odule it
DIGITAL TEACHING FOR VET

Guide for Teachers

Co-funded by the Erasmus+ Programme of the European Union

Module it

Introduction

Module it Guide for Teachers

Move to the Guide for Organisations

Introduction

BACK

"Module it! – Digital skills for VET" project offers an e-learning Module that allows international cooperation among schools through digital technologies and a shared programme with streaming classes, common activities, tasks and final evaluation.

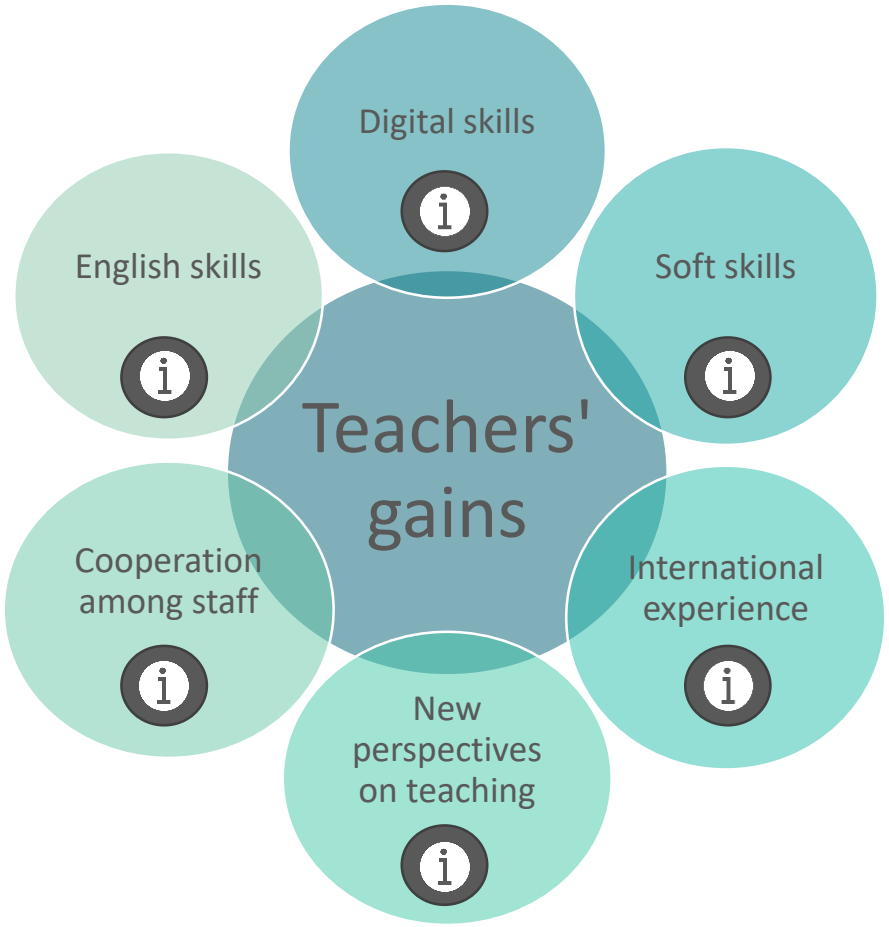
The Module has been made in a European-funded project aiming at improving digital skills of teachers.

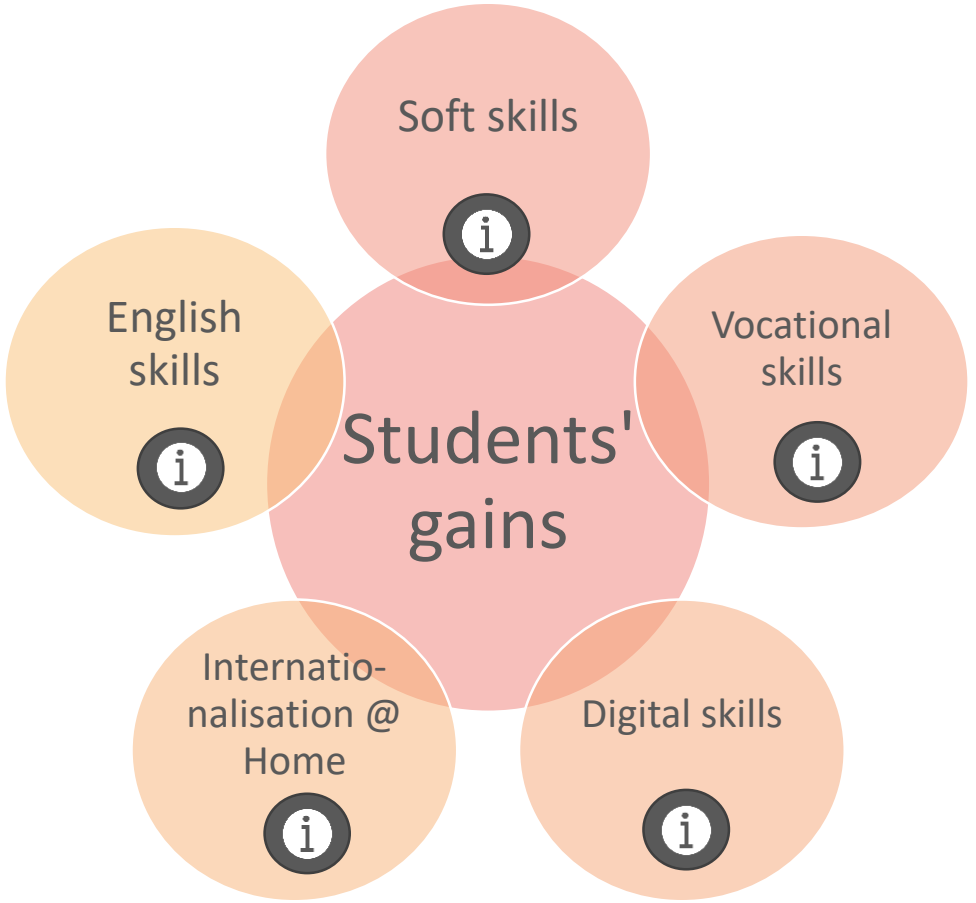
This guide is addressed to teachers who are interested in learning about the Module and applying it in their school.

Co-funded by the Erasmus+ Programme of the European Union

1. Why should you implement Module in your class?

BACK





1.1 Digital skills

BACK

Teachers can improve various digital skills during the implementation of the Module, such as: teaching transnationally in front of a camera and with a microphone, using conference tools, using online tools for testing competences, setting up and moderating an online cooperation environment for students, engaging students in online learning.

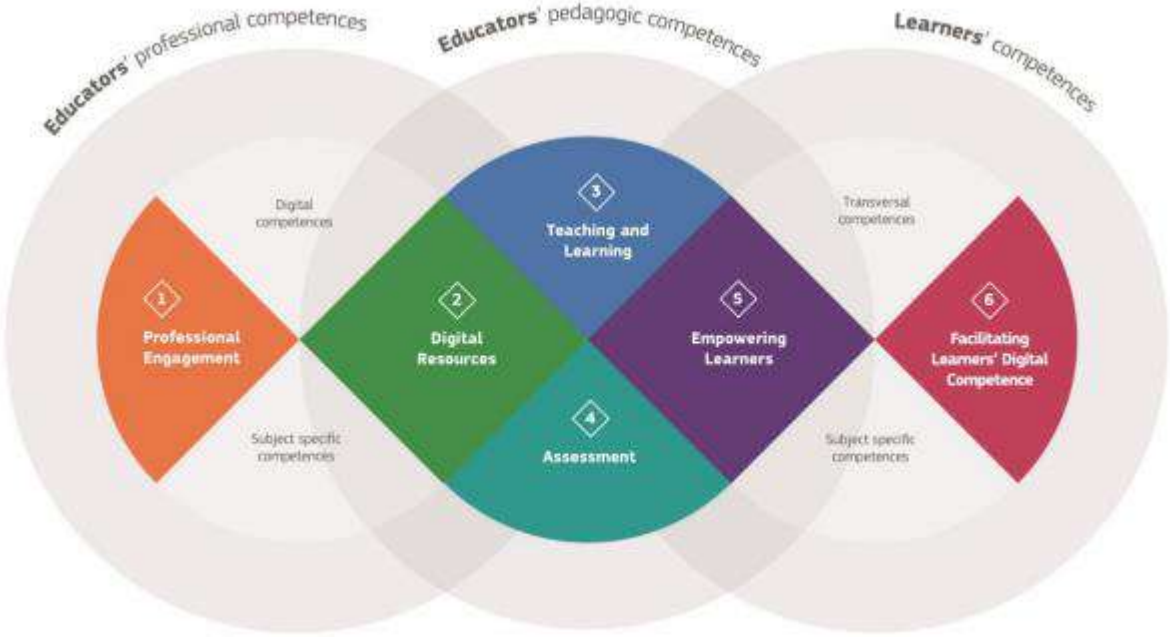


Figure 2: Conceptual approach

Co-funded by the Erasmus+ Programme of the European Union

1.2 Soft skills

BACK

Teachers' soft skills are improved thanks to the interaction with new colleagues in an intercultural environment, in which communication with other cultures is needed, as much as adaptability and flexibility in teaching - be ready to adapt your language and your didactical rhythm!

Co-funded by the Erasmus+ Programme of the European Union

1.3 International experience

BACK

Implementing the Module gives teachers access to an international opportunity, as they cooperate with their peers abroad and experiment didactical activities in an intercultural and English-speaking context.

Co-funded by the Erasmus+ Programme of the European Union

1.4 New perspectives on teaching

BACK

By implementing the Module teachers merge their experience in teaching with European colleagues through the use of digital technology. Teachers learn from each other and together get to develop new practices and new perspectives on their teaching.

Co-funded by the Erasmus+ Programme of the European Union

1.5 Cooperation among staff

BACK

The Module gives teachers an opportunity to work with other teachers from their own school and from other schools abroad. It also creates connection between the teachers and the digital specialist, thus enhancing cooperation among staff from different sectors and departments.

1.6 English skills

BACK

Participating in an international experience allows teachers to practice and improve their English language skills.

1.7 Soft skills

BACK

Students gain the following soft skills during the implementation of the Module:

- ability to learn in an intercultural environment and interact with international peers
- ability to speak in front of others and give their opinion
- self-confidence
- ability to work in teams
- critical thinking, e.g. initial ability to reflect on different didactical methods and to understand the differences
- ability to take the initiative in the learning activity
- initial ability to self-assess the skills acquired

Co-funded by the Erasmus+ Programme of the European Union

1.8 Vocational skills

BACK

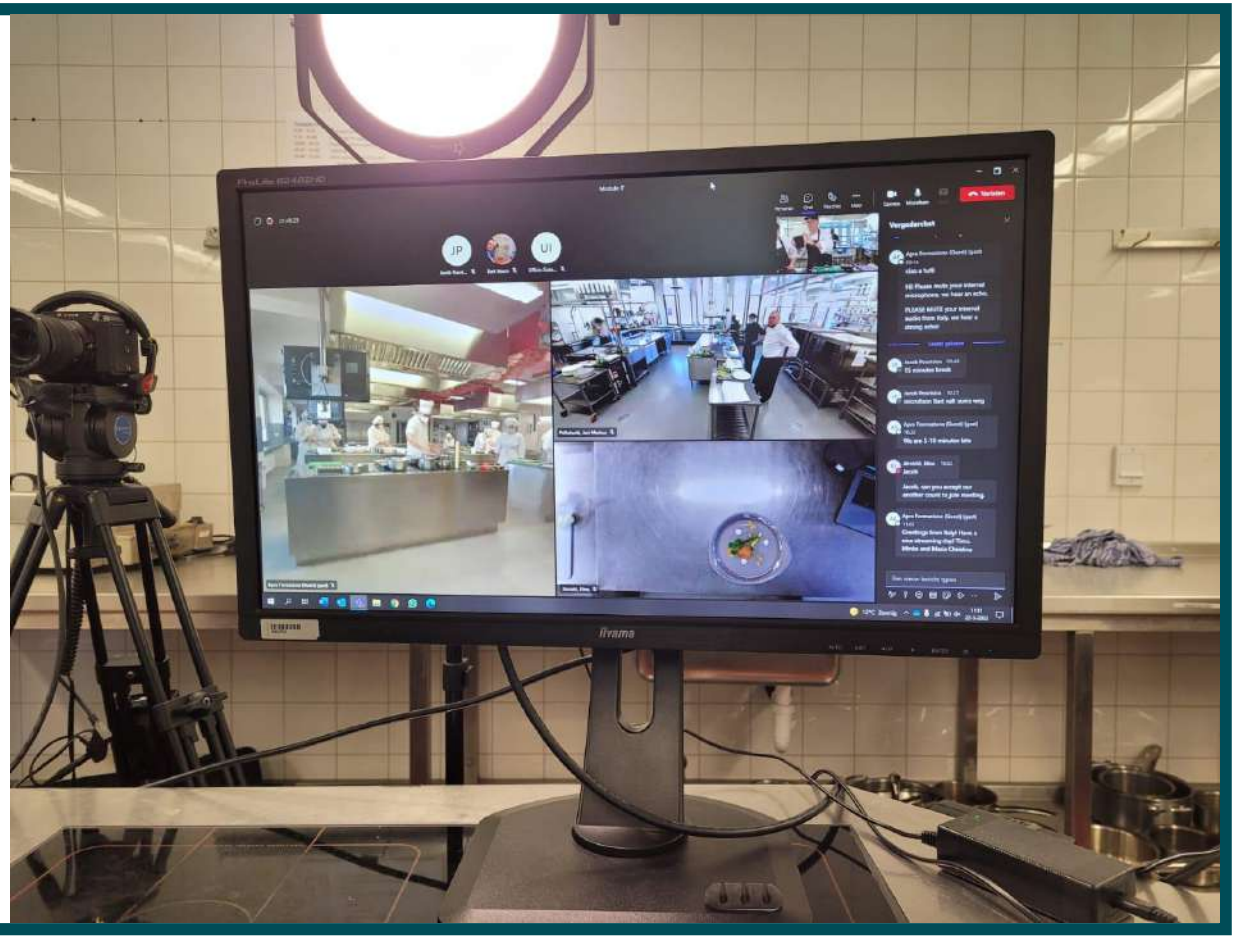
To prepare the Module, teachers agree on a common vocational programme that mixes together different traditions and expertise. Out of this, students acquire new technical skills and methods of their profession and apply them in class.

Co-funded by the Erasmus+ Programme of the European Union

1.9 Digital skills

BACK

Students get the ability to use digital technology for learning purposes, such as videos, cooperation environment, presentations, online surveys.



1.10 Internationalisation @ Home

BACK

The Module activities allow every student to participate in an international experience for free and without the need of going abroad. This Internationalisation @ Home opportunity can also be intended as the virtual part of a blended mobility, prior to the physical mobility.

Co-funded by the Erasmus+ Programme of the European Union

1.11 English skills

BACK

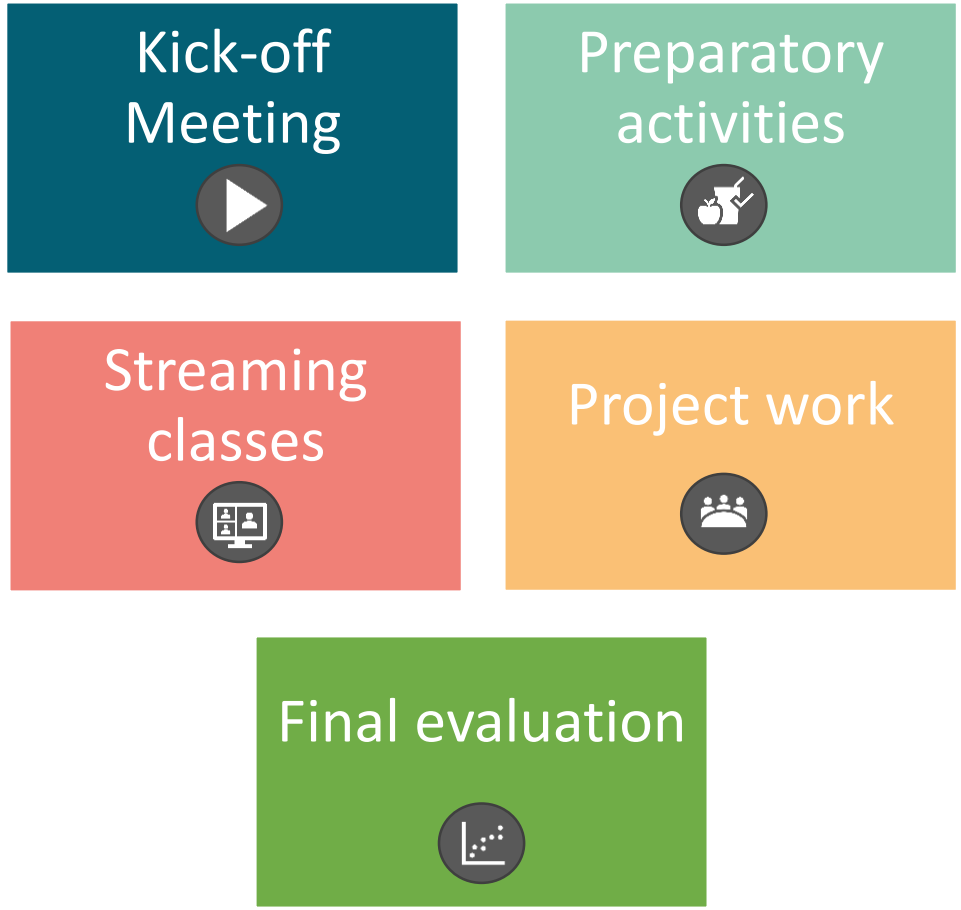
Students attend vocational classes in English and have a chance to practice their English skills with their peers. They also get to appreciate the interest and use of a foreign language in their profession and to understand the intercultural role of English in Europe.

2. Module Structure

BACK

The Module consists of five different activities:

- These activities cover 40 hours of classes that are carried out by teachers and students in different schools and countries. The same programme is delivered to all the participating students: some parts of the Module are carried out simultaneously in different schools by using digital technologies, while others are explained individually in each school.
- In describing the method, we will refer to the cooking sector, where the project partners have tested the Module with students.



2.1 Kick-off meeting (1 hour)

The kick-off meeting is a transnational activity done online in each school involved in the project. A teacher presents the whole programme to all the students and then each class introduces themselves and their school.

Co-funded by the Erasmus+ Programme of the European Union

2.2 Preparatory activities (10 hours)

BACK

History
- General overview on each country's culinary traditions (2 hours)

English
- Recipes' description: ingredients, procedures, tools (4 hours)

Maths
- Calculate cost and selling price of the recipes (2 hours)

Science
- Analyse nutritional balancing and sustainability of the recipes (2 hours)

These activities are meant to prepare the students to cooperate with students and teachers from other countries and schools. The preparatory activities are done in some core subjects, but they are all related to the students' sector of study. In the case of our pilot, the cooking sector.

2.2.1 History class

The students learn about the different culinary traditions of the countries involved in the project. They compare different uses and traditions, with the help of the teacher.

Link to the materials on the website

2.2.2 English class

Each recipe that the chef teachers are going to cook during the streaming classes is explained and described in detail. This will help students to know in advance what they will be required to do during the cooking class in English.

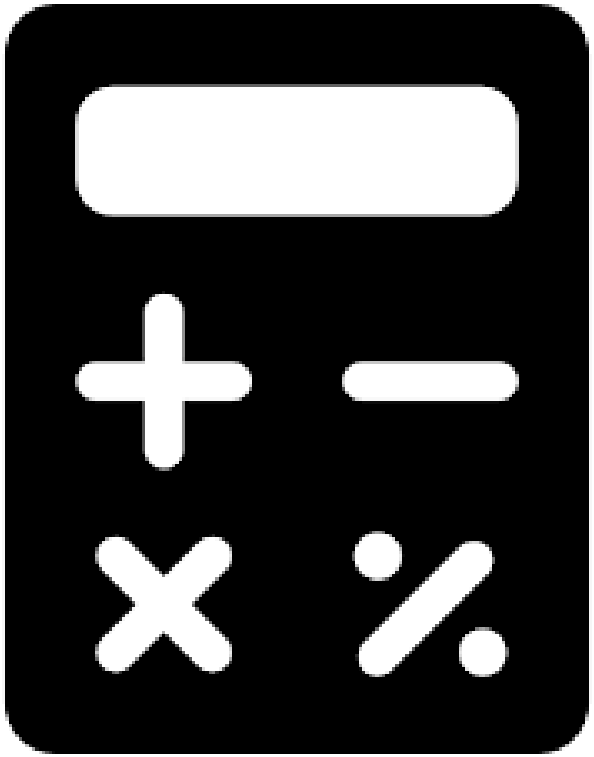
Link to materials on the website

BACK

2.2.3 Maths class

The teacher explains how to calculate the cost and the selling price of the recipes. Then the students are divided into groups and each of them calculate the cost and the selling price of one recipe. The results are compared in class.

Link to the materials on the website



2.2.4 Science class

The teacher explains how to analyse the nutritional balancing and the caloric intake of the recipes, and also how to analyse the environmental sustainability of the recipes. Then the students are divided into groups and each of them do the two analyses of one recipe. The results are compared in class.

Link to the materials on the website

2.2.5 Streaming classes (20 hours)

A streaming lesson is delivered from one school and broadcasted to other schools by using digital technologies. In this way, students in different countries can do a didactical activity with a teacher from another culture and learn new methods and skills related to their field of study.

In our pilot, the streaming classes were delivered by each school involved so that all the different cooking traditions (Italian, French, Dutch and Finnish) were shared and delivered to students.

A common language must be used to make the streaming classes possible. In our pilot we used English and, when needed, a translator or English teacher was involved to support the chef teacher and the students.

Teachers can decide how long each streaming class should be, depending on the sector and their needs. In our pilot, the chefs decided to have 4 classes of 5 hours each (20 hours in total).

Module it Project's Streaming Classes

Finnish Streaming Day video

2.2.5.1 Module it Project's Streaming Classes

As an example, in our first pilot we decided to set up an international menu, made up of a cold starter (streamed by Finland), a warm starter (streamed by The Netherlands), a first course (streamed by Italy) and a dessert (streamed by France).

In this way, cook students from our schools could learn different techniques and share their different cultures which make up the European culture.

Sugar-salted salmon (Finland)

Croquette of shrimps (The Netherlands)

Agnolotti (Italy)

Paris-Brest (France)

2.2.5.2 Finnish Streaming Day Video

BACK

Module it - Finnish Day 2023 highlights - YouTube

2.2.6 Project work (7 hours)

The project work is a cooperation activity carried out by the students in international groups. As the other part of the Module, it is developed both in class and virtually.

In our pilot, in each group of students there were at least two Italian, two French, two Finnish and two Dutch students. They were coordinated by a teacher, who moderated and monitored the work online.

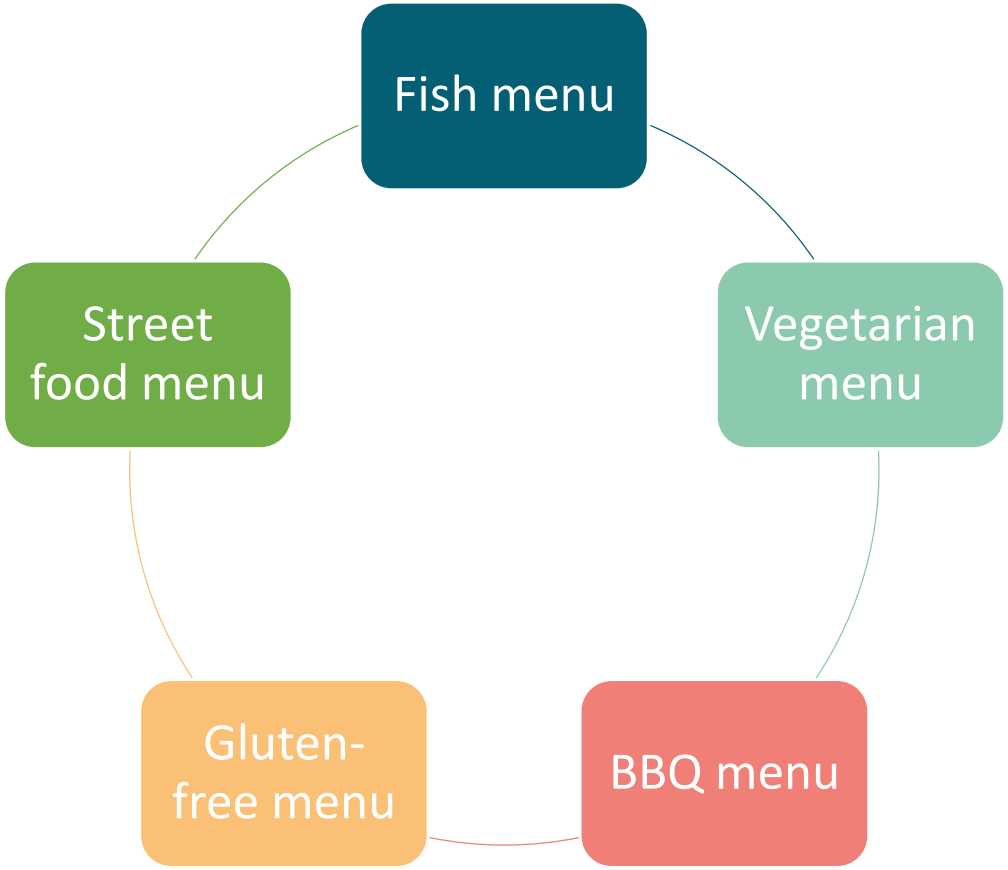
The students were assigned the following task: to plan a thematic menu on a certain topic and then calculate its cost and selling price, as well as analyse its nutritional balancing and sustainability.

- Thematic menus
- Steps of the project work

2.2.6.1 Thematic menus

The thematic menus were: fish menu, vegetarian menu, BBQ menu, gluten-free menu and street food menu.

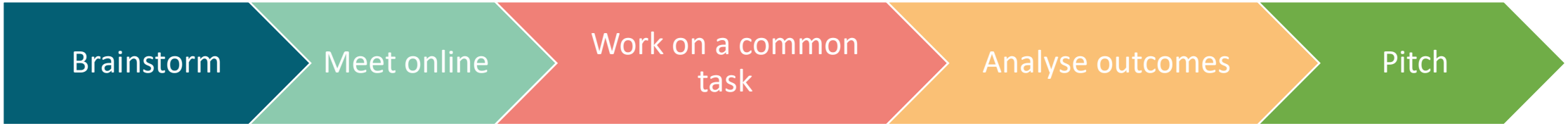
In practice, the project work is intended as an exercise where students work together and practice both their English skills and the skills acquired during the Module (tag on gains for students)



Co-funded by the Erasmus+ Programme of the European Union

2.2.6.2 Steps of the project work

BACK



IN CLASS – 1 HOUR

- Brainstorm with your groupmate and think of some recipes typical of your country and related to your assigned thematic menu

ONLINE – AT HOME OR IN CLASS – 4 HOURS

- Meet online with international groupmates and share your country's recipes
- Agree to a common menu made up of 4 recipes - a starter, a first course, a second course, a dessert
- Calculate the cost and selling price of the menu
- Analyse if the menu is nutritionally balanced
- Analyse if the menu is environmentally sustainable

ONLINE – AT HOME OR IN CLASS - 2 HOURS

- Pitch the thematic menu in your class.

2.7 Final assessment (2 hours)

The fifth and last part of the Module is the final assessment. The final assessment is intended to assess both the improved knowledge of the students and their satisfaction.

Both the final test, meant to assess the students' knowledge, and the satisfaction questionnaire are structured as Microsoft Forms that can be replied by every student of the participating schools.

In our pilot, the final test was made up of 3 sections :

1. Vocational subject (cooking): multiple choice questions on countries' food overview and the streamed recipes
2. Sectoral Maths: calculate the total cost of a given recipe
3. Food Science: calculate the caloric intake of a given recipe.

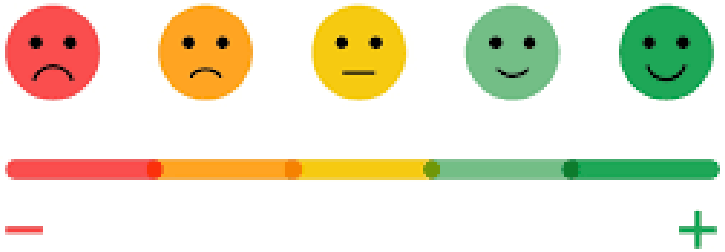
The Forms assigns one point for each correct answer and gives the students their total score just after submitting the test.

Link to the final test

Satisfaction questionnaire

2.7.1 Satisfaction questionnaire

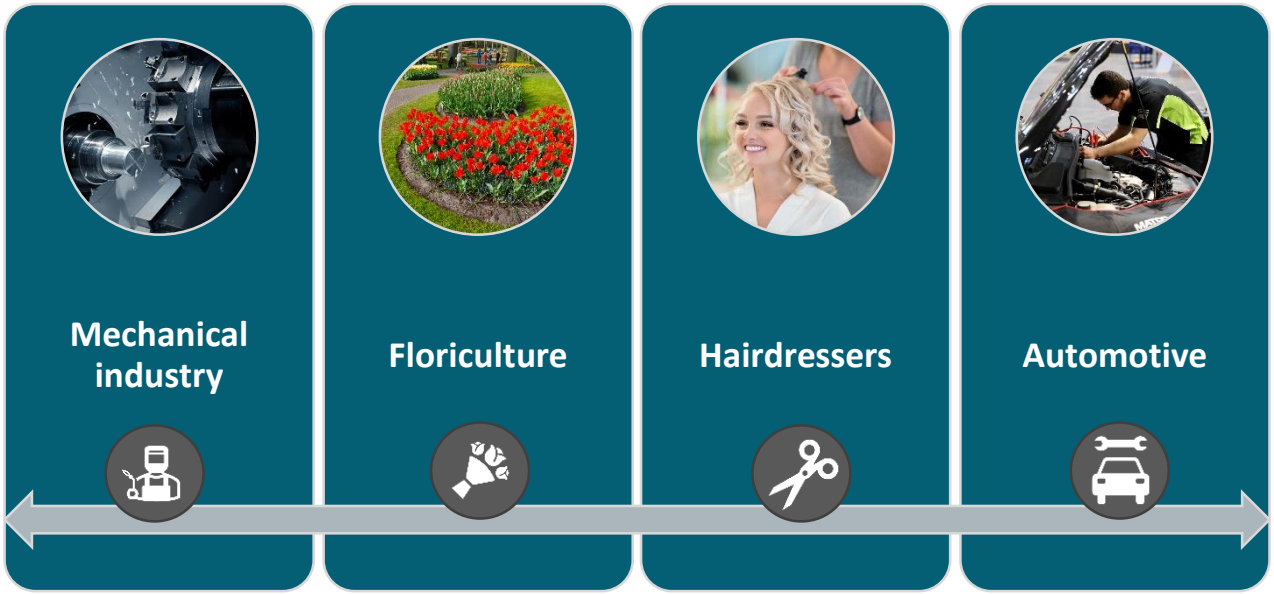
The satisfaction questionnaire is meant to let the students reflect on their participation in the European training module. Other than satisfaction, the questionnaire makes the students think whether they improved some skills (vocational, language and soft skills) during the project.



★★☆ Link to the Satisfaction questionnaire

3. Transferability of the method

The Module is transversal and adaptable to any vocational field. Here you find the application in four different sectors.



Example of Module Implementation

BACK

Mechanical piece with Siemens | Mechanical piece with Heidenhain | Mechanical piece with Fanuc | Mechanical piece with Fagor

3.1 Mechanical Industry

Focus: numerical control machine tools (CNC), with different brands of machine and operating system

Kick-off meeting
Online presentation of the project with the students

Preparatory activities
All students do the following activities in their own schools:

- History: • General overview of metalworking production in each regional context (2 hours)
- English: • Study of the mechanical parts to be made in streaming (4 hours)
- Maths: • Cost and selling price of manufacturing (2 hours)
- Technical drawing: • Drawing of the mechanical parts (2 hours)

Streaming
The partner schools will share a common project related to a mechanical part to be realised on their CNC machines. Each school will realise a part of the programme and stream it to the other schools in turn. Each school should have machines and/or programming interfaces of different brands, so that different methodologies can be compared to achieve the same result. Examples of different brands and operative systems: Siemens, Fanuc, Heidenain, Fagor.

Project work
The students divided into international groups are assigned the task of producing a second mechanical part based on the specifications assigned by the teachers. The part must be able to be integrated into the one produced during streaming, so it must belong to the same assembly.

Final test
In each school, the students take the same final test with questions relating to the various topics covered (overview of the mechanical workings tackled, programming, calculations and analysis), and a satisfaction questionnaire on the whole programme.

Example of Module Implementation

BACK

Christmas composition | Wedding bouquet | Valentine's day composition | Local event composition

3.2 Floriculture

Focus: floral art design

Kick-off meeting
Online presentation of the project with the students

Preparatory activities
All students do the following activities in their own schools:

- History: • General overview of flower trade, about floral art and shops in the different countries (2 hours)
- English: • Study of the flower bouquets to be made in streaming (4 hours)
- Maths: • Cost and selling price of floral bouquets made in streaming (2 hours)
- Science: • Sustainability of the flower trade: ecological impact of bouquets made in streaming (2 hours)

Streaming
Each school delivers a vocational class in streaming on how to make a bouquet of flowers or a floral composition for a certain season or event.
Each school presents what colours mean for each seasonal trade event.
For example: Christmas, wedding ceremony, Valentine's day, local events or conferences (Truffle fair in Alba, Cannes Festival, …), Flowers in restaurant events…

Project work
The students divided into international groups are assigned the task of producing a thematic bouquet made on specifications assigned by the teachers. They also have to calculate the cost and selling price of it, as well as calculate its ecological impact.

Final test
In each school, the students take the same final test with questions relating to the various topics covered (history of flower trade in different countries, cost calculation, sustainability analysis), and a satisfaction questionnaire on the whole programme.

Example of Module Implementation

BACK

3.3 Hairdressers

Focus: hair cut techniques

Kick-off meeting
Online presentation of the project with the students

Preparatory activities
All students do the following activities in their own schools:

- **History**
  - Fashion trends, seasonal styles, materials used in the past (2 hours)
- **English**
  - Communicating with customers (4 hours)
- **Maths**
  - Mixing ratios, processing time, pricing, Net and Gros pricing (2 hours)
- **Science**
  - Chemical actions of the produce, environmental awareness, choice of raw materials, materials and equipment maintenance (2 hours)

Streaming
each school demonstrates several techniques that can be applied to different hair types and styles. A difference can be made in gender, hair type, coloring, cuts, styling, trends, and techniques

Project work
Students draw up a trend book. they are inspired by various themes. For example: bohemian, black and white, color blocks or the seasons.

Final test
In each school, the students take the same final test with questions relating to the various topics covered (history of hairfashion in different countries, Mixing ratios, processing time, pricing, Net and Gros pricing, cost calculation, sustainability analysis, customer interaction), and a satisfaction questionnaire on the whole programme. They will evaluate their own performance by making self-evaluation. In addition, they will have brief one-to-one discussion with their teacher.

Example of Module Implementation

BACK

3.4 Automotive

Focus: adaptive headlight adjustment of vehicles

Kick-off Meeting

Online presentation of the project with the students

Preparatory activities

All students do the following activities in their own schools:

- History: • Short introduction and assignment related to Matrix lights history
- English: • Studying of the vocabulary related to streaming lessons
- Maths: • Cost and selling price of the lights and installation service
- Science: • Examining and calculating the light output of different lights

Streaming

The training will focus on the operation of Matrix lights in CAN bus networks. The content of the training is divided into an introduction to the relevant lighting technology, an introduction to the test equipment and an introduction to a web portal of a car brand for the purpose of obtaining repair instructions (EU-5 legislation, right to use car manufacturer's systems). In vehicle headlight adjustment, each participating school will use its own equipment to adjust the headlights. The headlight adjustment can be done with conventional headlights (H7, H1), Xenon or LED or LED Matrix head-lights. The aim of the common exercises is to familiarise the participants with the different types of light adjustment devices. The steps of the light adjustment can be streamed using cameras as an aid or with the most intelligent devices e.g., a headlight adjustment device, which itself is able to participate in a Teams meeting.

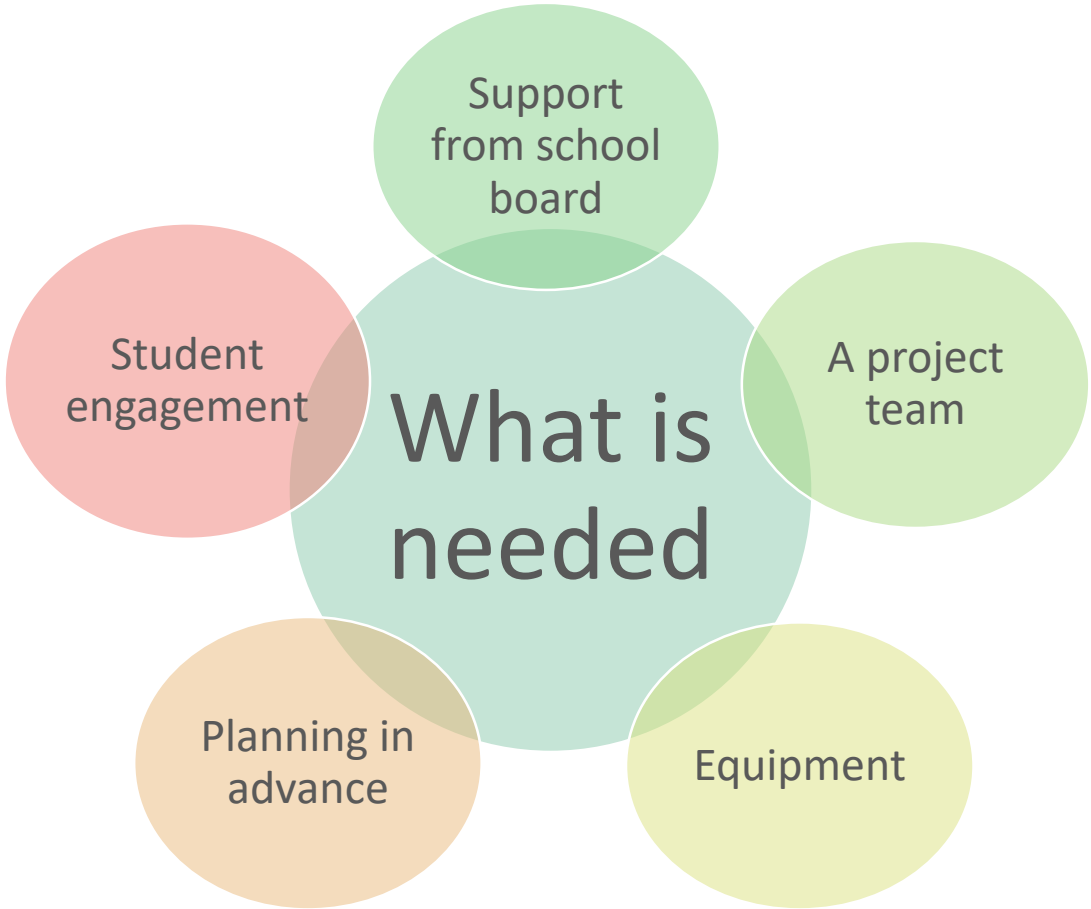
Project work

The project will provide an opportunity to see how the different participants measure and adjust their headlights using the equipment of their respective schools. The adjustment procedure may be combined with a final test. The final test will mainly examine the use of the equipment and the evaluation of the headlamp adjustment procedure at the school in question.

Final test

In each school, the students take the same final test with questions relating to the various topics covered and a satisfaction questionnaire on the whole programme. The final assessment tasks can be streamed, with teachers and also students from different schools as evaluators.

4. What do you need to implement the Module?



4.1 Support from school board and educational manager

Support from the school board and the educational manager is fundamental as they appoint a project team dedicated to the activity. Without their support, the project is likely to face difficulties and not get to the expected results.

4.2 A project team: project manager, teachers, digital specialist

For a good implementation of the Module, it is important to involve and engage the teachers of all the subjects involved and a digital specialist. At the same time, it is fundamental to have a project manager or a member of the project team who is in charge of the coordination and project management. The three figures (project manager, teachers and digital specialist) work together at school level and international level.

Project manager	• Coordinates the project team at school and international level. Monitors that all the activities are due on time.
Teachers	• Deliver the classes in their subjects
Digital specialist	• Supports the project team in the digital activities: online cooperation, streaming classes, project work, final evaluation...

4.3 Equipment

Some digital equipment and tools are needed to implement the Module. Here's a short list to let you start thinking on this. In the guide for organizations (**link to IO4**), you can find a deeper description of these tools, with some tips and tricks. Remember that in your project team you have a digital specialist who will support you with this !

- **For the whole activity : online cooperation environment**. In our pilot we used two different environments: one for the staff and one for the students. The one for the staff was used for coordinating all the activities, sharing documents and meeting online. The one for the students was used to involve and engage the students, e.g. to present themselves at the beginning and to share files for the project work. The TwinSpace of eTwinning may be used as a cooperation environment for students, but also a Team in Microsoft Teams or a Space in Google Workspaces.
- **For streaming classes: cameras, microphone, television or screens and conference tools.** During the streaming classes it is particularly important to have a digital specialist for the proper set up of all the equipment.
- **For the final assessment: online testing tool.**

Additional information from the Guide for Organisations

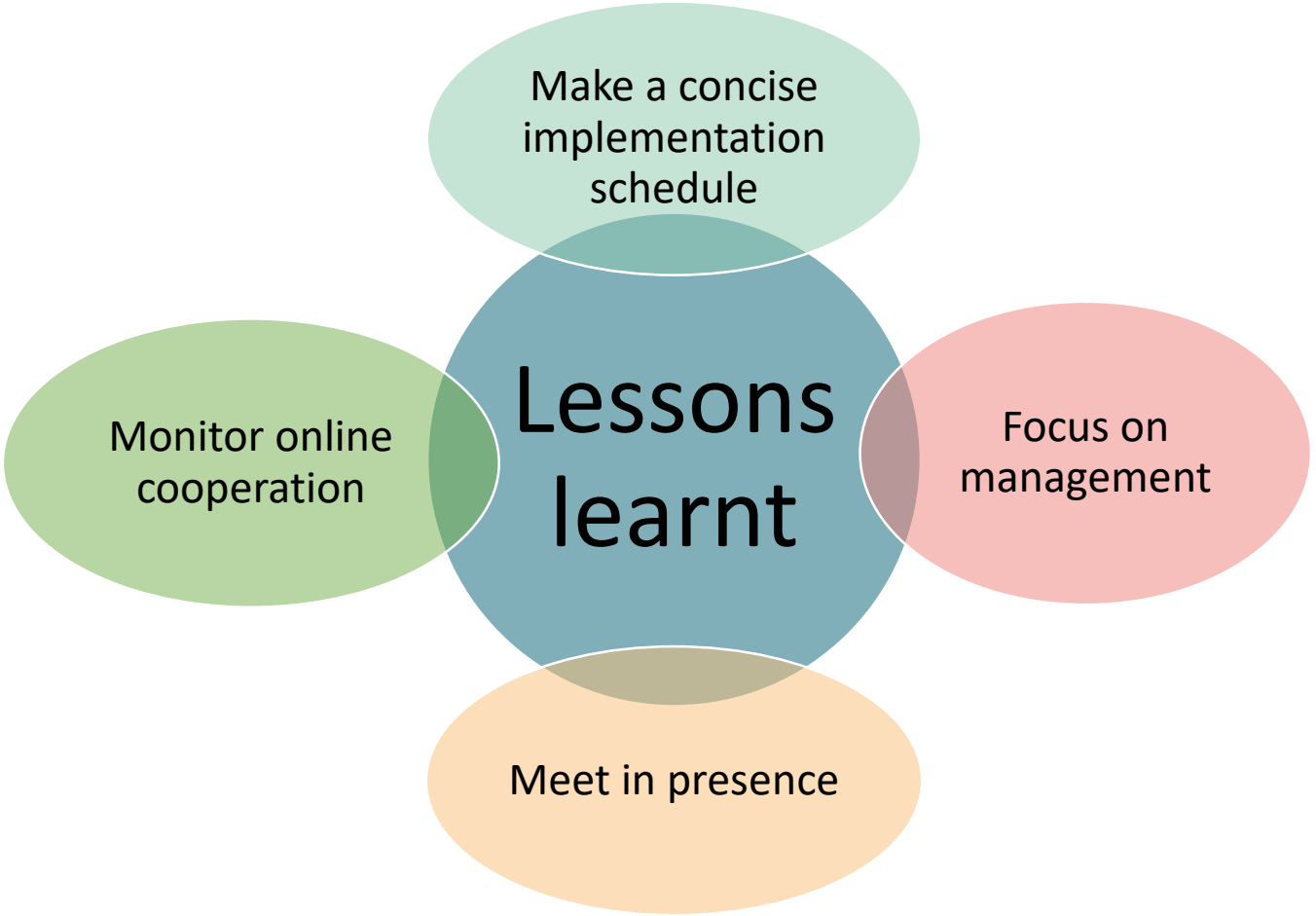
4.4 Planning in advance

Planning in advance is necessary in this project, as many didactical activities must be done at the same time in different schools (kick-off meeting, streaming and project work). The educational manager must be involved at the beginning of the didactic year and the common schedule must be set and clear to everyone as soon as possible.

4.5 Student engagement

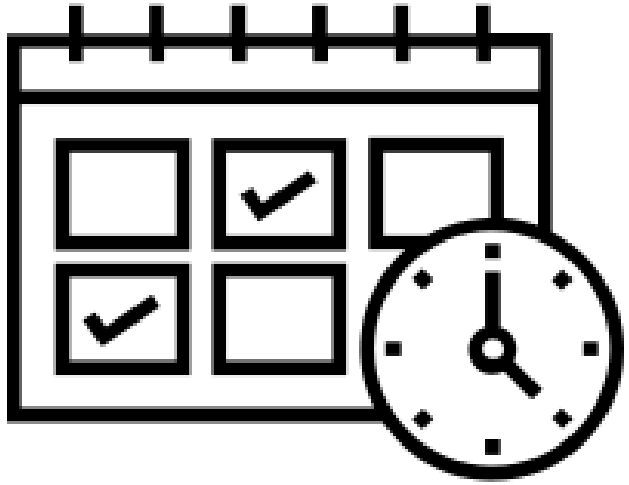
Try to engage students from the very beginning. Involve them in the European activity, stimulate their curiosity and interest in learning from other cultures and meeting new friends. Bring them all together in an online cooperation environment, where they get to know each other, at least virtually.

5. Lessons learnt



5.1 Make a concise implementation schedule

We learnt that the shorter the project takes the better. Thus, the 40-hour programme should be done within six to ten weeks, so that the students can better follow the whole programme. If done in a longer period, students and teachers may lose interest or commitment in the activity.



5.2 Focus on management

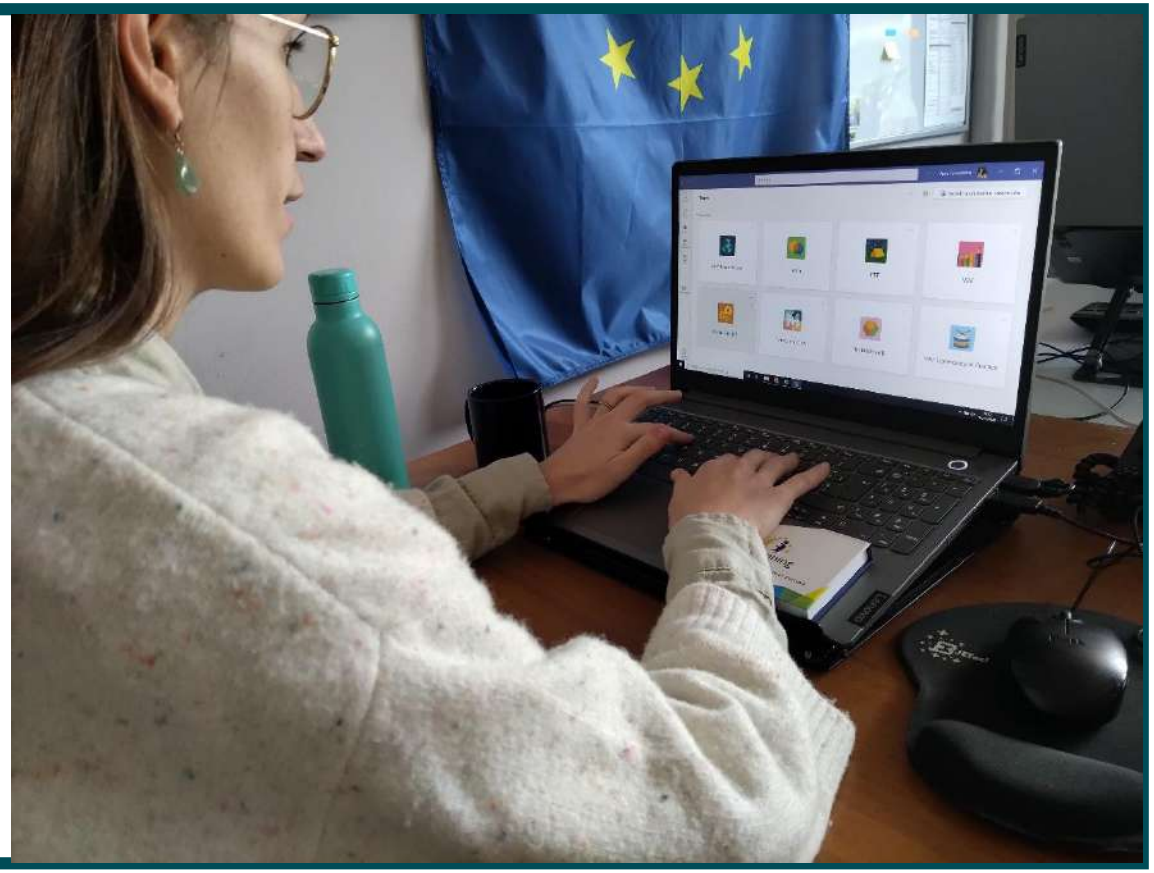
The activity is done properly and the objectives are attained only if the responsibilities are shared among the different roles and functions of the project team. A problem we faced is that vocational teachers also did the tasks of other teachers (e.g. Maths and Science), without having the needed skills. To avoid this, it is important to engage in coordination, communication and teamwork or, in a word, in management.

5.3 Meet international colleagues also face-to-face

If you have the resources, meet your colleagues in person. It will be much easier to cooperate with them online, if you already met in person. If possible, organise such a meeting also with students.

5.4 Monitor online cooperation

Online cooperation needs to be moderated and enhanced by teachers. Teachers must facilitate students in the use of online tools and support them step by step. If this doesn't happen, students are likely not to access the online cooperation environment, e.g. because they don't check their email regularly and don't see any notification.



6. Comments from users

BACK

"…by adopting the Module directly with my students, I managed to bring teaching of my subject to a new level…"

Paolo Taricco
Cook Teacher
APRO, Italy

"It's a wonderful opportunity to share professional knowledge and skills across borders and meet colleagues from Europe…."

Teija Ojala and Pasi Laitamäki
Cook Teachers
Sedu, Finland

"This project offers a new method that allows students in professional fields to learn with digital pedagogies…"

Jean-Dominique Mignot
Cook Teacher
FDM Cannes

Watch the video from Netherlands

Baart Voorn and Ronny Gommers,
Cook teachers
Noorderpoort, Netherlands

6.1 Comments from users

BACK

"By first co-operating in developing and then by adopting "Module it!" training module directly with my students, I managed to bring the teaching of my subject to a new level. With "Module it!" the knowledge of the gastronomic culture of our European partners has become even simpler, more immediate and more effective.
A perfect way to promote cooperation between teachers and enhance active participation among students."

Paolo Taricco
Cook Teacher
APRO Formazione Italy

6.2 Comments from users

BACK

"It's a wonderful opportunity to share professional knowledge and skills across borders and meet colleagues from Europe. My digital skills have improved, and I plan to stream small-scale activities, for example between different classes or units. It's great that we can learn new things from each other through this project.

We are creating an international future!"

***Teija Ojala**, Cook teacher, Sedu Finland*

"It is a great way to improve students' and teachers' digital and language skills, create international networks and gain a broader perspective in the field you represent."

***Pasi Laitamäki**, Teacher, Responsible Supervisor, Hospitality and catering*

6.3 Comments from users

BACK

"This project offers a new method that allows students in professional fields to learn with digital pedagogies. This method requires a lot of coordination, but it offers a new hybrid approach to our training. It enables our students to have an international experience at their own educational institution. This increases the desire of young people to go abroad and find other approaches to their profession."

Jean-Dominique Mignot
Cook Teacher
FDM Cannes

6.4 Comments from users

BACK

Module it - Teachers and student: Netherlands - YouTube