Standardization of Reacti-VET course based on Educational Frameworks of the EU

Related IO:	Intellectual Outcome 3 Standardizaton, accreditation
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Version:	Final version
Date:	March 2020

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Table of Content

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INTRODUCTION

Vocational education is perceived as "occupations-specific education and training geared towards securing a supply of skilled labour" (CEDEFOP). Daily we hear of 'skills gaps' - the mismatch between skills supply and demand in the labour market. "*40% of Europe's employers can't find people with the right skills to fill their vacancies*" written in the guide published in 2018 by the European Union on EU action on vocational education.[1]
Reacti-VET Upskilling Training for Teachers provides effective support for VET teachers to enable them to identify and respond to skill-gaps in the labour market, but also involving other relevant stakeholders - students, parents, teaching staff, and particularly employers experiencing difficulties finding skilled workers to fill vacancies. The learning goals of the course are to enable VET teachers and trainers:

- *To apply innovative, learning outcome-oriented teaching, such as a flipped classroom and a project based methodology;*
- *To enhance, or turn, their 'frontal' teaching into active learning using online collaborative tools (open source software) and open educational resources (OERs).*
- *To respond to the dynamic demand of the labour market by involving companies/employers in the curriculum development and course delivery processes;*

The modules of the course are as follows:

- *Module 1: Data Collection and Analysis*
- *Module 2: 21st Century Teaching Methods*
- *Module 3: Open Educational Resources (OERs)*
- *Module 4: Virtual Learning Environments (VLE)*
- *Module 5: Project Management and Collaboration Online*

The aim of this document is to ensure European level transparency to the "Reacti-VET Upskilling Training for Teachers" by aligning the learning outcomes with two European educational instruments:

- *The European Qualification Framework (EQF) and*
- *The Digital Competence Framework for Educators (DigCompEdu),*

After a short introduction to the selected instruments and the Italian model the Reacti-VET methodology based on, we elaborate a learning outcome-oriented curriculum that can be used by adapting it to specific features of a VET in the partner countries. This provided us with a model for national accreditation[2] of the program in Hungary.

[1] A quick guide to EU action on vocational education and training (VET), Luxembourg: Publications Office of the European Union, 2018 © European Union, 2018

[2] "*Accreditation is the act of granting credit or recognition, especially to an educational institution that maintains suitable standards. The learning outcomes approach has changed the way we design curriculums. Focusing on what a learner is expected to know, be able to do and understand at the end of a programme or course, outcomes-based qualifications provide students, teachers and labour market stakeholders with a common reference point, potentially allowing for improved and active learning processes, better quality teaching and more relevant qualifications*."Cedefop (2015). European guidelines for validating non-formal and informal learning. Luxembourg: Publications Office. Cedefop reference series; No 104. http://dx.doi.org/10.2801/008370

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EUROPEAN EDUCATIONAL POLICY INSTRUMENTS

The European educational policy instruments described in this document are developed in order to:

- promote harmonisation of the different educational systems;
- improve transparency, transferability and comparability of national qualifications by:
  - showing the relationship between qualifications;
  - making the qualifications more comparable and transparent in Europe, and
  - enhancing mutual trust;
- support lifelong learning and raising awareness of different learning paths, plus recognition of a broader range of non-traditional form of learning (including non-formal and informal learning);
- reinforce the use of learning outcomes in standards-setting, curricula and assessment;
- contribute to the establishment of a common approach for describing learning outcomes in different subsystems.

In the long term these instruments are central to promoting the success of the strategic aims declared in Europe 2020, namely for increasing mobility (Youth on the move[3]), for bridging the gap between the labour market and for education.

LEARNING OUTCOME-ORIENTED APPROACH

Modern education focuses on the outcome of the learning process. Both EQF and DigCompEdu follow such learning outcomes approach.
There is a legitimate practice in the labour market to 'price' young people leaving education, usually based on the knowledge and the skills they are required to have to fill their jobs. This can determine their wage level on the basis of expected, or anticipated, performance, so these outcomes must be clarified in the description of any course. As a result of VET reforms, setting learning and pedagogical goals, professional competences to be acquired, as well as personal competences and skills to be developed have been mandatory for many years when framing curricula and developing lesson plans. The concepts needed to describe learning outcomes, such as 'knowledge', 'skills', 'competence', are not easy to interpret and are far from being unified. For the sake of transparency, the following key concepts are recommended for the design of training programs:
Modularity;

- *Units;*
- *Credits;*
- *EQF/NQF levels;*
- *Learning outcomes (knowledge, skills, competences);*

[3] **Youth on the Move** is a comprehensive package of policy initiatives on education and employment for young people in Europe. Launched in 2010, it is part of the Europe 2020 strategy. It aims to improve young people's **education and employability**, to **increase the youth-employment rate** – in line with the wider EU target of achieving a 75% employment rate for the working-age population (20-64 years).

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- *Flexible learning path.*

EUROPEAN QUALIFICATION FRAMEWORK

"The European Qualifications Framework (EQF) acts as a translation device to make national qualifications more readable across Europe, promoting workers' and learners' mobility between countries and facilitating their lifelong learning." (European Commission)
The EQF is a common reference framework to which all National Frameworks should map. This then allows for a common understanding by both learners and employers of the qualifications levels used in different countries and different education and training systems. The core of the EQF is eight 'reference levels' describing what a learner knows, understands and is able to do – the learning outcomes. Levels of national qualifications are mapped to one of the central reference levels, ranging from basic (Level 1) to advanced (Level 8). This enables a much easier comparison between national qualifications and should also mean that people do not have to repeat their learning if they move to another country.

The consortium partners have integrated Reacti-VET teachers' training course into EQF level 5.

EQF Level 5		
Knowledge	**Skills**	**Competence**
Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.

TERMINOLOGY USED BY EQF

As of 2008, EQF is being rolled out across Europe, and all new national qualifications must now map to an appropriate EQF level.

- *L**earning outcomes** are statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence;*
- *K**nowledge** is the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual;*
- ***Skills** are the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);*
- ***Competence** means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.*

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COURSE DESIGN BASED ON LEARNING OUTCOMES

There was a genuine attempt above to make clear the differences between Learning Objectives and Learning Outcomes. The two are often used to mean the same thing, but there is a fairly clear case to be made for attaching different meanings to them.

In a similar vein, it is worthwhile spending a bit of time attaching a clear definition to 'competence' as, again, different interpretations abound. In this module we will assume:

> *Competence - the proven ability to use knowledge, skills and attitudes, in social or professional situations for achieving observable results.*

- ***Knowledge Learning Outcomes*** *- statements of what a learner knows and understands on completion of a learning process: facts, principles, theories and practices.*

  Make use of verbs such as: define, describe, indicate, illustrate, summarize, explain, distinguish, associate, match

  Do not use: know, learn, understand

  For example: "At the end of the Module participants will be able to: describe the Creative Commons licences, list the principal OER repositories, etc."

- ***Skills Learning Outcomes*** *- statements of what a learner is able to do on completion of a learning process to complete tasks and solve problems.*

  Make use of verbs such as: analyse, apply, calculate, solve, debate, distinguish, generalize, summarize, choose, compare, evaluate, plan, realise, implement, produce, carry out, develop, measure, test, draw, publish, create.

  For example: " At the end of the Module participants will be able to: make a video interactive by inserting questions, draw a mind map, publish a video on Youtube, create a playlist, etc."

Finally, a last word on Learning Outcomes. These should be a measurable result (e.g. through assessment) of a teaching process, hence it is important to give a definition for each Learning Outcome that makes it measurable. This implies that use of terms such as 'knows' or 'understands' should be avoided because they do not actually say anything about how a Learning Outcome can be measured.

DIGCOMPEDU

DigCompEdu is a common language and approach that helps the dialogue and exchange of best practices across borders. It aims to provide a general reference frame for developers of Digital Competence models, i.e. Member States, educational organisations themselves, and public or private professional training providers.

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All training content will be mapped against these EU standards, with the training accredited by a national authority.
As noted in the justification for Reacti-VET, teachers work in the face of rapidly changing demands. These, in turn, demand new, and quite broad, competences but digital competences in particular. DigCompEdu is a framework for describing what it means for teachers to be digitally competent, and it provides a reference frame to support the development of teacher-specific digital competences. It is a more specific derivative of the DigComp initiative.
The obvious questions to ask are:

- *what do these frameworks look like?*
- *how are they put to use?*

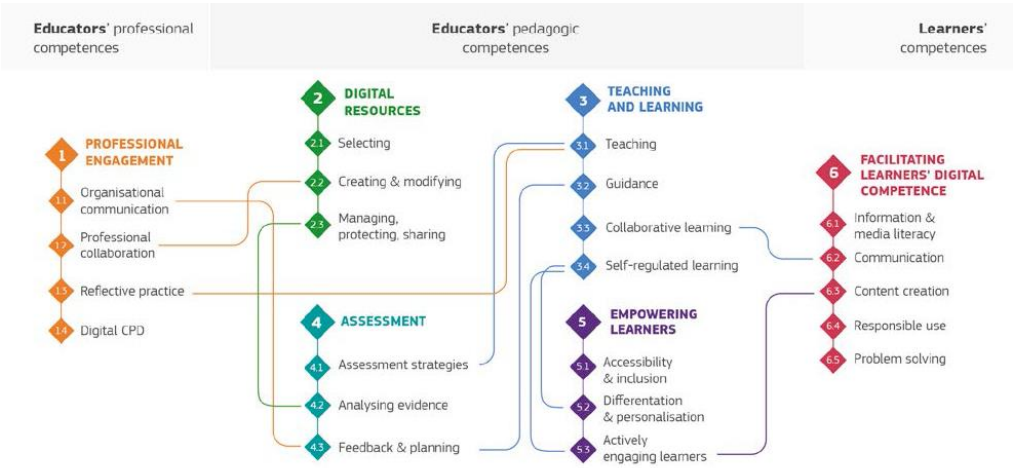
USING THE DIGCOMPEDU FRAMEWORK

There is no agreed terminology for the layers of competency framework hierarchies so there is no right or wrong way to classify these. A labelling that makes sense is:

1. *Specialisms*
2. *Skills*
3. *Competencies.*

This is the terminology used in the Microsoft engineering frameworks. They are as good as any, and they are being used to describe a framework hierarchy used in a global industry and for purpose of education.
In DigCompEdu there are:

- *three top level Specialisms*
  - *Educators' Professional Competencies*
  - *Educators' Pedagogic Competencies (arguably the real core of the framework)*
  - *Learners' Competencies*
- *Six Skills – Professional Engagement, etc. (see below)*
- *22 Competencies*



DigCompEdu competencies (2)

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The DigCompEdu framework benefits include:

- *a template that allows local stakeholders to move quickly on to developing a concrete instrument, suited to their needs, without having to develop a conceptual basis for this work*
- *a common language and logic that can help the discussion and exchange of best practices across borders.*

In designing and developing the Reacti-VET course for teachers – a five module course – this framework was used to guide the development of the syllabi for each module in order to be certain that the overall course addressed all the needs of an educator's digital competence.

REACTI-VET CURRICULUM & DIGCOMPEDU

In the Reacti-VET course each module is explicit about which subset of the 22 competencies the module content maps to, i.e. covers from a learning point of view. The overall map acts as a 'tick list' ensuring that all competencies are included. [4]

Mapping module content to the DigCompEdu competency framework

DigCompEdu Competences	**REACTI-VET Modules**				
Module 1: Data Collection and Analysis *Module 2: 21st Century Teaching Methods* *Module 3: Open Educational Resources (OERs)* *Module 4: Virtual Learning Environments (VLE)* *Module 5: Project Management and Collaboration Online*	**M 1**	**M 2**	**M 3**	**M 4**	**M5**
1. Professional engagement:					
1.1. Organisational communication	✓	✓		✓	✓
1.2. Professional collaboration	✓	✓	✓	✓	✓
1.3. Reflective practice	✓	✓		✓	✓
1.4. Digital CPD (Continuous Professional Dev.)	✓	✓		✓	✓
2. Digital resources:					
2.1 Selecting digital resources	✓	✓	✓		
2.2 Creating & modifying	✓	✓	✓		✓
2.3 Managing, protecting & sharing digital resources	✓	✓	✓		✓
3. Teaching and learning:					
3.1. Teaching		✓	✓		✓
3.2. Guidance		✓			✓
3.3. Collaborative learning		✓	✓		✓
3.4 Self-Regulated Learning		✓			
4. Assessment:					
4.1 Assessment strategies	✓	✓	✓		✓
4.2 Analysing evidence	✓				✓
4.3. Feedback and planning	✓	✓			✓
5. Empowering learners:					
5.1 Accessibility & inclusion				✓	

[4] This follows the use made of the Microsoft frameworks, where each competency points to the relevant content for learning about the needs of that competency thereby ensuring a completeness and relevance of the course. Ideally each competency should also be able to be mapped to an assessment activity (e.g. formative quiz) to provide some evidence of achievement of that competence.

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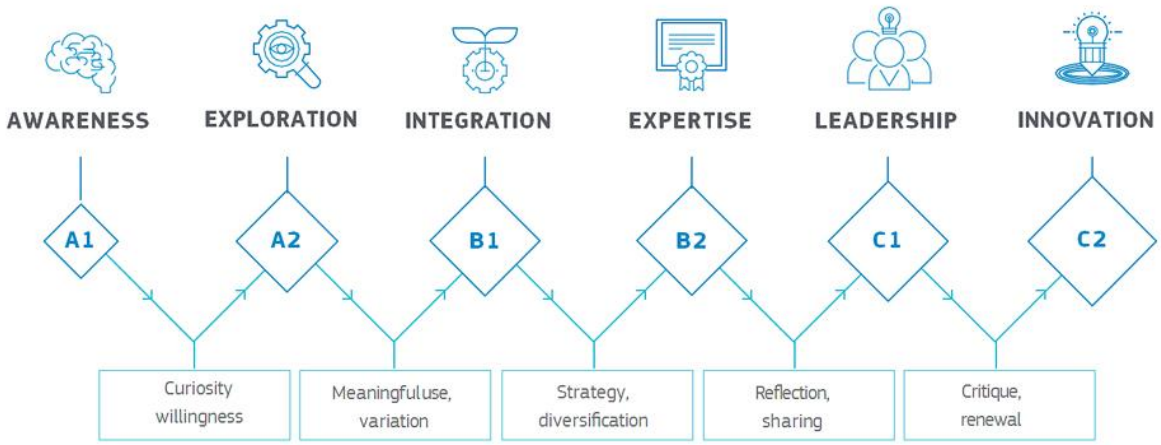
DigCompEdu Competences	REACTI-VET Modules				
Module 1: Data Collection and Analysis *Module 2: 21st Century Teaching Methods* *Module 3: Open Educational Resources (OERs)* *Module 4: Virtual Learning Environments (VLE)* *Module 5: Project Management and Collaboration Online*	**M 1**	**M 2**	**M 3**	**M 4**	**M5**
5.2 Differentiation & personalization		✓	✓	✓	
5.3 Actively engaging learners		✓	✓	✓	✓
6. Facilitating learners' digital competences:					
6.1 Information & media literacy				✓	
6.2. Communication		✓		✓	✓
6.3. Content creation		✓	✓	✓	✓
6.4 Responsible use				✓	
6.5 Problem solving		✓		✓	

The DigCompEdu framework is therefore being used to guide the design of the curriculum and individual syllabi of the Reacti-VET course and its component modules. This guidance ensures relevance. However, if the framework changes – and, in the fast and ever-changing environment that teachers are being asked to prepare students for, this is to be expected – then it will also be useful in pinpointing where modules would need to be changed.
DigCompEdu distinguishes six stages or levels along which educators' digital competence typically develops. For each stage a role descriptor is provided which reflects the particular focus of digital technology use typical for the competence stage. These role descriptors also relate to an educator's relative strengths and roles within a professional community.
On the JRC website, teachers can test and evaluate their own digital competences using a self-assessment questionnaire, which uses competency levels similar to foreign languages (A1, A2, B1, B2, C1, C2).

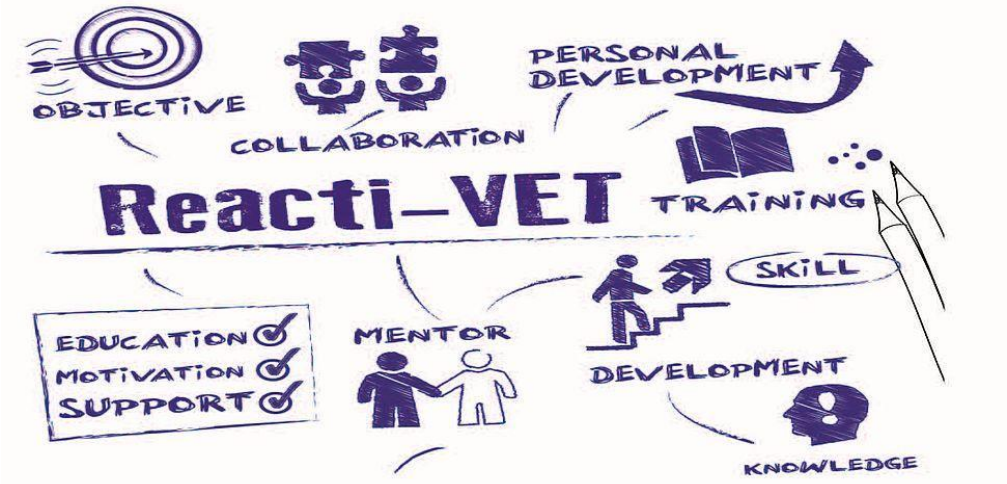


After completing the course, the expected level of the competences can change between B2 and C2, depending on the preliminary knowledge of the participants.

REACTI-VET COURSE DESCRIPTION

INTRODUCTION

Packaged as a coherent of digital, open and innovative tools for 21st century pedagogies, the Reacti-VET Training course put the focus on integrating methods for delivering an up-skilling course to students, developed in a collaboration of teaching staff, representatives of companies/employers, and other relevant stakeholders within the labour market.
The main donor of experience for the development was the Italian partner of the project: Fondazione ITS JobsAcademy (JAC Foundation). They have a unique Higher Vocational Education Institution (HEI) model in Italy, which applies a strong innovation-oriented, on–the-job training approach (dual system), in a real work environment. JAC is pursuing the strategic linking of higher education (HE), research and business: all courses are continuously designed and redefined together with industry representatives taking into account the fast-changing labour market needs, so as to reduce skill shortage and meet the employment demands of the region, with a particular attention given to ICT skills and e-jobs.



The final version of the Reacti-VET model embeds several components of JAC Foundation' concepts such as the following:
"*Thanks to the Foundation's partnership network with local, national and transnational companies, students also have the possibility to use* ***companies' workrooms*** *during their classes. This way they get the chance to apply their developing skills directly on the job and to start experiencing a working environment. Furthermore, students follow a course in Entrepreneurship, which includes activities in collaboration with companies. In particular, several companies are involved in a "****Call for proposal****" activity: each company proposes to the students a few real problems related to its business, asking them to find a solution or suggestions. The best ideas are rewarded with an internship in the company*."[5]

[5] For more details, see Annex 1.

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REACTI-VET CURRICULUM

Course Title	Reacti-VET 'Upskilling Course for Teachers'
Level of learning outcomes	EQF Level 5 DigCompEdu Level B2-C2
Web	https://rvet.itstudy.hu/
Target group	Teachers and trainers of Vocational Education

Rationale

It is in our common interest to align graduate skills and competences closer to the labour market, to make it easier for employers to find suitably qualified workers, and to avoid graduates facing shortcomings in their first job. The ongoing transformation of vocational education and training (VET) is responding to the challenges by adopting a "demand-driven" approach, but this requires the active involvement of teachers.

What does the training offer?

- *A change in attitude and practical teaching methodologies;*
- *Facilitating involvement of companies and other external stakeholders, expanding the professional network;*
- *Enriching the professional portfolio: experience of a collaborative international experiment;*
- *Project approaches in the classroom and at school level;*
- *Expanding the range of digital tools used for pedagogical purpose.*

This Reacti-VET 'Upskilling Course for Teachers' will equip you with new knowledge and skills that are necessary for effective 21st century VET education. After completing the course, participants will have the opportunity to engage in a jointly designed experiment in close cooperation with employers, teaching staff and students. They can implement what they have learnt and develop, organize and deliver an upskilling course (over one semester, maximum 30 hours) for their own students – aimed at filling the knowledge and skill gaps as defined by the labour market.

What effort does it require?

The course includes five modules. Corresponding to 30 contact hours, the training can be completed in an online learning environment in 5-6 weeks, with 5-6 hours per week study and support from trained mentors.
Mentors facilitate communication among participants, encouraging peer learning. Teachers from the same institute can perform most of the assignments with groups of two or three.

Participants responsibilities

Participants are required to submit an assignment, which solves a practice-oriented task. They can do this independently or in a collaboration with other teachers. The assignments will be evaluated by the mentor.

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MODULE 1: DATA COLLECTION AND ANALYSIS

THE AIM OF THE MODULE

Effective quality improvement in vocational schools can only happen if there is regular contact with representatives of the labour market and other stakeholders, through which contacts changing requirements can promptly be identified, and fast responses can be provided. A process should definitely be established in VET institutes by which meaningful data and feedback is regularly collected from stakeholders, in relation to the strategic and other objectives that have been set. This data should be analysed and communicated to support effective decision making.
Nowadays there many online tools that can be used for data collection and analysis, so the challenge is really in the design of surveys to provide reliable and meaningful data that can be used as a starting point for improvement actions.
The aim of this module is to provide teachers with knowledge, skills and tools supporting:

- *an understanding of the importance of collecting, analysing and presenting data from relevant stakeholders (students, teachers, parents, companies),*
- *the knowledge of major methods of data collection and data analysis,*
- *the skills related to production and implementation of online questionnaires and analysis of results,*
- *the skills of using selected free online survey tools with confidence.*

TOPICS

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KNOWLEDGE, SKILLS AND COMPETENCES

European Qualification Framework Level 5			DigCompEdu Competences
Knowledge	**Skills**	**Competence**	**Level: B2, C1, C2**
Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.	**At the end of the Module participants will be able to apply digital competences on the area of:**
At the end of the Module participants will be able to			
• explain the importance of data collection and analysis, • list several types of questions used in surveys, • describe the core functionalities of online survey tools.	• create online webforms, questionnaires, • implement questionnaires online, • conduct a survey online, • analyse the results of a surveys, • summarize and present the findings and recommend-dations to decision makers	• to take a leading role in establishing, operating and developing the institution's network of contacts. • to initiate collaboration with their colleagues • to identify labour market needs and keep contact with representatives of the labour market.	**Area 1 Professional engagement** 1.1 Organisational communication 1.2 Professional collaboration 1.3 Reflective practice 1.4 Digital CPD (Continuous Professional Development) **Area 2 Digital resources** 2.1 Selecting 2.2 Creating and modifying 2.3 Managing, protecting and sharing **Area 4 Assessment** 4.1 Assessment strategies 4.2 Analysing evidence 4.3 Feedback & planning

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MODULE 2: 21ST CENTURY TEACHING METHODS

The knowledge amassed by students is not only dependent on the learning content they study from, but also on their previous knowledge, interests and learning styles.
For this reason, it is critically important that teachers adequately devise a strategy to create the ideal learning environment for students. Modern classroom management approaches provide many innovative opportunities for active learning and developing the competences that are essential for the 21st century labour market.

THE AIMS OF THE MODULE

The aims of the module are to:

- *present innovative classroom management methods and alternative teaching practices.*
- *emphasize the essential role of student-centered, active learning.*

The module will prepare teachers to:

- *develop the knowledge and skills necessary for differentiation.*
- *be flexible and able to switch between strategies that best suit the situation.*
- *be able to develop students to a higher cognitive level.*
- *improve critical thinking in students.*
- *organize classroom lessons that develop not only knowledge, but the skills important for 21st century competences.*

TOPICS

1. Technology transforming education
1.1 Introduction
1.2. Access to information
3. Labour market needs
4. Learning attitudes
5. Changing methods in education - active learning
6. Changing role of teachers

2. 21st century teaching methods – active learning
1. Introduction
2. The Flipped Classroom method
2.1. Key features
2.2. Benefits
2.3. Challenges
2.4. Flipped Classroom in practice
2.5. Lesson planning consideration
2.6. Flipping in Reacti-VET
3. Project-based learning
4. Problem-based learning
5. Research-based learning

KNOWLEDGE, SKILLS AND COMPETENCES

<table>
<tr><th colspan="3">European Qualification Framework Level 5</th><th>DigCompEdu Competences</th></tr>
<tr><th>Knowledge</th><th>Skills</th><th>Competence</th><th>Level: B2, C1, C2</th></tr>
<tr><td>Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge</td><td>A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.</td><td>Exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.</td><td rowspan="3">At the end of the Module participants will be able to apply digital competences on the area of:
Area 1 Professional engagement
1.1 Organisational communication
1.2 Professional collaboration
1.3 Reflective practice
1.4 Digital CPD (Continuous Professional Development)
Area 2 Digital resources
2.1 Selecting
2.2 Creating and modifying
2.3 Managing, protecting and sharing
Area 3 Teaching and Learning
3.1 Teaching
3.2 Guidance
3.3 Collaborative learning
3.4 Self-regulated learning
Area 4 Assessment
4.1 Assessment strategies
4.3 Feedback & planning
Area 5 Empowering learners
5.2 Differentiation & personalisation
5.3 Actively engaging learners
Area 6 Facilitating learners’ digital competence
6.2 Communication
6.3 Content creation
6.5 Problem solving</td></tr>
<tr><td colspan="3">At the end of the Module participants will/will be able to/will be</td></tr>
<tr><td>• be familiar with the challenges that educators face in the 21st century;
• have insight into the main characteristics of innovative teaching methods;
• see the difference between traditional and student-centered classroom management;
• have an understanding of the possible practical application of the Flipped Classroom model.</td><td>• choose the most effective learning methods for a specific lesson, topic, age group and other factors;
• create opportunities for active learning for their students.</td><td>• initiate collaboration with their colleagues
• open to share their own developed digital learning material with other teachers.
• change from the traditional frontal teaching to active learning/teaching methods.</td></tr>
</table>

MODULE 3: OPEN EDUCATIONAL RESOURCES

THE AIM OF THE MODULE:

- *to motivate teachers to use existing educational resources, to remix them and to produce new ones sharing the remixed and their own resources,*
- *to provide teachers with the necessary skills to produce, remix and share learning resources.*

The module aims at providing teachers with:

- *knowledge of the different types of educational resources and the understanding of how digital technology enables their improvement and transformation,*
- *knowledge of the meaning of Open Educational Resource (OER),*
- *an understanding of the importance of re-using educational resources,*
- *knowledge of copyright rules, of Creative Commons licences and other licenses for free-use or partially free-use of content,*
- *knowledge of OERs and partially-free content repositories,*
- *skills for searching and evaluating re-usable resources,*
- *the skills to produce, modify and share documents, presentations, interactive images, videos and interactive videos, tests and quizzes, online surveys, mind and geographical maps, simulations, storytelling and learning games.*

TOPICS

1. Production, sharing and reuse of OERs: What & Why
1.1 OERs: What & Why
1.2 Active didactics, continuous update and sustainability
1.3 Open Educational Resources
1.4 Copyright vs Copyleft
1.5 OERs: the key for innovation in Vocational Education
2. Learning resources
2.1 Multimediality & interactivity
2.2 The SAMR model
2.3 Types of educational resources
  2.3.1 Documents
  2.3.2 Presentations
  2.3.3 Videos & interactive videos
  2-3.4 Interactive images
  2.3.5 Maps
2.4 Learning games
2.5 Simulations
2.6 Quizzes
3. Search and evaluation of resources in the web
3.1 What to look for & how to evaluate
3.2 How and where to search
  3.2.1 Search engines
  3.2.2 Directories & repositories
  3.2.3 Tools for producing and modifying digital resources

KNOWLEDGE, SKILLS AND COMPETENCES

<table>
<tr><th colspan="3">European Qualification Framework Level 5</th><th>DigCompEdu Competences</th></tr>
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Area 1 Professional engagement
1.2 Professional collaboration
Area 2 Digital resources
2.1 Selecting
2.2 Creating and modifying
2.3 Managing, protecting and sharing
Area 3 Teaching and Learning
3.1 Teaching
3.3 Collaborative learning.
Area 5 Empowering learners
5.2 Differentiation and personalization
5.3 Actively engaging learners.
Area 6 Facilitating learners' digital competence
6.3 Content creation</td></tr>
<tr><td colspan="3">At the end of the Module participants will/will be able to/will be</td></tr>
<tr><td>• describe the effectiveness of sharing and re-using open learning contents,
• describe the SAMR model for creating and re-creating resources,
• list different types of educational resources,
• describe the Creative Commons licences,
• list the main directories and repositories of OERs and reusable contents,
• list free-use web apps for producing, modifying and sharing educational resources/learning objects.</td><td>• search and evaluate usable resources,
• create and share presentations (e.g. Google Slide or Prezi),
• create and share interactive images (e.g. Thinglink or Genially),
• create a video or video tutorial (e.g. Apowersoft or Screencast O'Matic),
• make a video interactive by inserting questions (e.g. EdPuzzle), and publish a video on YouTube, create a YouTube channel and playlist,
• draw and share a mind map (e.g. Coggle or Mindmap or Popplet), draw and share geographic maps (Google maps),
• create and share tests, quizzes and online surveys (e.g. Quizlet, Google form and Kahoot!),
• create and share storytelling (e.g. Atavist, Adobe Spark Page, Powtoon, Toondoo),
• create and share timelines (e.g. MyHistro),
• create and share learning games (e.g. Learning apps)</td><td>• Selecting digital resources
• open to share their own developed digital learning material with other teachers.
• change from the traditional frontal teaching to active learning/teaching methods.</td><td></td></tr>
</table>

MODULE 4: VIRTUAL LEARNING ENVIRONMENT (VLE)

THE AIM OF THE MODULE

The aim of this module is to prepare teachers for, and make them aware of the possibilities for, designing and delivering online courses via contemporary virtual learning environments. The goal is to be able to design and develop courses that are able to support the use of learning objectives and outcomes, mapped on to the competencies in the DigCompEdu and other frameworks.
This will be inherent in the two planned Reacti-VET courses – the upskilling course for the teachers, and the upskilling course for students – as these courses will address the capacity building issues identified as necessary for the digital transformation of education and learning, and for the changing requirements on skills and competences to meet employability.

Learning objectives

The module is aimed at providing teachers and students with:

- *an understanding of how to design and develop an online pedagogy to match the aims of the European Digital Competence Framework (DigComp) and its application to educators (DigCompEdu) and educational organisations (DigCompEdu);*
- *an approach for making effective use of the competency frameworks for Digital Competence;*
- *an understanding and appreciation of the role of learning outcomes, and their relationships to competencies, skills and knowledge;*
- *a methodology and toolkit for structuring syllabi and assessments to match competency frameworks;*
- *an in-depth appreciation of the features and functions of, and pedagogical support provided a flexible learning environment.*

TOPICS

1. VLE – Basic concept

1.1 Introduction
1.2 Main services of VLEs
1.3 How to choose a VLE?
1.3.1. Learning Management Systems
1.3.2. Cloud-based, mashup VLEs
1.3.3. Pedagogy surely
1.3.4. Choosing the right learning environment
1.3.5 Summary

2. Course design

2.1 Introduction
2.2 Where to start?
2.3 The right choice
2.4 Learning Objectives versus Learning Outcomes
2.5 Competence-based design
2.6. Competence Frameworks

3. Teaching-learning in Moodle

3.1 Moodle as a VLE
3.2 Moodle e-learning framework
3.3 Entering the platform
3.4 Registering on the platform
3.5 Teachers in Moodle platform
3.6 Handling users
3.7 Communication with the students
3.8 How to handle topics
3.9 9. Adding learning content
3.10. Assignments
3.11. Quizzes

KNOWLEDGE, SKILLS AND COMPETENCES

<table>
<tr><th colspan="3">European Qualification Framework Level 5</th><th>DigCompEdu Competences</th></tr>
<tr><th>Knowledge</th><th>Skills</th><th>Competence</th><td rowspan="3">At the end of the Module participants will be able to apply digital competences on the area of:

Area 1 Professional engagement

1.1 Organisational communication
1.2 Professional collaboration
1.3 Reflective practice
1.4 Digital CPD (Continuous Professional Development)

Area 5 Empowering Learners

5.1 Accessibility & Inclusion
5.2 Differentiation and Personalisation
5.3 Actively Engaging Learners
Area 6 Facilitating Learner’s Digital Competence

6.1 Information & Media Literacy
6.2 Communication
6.3 Content Creation
6.4 Responsible Use
6.5 Problem Solving</td></tr>
<tr><td>Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge</td><td>A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.</td><td>Exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.</td></tr>
<tr><td colspan="3">At the end of the Module participants will/will be able to/will be</td></tr>
<tr><td>• describe the effectiveness of sharing and re-using open learning contents,
• describe the SAMR model for creating and re-creating resources,
• list different types of educational resources,
• describe the Creative Commons licences,
• list the main directories and repositories of OERs and reusable contents,
• list free-use web apps for producing, modifying and sharing educational resources/learning objects.</td><td>• develop a fit-for-purpose online pedagogy;
• make use of learning objectives, learning outcomes and competencies;
• structure a course syllabus to meet the needs of the learning outcomes;
• design an online pedagogy and functionality to support the required learning;
• implement a motivational online learning course.</td><td>• integrate social & reflective activities to facilitate cooperative learning;</td></tr>
</table>

MODULE 5: PROJECT MANAGEMENT AND COLLABORATION ONLINE

The aim of the module Is to deliver an upskilling course, outside the framework of a pre-defined curriculum and traditional classroom lessons. This aim necessitates careful planning. From the very beginning of such a project you will have to communicate regularly and intensively, including with people outside of your school. You have a goal to reach, a deadline to keep, and the learning content to be put together with your team - which comprises colleagues, employers and students. You will have to guide your students through the learning process, motivating them whenever needed. You may face a variety of risks, and consequently have to be ready to makes changes to and adapt your original plan.
At first this might sound quite daunting, but with careful and detailed planning, a well-established team, regular communication and monitoring, your project can be successful. As a result students will be able to develop the skills that are essential in their job market.

To assist you in planning the design and delivery of a course involving various stakeholders, this module will introduce you to the basics of Project Management, but in a practical way. It will also discuss the functionalities and benefits of freely available online project management tools, presenting a typical one in some detail.

THE AIM OF THE MODULE

The aims of this module are to provide teachers with:

- *basic project management practices applicable in a VET context;*
- *a guide to easy-to-use free online project management tools.*

Learning objectives
The module is aimed at providing teachers with:
The module is aimed at providing teachers with:

- *an understanding of the necessity and importance of regular and meaningful communication with stakeholders (students, teachers, companies, parents);*
- *the recognition of the importance of exchanging and sharing knowledge, experience and good practice;*
- *knowledge of contemporary project management tools and agile project management methodologies;*
- *an understanding of how to plan and lead projects;*
- *information on free online project management tools and platforms;*
- *skills to utilize the potential of the 21st century technology for building and driving communities, for communication and for the improvement of own digital pedagogical practices.*

TOPICS

1. VLE – Basic concept
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3.9 9. Adding learning content
3.10. Assignments
3.11. Quiz

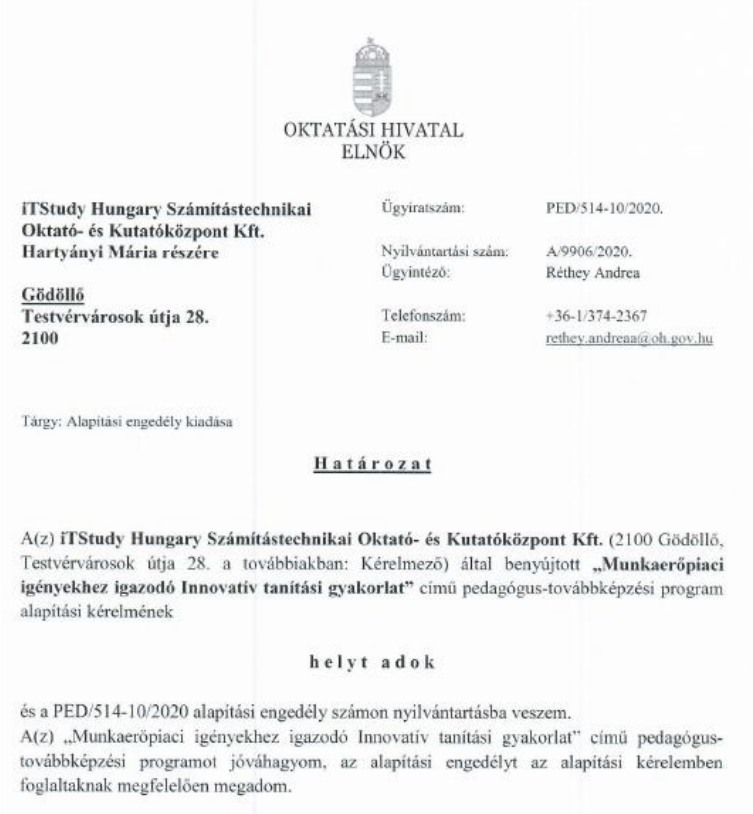
KNOWLEDGE, SKILLS AND COMPETENCES

<table>
<tr><th colspan="3">European Qualification Framework Level 5</th><th>DigCompEdu Competences</th></tr>
<tr><th>Knowledge</th><th>Skills</th><th>Competence</th><td rowspan="4">At the end of the Module participants will be able to apply digital competences on the area of:

Area 1 Professional engagement
1.1 Organisational communication
1.2 Professional collaboration
1.3 Reflective practice
1.4 Digital CPD (Continuous Professional Development)
Area 2. Digital resources
2.2 Creating and modifying
2.3 Managing, protecting and sharing digital resources
Area 3. Teaching and learning:
3.1. Teaching
3.2. Guidance
3.3. Collaborative learning
Area 4. Assessment:
4.1. Assessment strategies
4.2. Analysing evidence
4.3. Feedback and planning
Area 5 Empowering Learners
5.3 Actively Engaging Learners
Area 6 Facilitating Learner’s Digital Competence
6.2 Communication
6.3 Content Creation</td></tr>
<tr><td>Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge</td><td>A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.</td><td>Exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others.</td></tr>
<tr><td colspan="3">At the end of the Module participants will/will be able to/will be</td></tr>
<tr><td>• describe the importance of communication and the means of data and information exchange;
• establish communicative space with the help of online tools and use it for organisation, management, collaboration and communication with an online community;
• describe the core steps of project management;
• understand the functionalities and benefits of online project management tools.</td><td>• plan and manage small-scale projects;
• use a selected free online project management tools (e.g. MeisterTask, Trello) with confidence.</td><td>• Elaborate a project plan for planning and delivering upskilling training for students in a collaboration with relevant stakeholders (teachers, students, companies) to cover skill-gaps identified on the special field of the qualification;</td></tr>
</table>

ACCREDITATON IN HUNGARY

During the implementation of Reacti-VET project a comprehensive renewal of the National Vocational Education and Training System was conducted in Hungary, based on the VET 4.0 Strategy published by the Government in 2019[6]. The EQF and DigCompEdu compatible Reacti-VET Training Program accords with the main goals of the strategy, such as:
"Reviewing the institutional management system to make it more responsive to labour market needs."
iTStudy submitted an application for accreditation of the training programme to the Educational Office of the Ministry of Human Resources of Hungary. The application was approved, so the course can be delivered within the Hungarian In-service Training System for Teachers. Teachers who complete the online course successfully will be awarded the following certificate for a course worth 30 National Vocational credits.



OKTATÁSI HIVATAL
ELNÖK

iTStudy Hungary Számítástechnikai Oktató- és Kutatóközpont Kft.
Hartyányi Mária részére

Gödöllő
Testvérvárosok útja 28.
2100

Ügyiratszám: PED/514-10/2020.
Nyilvántartási szám: A/9906/2020.
Ügyintéző: Réthey Andrea
Telefonszám: +36-1/374-2367
E-mail: rethey.andreaa@oh.gov.hu

Tárgy: Alapítási engedély kiadása

Határozat

A(z) **iTStudy Hungary Számítástechnikai Oktató- és Kutatóközpont Kft.** (2100 Gödöllő, Testvérvárosok útja 28. a továbbiakban: Kérelmező) által benyújtott **„Munkaerőpiaci igényekhez igazodó Innovatív tanítási gyakorlat"** című pedagógus-továbbképzési program alapítási kérelmének

helyt adok

és a PED/514-10/2020 alapítási engedély számon nyilvántartásba veszem.
A(z) „Munkaerőpiaci igényekhez igazodó Innovatív tanítási gyakorlat" című pedagógus-továbbképzési programot jóváhagyom, az alapítási engedélyt az alapítási kérelemben foglaltaknak megfelelően megadom.

[6] Magyarország Kormánya tárgyalta, 1168/2019. (III. 28.) Korm. határozatával elfogadta

ANNEX 1. THE EXPERIENCE OF FONDAZIONE ITS JOBSACADEMY AND ET LABORA

STRATEGIES TO CONNECT EDUCATION WITH THE JOB MARKET

Fondazione ITS Jobsacademy (JAC Foundation) is an Italian ITS focused on technologies to improve the "Made in Italy" products. The cornerstone of JAC Foundation is the creation of a tight connection between students and companies. To this aim, JAC Foundation enacts several specific activities.

Fondazione ITS JobsAcademy organises regular **visits to local companies** for its students. These visits are an opportunity for companies to share information about their activities and to create connections and relationships with the students, including to investigate future possibilities for collaboration opportunities.

Thanks to the Foundation's partnership network with local, national and transnational companies, students also have the potential to use **company workrooms** during their classes. This way they get the chance to apply their developing skills directly to a job and to begin to experience a working environment.

Furthermore, students follow a course in Entrepreneurship, which includes activities in collaboration with companies. In particular, several companies are involved in a "**Call for proposal**" activity: each company proposes to the students a few real problems related to its business, asking them to find a solution or suggestions. The best ideas are rewarded with an internship in the company.

JAC Foundation is also supported by its partner, Fondazione Et Labora, for the placement within a company of those students who have obtained their diploma. JAC Foundation proposes a solution which combines work with study. Thanks to the **III level Apprenticeship**, students who are also interested in getting a **bachelor degree** can work and study on a dual system basis: 1-day per week dedicated to studying with an online university and 4-day work-training in the company. This system allows students to start working and, at the same time, obtain a university degree with one or two additional years of study after the conclusion of the ITS study cycle (2 years).

More information:

- *Official website on the ITS system in Italy:*
  - *http://www.sistemaits.it*
- *Website of Italy's National Agency for School and Higher Education:*
  - *http://www.indire.it/progetto/its-istituti-tecnici-superiori/*
- *Fondazione ITS Jobsacademy:*
  - *https://jac-its.com/en/*
- *Fondazione Et Labora (only IT):*
  - *https://fondazioneetlabora.org/*

ANNEX 2: PROJECT DESCRIPTION

PROJECT BACKROUND

VET schools simultaneously have to meet two opposing requirements: to remain true to tradition, delivering stable, tested knowledge approved by relevant parties in society and the economy; and to equip students with a set of skills and competencies relevant to newly emerging demands.
Despite great efforts by national and European policy makers to drive VET schools into 'rethinking' their curricula and teaching methods, changes have been slow to keep up with labour market requirements. In most European countries VET qualifications are based on standard curricula that precisely define what is taught, leaving little freedom for teachers and schools to train for just-in-time labour market demands. Most systems also have lengthy and complex accreditation procedures, so the approval of a new curriculum - or even the modification of an existing one – can take a long time.

AIMS & OBJECTIVES

The project aims to provide effective and necessary training and support for VET teachers to enable them to identify and respond to skill-gaps in the labour market, but also involving other relevant stakeholders - students, parents, teaching staff, and particularly employers experiencing difficulties finding skilled workers to fill vacancies.

TARGET GROUP

Teachers and trainers in Vocational Education
Beneficiaries: VET students, industrial partners, companies

PROJECT BASICS

Title: Teachers for Reactive and Responsive Vocational Education
Acronym: Reacti-VET
Program: Erasmus+ KA2
Project type: strategic partnership
Participant countries: Hungary, United Kingdom, Estonia, Italy
Start date: 1 September 2018.
Finish date: 28 February 2021. Web: http://reactivet.itstudy.hu/
Coordinator: iTStudy Hungary
Project manager: Mária Hartyányi

Contact: maria.hartyanyi@itstudy.hu
In Estonia:
BCS Koolitus AS, Triin Kagur: Triin.Kangur@bcs.ee
In Italia
AICA: mailto:progettieuropei@aicanet.it
JAC: mailto:international@fondazionejobsacademy.org
In the UK
CAPDM Ltd: kwc@capdm.com

PROJECT PARTNERS

iTStudy Hungary Ltd. (Hungary) – coordinator,
AICA - Associazione Italiana Informatica e Calcolo Automatico (Italy)
Fondazione ITS per le nuove tecnologie del Made in Italy – JobsAcademy (Italy)
BCS Koolitus AS (Estonia)
SZÁMALK-Szalézi Szakgimnázium (Hungary)
Veszprémi Szakképzési Centrum Öveges József Szakgimnáziuma, Szakközépiskolája és Kollégiuma (Hungary)
CAPDM (United Kingdom