4 Best Practices for Monitoring and Improvement

The digital strategy for vocational schools and training centres outlined in this section provides a comprehensive roadmap for successfully integrating digital tools, practices, and infrastructure into vocational education. By focusing on key areas such as infrastructure, digital tools, sustainability, and continuous improvement, institutions can enhance the quality of education, improve operational efficiency, and prepare students for the demands of the modern workforce.

This strategy emphasises the importance of a phased and adaptive approach, ensuring that institutions can build their digital capabilities over time and respond to emerging challenges and opportunities. By prioritising employee training, student engagement, and sustainable practices, vocational schools and training centres can create a vibrant and resilient digital learning environment that meets the needs of all stakeholders.

Designing and Delivering Digital Learning Programs

The digital transformation of vocational education and training centres (VET) has become an essential component in preparing learners for the modern workforce. As digital tools and technologies continue to evolve, so too must the methods and strategies used to educate and train VET learners. The second part of this report focuses on the learners themselves, placing a strong emphasis on creating engaging and effective digital training courses that not only meet their needs but also enhance their digital literacy and overall learning experience.

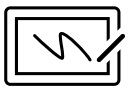
1. Understanding the Needs of VET Learners

VET learners often have specific needs and learning styles that differ from those in traditional academic settings. These learners are more focused on acquiring practical skills that can be directly applied in their chosen professions. Therefore, the design and delivery of digital content in VET should prioritise practicality, relevance, and interactivity. Understanding these needs is the first step in creating digital training courses that are both engaging and effective.

One of the primary challenges in designing digital training for VET learners is ensuring that the content is both accessible and applicable. Many VET learners may not have extensive experience with digital tools, making it crucial to assess their digital literacy levels before course development begins. This assessment can help identify gaps in knowledge and provide a foundation for building the necessary digital skills alongside the core vocational content.

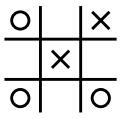
To create a successful digital training program, it is essential to prioritise learner engagement and interaction. The following strategies can help ensure that online courses are not only informative, but also immersive and motivating for VET learners.

1. Interactive Learning Modules



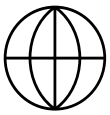
Incorporating interactive elements such as quizzes, simulations, and problem-solving activities can significantly enhance learner engagement. These modules allow learners to apply theoretical knowledge in practical scenarios, making the learning experience more relevant and memorable.

2. Gamification



Gamification involves integrating game-like elements into the learning process, such as earning points, badges, or completing levels. This approach can increase motivation and participation by tapping into learners' intrinsic competitiveness and achievement.

3. Real-World Applications



Digital training courses should include case studies, real-world examples, and industry-specific projects that align with the learners' vocational goals. This contextual learning approach helps bridge the gap between theory and practice, ensuring that learners can see the direct relevance of their studies to their future careers.

4. Personalised Learning Paths

Recognising that each learner has unique strengths, weaknesses, and career aspirations, digital courses should offer personalised learning paths. Adaptive learning technologies can tailor content to meet individual needs, providing additional support in areas where learners struggle and allowing for accelerated progress in areas where they excel.

5. Collaborative Learning Environments

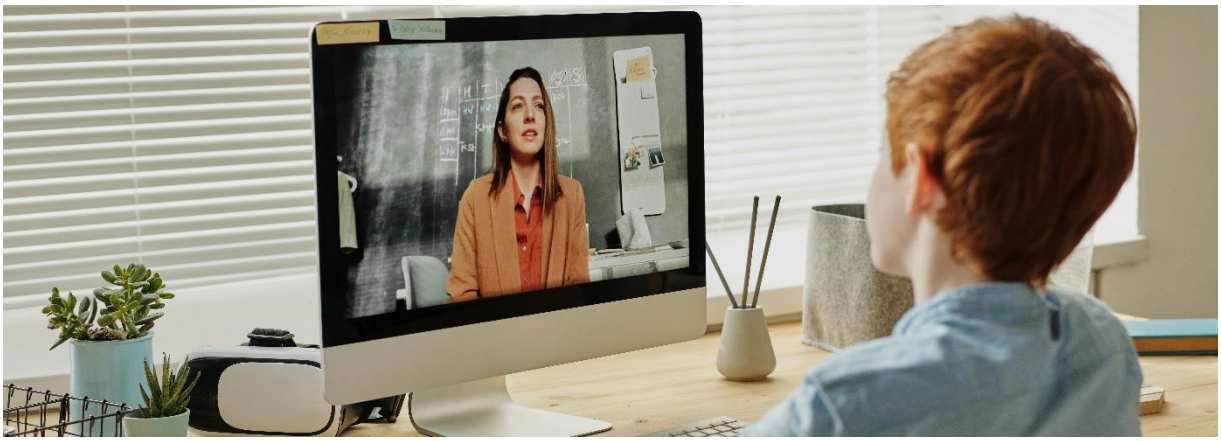
Creating opportunities for learners to collaborate with peers, whether through discussion forums, group projects, or virtual workshops, fosters a sense of community and enhances the learning experience. Collaborative learning also encourages the development of soft skills such as communication, teamwork, and problem-solving.

6. Multimedia Content

Incorporating a variety of multimedia content—such as videos, podcasts, infographics, and interactive diagrams—can cater to different learning styles and keep learners engaged. Multimedia content can also make complex concepts more accessible and easier to understand.

7. Regular Feedback and Assessments

Providing regular feedback through formative assessments allows learners to track their progress and identify areas for improvement. Digital tools can facilitate immediate feedback, helping learners stay motivated and on track. Additionally, summative assessments should be designed to evaluate not only knowledge retention but also the practical application of skills.



Engagement is a critical factor in the success of digital training courses. Without active engagement, learners are less likely to retain information or apply it effectively in real-world scenarios. To ensure that VET learners are actively engaged in the digital learning process, the following strategies should be considered:

1. Motivation through Relevance

Learners are more likely to engage with content that is directly relevant to their career goals. Digital training courses should clearly articulate the real-world applications of the skills being taught, demonstrating how these skills will benefit learners in their professional lives.

2. Interactive and Collaborative Activities

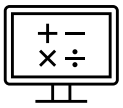
Engagement can be fostered using interactive activities, such as live polls, quizzes, and discussion boards, where learners can share their thoughts and interact with peers. Collaborative activities, such as group projects and peer reviews, also encourage active participation and create a sense of community.

3. Incorporating Learner Feedback

Regularly soliciting feedback from learners about the course content and delivery can help instructors make necessary adjustments to keep learners engaged. This feedback loop ensures that the course remains responsive to the needs and preferences of the learners.

4. Flexible Learning Options

Offering flexible learning options, such as asynchronous modules or recorded lectures, allows learners to engage with the content at their own pace and convenience. This flexibility is particularly important for VET learners, who may be balancing their studies with work or other commitments.

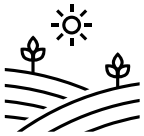


5. Recognition and Rewards

Recognising and rewarding learners for their progress and achievements can boost engagement. This recognition can take many forms, such as certificates, digital badges, or public acknowledgment in class. Gamification elements, as mentioned earlier, can also serve as effective motivators.

6. Creating a Supportive Learning Environment

A supportive learning environment, where learners feel comfortable asking questions and seeking help, is essential for engagement. Instructors should be accessible and responsive, providing guidance and encouragement as learners navigate the digital course.



2. New Curricula

The key insights highlight the need for VET centres to adapt curricula to meet students' evolving needs in a digital world. If teachers today act more as learning managers or coaches and students work more often (guided) on individual or group projects and engage with topics independently and consciously, then they will work more digitally, as a large part of their lives already take place in virtual space. This should be utilised for the development of future-proof, realistic and exciting curricula.

- Develop new Curricula (especially for or including distance learning)
- Simple online teaching makes students more distracted/less focused → Organisation and Interactivity
- Standardisation of Digitisation Processes: There is a necessity to standardise the digitisation process across VET centres to ensure equal access to digital tools and resources for all students.
- Desire for Improved Support and Training: Students express a need for more robust support and training to enhance their skills in using digital tools for learning purposes.

Based on these results, we recommend the following good practice proposals for improving the development of modern curricula in vocational education and training (VET) schools.

2.1 Good practice proposal 1: The New Pathways proposal

By prioritising the development of new curricula that embrace digital technologies and foster interactive learning experiences, VET centres can better equip students for success in an increasingly digitised world:

1.**Integration of online learning platforms**: use online learning platforms to provide teaching materials, assign learning tasks and facilitate communication between students and trainers.

2. **Development of e-learning modules**: New curricula increasingly include e-learning modules allowing learners to learn in a flexible and self-directed way. Modules can include interactive learning materials, videos, simulations and tests.

3. **Integration of virtual classrooms**: use virtual classrooms and video conferencing tools to offer distance learning. This allows students to participate in live lessons, hold discussions and ask questions without being physically present in the classroom.

4. **Practical exercises and simulations**: Digital tools and simulations are increasingly being integrated into curricula to provide hands-on exercises and training sessions. These simulated experiences can replicate realistic scenarios from the world of work and allow learners to develop skills in a safe environment.

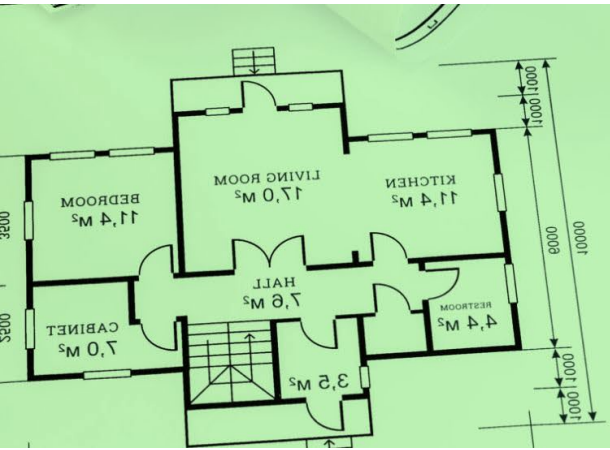
5. **Promotion of digital competences**: Training centre curricula are placing increased focus on developing digital skills in learners. This includes not only the use of digital tools and technologies, but also the ability to critically evaluate online content and confidence in using digital media.

6. **Student and trainer representation in decision-making bodies**: Granting seats on curriculum decision-making committees to selected student and instructor representatives. This gives them a direct say in the development and revision of curricula.

Good practice example – Construction Blueprint

One of the objectives of the Construction Blueprint project is to promote the upskilling and reskilling of construction workers in the European Union. Among other activities, the consortium has worked on the design and development of a series of training curricula for vocational training and education, specifically in the areas of energy efficiency, circular economy and digitalisation for the construction sector, targeted at workers and/or students with a qualification level between 3 and 5 of the European Qualification Framework (EQF), and including the training programme, objectives, competences covered, number of hours, etc.

https://constructionblueprint.eu/training-curricula/



2.2 Good practice proposal 2: The Better Training proposal

Interestingly, while theory classes were deemed most suitable for remote organisation during the pandemic, practical classes also garnered significant interest. Despite this, students reported feeling less focused during online teaching sessions, indicating a need for improved organisation and interactivity in remote learning environments.

1. **Project-based learning**: Integration of project-based learning approaches in which students and trainers work together on real projects and have an influence on the design of the learning content and process. In that case it is more convenient to copy good practice examples from the working world.

2. **Feedback mechanisms**: Establish feedback mechanisms allowing students and trainers to express their opinions and suggestions on the curriculum. This can take the form of regular surveys, feedback sessions or electronic feedback platforms. This creates a basis for more interactive teaching, where students and trainers can learn from each other dialectically.

3. **Training for Teachers**: Offer more and broad training and support for teachers to implement interactive learning methods in their online lessons, ensuring optimal student engagement and learning outcomes. Teachers should be able to be connected to new techniques and necessities as fast as students are.

4. **Flexibility in Learning**: Provide students with flexibility in how they engage with the curriculum, allowing them to select activities or modules that best suit their individual needs and preferences. Make it possible for teachers to establish such a working environment by learning project management and coaching skills.

Good practice example – Conference "Digitalization and TVET”

Training provides a platform for exchange, knowledge transfer and networking. The core questions which will be addressed are: How does the digitalisation of work processes affect vocational education and training and its management? What does it mean for the competence development of vocational education and training professionals? Based on case descriptions, participants receive recommendations for the up-to-date training of teachers in vocational education and training and for strategies to prepare vocational education and training institutions for the requirements of a digitised working world

https://www.giz.de/akademie/en/downloads/Conference-Digitalization-documentation.pdf

2.3 Good practice proposal 2: The Better Training proposal

Students highlighted the importance of interactive learning environments to enhance engagement and concentration during online lessons. Moving forward, VET centres must explore opportunities to provide students with access to IT infrastructure and digital tools. Students should not just copy and paste tools and methods they get presented from their teachers, but as well they should be supported to find and test as many digital tools and methods so they will be able to produce good practice applications themselves.

1. **Integration of Interactive Learning Modules**: VET centres can integrate interactive learning modules into their curriculum, providing students with engaging and immersive learning experiences. These modules can incorporate gamification elements, simulations, and virtual reality scenarios to enhance student engagement and concentration during online lessons.

E.g. Establishment of Digital Skills Workshops: organise workshops focused on digital skills training, where students can learn how to use different digital tools and technologies for learning purposes. These workshops can cover topics such as using online collaboration platforms, creating multimedia content, and utilising educational apps.

2. **Creation of Student-Led Digital Projects**: VET centres can encourage students to take on digital projects where they have the autonomy to explore and experiment with different digital tools and methods. This approach fosters creativity, critical thinking, and problem-solving skills, as students actively engage in finding and testing digital tools to produce practical applications relevant to their field of study.

3. **Collaboration with Industry Partners**: VET centres can collaborate with industry partners to provide students with access to cutting-edge digital tools and technologies used in the workplace. This real-world exposure enables students to gain hands-on experience and develop practical skills that are directly applicable to their future careers.

E.g. Mentorship Programs: establish mentorship programs where professionals guide students in leveraging digital tools effectively for learning and skill development. Mentors can provide tailored support and guidance, helping students to navigate challenges and maximise the potential of digital technologies in their educational journey.

4. **Continuous Evaluation and Improvement**: regularly evaluate the effectiveness of the support and training initiatives for digital skills development. Based on feedback from students and educators, adjustments can be made to ensure that the provided support meets the evolving needs and expectations of students in an ever-changing digital landscape.

Good practice example – Educa en Digital

Educa en Digital is a preparation for using digital tools in classrooms. It is provided and approved by the Council of Ministers of Spain with the aim of supporting the digital transformation in Spain and started in the academic year 2020-2021. The program established the implementation of assistance platforms for teachers, students, and educational authorities through application of Artificial Intelligence (AI) to promote a more personalised approach to education training. The Program Educa en Digital aims to overcome major digital educational gaps:

https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-7682

Professional development and training of teachers and trainers

1. Strategies for Organised and Engaging Classes

As the education landscape continues to evolve quickly in response to technological advancements, the need for effective digital training for teachers and trainers has never been more critical. The shift towards online and hybrid learning environments, accelerated by the COVID-19 pandemic, has underscored the importance of equipping educators with the necessary digital skills to thrive in these new settings. This section delves into the best practices and strategies for teachers and trainers to become proficient in digital tools and methodologies, ensuring they can deliver high-quality education in a digital world.

1.1 Strategies

A lot has changed regarding digitalisation since the global pandemic in 2019. For the education sector, it marked the start of a new era. However, many educational institutions and teachers are not sufficiently prepared for this radical change. This was shown in the survey results we conducted in the beginning of this project. Not only the fact that educational materials are not yet digitised, but also the fact that there are no uniform regulations regarding curriculum, tools, features and guides to be used. Not only do these regulations not exist in Europe, but also not at country level nor at provincial level.

Teachers and trainers are currently on their own when it comes to creating, designing and delivering the relevant courses and classes. This leads to frustration and poor teaching-learning experiences for both teachers and students.

While the new era of online learning offers exciting possibilities, there are many challenges like information overload and irregular schedules, which can leave educators feeling overwhelmed. This proposal provides practical strategies and good practices to help teachers streamline their online teaching practices, build confidence with digital tools, and create interactive classroom sessions that keep students engaged. This guide will show how to transform online classes from a disorganised lecture to a dynamic and enriching learning experience.

Reduce Tool Overload and Streamline Organization:

- **Consolidation of Tools**: Choosing the right Learning Management System (LMS) is essential for efficiently managing course materials, assignments, discussions, and grades. If your educational centre already has an LMS, it's important to become proficient in its basic usage and features. If there's no LMS available and budget constraints prevent acquiring one, virtual classroom sessions and online courses can be conducted using tools like Zoom or Google Meet. It's crucial for teachers to familiarise themselves with these tools to ensure effective use.

- **Utilise Cloud Storage**: Utilise cloud storage such as Google Drive or Dropbox to organise lesson plans, presentations, and student work. This will help to keep materials well-organised and reusable.

- **Develop a System**: Define a clear system for naming files and folders based on subject, topic, or date. This will make finding things much easier and preparing them for the next lesson.

Regularise Online Teaching and Build Confidence

- **Schedule Consistency:** Set specific days and times for online classes and stick to them. This helps students develop a routine and makes online learning more predictable. Breaks are necessary throughout virtual classes even more than in present classes. Keep in mind to implement some interactive or social activities while keeping the constructive working time consistent.

- **Start Small:** If digital skills are low, gradually integrate technology. Begin with a familiar tool like email for announcements, then explore presentation software or online whiteboards as well as webinar or virtual classroom tools. The latter often offer interactive whiteboards, screen sharing, documents sharing etc. natively.

- **Professional Development:** Encourage participation in online workshops or courses to build confidence and acquire new digital teaching skills. Take these training sessions for the tools that you will use. Instead of not knowing a wide range of tools well enough, it is better to focus on a few tools and know them very well.

Boost Interaction in Virtual Classrooms

- **Interactive Tools:** Explore free tools or use features which are already established in your educational centre. Use polls, quizzes, breakout rooms for discussions, or interactive and collaborative whiteboards to create a more engaging environment.

- **Active Learning Strategies:** Move beyond lecture-style teaching. Incorporate engaging and social activities like debates, problem-solving exercises, or group projects to keep students actively involved.

- **Encourage Participation:** Prompt questions, use breakout rooms for discussions, and offer opportunities for students to share their work and ideas.

1.2 Tailored Scenarios for Teachers and trainers

This proposal outlines a comprehensive blueprint for equipping teachers and trainers with digital tools and recommendations, tailored to three distinct scenarios: Ideal, Moderate, and Minimal. Each scenario is designed to guide teachers in their digital transformation journey, ensuring they can streamline their online teaching practices, build confidence with digital tools, and create interactive classroom sessions that keep students engaged.

Ideal Scenario

In the ideal scenario, all teachers are well familiarised with the digital tools they are working with, to design, conduct and manage their online content and virtual classroom. Frequently using the tools and reading the official documentation as well as “How-to guides” can make teachers feel more confident.

This can happen if the tools and their use are regulated, at least in the training centre itself. There should be a standard for which tools are to be used for virtual classrooms, for data exchange between students and teachers and for grading. Further, the official documentation as well as technical guides should be freely offered to all the teachers.

In addition, it is helpful to organise training sessions for all teachers at an educational centre. Adults, as well as pupils, like to learn in groups. It is easier to exchange experiences and perhaps even good practices with others while learning. Regular sessions should be scheduled with a mandatory character.

Also, the implementation of other supportive programs like “students teach teachers” are conceivable. These are workshops where students and teachers are involved to improve the skills of teachers. Now that students seem to be more digital natives and move along more confidently through tools and features than adults do.

Building a teachers’ network for skill improvement and information exchange acting like open-source philosophy where developed contents/solutions are shared with the network so that others can use it. There could be a “content hub” where teachers contribute their own material for usage by other teachers.

Not to mention that a basic technical knowledge about how to move on the internet, send emails etc. is assumed.

Moderate Scenario

A middle-way solution would be to have a standard for which tools are to be used for virtual classrooms, for data exchange between students and teachers and for grading. Further, the official documentation as well as technical guides should be freely offered to all the teachers.

In addition, it is helpful to organise regular training sessions for all teachers at an educational centre. If not possible, they do not have to be mandatory but on a voluntary basis.

Also, here a basic technical knowledge about how to move on the internet, send emails etc. is assumed.

Minimal Scenario

The minimum requirements that the teachers of an educational institution should fulfil to ensure a solid and consistent teaching-learning experience for pupils and students are:

- Basic technical knowledge about how to move on the internet, send emails etc.is assumed.
- There should be a minimum standard for which tools are to be used for virtual classrooms, for data exchange between students and teachers and for grading. Based on this standard the official documentation and “How-to guides” should be freely available for every teacher and instructor working at the centre.

By implementing these strategies and scenarios, teachers can become more organised and confident in online learning environments, ultimately creating a more engaging and effective learning experience for their students

Good practice examples:

SELFIE - This is a tool for teachers in the EU and beyond to reflect on how they use digital technologies in their teaching activities. It helps teachers assess their digital competences and identify where they need further training and support.

https://education.ec.europa.eu/selfie-for-teachers

Public MOOCs to help participants to reflect upon their digital competence for lifelong learning and to get familiar with digital technology for teaching and learning, by exploring different tools and strategies.

https://www.europeanschoolnetacademy.eu/courses/course-v1:EDURegio+DigitallyCompetent+2020/about

2. Training teachers and trainers

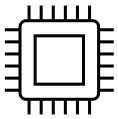
Digital literacy has become a fundamental competency for educators. It encompasses not only the ability to use digital tools but also the understanding of how to integrate these tools into teaching practices. Digital literacy empowers teachers to enhance their instructional methods, engage students more effectively, and adapt to the diverse needs of learners in an increasingly digital world.

However, digital literacy is not just about mastering technology; it's about understanding how to apply it pedagogically. Teachers need to know how to create and curate digital content, facilitate online discussions, assess student learning in a virtual environment, and address the challenges that come with digital education, such as digital equity and cyber safety.

Key Components of Digital Training for Educators

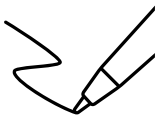
1. Foundational Digital Skills

Before diving into advanced digital tools and pedagogies, educators must first establish a strong foundation in basic digital skills. This includes understanding how to use common software applications (e.g., word processors, spreadsheets, and presentation software), navigating the internet safely, and managing digital files. Training programs should ensure that all educators, regardless of their prior experience, have these foundational skills.



2. Learning Management Systems (LMS)

A LMS is a central component of modern digital education. Training should focus on helping educators become proficient in using the LMS available at their institution. This includes creating and organising course materials, managing student enrolments, tracking progress, and using communication tools within the LMS. Familiarity with the LMS enables teachers to manage their courses more efficiently and provides a consistent learning experience for students.

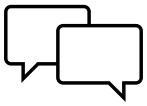


3. Interactive and Collaborative Tools

Digital training should introduce educators to a variety of interactive and collaborative tools that can enhance student engagement. These tools include online whiteboards, discussion forums, and group work platforms such as Google Workspace or Microsoft Teams. Teachers should learn how to integrate these tools into their teaching practices to foster collaboration, creativity, and critical thinking among students.

4. Assessment and Feedback in Digital Environments

One of the challenges of digital education is effectively assessing student learning. Training programs should cover digital assessment tools that allow for a variety of assessment methods, such as quizzes, peer assessments, and project-based assessments. Educators should also learn how to provide timely and constructive feedback in a digital format, which is crucial for student growth and development.



5. Digital Content Creation and Curation

Teachers must be adept at creating and curating digital content that is both engaging and educational. Training should cover the use of multimedia tools to create videos, podcasts, infographics, and other digital resources. Additionally, educators should learn how to curate existing content from reputable sources, ensuring that the materials they provide are accurate, relevant, and aligned with learning objectives.

6. Cybersecurity and Digital Ethics

With the increased use of digital tools comes the responsibility of ensuring that both educators and students are aware of cybersecurity risks and digital ethics. Training should include best practices for protecting personal data, recognising phishing attempts, and promoting ethical behaviour online. Teachers should be equipped to guide their students in navigating the digital world safely and responsibly.

Good practice examples: FORTRAINERS

The FORTRAINERS Erasmus+ project is centred on the professional development of teachers and trainers, primarily through the creation and implementation of a Small Private Online Course (SPOC). This SPOC is designed to help educators incorporate innovative digital pedagogical practices into their teaching. The course is structured into three modules, each focusing on different aspects of digital technology's role in education: enhancing student engagement and memorisation, fostering a proactive learning posture, and leveraging both physical and virtual mobility. By participating in this SPOC, teachers and trainers are empowered to adopt new educational strategies that improve their digital, pedagogical, and professional skills.

https://www.fortrainers.eu/

2.1 Best Practices for Training Educators

1. Needs Assessment and Personalised Learning Paths:

A one-size-fits-all approach to digital training isn't effective due to varying educator proficiency levels. Conducting a needs assessment helps design personalised learning paths, ensuring each teacher, whether a beginner or advanced user, receives the necessary training.

2. Blended Learning Approach:

Educators, like students, benefit from a blended approach to training. Combining face-to-face workshops with online modules allows teachers to learn at their own pace while accessing support and guidance, modelling the blended learning approach they may use with their students.

3. Peer Learning and Collaboration

Encouraging peer learning and collaboration is highly effective for training educators. Teachers can share experiences, challenges, and solutions, learning from each other in a supportive environment. Creating a community of practice for regular discussions on digital tools and strategies fosters continuous learning and innovation.

4. Ongoing Professional Development

Digital tools and technologies evolve day by day, making them essential for educators to engage in ongoing professional development. Institutions should offer regular training sessions, webinars, and workshops to help teachers stay up to date with the latest developments. Providing access to online courses and resources can also support continuous learning.

5. Supportive Infrastructure and Resources

For digital training to be successful, educators need access to reliable technology and resources. Institutions should ensure that their infrastructure can support digital learning, including high-speed internet, up-to-date hardware, and access to necessary software. Additionally, providing technical support can help educators troubleshoot issues quickly and focus on their teaching.

6. Incentives and Recognition

Recognising and rewarding educators for their efforts in developing digital skills can motivate them to engage more deeply with training programs. Institutions might consider offering certificates, badges, or other forms of recognition for completing digital training modules. Additionally, integrating digital competencies into performance evaluations can encourage teachers to prioritise their digital development.

2.2 Scenarios for Implementing Digital

To accommodate the diverse needs and resources of educational institutions, digital training programs can be implemented in various scenarios. These scenarios provide a framework for institutions to design their training programs based on their specific context.

1. Ideal Scenario

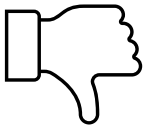
In the ideal scenario, an educational institution has ample resources and a strong commitment to digital transformation. The institution provides comprehensive, ongoing training programs that cover all aspects of digital literacy, from foundational skills to advanced pedagogical strategies. Teachers have access to the latest technologies, and there is a culture of continuous learning and innovation. Regular workshops, peer learning sessions, and personalised coaching are standard practices.

2. Moderate Scenario

In the moderate scenario, resources may be limited, but there is still a commitment to improving digital literacy among educators. Training programs focus on the most essential digital skills and tools, with additional training available for those who want to deepen their knowledge. The institution may offer a combination of in-person and online training sessions, and peer learning is encouraged, though it may be less formalised. Ongoing professional development is supported, but opportunities may be less frequent.

3. Minimal Scenario

In the minimal scenario, resources are scarce, and the institution faces significant challenges in implementing digital training. However, a basic level of digital literacy is still required to ensure that teachers can effectively deliver their courses. Training focuses on foundational skills and the use of a limited set of essential digital tools. Workshops are infrequent, and much of the learning is self-directed, with teachers relying on online tutorials and resources. Peer learning happens informally, and there is minimal ongoing professional development.

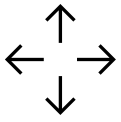


2.3 Challenges and Solutions

Implementing digital training programs is not without its challenges. Common issues include resistance to change, varying levels of digital proficiency, and limited resources. However, these challenges can be addressed with thoughtful planning and support.

1. Overcoming Resistance to Change

Some educators may resist digital training due to a fear of technology or a belief that traditional methods are superior. Addressing this resistance requires a combination of empathy, clear communication, and demonstrating the benefits of digital tools. Training programs should be designed to gradually introduce technology, allowing teachers to build confidence at their own pace.



2. Addressing Varying Levels of Proficiency

The wide range of digital proficiency among educators can make it difficult to design training programs that meet everyone's needs. Offering differentiated training paths and providing additional support for those who need it can help bridge this gap. Peer mentoring programs can also be effective, allowing more experienced teachers to support their colleagues.

3. Maximising Limited Resources

In resource-constrained environments, institutions must be strategic in their approach to digital training. Focusing on the most critical skills and tools, leveraging free or low-cost resources, and encouraging self-directed learning can help stretch limited budgets. Collaborating with other institutions to share resources and expertise can also be beneficial.

Conclusion –
The Future of Digital Training in Education

As technology continues to evolve, so will the demands on educators to integrate digital tools into their teaching. The future of digital training in education will likely involve a greater emphasis on personalised learning, the use of artificial intelligence and data analytics to tailor training programs, and the incorporation of emerging technologies like virtual and augmented reality.

Moreover, the role of educators will continue to shift from being the primary source of knowledge to becoming facilitators of learning, guiding students through a wealth of digital resources. This shift will require ongoing professional development and a commitment to lifelong learning, both for educators and their students.

Training teachers and trainers to become proficient in digital tools and methodologies is essential for the future of education. By adopting best practices, addressing challenges, and implementing training programs that meet the specific needs of their context, educational institutions can empower their educators to thrive in a digital-first world. The goal is to create a dynamic and engaging learning environment that prepares students for success in an increasingly digital society.

The journey towards full digital integration in vocational education is ongoing, and it requires collaborative effort from all stakeholders. Institutions must remain committed to continuous improvement, embracing new technologies and methodologies as they emerge, and ensuring that both educators and learners are supported throughout the process. The goal is to create a resilient, adaptable, and future-ready education system that empowers learners to thrive in the digital age.

The success of digital transformation in vocational education will be measured not only by the technological advancements achieved but by the positive impact on learners' outcomes, educators' capabilities, and the overall quality of education. As such, this report serves as both a roadmap and a call to action for vocational schools and training centres to embrace digital transformation, ensuring that they remain relevant, competitive, and effective in meeting the needs of today's learners and tomorrow's workforce.

About TechnoVET

About TechnoVET

TechnoVET, funded by Erasmus+, is dedicated to achieving several key objectives. These include the advancement and enhancement of digitalisation in vocational training, as well as promoting the concept of digitalisation within this sector. Additionally, the project aims to offer tangible solutions to address changes in technology, soft skills, and administrative organization prompted by the pandemic.

Our research involved conducting surveys in five partner countries: Spain, Germany, Belgium, Lithuania, and Italy. The surveys explored how educators, students, and training centres have navigated the challenges of digitising learning materials, examinations, and practical implementations during the last two years of the pandemic. We focused on understanding the specific changes they experienced, the solutions they devised, and areas where they identified improvements and further development needs.

The survey centered on three key areas: Technical Implementation, Soft Skills, and Administrative Handling. The insights gained from this survey have been compiled into a report, which serves as a guide for stakeholders in the field of Vocational Education and Training (VET) on digitalisation. The report is accessible here: [insert link].

As highlighted earlier, this report is informed by the gaps and needs identified in our survey. Alongside this practical guide to digitalisation, we have also developed video skills courses. The aim of both the report and these courses is to assist in the digitalisation of your VET centre or school.

References

References

Anis, Muneeba. (2024). Teacher Professional Development in the Digital Age: Addressing the Evolving Needs Post- COVID. International Journal For Multidisciplinary Research. 6. 1-14. https://www.ijfmr.com/research-paper.php?id=12386

Cedefop and OECD (2024). Apprenticeships and the digital transition: modernising apprenticeships to meet digital skill needs. Publications Office of the European Union. Cedefop reference series; 125. https://op.europa.eu/en/publication-detail/-/publication/41842723-2935-11ef-9290-01aa75ed71a1/language-en

European Commission. (2020). Digital Education Action Plan (2021-2027): Resetting education and training for the digital age. European Union. https://education.ec.europa.eu/focus-topics/digital-education/action-plan

European Training Foundation (2023). Building evidence to support vocational excellence for the digital and green transitions The Role of Centres of Vocational Excellence in the Digital Transition. https://www.etf.europa.eu/sites/default/files/2023-11/CoVEs%20in%20the%20digital%20transition.pdf

Herrero, C., Villar Onrubia, D., Cosgrove, J., Kluzer, S., Centeno, C., Castaño Muñoz, J., Romero Rodríguez, S., Moreno Morilla, C., Weikert García, L., Arroyo Sagasta, A., Zubizarreta Pagalday, A., Wisniewski, D. and Fabe, N., Digital Transformation of Vocational Education and Training (VET) Workshop, Publications Office of the European Union, Luxembourg, 2024, https://publications.jrc.ec.europa.eu/repository/handle/JRC138603

OECD (2023), Building Future-Ready Vocational Education and Training Systems, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris https://www.oecd-ilibrary.org/education/building-future-ready-vocational-education-and-training-systems_28551a79-en

OECD (2021), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris https://www.oecd-ilibrary.org/education/teachers-and-leaders-in-vocational-education-and-training_59d4fbb1-en

Disclaimer

All external links and resources referenced in the TechnoVET final report were verified as accurate and reliable on the date of publication, March 15, 2025. However, please note that we have no control over the content of external websites or resources, which may change over time. We do not assume any responsibility for the availability, accuracy, or content of these external sources after the publication date