Curriculum for a training course for VET teachers and company trainers in digital and virtual mobilities in automotive professions

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DAMAS VET

Digital Apprentices Mobility in the Automotive Sector

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1. Introduction

I. Introduction and course information

This document is a curriculum for a course concerning Digital Apprentices Mobility in the Automotive Sector. The aim of the course, consisting of six modules, is to enable learners to develop both theoretical and practical skills and knowledge about digital vocational teaching and learning methods. Each module has a specific theme. Below is a short description of each module followed by learning outcomes.

II. Background

The DAMAS (Digital Apprentices Mobility in the Automotive Sector) project is financed by the EU. It aims at testing virtual mobility in the automotive sector. In the context of the COVID-19 pandemic, developing virtual mobility has proven to be a key need in the Vocational Education and Training (VET) sector. Five countries/partners; Belgium, Catalonia/Spain, Germany, Italy, and Sweden have been involved in creating, among other things, a handbook as well as six modules. The handbook and the six modules are the core of the project.

The focus of the handbook is on the automotive industry, but its outcome can be transferable to other sectors. In the handbook, the reader will find successful digital examples within VET schools and companies in the partner countries as well as a methodology about how to further digitalize VET.

The modules, on the other hand, are more practical to their nature. The six modules, dealing with various topics, make up this course.

III. Innovative and new learning strategies

The quick and ongoing development of digital technologies continues to create new opportunities for various sectors, including education. Even if education could be based on different forms of media, from non-interactive books to highly interactive ones, one of the most important considerations for this field are the dynamic means of content delivery through the enhancement of instructional practices which enable the establishment of blended learning approaches and online education. The online learning and training method are part of innovative strategies applied to overcome different kind of problems related to the traditional educational methodologies.

Nowadays, many trainers and teachers are trying to keep their classes as far as possible from that scenario and let their learners get more involved in learning by finding different approaches to teaching them. The education field is changing so fast that trainers and teachers need to keep up and adapt to the more modern strategies. Otherwise, it may be hard for them to fit in and to succeed with the teaching.

Innovative teaching methods are not just about using the most cutting-edge technology in class or constantly catching up with the latest education trends; they are all about using new teaching strategies that focus more on students and learners. These

encourage students to join proactively and interact with their classmates and the teacher-trainer during lessons. Learners will have to work more, but in a way that meets their needs and can help them grow faster. Unlike traditional teaching, which mainly focuses on how much knowledge the trainer can pass on to his/her students, innovative ways of teaching dig deep into what learners truly take away from what trainers are teaching during lectures.

Why Innovative Teaching Methods?

The world has seen a shift from brick-and-mortar classrooms to online environments and hybrid learning. Many schools, teachers and trainers have been trying innovative teaching strategies in the new normal to keep learners and students interested and more engaged. Digital programs have helped them reach out to learners' minds and give students better access to classes.

In 2021-2022:

The e-learning market size exceeded $315 billion in 2021.

42 percent of companies that use e-learning generate more income.

In 2021, 27 percent of E.U. citizens aged 16 to 74 years reported participating in online courses.

Since 2020, 98 percent of universities have moved their classes online.

Data from Europe shows that in 2021, 27 percent of E.U. citizens ages 16 to 74 reported having taken an online course or using online learning material, a rise from 23 percent in 2020.These stats show a massive change in the way people teach and learn. So, it is time to re-evaluate learning methods in education.

Here are some innovative teachings and learning methods described and presented through the DAMAS training materials:

Interactive lessons through online learning platform (Moodle e.g.)

Students are innovative learners! One-way lessons are very traditional and sometimes exhausting for students, so create an environment where students feel encouraged to speak up and express their ideas. The online platforms help trainers and teachers make interactive classroom activities to save heaps of time and get all students to join instead of just two or three. The e-learning platform on Moodle created within the DAMAS Project is an example of online learning environment.

Using virtual reality technology

Enter a whole new world right inside your classroom with virtual reality technology. Like sitting in a 3D cinema or playing VR games, students can immerse themselves in different spaces and interact with 'real' objects instead of seeing things on flat screens. Now learners can travel to another country in seconds, go outer space to explore or learn about anything standing just meters away. VR technology may be costly, but the way it can turn any of your lessons into a blast and wow all students makes it worth the price.

Bold innovations in technology, such as Virtual Reality (VR) and Augmented Reality (AR) gain increasing importance due to the exploitations of virtual learning infrastructures that promote flexible, open, and collaborative learning beyond time, personality, and place constraints within virtual classrooms of educational institutions all over the world. VR is basically a virtual simulated environment, similar to or completely different from the real world, with a computer that users can explore and interact with in an immersive way. In contrast to VR, AR adds virtual elements to existing reality without completely replacing it.

More recently, VR and AR has developed as an exclusive technology that can transform learning experiences across various disciplines and make it more attractive for the new generations of students. Research shows that VR and AR technologies are more effective in attaining the educational goals and facilitates the knowledge construction by providing a unique and learner-centered experience that allows students to interact, at their own pace, with the virtual and real objects.

Within the DAMAS project a focus on the use of Virtual reality training in the automotive sector had been provided with the support of Diagnosis Car Team (Module 3 of DAMAS training modules).

https://www.youtube.com/watch?v=VPh5ITHuY_g&t=1s

The use of VR and AR applications has been explored within a diversity of fields and disciplines, many of which are related to education. Quevedo et al. (2017) developed a virtual training system for the recognition and assembly of automotive components. The system consists of a virtual reality environment developed with graphic engine in Unity 3D, that allows the user to have a greater involvement during the teaching-learning process in order to optimize material resources, infrastructure, time and other benefits. The working environment and the level of difficulty during the training process could be selected by the user. The experimental results obtained show the efficiency of the system generated by the human-machine interaction oriented to develop skills and abilities in the area of automotive mechanics. The potential of VR and AR systems in training and education have been confirmed in many existing studies and examples. The results of implementing these systems highlight as advantages: higher level of comprehension, enthusiasm and engagement from student side, higher confidence and satisfaction, improved ability to understand concepts, practice techniques, and minimize risk related to training.

Blended learning

Blended learning refers to an innovative way of teaching in which learners/students learn in different learning environments (outdoors, in companies, training centers, cultural institutions, etc.) and use digital and offline tools. In response to the COVID-19 pandemic and its impact on education, the Council of the EU adopted a Council Recommendation in 2021 supporting a longer-term strategic approach to blended learning and building on successes in implementing or testing innovations during the pandemic. Blended learning is a method that combines both traditional in-class training and high-tech online teaching. It gives trainers and learners more flexibility to create effective studying environments and customize learning experiences.

In the technology-driven world we live in, it is hard to neglect powerful tools like the internet or e-learning software. Things like video meetings for teachers and students, LMS to manage courses, online sites to interact and play, and many apps serving studying purposes have taken the world.

Project-based learning

Project-based learning (PBL) is a globalizing work method where the student is the most important piece. Working on projects makes students think by themselves, to search for information, to learn through trial and error. This methodology helps them to discover what they are interested in, which subjects they want to work on. Today, PBL has become something basic and fundamental, as it represents a comprehensive methodological strategy and not a supplement. PBL leads teachers to work with groups including very different cultures and levels of skills and learning, all of them really motivated. This change of the classic paradigm makes each person can learn in an inclusive way contributing to achieving a more cohesive future society with scientific thinking. In project-based learning, the teacher-trainer assigns a practical or theoretical project, and learners must work to materialize the project. Projects aim to solve real-life problems and not abstract ones. The trainer can assign projects individually or in small teams. Whatever the case, working on a project is the best example of active learning. It enhances creativity and problem-solving and invites students to think practically.

Challenge based learning.

Challenge-based learning is an attractive multidisciplinary approach for teaching and for students who are learning how the technology they use in their day-to-day lives allows them to solve real-world problems. Challenge-based learning is collaborative and useful for working on skills and/or content.

Problem-Based Learning

While problem-based learning is similar to project-based learning, it differs in that the problem is presented before anything else is taught. Learners work together or separately to decide on the best course of action to complete the project. In problem-based learning, the difficulty level gradually increases as we move from basic knowledge and initial discovery to more advanced projects.

Game-based learning & Gamification

Gamification is the process of using game thinking and mechanics applied to education with the aim of motivating students in the learning process. For this training action we propose the following Contents:

Gamification and its elements for teaching skills.

Mechanisms and elements of a gamified course

Analysis of practical examples

Design gamified experiences in the classroom and/or in the center.

ICT resources, tools, applications, educational and role-playing games to gamify the classroom.

Game-based learning is pretty much what the term describes – using games as part of the instruction process. Games have an element of active learning and are particularly engaging as they are a sort of "distraction" of their own from typical learning. Online, group, or role-playing games can all be part of the syllabus. Games automatically make the learning environment entertaining, and learning becomes an adventure. By definition, games usually involve a sense of reward and accomplishment, which is why they can be very motivating for learners. Similar to game-based learning is gamification, which involves game mechanics -and not necessarily actual games- like scores, levels, badges, and leaderboards.

Peer feedback

Innovative teaching approaches are much more than teaching or learning within the class. Trainers can apply them in many other areas, such as peer feedback time after a lesson. Providing and receiving constructive feedback with an open mind and appropriate manners are essential skills learners need to learn.

Interactive polling tools, especially those with live word cloud features, make it easy to do a quick peer feedback session. After that, trainers can also ask students to explain their comments or respond to the feedback they receive.

Crossover teaching

Crossover teaching combines the experience of learning in both the classroom and a place outside. Explore concepts in school together, then arrange a visit to a particular place where the trainer/teacher can demonstrate how that concept works in a real setting. It would be even more effective to further develop the lesson by hosting discussions or assigning group work in class after the trip.

Virtual crossover teaching example

Sometimes, going outside is not always possible, but there are ways around that. Check out the virtual Museum of Modern Art tour from Southfield School Art. https://youtu.be/NhhVDn49TyI

Personalized teaching

While a strategy works for some students, it may not be that effective for another group. For example, group activities are great for extroverted ones but can be nightmares for super introverted students. This method tailors the learning process of every student. Although taking more time to plan and prepare helps students learn based on their interests, needs, strengths and weaknesses to achieve better results.

Each student's learning journey can be different, but the ultimate goal remains the same; to acquire knowledge that equips that student for their future life.

Teaching has evolved dramatically in the last few decades. The days when students had to sit passively and just listen while their teacher/trainer gave long lectures have been changed. At least some of the existing new teaching methods are mentioned above: they have been integrated into physical and virtual classrooms, significantly improving the learning experience.

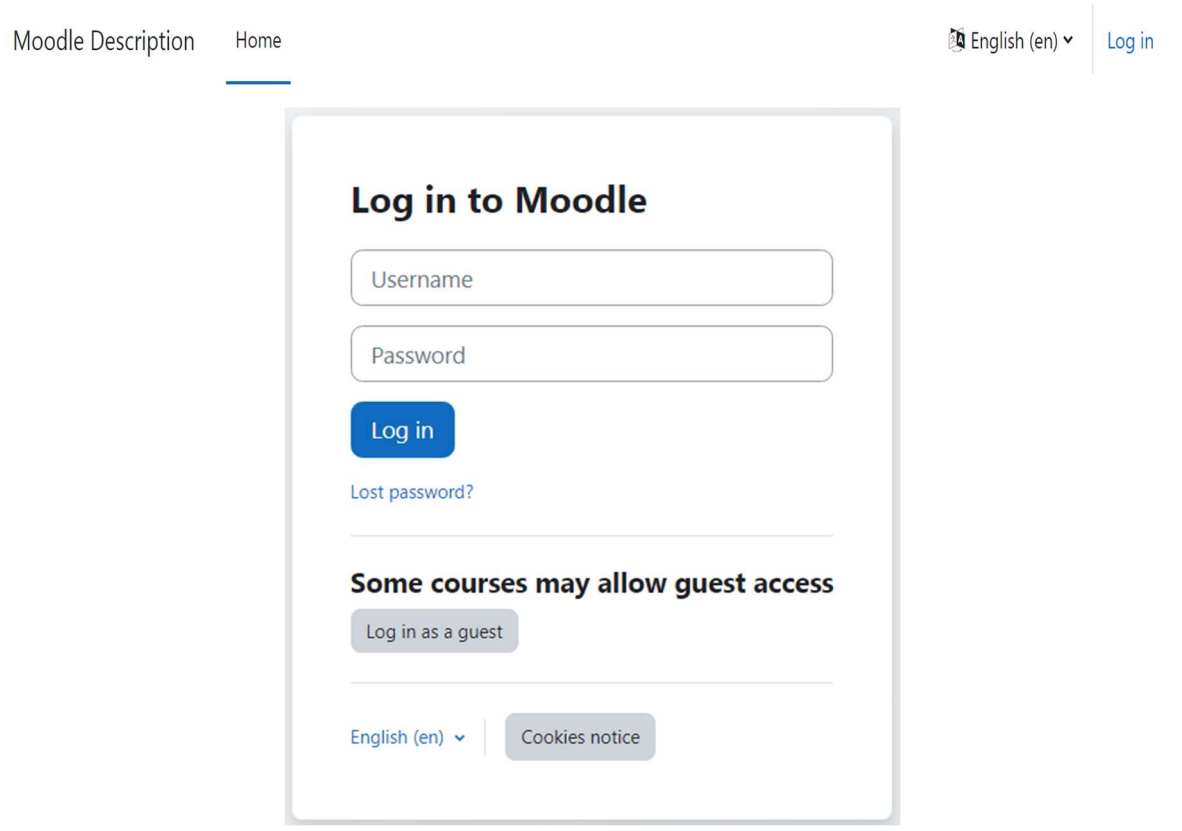
IV. Target group for the online training

Vocational teachers and trainers – especially in the automotive sector.

V. Access to the online training course

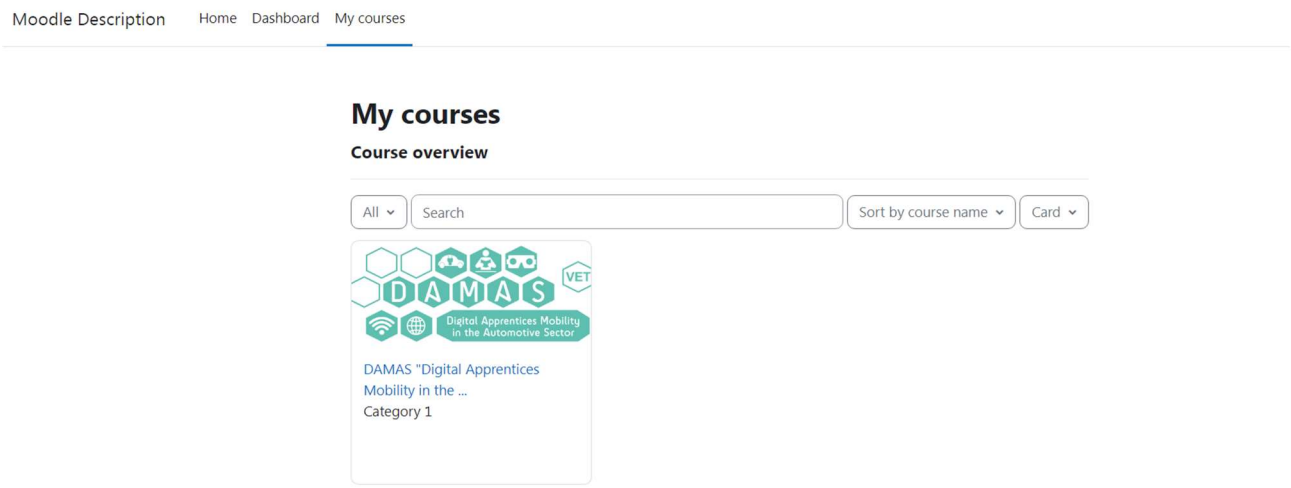
Here there are a step-by-step guide to easily access and explore the Damas course Modules on Moodle Platform:

1. Go to the Moodle platform available at https://lnx.training2000.it/moodle4/
2. Login Moodle platform.

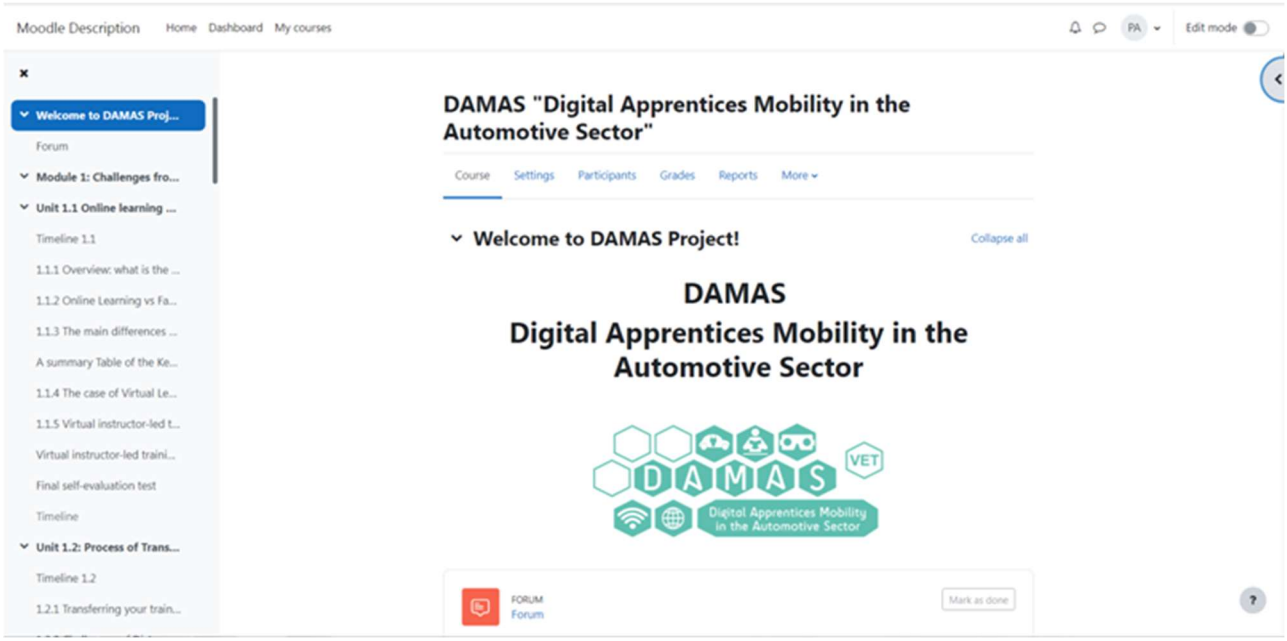


You will enter the Username and the password that the DAMAS Administrator created and generated for you through the e-mail address you have previously provided to the Administrator.

3. Once logged in, Click on "My Courses" and open DAMAS "Digital Apprentices Mobility in the automotive sector".



4. Once you have accessed the DAMAS course on Moodle, you can explore and use it freely at your own time and pace of learning!



Enjoy the DAMAS Moodle platform and training course and keep learning about Digital Learning and Blended Mobility!

VI. Timeframe for the course as a whole

The course, all six modules, can be taken at the same time. Alternatively, on various occasions – whenever it suits the learner. In the description of each module, there is a suggestion about how much time each module will take. There is also a suggestion about how to use the training face to face even though it is developed to be an online training course. Going through all the modules online and doing the assignments should approximately take 30 hours.

Modules in the course

Module 1 – Challenges from physical to online training – what can be transferred from f2f to online training.

Module 1 is an introductory module consisting of 2 units and providing a general description of the main features of online learning and f2f learning, outlining the most common challenges of implementing online/virtual/blended learning in VET training. The module analyses the current problems that VET trainers and adult trainees are facing because of the development of the online learning paradigm and possible available solutions.

Unit 1.1 Online learning vs face to face learning: Key Differences Between Face-to-Face and Online Approach.

Unit 1.2: Process of Transferring the training from F2F to virtual classroom: main Challenges of Online Learning & Solutions to Distance Learning Problems

Main content

The module analyses the current issues that VET trainers and adult trainees are facing because of the development of the online learning paradigm and possible available solutions. The module can be used by the trainees to collect useful information about the main differences, advantages/benefits and challenges between f2f approach to the training and online: the digital transition, the rise of ICT and the needs to ensure education to a wider audience in a more inclusive way. As the world is not yet ready for this change of mindset, many challenges have arisen: the unit provides some recommendations. In the first unit a general overview of what is online learning and what is face-to-face learning is provided. The main differences between online learning and face-to-face training in terms of learning environment, type of learning content, pace of learning, types of assessments are described within the module through the support of some practical tips. Virtual instructor-led training is proposed as a possible tool for online training. In the second unit the difficult process of transferring the training from F2F to virtual classroom, the challenges of distance learning for students and some practical solutions are described. Interactive additional resources (like video, external links and quizzes) are provided to the learner to make the training process more interesting and engaging.

Learning Outcomes

At the end of this Module, the learner will successfully identify the differences and the similarities between online and/or hybrid and face to face learning understanding its current role in the teaching and learning process. At the end of this module, the learner will be able to recognize the advantages and disadvantages of a module or a program that involves online and face-to-face delivery of learning, teaching and assessment activities. At the end of this module, the learner will:

- Distinguish between Online learning and face to face learning approach.
- Design principles for online/virtual approach in a learning context to facilitate a hybrid training session.

- Explain the advantages and disadvantages of applying online/virtual/blended training.

Scenario for face-to-face training

Module 1 is an introductory module that introduces the main contents and topics of the DAMAS training course on Moodle. It can be used by the trainer in a traditional f2f training setting to briefly explain what online/virtual/blended training is and how it differs from face-to-face learning.

Time frame

Module 1 consists of 5 hours of training: 4 hours of content-based learning and 1 hour for the final self-assessment quiz and reflection on alternatives available to activate online learning.

Module 2 – A pedagogical framework for virtual mobility

Module 2 explores the main aspects and most important features of virtual mobilities.

The Module aims at facilitating trainers, teachers and VET organizations to get involved and start virtual mobility (VM) planning and implementation. In the second part, the module focuses on virtual mobility and training in the automotive sector.

Unit 2.1 Virtual mobility in VET

Unit 2.2 Virtual Reality Automotive Lab for Training

Main content

The module introduces the virtual mobility process through its main phases and provides guidelines for virtual mobility preparation and implementation in terms of procedures, skills and tools to be used. It also provides a description of the "Virtual exchange" model and its possible application in the VET sector. Finally, an in-depth analysis is dedicated to the opportunity of virtual training in the automotive sector.

In this module, the process of virtual mobility as part of the training is described in a step-by-step guide. Starting from the definition of virtual mobility, the module explores and describes the different types of mobility and the virtual mobility skills required by the trainer, the learner and the host organization. The virtual mobility process and its important phases are described in detail with a specific focus on the characteristics of virtual mobility in the VET context and the possible tools to be used to implement virtual mobility in VET courses. Many relevant practical tips are provided to the learner. Some assignments to be carried out by the learner as practical exercises to assess their own knowledge and skills of implementing a virtual/blended mobility are also integrated in the module. The exercise, once completed, can be shared in the forum to get some feedback and suggestions from other trainees and/or trainers. In the second unit, the topic is virtual/blended training in the automotive sector: examples of VR Training in the automotive sector are offered to the learner with some interesting tips. Different VR training solutions in the automotive industry and virtual reality in training activities are proposed. An example of a real VR training is provided: VR Electric Automotive Mechanic application by GTAFE.

Learning Outcomes

At the end of this Module, the learner will successfully apply methodologies and practices of virtual mobility: from the planning to the implementation phase. The learner will also be able to determine the potentialities and the opportunities of using virtual reality environments in VET training activities specifically applied to the automotive sector.

At the end of this unit, the learner will be able to:

-prioritize the role of virtual mobility as an innovative educational and learning tool and the meaningful use of digital technology, virtual mobility to open a wider range of educational offers in the VET sector.

-apply training procedures and guidelines in designing and delivering virtual mobility for educational purposes, particularly focused on the automotive field.

Scenario for face-to-face training

The Module can be provided both in a traditional f2f setting and in an online training environment. The trainee can check and elaborate the knowledge acquired through online exercises and discussions in the forum.

Time frame

Module 2 consists of 5 hours of training: 4 hours of content-based learning and 1 hour for the final self-assessment quiz and reflection on alternatives available to activate online learning.

Module 3 – Online training – main content and tools

Module 3 is a practical training module that provides hands-on experience to adult educators, teachers and trainers wishing to gain a better understanding of what really happens in using virtual reality/augmented reality tools in the learning process specifically in the automotive sector.

Main content

Module 3 offers a description of an augmented reality tool for the automotive sector- EV'nAR tool - developed by Diagnose Car Team and provides some steps and recommendations on how to use the EV'nAR technology in a classroom.

EV'nAR is an augmented reality tool for HoloLens developed by education for education. EV'nAR was developed for the automotive technology sector more specifically for lessons on electric vehicles where specific challenges arise. The EV'nAR tool allows the learner to step into a new reality and develop skills that enable them to design and re-think new and more engaging training. With hands-on experience in Microsoft HoloLens 2, the learner can immerse his/herself in the possibilities of new training and learning methodologies that can be integrated in further courses.

Learning Outcomes

In module 3 participants will learn to familiarize and further work with HoloLens and understand technicalities to use EV'nAR technologies and applications for the automotive sector. They will also apply their knowledge with a practical assignment (using the EV'nAR APP) to build confidence and be able to apply this tool afterwards.

At the end of this module, the learner will:

- Understand the main features of the HoloLens applications, their advantages and benefits in the learning process.
- Explain the steps to successfully apply/use the EV'nAR tools in the classroom.
- Describe basic principles for using virtual reality and augmented reality tools in the training within the automotive sector.

Scenario for face-to-face training

Module 3 can be used by the trainer in a traditional f2f training setting at the beginning of the lesson to briefly explain what a virtual reality tool is and how HoloLens technology works. The trainer can then continue to demonstrate various elements of a car through the tool. EV'nAR can then be transferred to the trainees who can train themselves on their own with the support of a trainer if needed. The tool is integrated with quizzes, external links, photos and videos of car pieces.

Most of the learning time of module 3 is practical to learn how to effectively use the online tools as training options in the classroom.

Module 4 – Training methods and methodologies for the online teaching within virtual mobility

Training methods and methodologies for online teaching within virtual mobilities.

This module aims to present different active methodologies that can be used in the classroom, either physically, online or in combination.

Apart from explaining the concept and procedure of each methodology, it also provides tools to carry them out virtually with students.

Main content

The Digital Transformation Plan for schools aims, in general terms, to improve the digital competence of teachers and students in participating schools and to adapt schools to the technological transformation. These major objectives are specified in:

General Objectives

- Guarantee the availability and accessibility of the necessary technological resources to facilitate the achievement of digital competence for all students.
- Ensure that access to technological resources (devices, communications and online services) is always done in accordance with the legal requirements for security and data protection.

Objectives of the Training

The proposed training aims to achieve the following objectives:

Promote the digital transformation of VET providers:

- Deepen the improvement of the digital competence of both the teaching teams and the students at the VET Schools.
- Propose classroom methodologies to empower students in their own learning.
- Provide VET providers with digital resources that promote the educational success of students.
- Provide technical information for the use of technological resources.
- Promote the exchange of classroom experiences and establish alliances between VETS providers.

Learning Outcomes

The training will take place throughout the course. There will be 2 face-to-face training sessions that must culminate in a didactic proposal that will be carried out in the classroom.

In this training we can distinguish three types of sessions:

1. Initial session: In this session the following aspects will be worked on:

Objectives of the transformation

Moodle course structure

Itineraries or training options

Needs analysis template.

Project template

Evaluation and certification

Analysis of needs

Choice of the training route

Organization

2. Training process: During the training period, the contents of the training will be developed, according to the chosen itinerary. They will be able to ask any questions they may have through the forum.

3. Final session - Exchange of experiences and assessment: In this last session, the different working groups will present the didactic proposals developed during the course and the evidence of application in the classroom. The breakout rooms are also intended for interaction between the group members to create Erasmus+ exchanges between them.

At the end they will have awareness of what active methodologies are, knowledge about tools for online or blended active methodologies and digital skills.

Scenario for face-to-face training

If this Module was conducted in a traditional f2f environment, the trainer should start by explaining the concept of "active methodology", then go into detail to explain each one of them.

At the end of each one, make them plan a lesson with that methodology, so that if doubts arise, the trainer is there to help them. This ensures that the student/teacher leaves with a good methodology implemented in their field when they return to the virtual or blended classroom.

Time frame

You will need around 5 hours in this module, 1 would be an introduction and afterwards, 1 hour would be dedicated to each active methodology with the relevant digital/online tools to carry them out.

We consider that the correct way would be 1 hour a day during the week to give them time to be "experts in active methodologies" in blended learning.

Remember that there are 4 methodologies, each one with its own didactic proposal:

Project Based Learning

Challenge Based Learning

Service Based Learning

Gamification

Module 5 – The process of the blended/virtual mobility: different stages of the implementation

In this module we deep dive into the **process** of blended/virtual mobility with a special focus on the different stages of its implementation: We propose **techniques** and concrete **methodologies** for the pre-stay, while and post-stay phases.

Main content and goals

PRE-STAY: the participants - be they VET teachers or students, are first taught how to prepare for mobility long in advance and online. This includes an overview of mobility formalities as well as ways of finding mobility. The participants reflect on some good reasons for going abroad as well as on some advantages/possible drawbacks, and on the necessary skills and strengths to go for it. In addition, they experience how to communicate online for preparatory work, how to write e-mails in a proper way, prepare for virtual teamwork and last but not least, what is important when it comes to their health and safety abroad. Also, VET teachers will find here hands-on agendas for preparatory seminars.

MEANWHILE: After all the preparatory phase, the VET students are sent abroad to experience their mobility – be it virtually or physically. We propose a variety of tools like learning nuggets, quizzes, multiple-choice questionnaires, videos, reflection exercises, milestones tables, summaries of To Dos to make the learning process as diverse, interactive and exciting as possible. The participants experience intercultural communication principles on-site and engage in trainings about mobility parameters monitoring and self-care.

POST-STAY: After completing the mobility, the participants get to know the necessary virtual steps to finalize their mobility successfully. The receiving company abroad gets evaluation material about how to assess mobility, while the participants gain insight into evaluating their own work, their development and progress.

Learning Outcomes

When finishing this module, the participants will know precisely how to prepare for mobility and by when which mobility formalities are to be carried out. Thanks to various methodologies, they should succeed in finding mobility abroad.

They will have reflected about their personal drive for a mobility and should thus know more about their personal skills and strengths.

They should have developed the ability to write e-mails in a proper way, but also to cope successfully with virtual teamwork and essential business communication principles. In addition, they should have a deeper understanding of health care and safety.

Finally, participants should have learned about mobility monitoring and grasp the necessity and goals of a deeper evaluation upon return.

Scenario for face-to-face training

The trainer shall plan, and schedule seminars as follows for the outgoing VET participants:

A location and catering have to booked and organized:

- Budget?
- Number of participants?
- Where / when will the seminar take place?
- Are the rooms - incl. additional rooms and equipment- suitable for the intended methodical implementation?
- What infrastructure can be used on-site? (Photocopier, canteen, library, W.C, park, terrace…?)
- What kind of catering should be planned - drinks and/or food?

Preparation of material/rooms:

- Prepare *presentation* material (flipcharts, flip cards, pens / moderator's toolkit, PowerPoint presentation/ Laptop / Beamer, or Smartboard?)
- Prepare *working* materials (e.g., practical case studies for group work)
- Consider room arrangements according to the form of instruction.
- Contact participants / inform them on the packing list.
- Print out documents if necessary.
- Set up Agenda for the logistical arrangements.

Prepare an agenda:

- Which time constraints have to be observed?
- Prepare several input assignments for group work, role-playing, self-work, etc.
- Set up a "healthy" Agenda for participants and instructors.

Check before the start of the training.

- Are all working documents available?
- Are the tables and chairs arranged according to the planning?
- Am I.T working properly / support available?
- Are there enough pin boards and flipcharts, do the markers write properly, etc.?
- Is the room well-ventilated and well lit?

Timeframe for f2f training

Start with a **Welcome Workshop** so that the VET participants get to know each other and their instructor(s). Set the framework of such mobility projects, talk about past and successful Erasmus+ projects, explain the upcoming tasks for each participant in order to start an own project: This will take **two days** e.g., **10:00 - 16:00.**

Self-work phase I.: The participants will have **1 month** to go through the Pre-Stay part of module five and work on their own mobility project - either face-to-face in small groups or virtually on their own, or a combination of both.

Presentation Workshop on **two days 10:00 – 16:00**: The instructor will have every mobility project presented live in detail. The group will discuss the learning experience of this self-work preparatory phase and reflect on how this could be transferred into the practical mobility phase.

Self-work phase II.: **3weeks** to work on the contents of While- and Post-phase chapters with an online support from the instructor and/or the group, in case of issues or administrative/logistical issues.

Kick-off Event: one day 10:00 – 16:00 to clarify for each participant which are the next steps till the 1st day of the mobility and on this very day as well.

Module 6 – Best practices and recommendations

One of the most important elements in education is the learning process. In other words, how individuals can learn in the most effective way. Closely related to that too are the teaching methods – how teachers can teach successfully. When it comes to the learning process in vocational education and training, in most cases it comprises practical and theoretical elements. In this module, we will take a closer look at best practices and recommendations for VET teachers concerning virtual mobilities in the automotive sector – and some specific features of it in particular.

Main content

The module consists of two units and the main topics discussed describe some aspects and recommendations for virtual teaching. The module also demonstrates best practices and recommendations in a Scandinavian context, such as techniques, tools and methods used in vocational education.

Learning Outcomes

Hopefully you will become more aware of and recognize the possible benefits for managing:

- *Inequalities in your virtual classroom*
- *Collaboration with local and regional companies*
- *Different technologies for your teaching*

Scenario for face-to-face training

The module may be used both in a traditional face-to-face setting as well as in a virtual training environment.

Time frame

Going through the module will take approximately three hours including the assignments.

3. Project partners

Borås vuxenutbildning Sweden:

Boråsregionens vuxenutbildning (BRvux) is the adult vocational education and training provider for the (Borås) region.

The region of Borås (Boråsregionen) is located in the southwest of Sweden, near Gothenburg. The region consists of eight municipalities, Bollebygd, Borås, Herrljunga Mark, Svenljunga, Tranemo, Ulricehamn and Vårgårda. The target group for adult education is employed or unemployed people who need competence development or would like to change careers.

Borås records experiences in the field of digitalisation, as we provide blended learning in different adult education courses.

More information at: brvux.se

BBQ Bildung und Berufliche Qualifizierung gGmbH, Germany:

The "Bildungswerk der Baden-Württembergischen Wirtschaft e. V. " is the education and training organisation of employers' confederations, gathering 26 regional or branch-related business associations, Chambers of Commerce and companies of Baden-Württemberg, south-west Germany. This region is number one in Europe as far as innovation is concerned.

One big key partner of the training organisation in the M+E industry (Metal + Electrical) is called SüdwestMetall. They started a strong initiative named "Southwest metal makes education" as a consistent commitment in every single phase of the educational biography, especially VET. Its final goal: to secure skilled workers in the metal and electrical industry.

Videos, Apps, M+E Truck, Programs and projects for 2000 apprentices in industrial metal-working professions are constantly being designed and conducted throughout the big region.

Together with its Academy for Personal and Organisational Development and two subsidiaries, Apontis GmbH and BBQ Bildung und Berufliche Qualifizierung gGmbH, over 600 employees in three training centres and 50 branch offices are active in all regions of Baden-Württemberg. Projects and services are being offered for different target groups all year round. Quick figures: 50.000 attendees per year and 4.000 companies involved in the various projects of the "Bildungswerk der Baden-Württembergischen Wirtschaft e. V."

Moreover, the training institution has been partnering with international networks since the 1990s, gathering solid project experience with companies and institutional partners on several continents. Particular focus is being made on the promotion of professional mobility, the development of vocational training structures and international exchange.

More information at: www.biwe-bbq.de

Training 2000 psc:

TRAINING 2000 is an adult education centre, which operates activities of Adult Education and Training (VET), consulting and promotion of training activities in companies, and training of trainers and teachers in schools. Such training courses take place in the areas of social integration, entrepreneurship, ICT e.g. for migrants, integration of disadvantaged groups for employment, eco-tourism, sustainable environment, new methodologies in teaching and learning (distance learning), community development and healthy lifestyle.

Training 2000 is a "Certified centre for training" in the Marche region and cooperates in Regional and European networks of different actors: Employment Offices, Trade Unions, National association of SMEs (C.N.A), Associations of seniors and migrants, public libraries in the Province of Pesaro and Urbino, Municipality of Fano, Public offices, Universities of Urbino and Ancona.

Training 2000

analyses the training needs within target groups and local communities,

develops new occupational profiles and training curricula

executes vocational training courses and apprenticeship programmes apt to requalification and re-skilling of youths and adults in the major economic sectors of the region.

TRAINING 2000 has been involved in various international projects, with partners from most European countries since 1994. At the moment, Training 2000 employs 5 full-time staff and cooperates with more than 30 external experts covering different knowledge domains.

More information at: www.training2000.it

EARLALL:

EARLA LL is a Brussels-based network of regions aiming to contribute to EU policy-making and takes part in projects in the field of lifelong learning. Based on the unique strengths of every region and local authority, EARLALL facilitates regional collaborations and partnerships, as well as an open and rapid exchange of knowledge in a context of trust and confidence. Today, EARLALL counts on 12 full member regions, as well as on a group of partners (universities, public institutions and sector-related entities).

Members and partners are actively involved in the life of the EARLALL organisation through their participation in meetings, technical working groups specialised in particular

issues, thematic seminars and other events. The Secretariat in Brussels ensures day-to-day management: it provides information and briefings on EU policy, cooperates with stakeholders, releases reports, handbooks, project information and results, and helps members with the exchange of good practices, partner search and dissemination of projects and events.

More information at: http://www.earlall.eu

DEPARTAMENT D'EDUCACIÓ- GENERALITAT DE CATALUNYA:

The Government of Catalonia is structured into different ministries responsible for the various areas of government. The Departament d'Educació (Regional Ministry of Education) is the administrative body of the Government of Catalonia responsible for education matters.

In close cooperation with local companies and professional associations, the DGFPIERE sets up training programmes for IVET students and supports training centres. It also deals with all the actions involving school-enterprise links. It has control over 45% of the pedagogical curricula for VET.

It also coordinates the compulsory work placement of all the vocational students in the country, who study in the 400 Vocational Training Centres of the region. Approximately 40,000 students are involved in work placements. More than 1300 of those work placements take place abroad.

The ongoing changes the world of labour evolves into are translated into vocational innovative policies designed by the educational experts working in the ministry. Several programmes have been developed in recent years to generate vocational excellence in the training centres the DGFPIERE (Direcció General de Formació Professional) manages. Those programmes led to the creation of eight working networks, through which the vocational training centres are informed and updated on the most recent vocational policies and initiatives.

More information at: http://xtec.gencat.cat/ca/projectes/mobinternacional/

HET GEMEENSCHAPSONDERWIJS- GO! BELGIUM:

GO! organizes official education in the Dutch-speaking part of Belgium. It is financed by the Flemish government but functions independently of the Flemish Minister of Education. GO! is one of the three main educational networks in Flanders. GO! schools are spread all over Flanders and the Brussels capital region. GO! provides education from nursery school through compulsory school age to adult education.

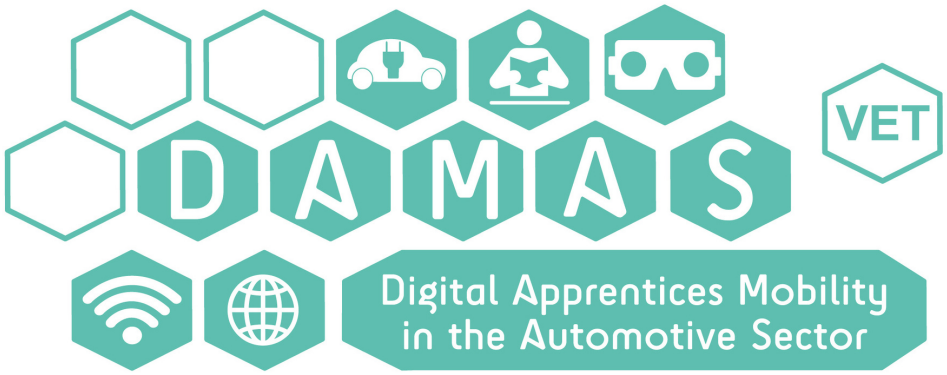
GO! provides curriculum development and teacher training for its 773 schools, which means currently working for 28,000 members of staff, and serving 212,000 students and 110,000 adults. The main mission of GO!'s Council is to guarantee free choice of

education in Flanders and the Brussels capital region. The members of the GO! Council makes the main strategic choices for the future of GO!

GO! provides all children, whatever their background or status, with equal opportunities in education, helping them discover and develop their unique talents.

In today's world with all its various aspects, beliefs, opinions, religions, and ways of life, it is more than ever crucial to teach children how to live together.

GO! has a large network of secondary VET schools (135) offering a wide range of vocational and technical subjects such as catering schools, welding, automotive, and building but also horticulture, fishing and inland navigation. GO! has been investing in using digital means for education but the period of emergency online teaching in the first half of 2020 made the current lack of knowledge clearer, especially as to effective ways of distance education for VET subjects.



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