Boosting Classes 2.0 for high-quality teaching in adult education

Ref. 2020-1-IT02-KA204-079329

Report on digital skills and technologies in adult education

COUNTRY Romania

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Activity related	**O1/A1 -** Analyzing and comparing the teaching and learning approaches. **O1/A2** - Identification and mapping of the digital skills required for the integration of the technology into the classes for adult education at the national level. **O1/A3 -** Analyzing and comparing the assessment and evaluation systems in distance learning (formative and summative) through the specific tools and techniques at the national level.
Deliverable No. and title	**O1 - Framework to integrate new technologies in adult education through project-based learning**

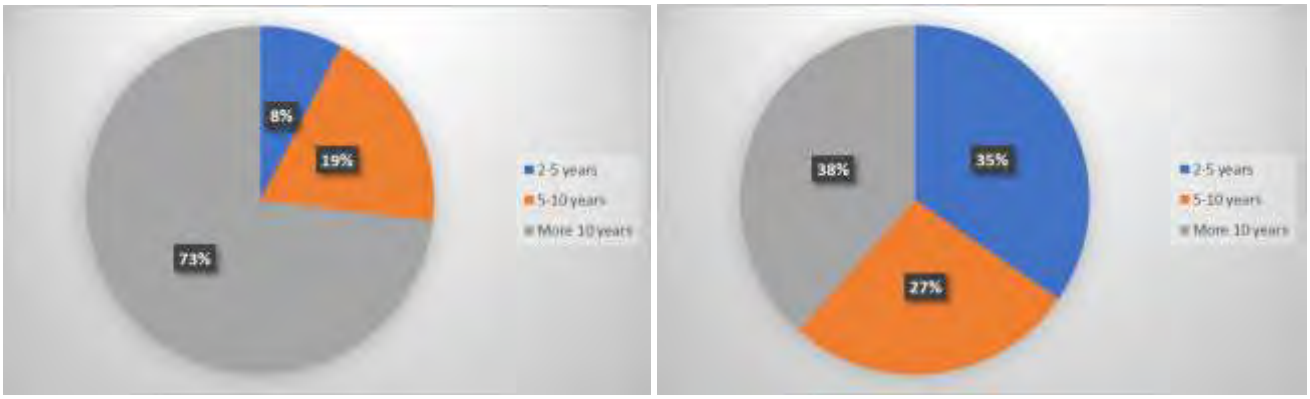
Contents

INTRODUCTION

The actual document represents the elaboration of the data revealed utilizing the questionnaire aimed at defining the framework to integrate new technologies in adult education through project-based learning. In total 26 answers were processed. The responses are grouped according to the corresponding activities related:

- Analyzing and comparing the teaching and learning approaches;
- Identification and mapping of the digital skills required for the integration of the technology into the classes for adult education at the national level;
- Analyzing and comparing the assessment and evaluation systems in distance learning (formative and summative) through the specific tools and techniques at the national level.

The sample analysed is characterized by a slight prevalence of females (61,50% of respondents). Serving principally within a school system (65,4%), the professional experience of respondents both in education and in the adult field are summarized in Figure 1 below.



a) b)

Figure 1. Professional experience in teaching: a) general; b) in the adult field.

As can be seen, the major percentage of respondents possess a significant experience in the teaching field (Figure 1a, 73%), and most of them have accumulated experience in adult education (Figure 1b, 38%). Among the subjects taught 14 persons have specified the majors related to STEM field, whereas the rest have indicated languages (English, French, Romanian) and Economics as their areas of expertise.

The majority of respondents have been working in the adults' education for more than 10 years, and the awareness on the problems related to the field in terms of organization of the institution and the reached users is matured. The lists presenting both weaknesses and strengths confirm the above:

Weaknesses

- Discontinuity in learning process
- Demotivation
- Absenteism
- Lack of digital devices or certain laboratoy equipments

- Different learning approaches

Strengths

- High number of trained staff and programs
- The collaboration among teachers to enhance their skills
- The willing to incorporate innovation into goals for school processes and practices
- Quality leadership
- Advanced laboratory equipments
- Flexibility
- Teachers' interest in effective education and constant training

1. The teaching and learning approaches for the use of technologies in the classroom in adult education in Romania

Regarding the teaching tools used during the face-to-face lessons, the responses revealed may be subdivided into two major groups: traditional and multimedia. While the first group is composed basically of traditional materials such as textbooks, printed materials, handouts, classic blackboard, whiteboards, structured cards, frontal talk, demonstration, debate, brainstorming; the second is composed of different digital tools such as PCs, interactive multimedia whiteboards, video projectors, smartphones, tablets and apps (Learning App), online courses, simulators.

In response to the question related to the kind of teaching tools used to stimulate and motivate students' learning, respondents have partially reproduced the content of the multimedia tools mentioned before: multimedia whiteboards, online resources, learning apps, applications, animations, conceptual maps, prototypes, templates, PC and smartphones, ICT in general. In addition, the following approaches are summarized below:

- Project assignments
- Individual student activities,
- Roundtable Learning Strategy
- Panel Discussion
- Teacher-Student interaction, Student-Student interaction
- Flipped classroom
- Interactive methods, brainstorming, role-play
- Digital technologies - presentations, animations, videos, e-tests, interactive game activities, computer models of real objects
- Practical tasks, laboratory activities.

As to the instruments used to encourage students' learning, again the variety of the answers received is quite similar to the ones received during the previous inquiries, but in addition, the following tools were noticed:

- Use of audio, visuals and videos
- Prototypes, training cars, tools
- Hands-on demonstration
- Learning apps
- Internet platforms

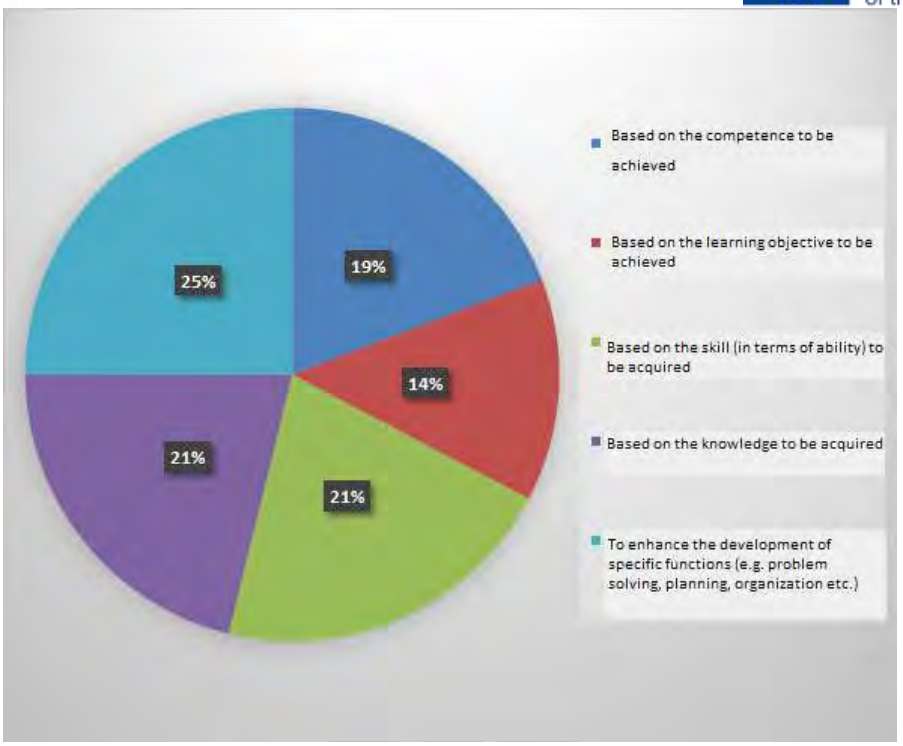


Figure 2 - How do you select a teaching resource for your students?

While choosing the teaching resource for the students (See Figure 2), 25% of respondents are interested in enhancing the development of specific functions (e.g. problem solving, planning, organization etc.), in the knowledge to be acquired (21%), in the skill (in terms of ability) to be acquired (21%), and in the competence to be achieved (19%). The learning object to be achieved is the least popular option and it has been given by 14% of respondents.

The most popular methods to be used with students chosed by a large percentage of respondents (see Figure 3) are Work in group (30%) and problem solving activities (30%). The second-ranked are laboratory tasks (21%). Lessons in flipped classroom modality attracts 13% of the respondents and individual work shares 6% of respondents' preferences.

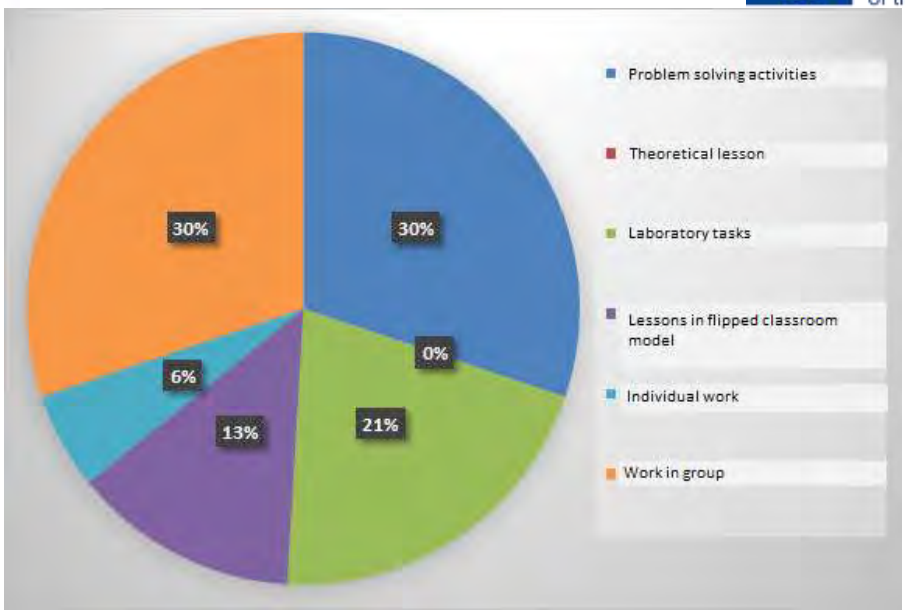


Figure 3 – The most suitable method with your students.

An important aspect of our inquiry is the preference for group working because it is an effective and powerful way to learn, and it is highly relevant for effective learning, developing generic skills such as organization, delegation, communication and co-operation.

Problem-solving is a critical skill used to sharpen the abilities while having fun at the same time. Students can take on some of the responsibility for their own learning and are encouraged to take personal action to solve problems, discuss alternatives, and focus on thinking as a vital element of the curriculum. it provides students with opportunities to use their newly acquired knowledge and assists them in working at higher level of thinking.

Behind the reasoning for those who chose “work in the group”, 16 respondents considered it to be the most suitable teaching method and a majority of 67% considers it essential for learning development while 33% appreciated its role in relationship development as reflected below.

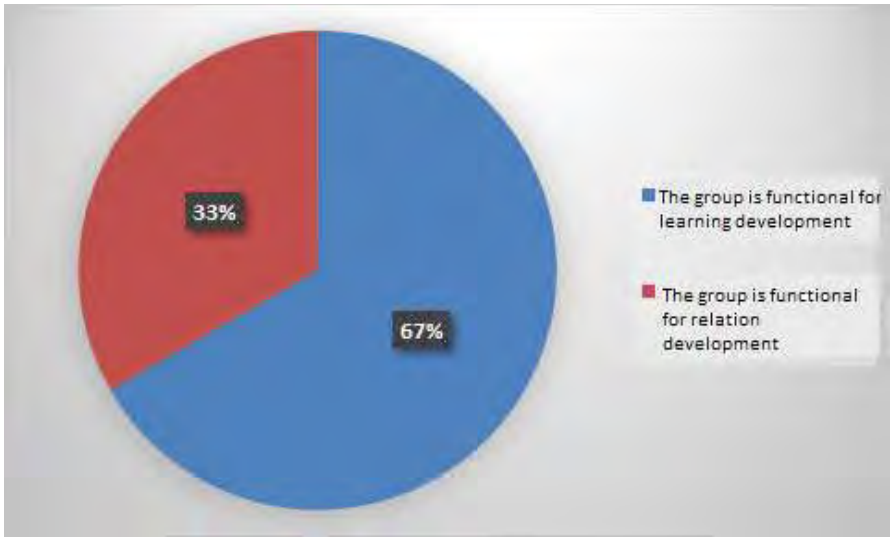


Figure 4 – The most suitable method with your students.

Thus, according to the responses received the group is considered more functional for learning development compared to the relationship development.

As regards the monitoring tools for the learning level achieved, the following options have been registered:

- Tests
- Questionnaires
- Written and oral examination
- Multiple choice
- Projects
- Portfolios
- Practical activities
- Formative and summative assessment
- Summary evaluation, ongoing evaluation

Among the criteria used to assess student performance are the following:

- Consistent learning
- Acquiring new understanding, knowledge, behaviours, skills and values
- Active participation and constant involvement
- Increasing motivation
- Relevant content
- Needs assessment
- Fluency in foreign languages
- Proper execution of the set tasks

- Accuracy in performing operations
- Know-how
- Level of the achieved competence
- Problem-solving capability
- Theoretical knowledge and its application

2. The digital skills required for technology integration into the classes in the classroom

The absolute majority (100%) do use digital tools during teaching activities. First of all, as the results demonstrate, the use of a digital instrument is pre-defined by objective one wants to reach. Therefore, the instruments specified are miscellaneous:

- Computers, tablets, smartphones
- Video projector
- Digital resources
- Electronic platforms
- Learning platforms
- Google apps, Google classroom, Zoom
- Internet, YouTube, WhatsApp;
- G Suite platform
- Digital books, e-books.

Below the results acquired on the base of the questionnaire aimed at defining the most pertinent digital skills (shown in red, orange and yellow, Fig. 5-10) followed by the summarizing table (see Table 1), containing the selected ones with the corresponding areas are represented.

A - To use digital technologies to enhance organisational communication with learners.
B - To use the internet to learn about new pedagogical methods and strategies.
C - To use online training opportunities, e.g. video tutorials, MOOCs, webinars etc.
D - To use the internet to update one's subjects specific competences.
E - To use digital technologies to collaborate with other educators.
F - To seek the help of others in improving one's digital and pedagogical practice.
G - To use digital technologies to collaboratively develop educational resources.
H - To seek targeted training and use opportunities for continuous professional development.

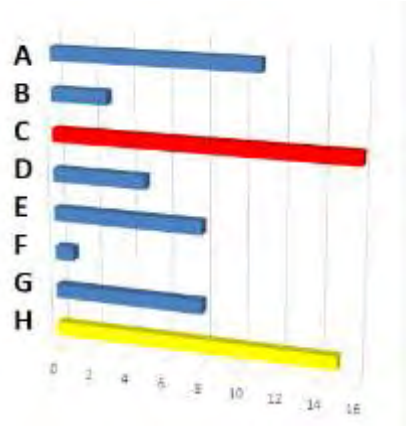


Figure 5 – Professional development and reflective practice area.

A - To formulate appropriate search strategies to identify digital resources for teaching and learning.
B - To critically evaluate the credibility and reliability of digital sources and resources.
C -To assess the usefulness of digital resources in addressing the learning objective, competence levels.
D - To modify and edit existing digital resources, where this is permitted.
E - To combine and mix existing digital resources or parts thereof, where this is permitted.
F - To create new digital educational resources.
G - To understand different licences attributed to digital resources and the implications for their re-use.
H - To share resources using links or as attachments, e.g. to e-mails.
I - To share resources on online platforms or personal or organisational websites/blogs.
J - To respect possible copyright restrictions to using, re-using and modifying digital resources.
K - To attribute (open) licenses to self-created resources.
L - To take measures to protect sensitive data and resources (e.g. students' grades, exams).
M - To formulate appropriate search strategies to identify digital resources for teaching and learning.

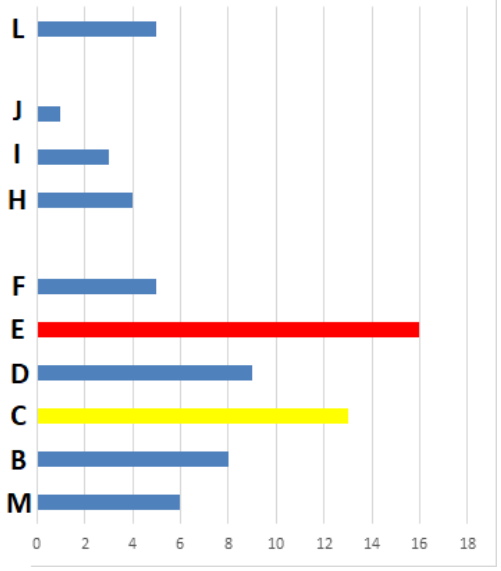


Figure 6 – Digital resources area.

A - To use classroom technologies to support instruction, e.g. electronic whiteboards, mobile devices.
B - To structure the lesson so that different (teacher-led and learner-led) digital activities jointly reinforce the learning objective.
C - To set up learning sessions, activities and interactions in a digital environment.
D - To structure and manage content, collaboration and interaction in a digital environment.
E - To consider how educator-led digital interventions – whether face-to-face or in a digital environment - can best support the learning objective.
F - To use digital communication tools to respond promptly to learners' questions and doubts, e.g. on homework assignments.
G - To set up learning activities in digital environments, having foreseen learners' needs for guidance and catering for them.
H - To interact with learners in collaborative digital environments.
I - To digitally monitor student behaviour in class and offer guidance when needed.
J - To implement collaborative learning activities in which digital devices, resources or digital information strategies are used.
K - To implement collaborative learning activities in a digital environment, e.g. using blogs, wikis, learning management systems.
L - To use digital technologies (e.g. blogs, diaries, planning tools) to allow learners to plan their own learning.
M - To use digital technologies to allow learners to collect evidence and record progress, e.g. audio or video recordings, photos.
N - To use digital technologies (e.g. portfolios, learners' blogs) to allow learners to record and showcase their work.
O - To use digital technologies to enable learners to reflect on and self-assess their learning process.

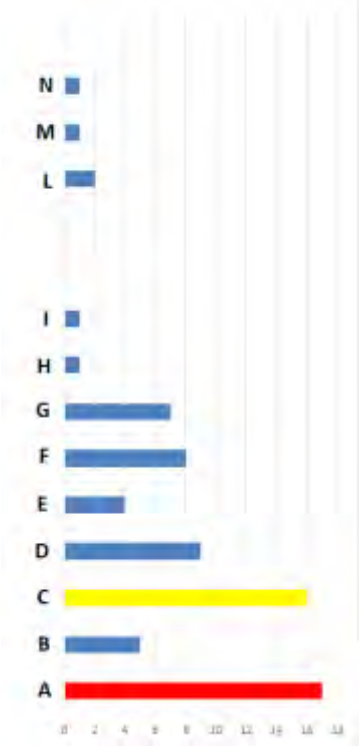


Figure 7 – Teaching and learning area.

A - To use digital assessment tools to monitor the learning process and obtain information on learners' progress.
B - To use digital technologies to enhance formative assessment strategies, e.g. using classroom response systems, quizzes, games.
C - To use digital technologies to enhance summative assessment in tests, e.g. through computer-based tests, implementing audio or video (e.g. in language learning), using simulations or subject-specific digital technologies as test environments.
D - To use digital technologies to scaffold learners' assignments and their assessment, e.g. through ePortfolios.
E - To use a variety of digital and non-digital assessment formats and be aware of their benefits and drawbacks.
F - To critically reflect on the appropriateness digital assessment approaches and adapt strategies accordingly to technologies as test environments.
G - To use digital technologies to record, compare and synthesize data on learner progress.
H - To use digital technology to grade and give feedback on electronically submitted assignments.
I - To use digital technologies to monitor learner progress and provide support when needed.
J - To adapt teaching and assessment practices, based on the data generated by the digital technologies used.
K - To enable learners to evaluate and interpret the results of formative, summative, self- and peer-assessments.
L - To assist learners in identifying areas for improvement and jointly develop learning plans to address these areas.

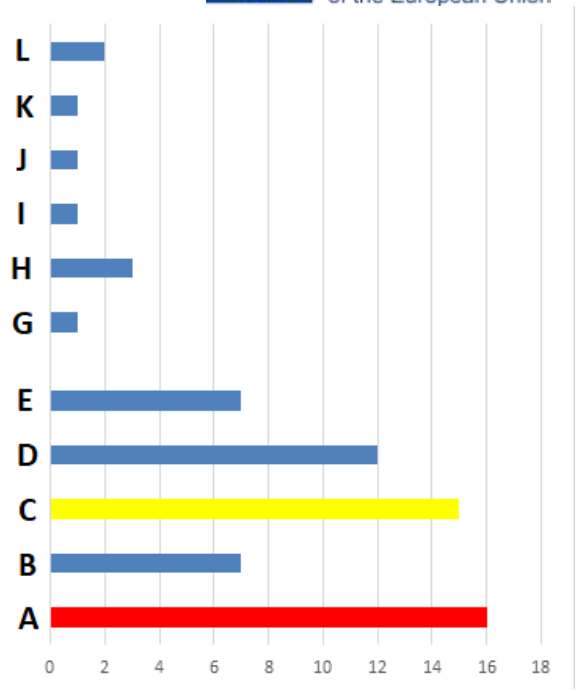


Figure 8 – Assessment area.

A - To provide equitable access to appropriate digital technologies and resources, e.g. ensuring that all students have access to the digital technologies used.
B - To select and employ digital pedagogical strategies which respond to learners' digital context, e.g. contextual constraints to their technology use (e.g. availability), competences, expectations, attitudes, misconceptions and misuses.
C - To employ digital technologies and strategies, e.g. assistive technologies, designed for learners' in need of special support (e.g. learners with physical or mental constraints; learners with learning disorders).
D - To consider and respond to potential accessibility issues when selecting, modifying or creating digital resources and to provide alternative or compensatory tools or approaches for learners with special needs.
E - To employ design principles for increasing accessibility for the resources and digital environments used in teaching.
F - To continuously monitor and reflect on the suitability of the measures implemented to improve accessibility and adapt strategies accordingly.
G - To use digital technologies to visualise and explain new concepts in a motivating and engaging way, e.g. by employing animations or videos.
H - To employ digital learning environments or activities which are motivating and engaging, e.g. games, quizzes.
I - To put learners' active uses of digital technologies at the centre of the instructional process.
J - To use digital technologies to allow learners to actively engage with the subject matter at hand, e.g. using different senses, manipulating virtual objects, varying the problem set up to enquire into its structure, etc.
K - To select appropriate digital technologies for fostering active learning in a given learning context or for a specific learning objective.
L - To reflect on how suitable the different digital technologies used are in increasing learners' active learning, and to adapt strategies and choices accordingly.

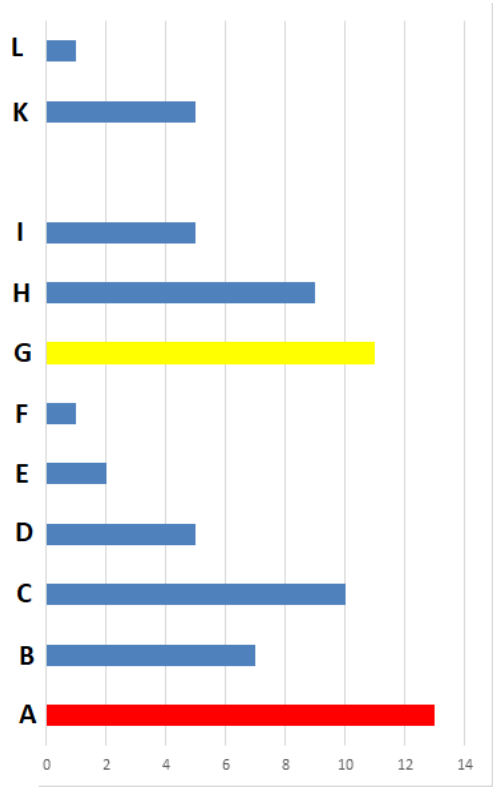


Figure 9 – Empowering learners.

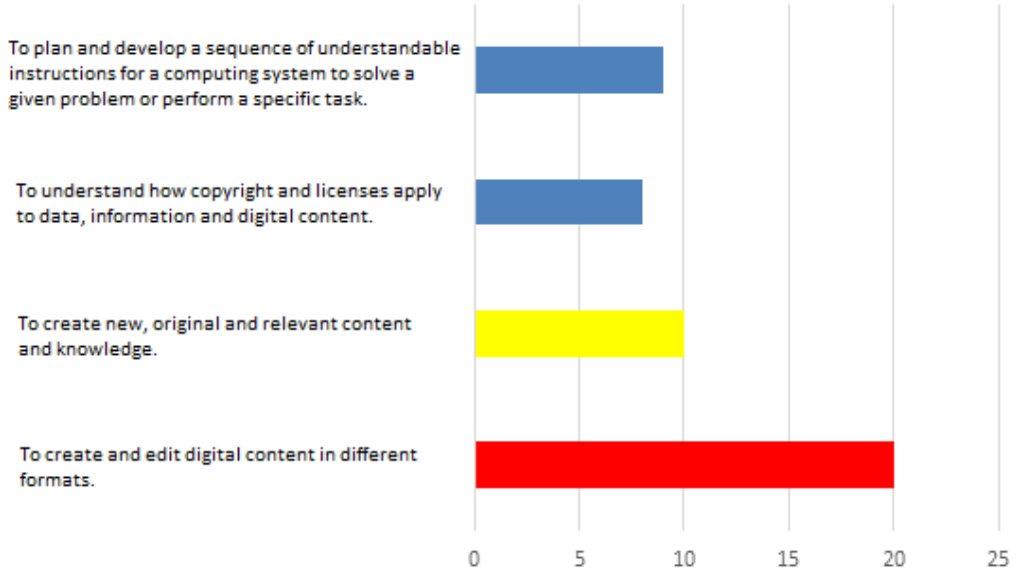


Figure 10 – Facilitating learners' digital competence area.

Table 1 - Summary of the skills selected with the corresponding areas.

Skills	Area
• *To use online training opportunities, e.g. video tutorials, MOOCs, webinars etc.* • *To use digital technologies to enhance organisational communication with learners.* • *To seek targeted training and use opportunities for continuous professional development*	Professional development and reflective practice
• *To assess the usefulness of digital resources in addressing the learning objective, the competence levels.* • *To combine and mix existing digital resources or parts thereof, where this is permitted.* • *To modify and edit existing digital resources, where this is permitted.*	Digital resources
• *To use classroom technologies to support instruction, e.g. electronic whiteboards, mobile devices.* • *To set up learning sessions, activities and interactions in a digital environment.* • *To structure and manage content, collaboration and interaction in a digital environment.*	Teaching and learning
• *To use digital assessment tools to monitor the learning process and obtain information on learners' progress.* • *To use digital technologies to enhance summative assessment in tests, e.g. through computer-based tests, implementing audio or video (e.g. in language learning), using simulations or subject-specific digital technologies as test environments.* • *To use digital technologies to scaffold learners' assignments and their assessment, e.g. through ePortfolios.*	Assessment
• *To provide equitable access to appropriate digital technologies and resources, e.g. ensuring that all students have access to the digital technologies used.* • *To employ digital technologies and strategies, e.g. assistive technologies, designed for learners' in need of special support (e.g. learners with physical or mental constraints; learners with learning disorders).* • *To use digital technologies to visualise and explain new concepts in a motivating and engaging way, e.g. by employing animations or videos.* • *To employ digital learning environments or activities which are motivating and engaging, e.g. games, quizzes.*	Empowering learners
• *To create and edit digital content in different formats.* • *To create new, original and relevant content and knowledge.*	Facilitating learners' digital competence

3. The assessment and evaluation systems in distance learning (both formative and summative) in Romania

Among the difficulties in managing adult learners in the virtual room, the following ones were nominated:

- Lack of digital devices
- Low network
- Discontinuous or low participation
- Large number of students in classrooms (class size)
- Lack of ICT basic skills
- Inefficient/ Ineffective communication
- Student demotivation
- Absence of feedback
- Technical difficulties
- Impossibility to solve practical tasks

The results show that the organization of the individual work for students is practised by the majority of respondents (69,23%). The self-study activities are held in the form of:

- Self-learning activities
- Flipped Classroom
- Essay writing
- Project work
- Online tests
- Powerpoint presentations and audio-video content production
- Visualizing audio-video materials
- Problem-solving activities

In case, if the self-study activities are not practised, the basic motivations proposed are the heterogeneity of the class composition in terms of development levels, the lack of devices and of ICT basic skills together with the difficulty in connecting students to the Internet.

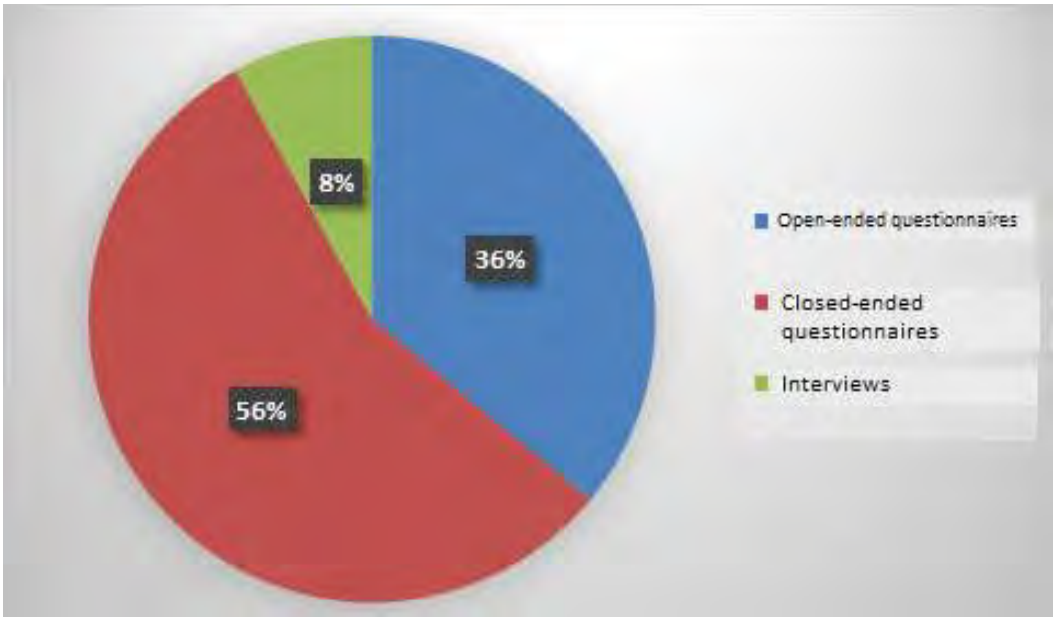


Figure 11 - Online evaluation tools.

For online evaluation, most of respondents declared to prefer closed-ended and open-ended questionnaires. The least popular option is the interview. Certainly, these results are closely related to the problems obstacles revealed previously, i.e. being more demanding in terms of connection quality and the skills of the student.

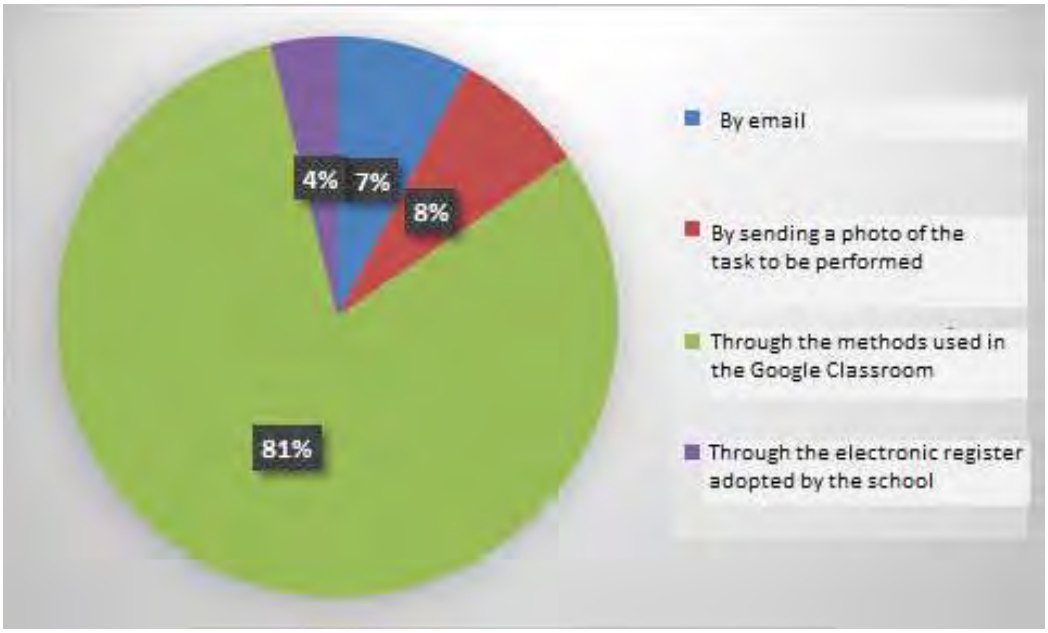


Figure 12 - Online assessment administration and revision management.

When it comes to online assessment administration and revision management, the Google classroom tools are the most popular options (81%).

Below the main difficulties in the online learning evaluation system are listed:

- Technical difficulties
- Demotivated students
- Difficulty to understand if the tasks were carried out by the student
- Monitoring efficiency
- Lack of devices or deficient network
- Impossibility of carrying out practical tasks
- Not everyone delivers assigned tasks
- Lack of constant feedback

4. The two good practices of educational performance selected in Romania and aimed at adult students

4.1 Description of the first good practice

Name and description of the selected project/good practice	**"International Standards training in VET for promotion of market relevant education"** **istraproject.eu**
Describe the *ratio* of the choice	Development of e-learning course aiming at improving students' digital skills and enhancement of competences introducing contemporary ICT-based teaching approaches and techniques.
What are the main objectives of the selected educational activity?	Linking education with innovation is a necessary step towards smart, sustainable and inclusive growth in terms of increasing labor market and promoting a more resource efficient and competitive economy. The necessity of education about standardization is already recognized at European level. The main objective of ISTRA project is the development and piloting of two sets of innovative training approaches and contents for VET and C-VET training on two widely applicable series of standards (ISO/IEC 27000 and ISO 31000). The educational materials about the standards are integrated in e-learning courses designed by e-learning experts. The e-courses develop an innovative approach towards delivering theoretical knowledge and practical skills in applying standards in various spheres. The project's aim and objectives are achieved by the following activities: -Designing of the technological educational model and setting up the ISTRA VLE based on the contemporary ICT-based approaches and contents and in line with the modern trends in the digital education; -Development of e-learning course addressed to VET trainers of standards and standardization that aims at improving their digital skills and enhancement of their pedagogical competences introducing contemporary ICT-based teaching approaches and techniques; - Piloting of the developed courses in the ISTRA VLE and collecting feedback from the users considering future improvement and enhancement of the methodology.

Please, specify the referred adult sector	vocational training services

Target audience description	The project target groups are secondary VET school students, professionals needing C-VET and trainers in topics related to standards and standardization. The project beneficiaries are: -internal beneficiaries – staff of the partner organizations not involved in the implementation of the project activities and outputs and NAVET experts; -external beneficiaries –stakeholders at national, regional and international level, policy makers and representatives of umbrella organisations responsible for education.

Description of the competences to be achieved with this good practice	The main aim is providing the target groups (VET lecturers/C-VET trainers and VET students/C-VET trainees) with friendly, easy-to-use, clearly structured and easily accessible environment where high quality information and knowledge, concerning the project focused domains and topics series of international standards for risk management and information security management systems, are presented in an attractive, understandable and user-centered manner towards innovative competences to respond to the modern requirements and better competitiveness on the local, European and international labour market for the representatives of the target groups. The project enhances training content, increases competitiveness and promotion of the products and services of the participating organisations.

Considering each competence selected, describe the following areas:	
COGNITIVE AREA	Focusing on creative and exploratory experiences Reinforcing the relationship between doing and thinking
AFFECTIVE– EXPRESSIVE AREA	Personal interactive skills Supporting the expression of feelings, emotions and sensations Reinforcing expressive experiences
SOCIAL AREA	Encouraging interpersonal communication Collaboration, participation and team working Following Directions
Psychomotor (if relevant)	Satisfying the movement needs through simulation activities

The contents/ knowledge taught /	Teachers and students learn to follow flexible learning paths in order to improve their key and transversal competences in accordance with the needs of modern

learned	digital education that will be developed. The target groups gain innovative competences to respond to the modern requirements, better knowledge on the management systems and on two of the most popular standards for management systems, adaptability in online training environment and better quality of the training to be provided. Teachers and students learn how to use digital apps and platforms including Moodle and ISTRA Virtual Learning Environment – modern educational environment, for learning about standards and standardization.

Description of the features of the online environment used	The project involves the use of apps and platforms for various subjects, smartphones and computers.

Which is the typology of the lesson implemented?	Frontal lesson Interactive lesson Synchronous activity Learning by doing

Are the teaching activities and contents, managed in the online environment, disciplinary or multidisciplinary?	Multidisciplinary

What are the learning outcomes?	In general, students show interest in e-learning, in digital materials, in using apps on the laptop, phones, tablets, or smartboards and they appreciate the benefits of this modern way of learning. Although initially some of the teachers involved in the project were reluctant to teach-learn-evaluate a module using online platforms, they improved their personal skills in using platforms in order to develop the training program in cooperation with other institutions.

How, in this good practice, was evaluated the learning outcomes of the students?	Individual assessment Questionnaires submissions

4.2 Description of the second good practice

Name and description of the selected project/good practice	**"eSKILLS4ALL"**
Describe the *ratio* of the choice	The eSKILLS4ALL project initiates a holistic approach to promote digital literacy, while fighting skill mismatches and unemployment of low-skilled unemployed adults with a focus on women through a multi-assessed e-tool based on an interactive and dynamic platform in order to up-grade their digital competences.
What are the main objectives of the selected educational activity? In terms of learning experiences and knowledge.	In order to depict the Digital Skills-Gap between low skilled adults and the labour market requirements which is more and more oriented towards new technologies, distance communication, distributed and shared tasks, the project provides a full picture, through policy and document analysis, as well as through quantitative and qualitative survey, of the digital and employability skills, and based upon that it defines benchmarks and indicators for the Digital Competence Framework to be used for the Recognition of Skills and Achievements acquired by learners. The aim of the project is achieved through an electronic tool, based on an interactive and dynamic platform, necessary for the efficient acquisition of digital skills. The project provides open and innovative training, learning, mobility and employment support: • A new curriculum and a new professional profile that introduces an innovative combination of unemployed adult ICT tools, with a focus on women; • An online, interactive training delivery environment facilitated by social learning is developed; • A framework for recognizing the skills and achievements acquired by students based on the open badge recognition framework; • An innovative online and in-house service "e-SKILLS4ALL-SUPPORT-HUBS" to support the target group in their search for a job.

Please, specify the referred adult sector	school system

Target audience description	Low-skilled adults, various forms of education or qualification

Description of the competences to be achieved with this good practice	Employability skills Digital skills

Considering each competence selected, describe the following areas:	
COGNITIVE AREA	Category Formation Focusing on creative and exploratory experiences Reinforcing the relationship between doing and thinking
AFFECTIVE– EXPRESSIVE AREA	Professional responsibility Personal interactive skills Promoting the self-expression
SOCIAL AREA	Collaboration Socialization Team Working Encouraging interpersonal communication
Psychomotor (if relevant)	Simulation activities

The contents/ knowledge taught / learned	Many companies are creating badge issuing platforms compliant with the Open Badges. They provide a wide range of services, which allow non-technical users issue Open Badges credentials. Platforms each offer a mix of custom services possibly including: online badge designers, badge discovery, issuing, assessment workflow, display, user profiles, social sharing and tools to integrate with existing learning systems. All Open Badges issuing platforms should allow recipients to export their badges to a Backpack of choice. This allows users to stack and share their badges earned on different platforms and choose their own spaces to establish their identity on the web. Open Badges provide portable and verifiable information about digital skills and achievements.

	Low-skilled adults can unlock opportunities by sharing collections of badges representing desired skill sets in a dynamic, evidence-based way. Open Badges represent legitimate, authenticated achievements, described within the badge and linked to the eSkills4All project. To summarise: • eSkills4All consortium creates badges for five different digital competences: - Module 1: Problem Solving - Module 2: Digital Content Creation - Module 3: Communication and collaboration - Module 4: Safety - Module 5: Information and data literacy • Learners are invited to register in the e-learning platform and take the course(s) of the eSkills4All programme • The e-learning platform listing indicates the criteria for earning the badge • Learners should provide evidences against the badge criteria • Learners should claim a badge, including evidence, against badge criteria • The tool acts as the evaluator, based on a 10 question quiz for each module. If the user sits the quiz and achieves 70% or over, they will be awarded the badge • The learner will be able to download their badges from the platform. eSkills4All consortium offers opportunities of upskilling the digital skills of low-skilled adult learners and, in exchange, plays a critical role in the ecosystem. Through this process, Open Badges can be turned into new collaborations, jobs, internships, and richer connections between lifelong learners. The modules can be completed through a hands-on, personalised, online training course, where learners can access the materials, assess their digital competences through quizzes, improve their knowledge and gain recognition of their skills with Open Badges.

Description of the features of the online environment used	The online environment is represented by an interactive e-platform which also provides a forum for communication, a support hub and an e-employment data bank: https://academy.eskills4all.eu/

Which is the typology of the lesson implemented?	Frontal lesson Interactive lesson Synchronous activity

Are the teaching activities and contents, managed in the online environment, disciplinary or multidisciplinary?	Multidisciplinary

What are the learning outcomes?	The project developes a ready to implement up-skilling pathway programme (offered on-line and in-house) based on the 3 stage model purported by the EU Recommendation for digital acquisition related to employability. The TOOL KIT includes all necessary material to be offered on-line and as hard copies: induction seminar, on-line learning modules, ICT Guides and a strategy for exploitation at the national level. The trainers implemented, evaluated and validated the digital UP-SKILLING Programme with 15 low-skilled adults from each partner country. This involved unemployed adults as well as refugees. This provided the opportunity to implement the outputs developed, pilot test, evaluate and revise them before they are openly provided to be used at the National and EU level. Over 100 people were trained face-to-face and on-line in each partner country and positive testimonials were received.

How, in this good practice, was evaluated the learning outcomes of the students?	Individual assessment Questionnaires submissions Simulations

5. The curriculum in the school to be integrated with the project methodology and tools

5.1 Description of the curriculum selected

Curriculum title	Technology

Please, specify the referred adult sector	school system

Target audience description	Young adults 16+ from the 11th and 12th grades of high school and vocational school and students from the post-secondary and evening classes.

Description of the competence to be achieved.	The professional competencies in the subject are formed by acquiring knowledge and acquiring skills for: use of measuring and controll devices and process instruments.

Considering the competence selected, describe the following areas:	
COGNITIVE AREA	Focusing on creative and exploratory experiences Reinforcing the relationship between doing and thinking Replacing and amplifying real experiences with guided ones Reproducing substantial aspects of the real world in a fully interactive way
AFFECTIVE– EXPRESSIVE AREA	Reinforcing expressive experiences Promoting the self-expression Supporting the expression of feelings, emotions and sensations
SOCIAL AREA	Encouraging socialization and social relationships Focusing on relational and interactive "experiences" Encouraging interpersonal communication Discussion, collaboration, participation Team working
Psychomotor (if relevant)	Simulation activities

Please, describe the prerequisites of the students.	The training in the field is carried out in reciprocal connection with the subjects of the obligatory professional training electrical and electronic engineering, mechanics and informatics.

What are the teaching resources (both online and in face-to-face modality) used for this curriculum?	Google Classroom Video projector or interactive whiteboard in the classroom Instructional tools Schoolwide tools Coding and computer science

How is the acquired competence evaluated in this curriculum?	Individual assessment Simulations Questionnaires submissions Interviews