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ITHEN INTERNATIONAL TECHNICAL HIGHER EDUCATION NETWORK

IO1 - I-THEN Set of methodologies and guidelines

INTERNATIONAL TECHNICAL HIGHER EDUCATION NETWORK - SET OF METHODOLOGIES

Erasmus+ 2020-1-IT02-KA203-079561

Set of ten innovative methodologies – with step by step session guides – useful to develop the key competences required by the international job market in the field of marketing and business management

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ITHEN METHODOLOGIES

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THE ITHEN PROJECT

ITHEN is an Erasmus+ Strategic Partnership project that involves international tertiary VET institutions and universities collaborating for the development of joint international courses in the business management and marketing fields.

CONTEXT OF ITHEN

In Europe, despite official attempts for the creation of regular paths starting from Tertiary Vocational Education and Training bodies (TVETs, in Italy ITS – Istituti Tecnici Superiori) and continuing with the third-year and a bachelor's degree, this connection is not systematized yet. Because only a few TVETs assign ECTSs in their modules, it is difficult for Universities to recognize their exams, therefore forcing TVET graduates to start from the beginning if they wish to continue their Bachelor's studies. This not only discourages students but also entails a huge quantity of additional time.

Only specific agreements between TVETs and universities allow this recognition, which is often incomplete, thus, requiring some integrations.

Among ITHEN's partners there are TVETs that have activated agreements with Universities to recognize ECTS, enabling students to complete their studies to obtain a bachelor's or a Master's degree with an additional 1-3 years of study. This method has been successfully tested since 2018 and proved to be very effective.

The ITHEN Network aims to adopt this synergy between TVETs and Universities on a larger geographical scale to make it an ordinary practice in the medium term and – hopefully – officially systematizing this change with dedicated policies in the longer term.

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AIM AND OBJECTIVES

Main aim of ITHEN is to establish a strategic and structured cooperation between European and non-European Universities and TVETs delivering technical higher education to create a network for the development of joint international courses.

MAIN EXPECTED OUTCOMES

- To overcome the skill gap encountered by students wishing to work in international business environments by fostering the development of key entrepreneurial and cultural awareness competences.
- To establish a synergy between Universities and TVETs. A synergy that will facilitate the transition between different EQF level courses and degrees (from EQF 5 to 6 and 7), thus increasing the learning and job opportunities of TVET students across the Europe.
- To connect technical higher education with the market. Enabling that technical education in the fields of marketing and business management can meet the requirements of today's international job market, by involving market representatives in all stages of the design and delivery of new joint international courses.

- To upskill teachers, enabling them to successfully contribute to the development of entrepreneurship and cultural awareness competences among their students.

TARGETS

What are ITHEN's target groups?

- 32 teachers trained on ITHEN's methodologies.
- >250 people among deans and teachers of TVETs and Universities, SMEs and trade organizations, students, representatives of associated partners, public authorities and other national/regional/local stakeholders, participating to the project's Multiplier Events.
- 140 students attending the local pilots.
- 10 new TVETs, Universities, Chambers of Commerce, Public Bodies, Corporations and International Organizations from Europe and Worldwide will formally join the network.
- 40 SMEs or non-profit organizations involved in the in-depth interviews.

PARTNERS

ITHEN is the result of the cooperation between 8 project partners from Italy, Spain, Portugal, Slovenia, Turkey and Germany, and 6 associated partners from Argentina, Canada, Chile, Italy and Turkey. The project partners are:

- **Fondazione ITS JobsAcademy** - Italy (Project coordinator)
  https://jac-its.com/en/
- **Institut de Vic** - Spain
  https://www.ivic.cat/portal/index.php
- **Institut Escola del Treball de Lleida** - Spain
  https://www.escoladeltreball.cat/en/home/
- **EIA – Ensino, Investigação e Administração** - Portugal
  https://www.uatlantica.pt/
- **Univerza na Primorskem Università del Litorale** - Slovenia
  https://www.upr.si/en%20
- **Mugla Sitki Kocman University** - Turkey
  https://www.mu.edu.tr/en
- **OneOffTech** - Germany
  https://oneofftech.xyz/
- **Associazione Multiculturale I Due Mondi** - Italy
  https://www.demixgroup.com/i-due-mondi/

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KEY COMPETENCES FOR INTERNATIONAL MARKETING AND BUSINESS MANAGEMENT

ITHEN'S partners have collaborated to establish a set of competences specifically designed to develop a marketing and international business course. These include both entrepreneurial and cultural awareness competences.
14 sectorial competences have been identified and grouped in 4 categories: **Management; Digital; Technical; Transversal**.

The management category included the following competences:

- Knowledge Management as a trigger for the development of the Organizational Development competence: the ability to identify key information, knowledge and data an organization must have for reaching its goals.
- Marketing management competence: the ability to deal with basic daily marketing activities in companies and organizations.
- Innovation management competence: the ability to deal with modern concepts of innovation management in organizations, including the concepts of sustainable, international and open innovation and research.
- Logistic management competence: the ability to understand contemporary issues in logistics and supply chain management.
- Management and planning in non-profit organizations competence: the ability to organize people and capital, also to communicate properly and solve problems.
- HR development and management in non-profit organizations competence: the ability to recruit the proper candidate and to integrate them in the organization, as well as to train and help them in their professional development process.

The digital category included the following competences:

- Digital Marketing for International markets competence: the ability to create appropriate digital marketing strategies to foster the international expansion of the company.
- Social media and Community Management competence: the ability to develop a strategic vision in the corporate management of social networks.

The technical category included the following competences:

- Sales techniques for International Markets competence: the ability to conclude agreements with customers/clients.
- Excel or Google Sheets advanced level competence: the ability to use the main functions and graphics from Excel or Google Sheets to analyze data, extract conclusions and make visual graphics or reports.
- Statistics in Research marketing competence: the ability to use statistical variables to draw conclusions in research marketing.

The transversal category included the following competences:

- Well-being competence: the ability to organize projects which create well-being to the target group and society, according to shareholders vision and expectations.
- Strategic Corporate Social Responsibility competence: the ability to develop / support social projects that most contribute to a better society.
- Creativity and Innovation competence: the ability to master innovation as one of the key factors in socially responsible and sustainable development.

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INNOVATIVE TEACHING METHODOLOGIES

With the aim of developing the competences and skills listed above, ITHEN's partners have identified some **innovative teaching methodologies**, to be integrated and used within all future joint international courses delivered by the network. These methodologies can help develop market oriented key competences in the students. In addition, all these methodologies are extremely innovative either in their intrinsic features or in their application to the competences identified by the network.

The **ITHEN's methodologies**, identified by the network are:

- Flipped Classroom
- Jigsaw Peer Teaching
- Business Case Study
- Design Thinking
- Project-Based Learning
- Challenge-Based Learning
- Problem-Based Learning
- Business Game
- Simulation
- Computational Thinking
- Crossover Methodology.

To support the comprehension of the methodologies and their future application, each methodology has been connected to one competence, providing an example of the methodology's application. Clearly, the methodologies can be used for the development of other competences, as well. Also, for each methodology we provide a session guide and a user story.

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FLIPPED CLASSROOM

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*3-30*
Face-to-face / online	*F2F is optimal, also online is acceptable*
Necessary time	*depending on the task, min. 1 hour , optimal few hours*
Necessary tools	*projector is welcome, possibility to create smaller groups / tables*
Involvement of stakeholders	*not obvious, but welcomed; especially when addressing topics related to stakeholders*
Does the teacher need specific training in order to use this methodology?	*not obvious, but welcomed*
Level of motivation of the class required	*High motivation brings better results, especially regarding active role, discussion etc.*
Specific characteristics of the class group	*Motivated, proactive, diverse participants are welcome but not obvious*
Assessment	*assessment is not directly related to the method, but enables in-depth knowledge assessment*

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OBJECTIVE

This methodology has been studied to be applicable for the development of multiple competences, which aims to develop in our international joint courses' students:

- the ***Social Media & Community Manager*** competence;
- the ***Digital Marketing for International markets*** competence;
- the ***Marketing management*** competence.

SOCIAL MEDIA & COMMUNITY MANAGER COMPETENCE

DEFINITION

The ***Social Media & Community Manager*** competence is defined as the ability of developing a strategic vision in the corporate management of social networks.

SKILLS

Mastering this competence means being able:

- To design communication strategies and policies in social media, developing the role of community manager;
- To plan and organize social media posts from a Dashboard;
- To know and adapt written and visual language to the criteria of each social media in an inclusive way;
- To identify the target audience for the company on each of the social media platforms;
- To apply techniques to generate organic traffic (i.e. from social networks to a landing page.)

ATTITUDES

The perfect Community Manager should have:

- Creativity and open-minded attitude;
- Curiosity towards new marketing tactics and trends;
- Proactive and solving problems attitude.

INDICATORS

When developing this competence, the learner should become able to:

1. Know the social networks and their functioning (twitter, Linkedin, Instagram…);
2. Automate the periodization of posts (using apps such as hootsuite, later,…);
3. To have coherence between the design and the mission that a company wants to transmit;
4. Develop techniques to generate leads in the conversion funnel.

DIGITAL MARKETING FOR INTERNATIONAL MARKETS COMPETENCE

DEFINITION

Appropriate digital marketing strategies that help the international expansion of the enterprise.
It includes knowledge of:

- International marketing elements
- Digital communication elements
- Culture of the target market

SKILLS

- To use Project Management methodologies
- To know how to perform Social Listening to access data for NPD and business strategy
- To apply SEO and Inbound Marketing techniques
- To understand and use Email Marketing
- To create and manage a budget
- To use the English language for interacting with international customers and designing marketing offers
- To apply Website Creation And Content Marketing techniques

ATTITUDES

- creative attitude
- curiosity towards new marketing tactics and trends
- curiosity towards new cultures
- have a technological / strategic marketing approach and interest.

INDICATORS

The learner is able to:

- design a dissemination plan
- design a website based on customer's needs
- prepare culture-oriented contents
- identify KPIs for marketing strategies

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- create a fully digital marketing campaign
- work with social listening platforms
- to work with big data analysis tools
- to know how to go from data to strategic business thinking

MARKETING MANAGEMENT COMPETENCE

DEFINITION

This competence mainly deals with an organization's marketing activities which includes determining marketing mix elements, developing marketing strategies for the domestic and international markets, which will ultimately contribute to organization's success in those markets.

SKILLS

Trends in global market developments

- Understanding role of marketing in business performance
- Understanding role of customers in a business performance
- Applying marketing mix elements
- Designing marketing management strategy
- Evaluation of marketing strategy
- Marketing management in international marketplace

ATTITUDES

- Effective marketers are *entrepreneurial*, *innovative*, *responsible* and like *challenges*
- Getting and acquiring basic principles of marketing
- Developing an ability to use marketing practices in business performance
- Building self confidence in marketing recognition, planning, implementation and control.

INDICATORS

The participant is capable to:

- develop a comprehensive understanding of market importance and development
- recognize the importance of marketing management for a successful business performance of companies and organizations
- to use marketing activities in fulfilling a relevant marketing strategy
- to apply marketing mix elements in marketing strategy
- to plan, develop and implement a relevant marketing strategy according to business objectives
- to evaluate the performance of the marketing strategy based on the market indicators.

OTHER APPLICATIONS

This methodology may be applied to the following competences as well:

- Strategic Corporate Social Responsibility;
- Innovation management;
- Logistic management;
- Management and planning in non-profit organisations;
- Human resources development and management in non-profit organisations;
- Logistics and IT Structure in non-profit organisations.

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THE METHODOLOGY

SHORT DESCRIPTION

The jigsaw method means "inverted classroom" and allows for more enjoyable, faster, and more cost-effective learning. It reverses the traditional way of teaching, where contents are delivered in the classroom are exercised at home by assignments. In Jigsaw students work on the content and learn together with their classmates via in-class exercises, thus activities are done in class. In addition, the **Jigsaw** concept (for details check below: CONNECTED METHODOLOGIES: THE JIGSAW PEER TRAINING) can be integrated within the Flipped classroom. Jigsaw is a cooperative learning strategy that enables students in groups to specialize in one aspect of a topic (for example, one group studies habitats of rainforest animals, another group studies predators of rainforest animals), and to mutually teach it to their colleagues later.

First step: after selecting the topic (Keller, 2012), the teacher provides the learning material (photos, videos, texts and any resource) on an e-learning platform, which can form the basis for further development. They can also use publicly available sources of data and information. In the jigsaw concept the subtopics related to the learning materials will be divided among students so that they will altogether address all the subtopics of the course.
Second step: students will develop a video, a Power Point presentation or a text file, in which they will explain their assigned topic.
Third step: each student will then discuss his or her work in class with the teacher, resolving any doubts about the topic and comparing it with the work done by other students. In-class activities may include debates, small group discussions, short written assignments, whiteboard exercises, and student presentations.

This methodology applies well for those long activities that are hard to complete in class, as well as for those topics on which students have to apply concepts and exercise.

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SESSION GUIDE

1. Define the competences you want to develop;
2. Ensure that you have created a good engagement of students;
3. Prepare the material to upload on the online platform (criteria: interesting materials, covering all the course topics and also specific enough). In addition, division of materials might follow the jigsaw concept.
4. Clarify any questions with students between the course sessions
5. Assign students the first task (e.g., asking to prepare a presentation on the contents of class);
6. Students work autonomously at home on the assigned topic;
7. Check students' presentations in class, when they deliver it to their classmates.
8. Eventually, assign a final project to students.

TIME

The duration of the session depends on the quantity of materials that students have to present and the number of students/groups.
It is suggested to give at least one week for students' preparation for presentations.

NECESSARY MATERIAL

- PC with access to Internet;
- Online tool for group videocalls (e.g. Microsoft Teams, Zoom, Google Meet);
- Online tool for sharing material (e.g., Moodle, Microsoft Sharepoint..)
- Online tool for creating social contents and training creativity, such as:
    - Tools for creating storyboards (e.g., Storybird, ACMI Storyboard Generator, StoryboardThat,
    - Tools for creating and editing videos (Muvizu, Playposit, EDpuzzle, VideoAnt,

Materials for students and sources may include:

- websites,
- annual reports,
- articles,
- videos,
- media reports,
- press releases,
- social media,
- customer reviews,
- individual contacts, and/or
- business associations data.

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THE INNOVATION

The Flipped Classroom methodology applied together with jigsaw concept is an innovative approach. This blend is possible thanks to the use of tablets and online platforms, which also help to develop teaching themes and put teachers and learners in constant contact with each other. Through this method, **communities and blogs can be created**.
The management training has immediately expressed its support for this method for five reasons.

- **Critical-creative reworking**: it refers to a session in which what was learned in the classroom are compared and reflected, thus creating an opportunity for information sharing and creativity.
- **Integration of skills**: everyone brings their own knowledge to the group, sharing and integrating it with that of others.
- **Development of transversal skills**: ability to work in a team, coordinate, compare different points of view,manage time, and react to failures.
- **Learning and practical experimentation**: possibility of practically experimenting through the various group works.
- **Graduality**: a final project is given to students which relates to all the mini-projects during the year.

ONLINE APPLICATION

This methodology can be applied online as explained below.

- The sharing of material will be done on online platforms, without the need to meet with students offline.
- The work of students will be autonomous. The method will utilize online tools such as video calls to facilitate cooperation.
- In the third step students discuss their work with the teacher and their peers in online class.

Amador and Mederer (2013) reported that in order to create a dynamic online course, it makes sense to keep the class size low, perhaps even lower than in the F2F version. Thus, the online version of the course enrolls a maximum of 20 students. Other parts of the F2F course are easily translated to online. However, in the online version of the course, both large discussions and jigsaw groups are used more heavily, and these techniques are integrated as a strategy to ensure students' engagement. During the online course, students simultaneously contribute to two different discussions for each course topic. The whole-class discussion based on the lecture slides are posted on the discussion board and are graded using a rubric.

MONITORING & EVALUATION TOOLS

It is very important not to wait until the end of the course to evaluate the activities, otherwise it would be too late to find mistakes and apply some recovery measures.
In monitoring, objective criteria are developed to evaluate students' individual and group performances. In evaluation, the main goal is to develop students' competences on the topic, not their pedagogical skills. A good way to verify if they have really learned during their presentations is to forward some in-depth questions about the contents and ask for further explanations. also, some pop-up tests can be delivered during each class. Overall, lecturer is advised to pay attention to students' engagement and professionalism. During classmates' presentations some students can get distracted or not pay serious attention. In this case, the lecturer is advised to intervene and – if necessary – consider a temporary suspension of the flipped classroom.

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USER STORY

Paolo is a teacher of Social Media Management in Fondazione JobsAcademy. His students are deeply interested in the topic of the Community management, and since the first classes they ask many questions and discuss about every new information provided. Paolo is sincerely happy with this feedback of students, but after two weeks of classes he realizes that he does not have time to complete all the explanations he had planned. He must complete the training program within the fixed time, but, at the same time, he does not want to stop the students' discussions and interactions. In addition, some of his students do not participate in-class discussions, as they need more time to elaborate information.
Then he realizes that some of the contents he usually explains in the class could be easily studied autonomously at home by students, and then discussed with others during the next classes. This way, there is no problem if the discussion in class takes time, in fact the class-time is specifically dedicated to students' interaction.
Paolo uses Microsoft Sharepoint as a tool to upload the didactic contents for students, as all of his students have a Microsoft account. He asks students to read and study the materials and divide them in group to create presentations delivering lecture content to their classmates. Students can choose the tool they prefer to prepare their "lesson". During their presentations, Paolo intervenes when some concepts are not clear or must be further investigated. So, the time in class is mainly used for students' presentations and discussion, but in a guided way.

These are the 6 Steps Paolo has applied:

1. Plan: Figure out which lesson in particular you want to flip. Outline the key learning outcomes and a lesson plan.
2. Record: Instead of teaching this lesson in-person, make a video. Make sure it contains all the key elements you'd mention in the classroom.
3. Share: Send the video to your students. Make it engaging and clear. Explain that the video's content will be fully discussed in class.
4. Change: The students have viewed the lesson, they're prepared to go more in-depth than before.

5. Group: An effective way to discuss the topic is to separate into groups where students are given a task to perform. Write a poem, a play, make a video, etc.
6. Regroup: Get the class back together to share the individual group's work with everyone. Ask questions, dive deeper as much as possible.

CONNECTED METHODOLOGIES

- **Jigsaw Peer Teaching**

A **flipped classroom** is an innovative way of learning with a proactive role of students. As well, **Jigsaw peer teaching** is a method by which students collaborate in small groups to learn and take responsibilities to teach the learned concepts to other peers in a classroom. It is an applicable tool as a means of creating more interactive and collaborative learning environments for students, while preparing them to become more adaptable to the challenges of a rapidly evolving marketplace. Jigsaw can be beneficial in this regard as it is designed in a way that holds each student accountable in the learning process. It provides a cooperative yet autonomous learning environment which encourages students to develop various skill sets valued by employers as they practice finding a balance between group interdependence and individual accountability (Ye et al., 2020).

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JIGSAW PEER TRAINING

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*4 - 50*
Face-to-face / online	*F2F is optimal, also online is acceptable*
Necessary time	*minimum 2 hours, can be done in one session*
Necessary tools	*no special tools required*
Involvement of stakeholders	*Not necessary*
Does the teacher need specific training in order to use this methodology?	*Not necessary*
Level of motivation of the class required	*Not relevant*
Specific characteristics of the class group	*None*
Assessment	*Quiz at the end of the session to test students' knowledge acquired during the session*

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OBJECTIVE

This methodology has been studied to be applicable for the development of multiple competences, which we aim to develop in our international joint courses' students:

- the ***Social Media & Community Manager*** competence;
- the ***Digital Marketing for International markets*** competence;
- the ***Marketing management*** competence.

Please see the chapter "**FLIPPED CLASSROOM**" for details on these competences.

THE METHODOLOGY

SHORT DESCRIPTION

Jigsaw peer teaching is a method by which students collaborate in small groups to learn and take responsibilities to teach the learned concepts to other peers in a classroom. It is an applicable tool as a means of creating more interactive and collaborative learning environments for students, while preparing them to become more adaptable to the challenges of a rapidly evolving marketplace. Jigsaw can be beneficial in this regard as it is designed in a way that holds each other accountable in the learning process. It provides a cooperative yet autonomous learning environment which encourages students to develop various skill sets valued by employers as they practice finding a balance between group interdependence and individual accountability (Ye et al., 2020).

The method is carried out by assigning classes into small groups called jigsaw groups (JG) where the members of a group are responsible for teaching a specific topic to other members in the group. Members in a JG will choose a specific topic to teach and go to an expert group (EG) that consists of students who are responsible to teach the same topic.

SESSION GUIDE

9. **Divide students into 5- or 6-person jigsaw groups.** (the groups should be diverse in terms of gender, ethnicity, race, and ability)

10. **Appoint one student from each group as the leader.** (initially, this person should be the most mature student in the group)

11. **Divide the day's lesson into 5-6 segments.** (for example, if you want history students to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on: (1) Her childhood, (2) Her family life with Franklin and their children, (3) Her life after Franklin contracted polio, (4) Her work in the White House as First Lady, and (5) Her life and work after Franklin's death)

12. **Assign each student to learn one segment.** (make sure students have direct access only to their own segment)

13. **Give students time to read over their segment at least twice and become familiar with it.** (there is no need for them to memorize it)

14. **Form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment.** (give students in these expert groups time to discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group)

15. **Bring the students back into their jigsaw groups.**

16. **Ask each student to present her or his segment to the group.** (encourage others in the group to ask questions for clarification)

17. **Float from group to group, observing the process.** (if any group is having trouble (e.g., a member is dominating or disruptive), make an appropriate intervention. Eventually, it's best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it)

18. **At the end of the session, give a quiz on the material.** (students quickly come to realize that these sessions are not just fun and games but really count)

TIME

The duration of the session mainly depends on the quantity of materials that students have to study and on the group size (larger groups take more time because there are more expert groups and presentations withing groups). Usually, 3-4 hours are enough to carry out one complete jigsaw classroom session.

NECESSARY MATERIAL

Jigsaw classroom can be carried out in person or online. In case of online sessions, students will need:

- PC with access to Internet,
- Online tool for group video calls (e.g., Microsoft Teams, Zoom, Google Meet),
- Online tool for sharing material (e.g., Moodle, Microsoft Sharepoint ...).

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Materials for students and sources may include:

- printed texts on a specific subject,
- websites,
- annual reports,
- articles,
- videos,
- media reports,
- press releases,
- social media,
- customer reviews,
- individual contacts, and/or
- business associations data.

THE INNOVATION

Jigsaw classroom has the following **advantages compared with traditional teaching methods**:

- easy to learn
- teachers enjoy working with it
- can be used with other teaching strategies
- works even if only used for 1h per day
- free for the taking

Jigsaw main **benefits** include:

- very efficient way to learn the material
- encourage listening, engagement, and empathy
- reduce racial conflict among school children
- better learning, improve test performance
- improve student motivation, reduce absenteeism
- increase enjoyment of the learning experience, greater liking for school

Interdependence is required – it encourages students to take an active part in their learning. In becoming a teacher of sorts, each student becomes a valuable resource for the others. Group members must work together as a team to accomplish a common goal; each person depends on all the others. No student can succeed completely unless everyone works well together as a team. This "cooperation by design" facilitates interaction among all students in the class, leading them to value each other as contributors to their common task.

Some teachers may feel that they have already tried a cooperative learning approach because they have occasionally placed their students in small groups, instructing them to cooperate. Yet cooperative learning requires more than seating youngsters around a table and telling them to share, work together, and be nice to one another. Such loose, unstructured situations do not contain the crucial elements and safeguards that make the jigsaw and other structured cooperative strategies work so well.

ONLINE APPLICATION

Jigsaw classroom can be easily applied online:

- The sharing of material will be done on online platforms, without needs for in-person meetings with students.
- The work of students is autonomous, and, in case of groups of students, it can be done by tools enabling video calls and cooperative work.

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- Group presentations and final quizzes can be organized through video calls and other tools (e.g. Breakout Rooms in Zoom).

MONITORING & EVALUATION TOOLS

It is very important not to wait until the end of the session to evaluate the activities, otherwise it could be late to apply some recovery measures.
In monitoring, objective criteria are developed to evaluate students' individual and group performances. In evaluation, the main goal is to develop students' competences on the topic, not their pedagogical skills.
Overall, lecturer is advised to pay attention to students' engagement and professionalism. During classmates' presentations some students can get distracted or not pay serious attention. In this case, the lecturer is advised to intervene and – if necessary – consider a temporary suspension of the flipped classroom.

USER STORY

This is a story about a student Carlos who participated in one of the very first applications of the jigsaw classroom in 1970s in US. Students were divided into small groups, diversified in terms of race, ethnicity and gender, making each student responsible for a specific part of Roosevelt's biography. Needless to say, at least one or two of the students in each group were already viewed as "losers" by their classmates.

Carlos was one such student. Carlos was very shy and insecure in his new surroundings. English was his second language. He spoke it quite well, but with a slight accent. Try to imagine his experience: After attending an inadequately funded, substandard neighborhood school consisting entirely of Hispanic students like himself, he was suddenly bussed across town to the middle-class area of the city and catapulted into a class with Anglo students who spoke English fluently, seemed to know much more than he did, and who were not reluctant to let him know it.

When the classroom was restructured so that students were now working together in small groups, this was initially terrifying to Carlos. Now he could no longer slink down in his chair and hide in the back of the room. The jigsaw structure made it necessary for him to speak up when it was his turn to recite. Although he had gained a little confidence by rehearsing together with others who were also studying Eleanor Roosevelt's work with the United Nations, he was still reluctant to speak when it was his turn to teach the students in his jigsaw group. He blushed, stammered, and had difficulty covering the material he had learned. Skilled in the ways of the competitive classroom, the other students were quick to ridicule him.

One of the research assistants heard some members of Carlos's group make comments such as, "You're stupid. You don't know what you're doing. You can't even speak English." Instead of admonishing them to "be nice" or "try to cooperate," she made one simple but powerful statement. It went something like this: "Talking like that to Carlos might be fun for you to do, but it's not going to help you learn anything about what Eleanor Roosevelt accomplished at the United Nations — and the exam will be given in about 15 minutes." In other words, she reminded the students that the situation had changed. The same behavior that might have been useful to them in the past, when they were competing against each other, was now going to cost them something very important: a chance to do well on the exam.

Old, dysfunctional habits do not die easily. But they do die. Within a few days of working with jigsaw, Carlos's groupmates gradually realized that they needed to change their tactics. It was no longer in their own best interest to rattle Carlos; they needed him to perform well in order to

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do well themselves. In effect, they had to put themselves in Carlos's shoes in order to find a way to ask questions that didn't undermine his performance.

After a week or two, most of Carlos's groupmates developed into skillful interviewers, asking him relevant questions and helping him articulate clear answers. And as Carlos succeeded, his groupmates began to see him in a more positive light. Moreover, Carlos saw himself in a new light, as a competent member of the class who could work with others from different ethnic groups. His self-esteem grew, and as it grew, his performance improved even more. In addition, Carlos began to see his groupmates as friendly and supportive. The ethnic stereotypes that the Anglo kids held about Carlos and that Carlos held about the Anglo kids were in the process of changing dramatically. School became a more humane, exciting place, and absenteeism declined.

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BUSINESS CASE STUDY

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*Minimum 6 - maximum 30*
Face-to-face / online	*Face to face is preferable*
Necessary time	*2 -3 hours per session / At least 4 weeks*
Necessary tools	*Projector, computer and internet connection*
Involvement of stakeholders	*Not necessary*
Does the teacher need specific training in order to use this methodology?	*Not necessary*
Level of motivation of the class required	*Normal motivation*
Specific characteristics of the class group	*None*
Assessment	*Activities during the business case and post assessment*

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OBJECTIVE

This methodology has been studied to be applicable for the development of two competences which we aim to develop in our international joint courses' students: the **Excel or Google sheets advanced level** and the **Well-Being competence**. Both competences can be combined in one Business Case and be taught in one course, so students can acquire both.

The methodology **Business Case Study** also has been studied to be applicable for the development of competence in **Innovation Management.**

The methodology could also be applied to a range of other competences and helps an **interdisciplinary thinking.**

EXCEL OR GOOGLE SHEETS ADVANCED LEVEL COMPETENCE

DEFINITION

The competence of **Excel or Google Sheets** is defined as the ability to use the main functions and graphics when working with Excel or Google sheet.

It includes knowledge of:

- Data analysis;
- Capturing and recording important data;
- Managing page layout;
- Design of reports and graphics;
- Basic and/or advanced mathematical knowledge;
- Statistical knowledge developed during the IMM course.

SKILLS

Being an advanced user of Excel implies:

- Analyzing data in different formats (time, percentage, currency, numerical…);
- Data sorting and data filtering;
- Developing an analytical and solving-problems mentality;
- Observational skills;
- The ability to draw charts selecting relevant data to explain and interpret the data in a meaningful way;
- Developing an analytical and problem-solving point of view;
- Developing logical thinking;
- Using Pivot table.

ATTITUDES

These are the attitudes for becoming a master in the competence:

- Proactivity
- Willingness to learn new concepts and functions
- Willingness to be continually trained to be updated in this area
- Solving problems attitude
- Perseverance
- Personal purpose
- Open minded
- Communicative
- Strategic vision.

INDICATORS

The indicators for the Excel competence are the following:

- Using the function IF, COUNT IF, SUM, SUM IF…
- Creating and interpreting graphics from a database
- Creating and updating dynamic pivot table
- Importing and exporting data files in different format
- Using the VLOOKUP function
- Supervising and applying procedures to check results of specific problems.

APPLICATIONS

Excel or Google sheet advanced level also helps to develop the following competences:

- Digital competence, as using data and interpreting data;
- Knowledge management as a part of organizational development, as it helps to interpret key information data and knowledge in a company;
- Marketing management as it helps to analyze trends in global market and determine strategy;
- Statistic in Research Marketing and various statistical functions;
- Social media and community management skills

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WELL-BEING COMPETENCE

DEFINITION

The Well-Being (or Organizational Happiness) competence is defined in reference to the framework by Bakker et al. (2011), considering that when a professional is satisfied with his job he/she experiences frequent positive emotions, such as joy and happiness, and infrequent negative emotions, like sadness and anger.

It includes knowledge of:

- Human resources management;
- Leadership;
- Organizational happiness;
- Organizational culture;
- Organizational communication;
- Internal marketing;
- Diagnostics and data analysis.

SKILLS

Using the Organizational Happiness competence means:

- Knowing how to integrate the creation of well-being and profit in an organization;
- Knowing how to promote a culture of organizational happiness;
- Knowing how to develop new products satisfying consumer needs, promoting well-being and creating value for the stakeholders;
- Having a human resources strategic vision;
- Acting as a happiness manager.

ATTITUDES

These are the attitudes for becoming a master in the competence:

- Proactivity
- Willingness to learn new concepts and functions
- Willingness to be continually trained to be updated in this area
- Solving problems attitude
- Perseverance
- Personal commitment
- Open mindedness
- Communicativeness
- Strategic vision.

INDICATORS

The indicators for the Organizational Happiness competence are:

- Organizational Happiness diagnostic applied periodically to achieve an organizational happiness culture;
- Measuring the level of organizational happiness;
- Relating organizational happiness and profitability.

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INNOVATION MANAGEMENT COMPETENCE

DEFINITION

The competence of **Innovation Management** means the capacity to transfer innovative knowledge into practice. This broad competence includes the knowledge and use of strategic aspects of innovation, elements of successful innovative projects, risk management, strategies of cooperation and open innovation, R&D management, and the basic knowledge on IP protection.

It includes knowledge of:

- Levels of building open innovation
- Cooperation & networks for research & development (R&D)
- Different shades of openness
- Generating insights & ideas: Co-Creation with customers
- Innovation in open business ecosystems/communities/networks
- Online open innovation in industry platforms
- Crowd sourcing

SKILLS

Being an advanced Innovation Management means:

- To understand and deal with strategic and operative aspects of innovation
- To manage cooperation and open innovation processes, and fruitfully cooperating with stakeholders
- To know the basics of intellectual property protection and management
- To manage to transfer know-how into business practices

ATTITUDES

Developing positive attitude towards innovation on the individual level, the economy, society, and the environment.

- Creative vs critical thinking
- Open mindedness
- Being project and business case oriented
- Curiosity
- Willingness to take risks and the ability to stay persistent

INDICATORS

The indicators for the **Management Innovation** competence are the following:

- Build out innovation capabilities and transfer them into the corporate culture
- Develop a basic IP protection plan
- Use the main of automation, collaboration, and transaction management tools
- Prioritize multiple projects all at once
- Make clear decisions and map out goals for the team

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OTHER APPLICATIONS

This methodology may be applied to the following competences as well:

- Sales techniques for International Markets;
- Digital Marketing for International markets;
- Social media & Community Manager skills;
- Strategic Corporate Social Responsibility;
- Knowledge Management as a trigger for Organizational Development;
- Creativity and Innovation;
- Marketing management;
- Logistic management;
- Management and planning in non-profit organizations.

THE METHODOLOGY

SHORT DESCRIPTION

The business case study requires students to **describe and analyze a company's case**, answering to a series of **concerns and questions**. To facilitate the case study, it is good to select/use a concrete business area or a concrete company, so that students can use it as an example (linked with a cooperation with private sector). Linked to that, some challenges that can be solved step by step by analyzing relevant data related to the selected area are introduced.
The **questions raised in the case study focus on acquiring the competence**, while **developing skills** defined earlier in the text, such as **autonomy**, **problem-solving** or analytical spirit.
The learners' product is a detailed description of a business' problem. In the best case it shall be written with support of a person who has experience with working in a private company or organization, and who knows the challenges that companies face in the specific area.
The primary purpose of the case study methodology is to introduce a measure of realism into management education. In the opposite to theoretical concepts, it focuses on the application of concepts and development of solutions to real-world business problems. The student learns to apply concepts in practice.
The opening paragraph of the learners' product should make clear what is the nature of the problem of issue, when the case took place (specific dates can be given). The body of the case should tell the whole story in chronological order and must contain information on business environment, company background and the details related to the specific issue. The concluding paragraph should summarize the main issues and even raise new questions.

SESSION GUIDE

1. First, the teacher needs to do an **initial assessment of the students** to get an **idea of their** knowledge as well as their level in relevant skills. Also, it is important to understand the motivation of students to work on concrete business cases, which needs a high level of self-organization, especially if concrete organizations or companies are involved.

2. **Elaboration of the case study**. It is recommended to look at general data of companies to be included into the case study, that are freely available, e.g. published annual account of a company to get some important figures. Some parts can also be added/created by the teacher himself. Depending on the concrete topic and the competence that shall be taught in the course, the case study can contain the following areas and information:

    a) The overall mission, vision and strategy or a business plan of a company if available;

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b) Human Resources information: information on the number of employees, maybe profiles, etc. ;
c) Investment or accounting information;
d) **Inventory or products information** such as minimum stock quantity;
e) **Sales or product information** by region, country, area, cities.

For designing a realistic business case, a meeting with other teachers of the school or with representatives of companies can be helpful to discuss together what can be analyzed in a real company related to the competence that you want to teach (e.g. Market Research, Statistics, Financial and Economic management as well as Sales management or innovation management).

3. Without saying it directly to the group, **separate students** into 2 or 3 groups (for example A, B and C), depending on their **estimated knowledge level** and their experience or skills (such as average mark in other disciplines). Once this is done, **create random students' groups**, making sure to have one person of each column working together. This will allow the advanced students to help the ones lacking some preliminary knowledge.

4. You can now start your class sessions. This should be at least for two hours and better three hours. The first 40 minutes consist of a theoretical explanation of the competence that you want to teach, a general introduction. Some background literature of the topic shall be prepared for further readings for the students. Maybe some basic concepts can be explained in charts, graphics, small working sheets.

5. In the second session you introduce the group into the business case and provide the group with available data. The goal for this session is to explain the task to the working groups and encourage them to collect additional data. This phase starts the data analysis, and the rules within and between the groups are needed to be decided. It is also important to split the expected outcomes of the course in different tasks /challenges, that the groups need to solve (by analyzing data, summarizing conclusions, discussing and writing down the conclusions)

6. Every week, each group has to deliver a result of the weekly task/challenge. The responsibility to organize the works within the group shall be transferred to the groups, making them self-organized. In case of challenges and problems, the teacher can provide support. Also, every group starts writing reports related to the company's case, where interpretations and conclusions from the data analysis are recorded. They also document their challenges and learning process. It would be good to develop a template of the report beforehand with concrete questions that will guide the group in producing it.

7. At the end of the sessions, the students will upload a final report and the conclusions will be discussed at class.

TIME

To be able to teach any competence using a case study, it is necessary to dedicate **at least 5 sessions of three hours or 7 sessions of two hours**, so that students have the time to read the case, work on the different part of it and develop the skills that we mentioned above. Clearly the overall amount of hours will depend on the competence and also on the concrete business case to be solved. But it is expected that the ideal duration of this methodology can be around **30 hours,** so that they can acquire the planned knowledge.

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NECESSARY MATERIAL

- One PC or laptop per students
- Microsoft Office for Excel: https://www.microsoft.com/es-es/microsoft-365/free-office-online-for-the-web or open office/Libre Office for writing the report.
- Access to Internet
- Acrobat Reader: https://get.adobe.com/es/reader/
- Two teachers in the classroom, depending on the group size. There can also be one teacher. The real added value would be to collaborate with partners from private companies, inviting them to present a business case. The person does not need to be there every week but has to take part periodically (every 3 weeks) for receiving updates on the business case and providing feedback.

Material and resources for online classes

- Zoom, Google Meet or Microsoft Team to get connected with the students: https://meet.google.com/ Or any other (also open source) video conference system.
- Digital pen, digital white board in case for collaboration together.
- One micro and web cam for online classes
- Another screen to see the students connected.

THE INNOVATION

The innovations with this methodology are the following points:

1. **Teaching through a concrete business case**
   Instead of teaching in the traditional way, this business-oriented teaching offers to the students **a general view of the issues that a company can face**. It helps them understanding **how to evaluate and control the staff of a corporation**, the **sales objectives**, the **inventory,** etc. Accordingly, this is an additional tool for **knowledge management and logistic management**. It is very good for guiding the students how the theoretical knowledge is used or can be used in practice.

2. This methodology offers a **cross-cutting approach**
   Including curriculum content which is to be covered across subjects (or disciplines), rather than being taught and learned in one particular subject, it facilitates **interdisciplinary thinking and collaborative learning.**
   For example, they can decide which investment has to be chosen by applying the Net Present Value Excel function, or which employee deserves a bonus based on results and performance, which product must be launched in the market, and, how to improve marketing reports thanks to visual and clear graphics.
   It can involve teachers of **different learning areas and also representatives of private companies** and is clearly designed for developing soft skills such as autonomy, solving-problem and organization.

3. This methodology has a **student-centered approach to learning** and **engages talented students**. Through group work, students can learn self organization and to support each other, e.g. students with **good analytical and logical skills** can support the group and learning from each other will be supported. Student will also **improve soft skills** such as communication, self-esteem, interpersonal relationship. Classmates are generally less critical and more understanding of their peers than of the teacher. On the other hand, they are sometimes more willing to learn a lesson from someone of the same rank than from the teacher.

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Students lacking analytical and logical skills can better understand with real examples, when compared with the basic principles like logical development. Therefore, the use of case studies makes it an effective classroom technique, because they can also have another point of view when answering questions like "*What would you do in such situation?*"

4. It helps students **move towards the next level of development**
   The business case is prepared in such a way that fosters experiencing successful decisions. This contributes to students' engagement and motivation in their learning process. On the other hand, it allows the teacher to adjust teaching and learning strategies according to the students' advancement in knowledge and skills.

5. Student group assignment to ensure a good balance
   Creating groups taking into account some criteria such as gender, knowledge and experience level, soft-skills or hobbies can really develop the team-working ability. The teacher will make sure that the groups are balanced and that the students who have the most problems can be helped by the others in the group.

ONLINE APPLICATION

This methodology **can be applied online**. In 2021 during the pandemic Covid 19 it has been experimented.

First of all, the calendar of the session will be shared with Google Calendar or other applications, as well as the link for the meeting.

After, the teacher will share the screen while explaining the **business case study,** which consists in a **description and an analysis of a company**, with a series of **concerns and questions relative to this one to be answered**.
The teacher will also share the screen while explaining Excel, so that the students can follow step by step.

When the students have to work together, they will also create a link for a meeting.

1. For the connection with the students, we will use Google Meet, Zoom or another free platform.
   The disadvantage here is that all students need an Internet connection and a computer at home, and unfortunately there are still some for whom this is not the case.
2. Moodle, shared Google drive or another **free tool** is used to share all the information with students:

- Case study
- Resources like tutorials
- Useful links
- Extra exercises with the solution

3. Digital pen or a white board can be used when this is necessary to explain the theoretical part
4. In order to solve the doubts and problems of the students, on the one hand, they will be able to share their screen and the teacher will be able to solve their doubts easily during the online sessions. On the other hand, a forum will be available to solve specific questions.
5. By setting a connection time, a chat application would be a good solution for quick interaction and answering students' questions.

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Conclusions:
Applying this methodology online is possible and can work.
However, students may not find it as comfortable to ask questions or for group work and interpersonal relations.
For these reasons, it is advised to add a chat forum to solve doubts and ensure interaction between the teacher and the students.

MONITORING & EVALUATION TOOLS

This methodology is based on **a case study**. Nevertheless, it is essential to **monitor the student's progress in a traditional way**, especially to ensure that the student is able to develop the above-mentioned skills, such as **analytical thinking and problem solving** on the one hand, and acquire the specific competence **on the other**. For all these reasons, it is necessary that the evaluation is periodic, i.e. every week, and based on previously developed indicators:

The evaluation can be done **with different tasks, each task focused on a competence indicator**.

This can be organized at Moodle in the following way:

a) Initial evaluation to see the level of the students and see if they are some difference within the group of students. Task 0
b) Task 1: Evaluation sheets with basic knowledge on the specific competence/theoretical knowledge
c) Task 2: Practice using the theoretical knowledge and applying it to the business case
d) Task 3: Practice of interpretation of the data, analysis, and the presentation of the results of the analysis.
e) Task 4: Self organization, how the student succeed the weekly challenges, etc.

Each task can be evaluated with some problems focused on each indicator. The following rubric can be given to the student as an indication for the realization of the task.

Evaluation rubric for Excel	Beginning 1	Needs Improvement 2	Acceptable 3	Accomplished 4	Exemplary 5
Understands the Problem and Requirements	Student's work shows incomplete understanding of problem	Student's work shows slight understanding of problem and requirements	Student's work shows understanding of problem and most requirements	Student's work shows complete understanding of problem and all requirements	Student shows complete understanding of problem and all requirement, and solve the issue perfectly with a table totally organized and clear
Correct selection of data	Incorrect selection of data	Partially incorrect selection of data	Correct selection of data, with some small mistakes	Perfect selection of data	Perfect selection of data and all the problems are totally correct
Designs (format, line, layout, color)	Very poor design	Poor design	Design acceptable but it could be improved	Good design	Excellent design

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On the other hand, *the soft skills will be also evaluated in each task, mainly the* ***autonomy***, ***teamwork***, ***problem solving attitude***, **ability of reasoning** *and* **positive attitude.**
These soft skills can be evaluated observing how the students work during the different sessions and also analyzing the final report of the case study, which will be delivered at the end of the course.

10% of the mark can be based on the observation of the students during the whole process (positive attitude, participation, autonomy, empathy and perseverance) and **90% based** on the final report.

OBSERVATIONAL RUBRIC EXAMPLE 1

STUDENT CLASS OBSERVATION RUBRIQUE (10% OF FINAL REPORT)		
Soft skills	**EVALUATION INDICATORS**	**SCALE** **1,2,3,4 (*)**
Autonomy	Try to solve by him/herself the following activities	
	In case of conflict, try to solve it alone.	
	He is sure of his ideas	
Innovation	Shows interest in international current affairs	
	It has sensitivity and capacity for adaptation.	
	Bringing new ideas to the classroom	
Organization	Deliver the tasks on time	
	The tasks have all the required elements	
Responsibility	Holds justifications for excused absences	
	Carries the necessary material	
	Show concentration in the class	
Interpersonal relationship	It is related to the group	
	It is easy to communicate with everyone.	
Teamwork	Is capable of resolving conflicts	
	Active participation	
	He is able to work with everyone	
English	Answer in English	
Communication	Speak correctly with students and teachers	
Risk prevention (Covid)	Applies the preventive measures demanded.	
Quality	Delivery quality work	
Diversity	Respecting the diversity of the class	
	Uses representative presentations of the class	
	It uses a universal language	
	Have interest for other cultures	
Inclusion	Respect individual differences	
	Try to reduce the barriers that may exist in the classroom/centre.	

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	He is ready to help everyone.	

The **evaluation of the final report** can be based on:
- Clear presentation and organization of the final report (maximum 3 pages);
- Answering correctly the questions;
- Making innovative and creative proposals;
- Analyzing and interpreting correctly the data;
- Good strategical answers, from the point of view of the company.

The parameters of the evaluation and the indicators must be developed after designing the business case.
A **satisfaction questionnaire** at the end of the course will be filled by the students, in order to improve future lectures.

USER STORY

This User story is an example of applying the Business Methodology to the competence of advanced Excel or Google Sheet level.

On the way to acquire an advanced Excel or Google Sheet level (perspective of the students)

1. Basic information

WHEN: October 2021, students are in their third semester
WHERE: Vic, Catalunya
WHO (students): Olivia, an extremely motivated Italian student with a good background, Pep, a disillusioned Catalan student coming from middle grade training cycle and Omar, a Moroccan student with a poor level of English
WHO (teacher): Lara, a high-level training teacher who wants to bring her students to an advanced level of Excel or Google Sheet without stressing or demotivating them.
WHAT: They want to pass the Excel course among other topics in order to obtain their IMM diploma
WHY: They want to improve their chances of finding a job.

2. Settings

2.1. ONCE UPON A TIME…
Olivia, Pep and Omar are some students in the International Marketing Management. They spent their first semester in Italy and their second in the Netherlands. Now they are in their third semester in Catalunya before continuing in Portugal. They take courses in the afternoons regarding Financial Management, Market Research and Entrepreneurship. These three disciplines include an Excel focused part, so that the students acquire this competence. Pep and Omar are quite worried about that, because none of them have already worked with Excel sheet. They hope that this will not be too difficult and will not affect the success of these courses. They are especially interested in doing practical work rather than focusing on theory, which they often consider useless. Olivia, on the contrary, has already use the Excel in an internship in Italy and knows the basics tools of this application. She would be glad to use her knowledge to help her classmates, and why not, conduct a part of the lecture to get some experience while speaking in public.

2.2. GEOGRAPHY
The third semester in IMM is both challenging and rewarding as the students get to experience both courses in Institut de Vic and Escola del Treball. They must find an accommodation both

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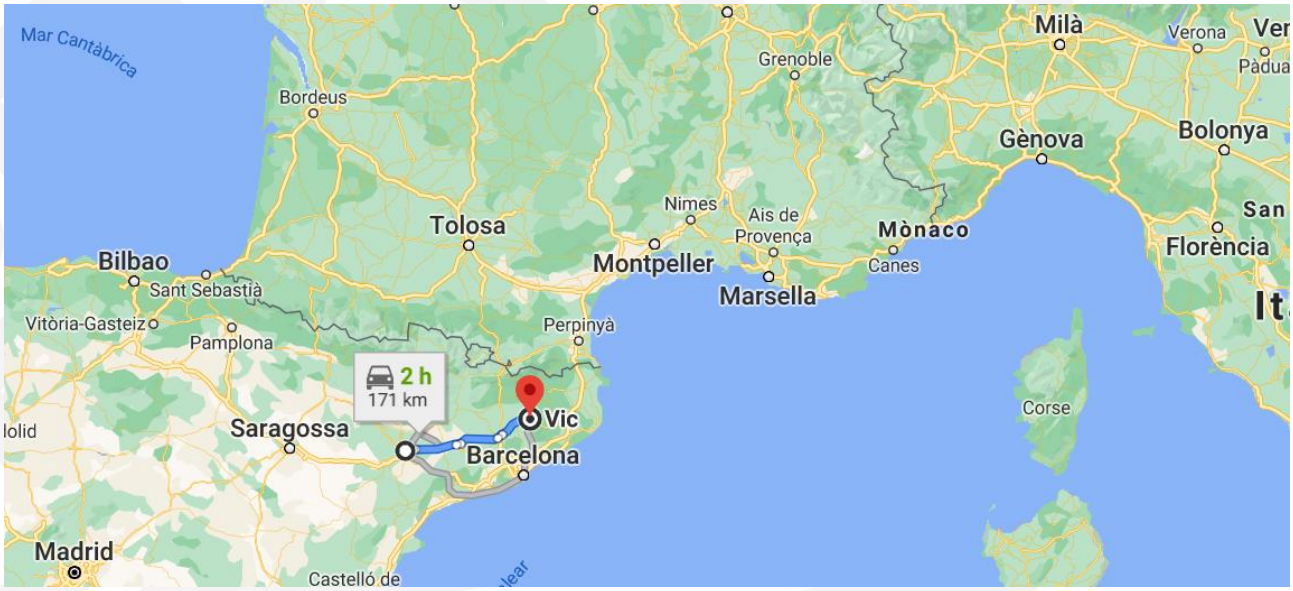
in Vic and Lleida, and most of them decided to share an apartment with the classmates. They're studying in a beautiful environment.



2.3 GOALS

The main goals of Rebecca, Pep and Omar is to get their IMM degree. They also want to learn contents and acquire competences that will serve them for the future and help them to find a good job.

2.4 SOME ISSUES

Some of the students have pointed out that **studying Accountancy and Treasury in Financial Management is meaningless** because what they want is working in the marketing division of a company. They don't understand why they have to learn how to make accounting entries if they are never going to work in the accounting department. Moreover, they have been told that they will have to do a practical case study and they are afraid that it will be a heavy workload. They don't understand why they have to use Excel because nowadays there are programs that do everything automatically. They are also quite negative about the labor market and job perspective.

3. The Plot

3.1 DESCRIPTION OF THE EXPECTED STORY

At the beginning of October, Olivia, Omar and Pep sit in class and the teacher explains that in order to learn Excel they will analyze a practical case study of a large company and that afterwards, they will make some practices related with this one. Step by step, they will also take some decisions about Human Resources, the line of products of the company, sales and marketing as well as logistics and marketing expenses.

Before explaining the case study, the teacher gives them an initial assessment, with a quizz to get an idea of their preliminary level in Excel as well as other questions about their academic background, English level and soft skills. The teacher, Marc, also explains how the Moodle platform is organised, where they will be able to find information about the course, the practical exercises to be submitted each week, as well as supporting tutorials related to the different functions and applications of Excel. Olivia, Mohamed and Pep check that they have access to Moodle using the generic school email. He gives to them a document with all the information of the case study, such as a description of the company, market information, data tables and quoted statement as well as link to URL's and videos. Olivia, Pep and Omar starts reading the

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document directly on the Moodle digital platform. The teacher starts explaining some necessary basics concepts so that every student can start practicing Excel.

3.2 THEN ONE DAY…
Since today, the 23d of October, Olivia, Omar, and Pep find quite easy solving the different challenges: They just have to format and sort out the data and apply filters. But now, they have to decide whether or not Alibaba should open a subsidiary in Australia, based on sales data in the East Asia region. They analyze this situation by creating pivot tables, but haven't quite figured out how this works yet. Even watching the tutorial accessible from the Moodle, they could not solve the complex problems. Omar is more analytical than his group friends, but he neither understands it.

3.3 BECAUSE OF THIS
Because of this, Olivia, Omar and Pep are nervous, because they are stucked in the resolution of this specific task. They're also unsatisfied with Marc, the teacher, because the problem-solving process seemed relatively straightforward in the classroom demonstrations, but he doesn't give enough examples to well understand the pivot table tool. On the other hand, they have to take some human resources, financial and marketing decisions, but they need the use Excel tools for this purpose. They are not used to being asked for their opinion on this kind of operational decision.

4. THE CLIMAX

4.1 THE RESOLUTION
The next week, on the 30th of October, Marc explained again the pivot table and Giorgio, a student who has worked for 2 years in a company in the accounting division, also accepted to participate to this extra session with some more practical examples of pivot table. He will get an additional mark to do that, but he's also happy to share his knowledge and help the others. Olivia, Omar and Pep follow Giorgio and Mark's instructions and gradually begin to understand the logic of dynamic tables. They are finally able to estimate the costs of sales in the East Asia region and can make a strategic decision about Australia subsidiary. For the next tasks, Marc add other tutorials for the different functions in Excel and another teacher is with him at class when students need supports to complete more difficult challenges.

4.2 THE MORAL…
Some of the students need more time to complete task of a certain level of difficulty and the teacher needs to add support when necessary. Two teachers should be in the class whenever it's possible. Resources such as exercises already solved and short tutorials are needed to enable Olivia, Pep and Omar to follow the class with ease. The study case must be perfectly clear, and each task must lead to one decision related with a specific area of the company. In this way, students will see their progress in the course.

STUDENTS PROFILE

Using this methodology with a group can work but if there are more groups it would be more difficult.
For a successful teaching, the students should have:

- A relatively good level of English
- Good learning attitude
- Not a huge difference of level and background between students (unfortunately this condition is not always met)
- A degree of autonomy and willingness to learn without the need for constant control by the teacher
- Motivation

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Without these conditions, the methodology won't work that well.

CONNECTED METHODOLOGIES

- **Design Thinking**

Business case is a methodology in which students can learn competences and soft skills in a practical way. In some topics the business case methodology can be enriched with Design Thinking in case a concrete problem must be solved. The Design Thinking methodology helps to have an order to develop a challenge in order to find an innovative solution. Refer to the dedicated section to find more information on the Design Thinking methodology. To summarize, the design thinking methodology helps students **to organize the way they analyze the business case**, focus on **creativity to find solutions** and offer innovative tools to solve the issues raised. Within the business case methodology also single steps of design thinking can be used according to the needs. It means the teacher can integrate the methodology as a whole or some single elements of it (For a detailed description of please refer to the Design Thinking Methodology in this file).

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DESIGN THINKING

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*min. 3 and max 25*
Face-to-face / online	*S not relevant*
Necessary time	*2 hrs. / sessions / 5 weeks*
Necessary tools	*projector, whiteboard*
Involvement of stakeholders	*Yes. It is much better when companies are involved*
Does the teacher need specific training in order to use this methodology?	*Yes*
Level of motivation of the class required	*Not relevant*
Specific characteristics of the class group	*None*
Assessment	*Continuous assessment during the process and final test*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the **Creativity and innovation** competence, which we aim to develop in our international joint courses' students.

CREATIVITY AND INNOVATION COMPETENCE

DEFINITION

The purpose is mastering innovation as one of the key factors in socially responsible and sustainable development. In a turbulent international environment, the student will be able to recognize innovative opportunities and develop innovative solutions - from developing creative solutions, evaluating them, developing a prototype solution and "proof of concept".

SKILLS

- The ability to identify problems/challenges and opportunities;
- The ability to create original ideas;
- The ability to evaluate them;
- The ability to develop/prototype the inventions;
- The ability to include a customer in innovation process.

ATTITUDES

- Understanding the need for innovation in modern society;
- Being empathetic to customers or users;
- Permanent process of searching for opportunities and development of novelties;
- Open innovation, cooperation and interaction as a value;
- Mind set - change from the routine to creativity and improvement;

- Getting and acquiring basic principles of marketing;
- Developing an ability to use marketing practices in business performance;
- Building self confidence in marketing recognition, planning, implementation and control;
- Getting and acquiring basic principles of marketing;
- Developing an ability to use marketing practices in business performance;
- Building self confidence in marketing recognition, planning, implementation and control.

INDICATORS

The learner develops:

- The ability to identify problems /challenges and/or transform them into and opportunities;
- The ability to create original ideas, evaluate and select them;
- The ability to develop/prototype the inventions;
- The ability to include a customer in innovation process.

OTHER APPLICATIONS

This methodology may be applied to the following competences as well:

- Sales techniques for International Markets;
- Digital Marketing for International markets;
- Social media & Community Manager skills;
- Strategic Corporate Social Responsibility;
- Knowledge Management as a trigger for Organizational Development;
- Creativity and Innovation;
- Marketing management;
- Innovation management;
- Logistic management;
- Management and planning in non-profit organizations.

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THE METHODOLOGY

SHORT DESCRIPTION

For teaching Creativity and Innovation, the methodology will follow an adapted Design Thinking approach, which empowers teams (the respective student group) to analyze problems and develop innovative solutions quickly and efficiently using creative tools. At the beginning it will be reflected what exactly innovation is, and what is meant by creativity. Then persons will go through a Design Thinking Process, tackling one identified problem in the surrounding society. As the target group are students of in the sphere of business administration it is suggested to select a topic around social enterprises, where private sector contributes to social equality and end equal rights in the society.
The design thinking process includes six phases: Understanding, Investigating, Synthesizing, Ideation, Prototyping, and Testing. In this way, the members of an innovation team can approach the solution to a problem piece by piece. The first three phases of the process focus on exploring the question and the problem behind it. In the subsequent phases, ideas for a solution are generated and tested.

Along the course the students will learn tools and methods, using the design thinking methodology and apply them step by step, while realizing their projects. Regular online or offline seminars will create spaces to reflect on the ideas, the process, and progress, and give support to the students, guided by a trainer/a teacher.

SESSION GUIDE

In every step we learn to relate with the challenge from different perspectives. Hereinafter we define the steps that brings us from the initial question to the definitive solution, that can be applied in business case:

Session 1 Introduction: Preparation, introduction into the design thinking methodology/ identification of the project (the problem to be solved). The trainer will conduct initial assessment of the level of the students in the class, to better support them. The trainer will introduce the overall project time frame for this seminar. The students will be divided into project groups (2-4 persons). There are different ways to create groups. For instance, if the course is taught in different countries, the groups can be built country wise. Or the groups can be divided according to students' interests. It would be good if the teacher - after the initial assessment divide the group so that students with the same level can be split in different groups so stronger students can help the weaker students. After the **Session 1**, the students need to identify their projects they want to work on over the next 7 weeks. The goal is that until the next sessions the groups are identified and the project topic for each group is selected.

Session 2 Understand: The team should gather as much as possible information about the problem it has chosen to solve. The goal for the team members is to get to know each other and gain an understanding of the problem. After this stage, the teams start brainstorming exercises **using interactive tools**. There are different methods and tools for organizing a brainstorming exercise within the Design Thinking process, depending on the topic and format of the lesson (online or offline in the same room). The teacher will introduce and suggest different tools for brainstorming (e.g. mind map) and the students will use one chosen method for brainstorming on their topic. After the end of the session, they can continue the brainstorming and clarify their problem until the next session.

Session 3 Investigate: The teams start searching for knowledge from internet research, interviews, small surveys. The interviews and surveys can be done online or offline, on the street with random people or with selected group (other students in the school, teachers, friends etc.). The goal of the session 3 will be to present the results of the step 2, providing feedback to each other and starting the process of "Investigating". The project teams will – guided by the trainer – discuss and agree on how they will gather the information they need. They will develop a questionnaire for conducting interviews and plan the process of interviewing after the session. The trainer is there for providing support to the project groups and giving recommendations what measure can be used for collecting the needed data. After the 3rd session the students will implement the planned and agreed measures, coordinating themselves and using the interactive space of their project. The project teams will report about the results at the beginning of the Session 4.

Session 4 Synthesize: The synthesis is now about bringing order into the chaos of the collected data during and after the session 3. The students work – with the support of the teacher/trainer - to sort the information and formulate a more concrete and focused problem. This will enable the group to create a persona based on the information they had gathered. Persona is a detailed description of an exemplary target group that would benefit from solving the respective problem. The goal/and the result of the session 4 will be to develop the persona and present it to the plenum at the end of the session 4 or beginning of the session 5.

Session 5 Ideation: With this step the project teams move from problem description to the step of ideas generation. During the session, the trainer will provide the project groups tools and methodologies for brainstorming and idea generation and students will apply these methodologies in their project. After the end of the session students will continue the

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brainstorming asynchronously according to a predefined method and will present the results of their brainstorming at the beginning of the session 6.

Session 6 Prototype: Through prototyping the first ideas will take a concrete form. The added value of the envisioned solution is further sharpening it through building and discussion about a possible prototype. The main aim here is to use maximum creativity to make the prototype tangible using materials, such as paper, plastics or Lego, and methods, such as a role play, user stories. With support of the trainer – who will provide to the group the materials, tools, and methods, that can be used – the project teams will start working on their prototypes. The goal is to finalize the prototypes during or after the session and present it to the overall group in the session 7.

Session 7 Test: In the final phase, the project teams want to find out to what extent the prototype is understood and accepted by the chosen target group. The goal of the last session to plan and start the collection of feedback from the identified target group. The feedback will be used to evaluate and further develop the prototype and thus the idea towards development of the final product. During the session, after presenting the prototypes to the plenum, first feedbacks can be collected and documented from the other course participants. The trainer will introduce the project groups to methods and possible tools of feedback collection. The project teams will discuss and identify how they are going to collect the external feedback. They will start the process during the session and continue in small groups asynchronous. The results will be presented in the final session 8.

Session 8 Retrospective: This session is planned for presenting the overall results of the project group and reflect on the overall Design Thinking process.

TIME

The approach is envisioned to be hybrid (online and offline), divided in different phases, synchronous during the seminar sessions (á 2-4 hours every week, depending on the group size and how many project groups will be build) and asynchronous during the project implementation. The goal is after a good introduction (4 hours) to keep the weekly sessions as short as possible, rather to organize them for offering space for the project groups to meet up and discuss the progress. At least 2 hours per week are still needed for the provision of the methodology and planning the next steps.

NECESSARY MATERIAL

- Whiteboards, whiteboard markers and other thick and thin pens with different colors and different colored Post-its, sticky dots different colors and size (if offline session).
- If online sessions are planned an online white board (Miro, Mural, ore an open-source solution?)
- Tools for keeping track of time. Because people become productive and creative in the face of approaching submissions and deadlines, design thinking works with strict time constraints. Therefore, the possibility to measure time should be available.
- To record research forays, interview recorders, cameras and notebooks are best suited, but a modern smart phone can also be used as a practical alternative.
- For the creation of prototypes, a colorful mixture of various materials, such as cardboard, wire or plasticine, various sheets of paper in different colors, glue stick, rubber rings, strings, scissors, wire, beer coasters, Lego, and whatever other odds and ends you have on hand for crafting.
- For online sessions, the prototypes can be developed online (photoshop or any other creative software) or produced tangible prototypes at home.

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THE INNOVATION

The methodology exists and is used in many different spheres. The innovation here could be to apply the methodology in a specific frame. The idea here is that students will have the task to identify problems and develop ideas that can be placed in a social enterprise, solving a problem in the society.

Another innovative idea would be to connect this course with another course implemented in parallel to use it for solving a concrete problem.

Also challenges in the concrete educational institution or the ITHEN network can be envisioned as a possible topic of implementation.

We have chosen this methodology because it is highly effective to achieve the above-described competences. The process is long but builds the space for real learning and applying the ideas in practice. It strengthens the understanding of challenges in the society, the communication and interaction, building solution orientation and creativity.

ONLINE APPLICATION

This methodology can be also applied online, using an online white board as working space (Miro or Mural or other tools). The weekly sessions can be organized though video conferences. The only challenge here is the prototyping. Creative solutions for development of tangible prototypes are needed for assuring the prototyping phase being effective. It would also bring an added value for the methodology to have members of one group in the same city, so there is an option for them meeting after the online course and working closer on the different steps. But creative online collaboration could be also envisioned and practiced. Online implementation builds some risks, especially if the students are not used to online formats and do not know well each other before the course starts. In this case a greater effort is needed for the introduction phase. It is important to build good project groups that establish a good basis for working together over the 7 weeks.

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MONITORING & EVALUATION TOOLS

Formative assessment should be in the center of this project-based methodology. At each stage students are asked to hand in regularly their unfinished products and receive feedback they use for continuing their work. It would be important for each stage to develop assessment criteria, that will be used to evaluate students' progress.

The assessment criteria can follow the below described Bloom's taxonomy, that would help the teacher to assess the work of students after every lesson.

- **Assess** the knowledge of basic terminology, the application of concepts and methods into practical exercise: here, a questionnaire (test) can be used that can be realized both on-and off-line. In order to ensure that students are aware of the application of the framework the questionnaire should mainly contain questions linking theory and examples.
- **Presentation** of results of the design thinking process: Feedback on the presentations help to monitor whether students know how to use the tools and methods introduced. Feedback criteria should be transparent to the students and –if possible, developed collaboratively beforehand.
- **Reflection** on the process: The final reflection on the process happens individually with each project team in the last session or the process can be finalized in writing an essay about the work in the groups and the main learnings. This way, a deeper understanding of the method and its application is assured.

USER STORY

1. Basic information

WHEN: February 2022 – July 2022
WHERE: In the Virtual space,
WHO; (students): 3 Students are currently studying in Spain, 3 Students in Portugal and 3 students arrived in Slovenia? Slovenia offers a semester for IMM Students the first time. All the students are studying in different Semesters and belong to 3 different course groups as the course is open to all current IMM students, independently from a specific semester.
The teacher is Beril, an employee of a small and innovative SME in Turkey, her company is a new member of the IThen Network. She is offering this training course online. She wants to foster the creativity in the student's minds, encourage them to think about solutions.
WHAT: The course on creativity and innovation is new for the IMM studies and shall strengthen the soft skills of the IMM Students.
WHY: Design Thinking is becoming more and more relevant especially in the dimension of SMEs. It is powerful for strengthening the competences of students, solution orientation, and resilience. And it is fun.

2. Settings

2.1. ONCE UPON A TIME
Igor, Lena, and Sophia are 3 IMM Students in their 2nd Semester. It is the first-time students had the opportunity to choose where to move on after the 1st semester. After spending the 1st semester in Italy, they could decide to go to Netherlands or Slovenia. Some of the students went to Netherlands, but for Igor, Lena and Sophia, Slovenia was more interesting. They are very much interested in the Course as they love this international atmosphere of the IMM studies. Also, the small group is very international, Lena comes from Portugal, Sophia is from Turkey and Igor is from Italy.

One of the exciting elements of the course is, that there will be also other IMM Students from other semesters and other countries, that are probably in higher semester. And they are also very curious to hear from them how it is to study in Portugal, which will be probably the next destination. Also, they have heard a lot about the Design Thinking methodology but never had the chance to try it out. The teacher, Beril, is from an interesting small enterprise from Turkey, using Design Thinking on a daily basis. Especially Igor is interested to go for one semester to Istanbul, maybe for an internship and is hoping that this course might help him with some connections.

2.2. GEOGRAPHY
The Course will be conducted in the virtual space, but the teams will also work together in the 3 different cities where they are based for the current semester.

2.3 GOALS
The main goals of Lena, Sophia and Igor is to get their credits points for coming forward with their IMM degree. They also want to test the Design Thinking methodology, then the studies are becoming quite intense, and they have heard that this methodology can be used for problem solving and solution finding not only in the professional sphere. And one of the main goals for all is also that they want to have inspiration for a future business. Lena and Igor are already thinking of opening a startup together after they finish their studies.

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3. The Plot

3.1 DESCRIPTION OF THE EXPECTED STORY

Beril, the trainer, prepared a digital white board for the course with the introduction of the topic and collected some interesting previous examples of successful DT processes. The fist introduction session was conducted online and 9 students from 3 countries decided to take part in the course. Some of the students were a bit uncomfortable with the video conference platform but with support of Beril everybody could log in and manage the digital challenges. Beril knew, that it is important to have a good introduction session so the different participants, that did not know each other, get in contact, and especially get curious about each other. For this 2 different introduction and warm up games with the support of the white board have been implemented. This also helped the participants getting used to work with the digital tool.

During the team building and project identification process it has been decided that the teams will be organized country wise as it is still better for the methodological reasons to have the opportunity to work together on the project also offline and face to face in between the sessions. So, 3 different Teams were built: team Spain, team Slovenia and team Portugal. The team Slovenia selected a problem that is directly targeting them. They expressed the observation, that for them it is not easy to find a high-quality internship place, where they can learn and bring an added value to the company.
Often the problem is that interns are not taken seriously and need to do only the work nobody wants to do. This is demotivating for the interns but also in fact most of the time is also not helpful for the companies on a midterm. They decided to investigate this problem and look for solutions using the design thinking process. Also, other groups started to brainstorm enthusiastically to find their "perfect problem" that they are going to work on. After the first day (4 hours) introduction, all were very tired, because it was quite an intense session but excited about thinking and discussing about the problems they choose.

3.2 THEN ONE DAY…

For Lena, Sophia, and Igor the course was becoming more and more intense but also exiting. They developed a questionnaire and conducted interviews with students and with companies' representatives, talking with them about challenges and problems with internships. During the session **ideate**, a lot of different ideas for overcoming the challenges have been envisioned, e.g., building up a digital platform, organizing a fair, organizing a mentorship program etc. But for the group it was difficult to think about a prototype. How could a prototype of a fair look like? And how to present it shortly and understandably to other students and companies for further development of the idea. Another problem was that they had 3 different ideas of the solution but for a prototype they would need to proceed only with one. After a lot of discussions, they still did not come to a joint conclusion and a decision.

3.3 BECAUSE OF THIS

After brainstorming and discussing for hours, they realized that they are completely looping and could not go out of the loop without external support. They decided to contact the teams in Portugal and Spain and ask them an opinion. One evening they organized an informal video conference, and extensively discussed the problem with other students, listening their experience. During this call they realized that this problem has been analyzed so well and that is so important for all of the IMM Students, that they decided to ask Beril to put all the strength together and continue to work on that solution together in all the 3 countries. Furthermore, they had the intuition that the recently established ITHEN network could build the basis for a comprehensive solution.

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4. THE CLIMAX

4.1 THE RESOLUTION

After discussing the idea with Beril, the group convinced her to continue to work on this project extensively and together. They still build 3 prototypes but tackling the same problem and looking on 3 different solutions that can be part of one project and they decided to involve the ITHEN network coordinators. Together they build a strategy of a forum of connecting private companies and students where criteria for internship will be discussed and developed together under the ITHEN umbrella. Some events where planed (offline and online) and a mentorship and advisory program, that offers support to companies and helps the onboarding for interns. They presented the prototype in their institutions and everybody got excited about the idea.

4.2 THE MORAL

Although it was a very first time and the course did not take the expected direction, it was very successful. The methodology succeeded to build the competences. And the prototype was realized through a project. It also increased the identity and the belonging of the students to the international course and strengthened the identity of ITHEN network.

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PROJECT - BASED LEARNING

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*minimum 10 students; maximum 20 students*
Face-to-face / online	*face to face / some online activities can be applied*
Necessary time	*5 hours of weekly sessions over 7 weeks*
Necessary tools	• *Laptop with access to Internet;* • *Markers, post-its, pens* • *Google classroom* • *Google drive* • *Google meet* • *Trello* • *Miro* • *Ganttproject* • *Canva* • *Padlet*
Involvement of stakeholders	*Y ;companies*
Does the teacher need specific training in order to use this methodology?	*Y*
Level of motivation of the class required	*High motivation*
Specific characteristics of the class group	*group focused on project work*
Assessment	*During the process, there will be different checkpoints to audit the work regularly.* *When the project is ready, the teams will prepare a report that they will present to the rest of the class and to the companies.* ***Rubric** will be the tool of assessment.*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the ***Innovation Management*** competence, which we aim to develop in our international courses.

INNOVATION MANAGEMENT COMPETENCE

DEFINITION

The ***Innovation Management*** competence deals with modern concepts of innovation management in an organization. Sustainable innovation, however, is most effective when it is linked to the international innovation, entrepreneurial environment, and the use of the concept of open innovation. Of course, intellectual property should be appropriately addressed.

SKILLS

- Strategic aspects of innovation;
- Elements of successful realization of innovative projects and management of obstacles;
- Strategies of cooperation and open innovation;
- Management of R&D;
- Ability to protect intellectual property;
- Features the most innovative companies;
- Transferring innovative knowledge into practice.

ATTITUDES

- Developing attitude to innovation in sustainable development for the individual, the economy, society and the environment;
- Attitude for intellectual property in practice;
- Attitude towards importance of R&D work, the international innovation ecosystem and open innovation at sustainable development;
- Transferring innovation results into business practice and its implementation for successful business performance of companies.

INDICATORS

The learner develops:

- The ability to understand and deal with strategic and operative aspects of innovation;
- The ability to manage cooperation, open innovation processes, and fruitfully cooperate with stakeholders;
- The ability to manage their own ideas, solution and other elements of intellectual property;
- The ability to manage the process of transfer of know-how into business practice.

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OTHER APPLICATIONS

The **Project-Based learning methodology** can be applied to any of the competences of ITHEN. It is considered a transversal methodology that can include different subjects from the curriculum.

THE METHODOLOGY

SHORT DESCRIPTION

Project-Based Learning (PBL) is a teaching method in which students work on a project over an extended period of time that engages them in solving a real-world problem or answering a complex question. They demonstrate their knowledge and skills by creating a public product or presentation for a real audience. As a result, students develop deep content knowledge as well as critical thinking, collaboration, creativity, and communication skills.

In PBL, the inquiry process starts with a guiding question and lends itself to collaborative projects that can integrate various subjects within the curriculum. Questions are asked in a way that students directly encounter the major elements and principles of a discipline. The teacher or in this case, a company poses a guiding or essential question, which represents their challenge:

"How can our company improve this process?" This question/challenge will become the basis to develop the project.

The pillars of PBL are **learning by doing**, the students become the leaders of their learning process. To ensure **significant learning**, the student must understand that he/she doesn't need to know everything but must be able to find what he/she needs when he/she needs it.

A very important aspect to be considered is the classroom. The classroom is a place where people can live a fulfilling experience together as a community of learners and be able to discuss the problems. Support, encouragement, and models can be provided by both teacher and peers. To achieve this atmosphere it is also very important that the place itself is comfortable, this was the driving force in IET for creating a new, modern, lit classroom.

SESSION GUIDE

- **Preparation, introduction** into the Project-based learning methodology. Explanation about the process that the students will have to follow to obtain a final result in the form of a product / solution that gives an answer to the challenge proposed. Some companies can be invited to the school to explain the innovation that they need in their company. Then students will be askeds to present a proposal that will help the company to improve their innovation management. The students will create work teams of 4 people to take charge of one of the projects. The team will keep in continuous contact with the company to learn and obtain more detailed information about their internal procedures, stakeholders, processes of innovation (if they have started working in this field previously).

- After having collected the information about the company, the team will redefine the **challenge** in agreement with the company,

- Once the challenge is exactly defined, it is necessary to establish a **plan**, specifying the main topics to deal with (according to syllabus given) as well as the role of each member of the team.

- The teacher acts as a guide in a PBL process. He/she will offer different sources of information in order that students can conduct their own **research** to obtain the specific data, which will be applied in the project. In this step is very important to have a lively **debate**, to share opinions, to make a good **synthesis** and take a decision about the definite **approach and response** to the challenge. All the knowledge acquired is made available for the **product design**.

- The teams will do a **presentation of the project** that meets the needs and requirements of the companies. A structured presentation script, a clear explanation, and supporting the information with a wide variety of resources are important aspects to have in mind. The companies will attend the presentation.

- Once the presentation is concluded, it will be important to make a **critical reflection** among the different teams about the conclusions obtained, the experience to work with this methodology and the feedback given by the companies.

- Each team will receive the **assessment** of the project through a **rubric** and also will be asked to do a self-evaluation; this process will help students to improve their self-criticism skills.

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TIME

5 hours of weekly sessions over 7 weeks.
Approximately 25 hours of autonomous work would be needed.

NECESSARY MATERIAL

- Laptop with access to Internet;
- Markers, post-its, pens
- Google classroom
- Google drive
- Google meet
- Trello
- Miro
- Ganttproject
- Canva
- Padlet

As stated before, an important factor to develop this methodology is the atmosphere given by the environment. When possible, and adapted classroom will be the key point for the materials.

THE INNOVATION

The methodology itself represents an innovation. The Project-based learning gives the opportunity to students to work as if they were working in a real company with real projects. Further, the fact of setting out the project based in a real company challenge makes it more interesting.

Apart from the skills related to the Innovation management itself, students will obtain skills including personal soft skills, such as personal and social responsibility, planning, critical thinking, reasoning, creativity, communication, decision making, use of technology.

Throughout the project elaboration, some innovative techniques, like 6 hats, innovation matrix or moodboard will be used.

ONLINE APPLICATION

This methodology is suitable to be applied online. One of the materials mentioned is Miro, which becomes a useful tool to carry on a collaborative work online.

Thanks to video conferences held with google meets, for instance, there should be no trouble in organizing the weekly sessions.

With the collaborative tool Trello, the teams will be able to organize and manage their projects. Ganttproject will also help; the tasks will be scheduled and managed online.

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MONITORING & EVALUATION TOOLS

During the process, there will be different checkpoints to audit the work regularly; thus helping students to focus in every new phase of their project knowing that the previous work is correct.

According to the indicators it is necessary for students to achieve throughout the development of the subject. The evaluation tool that shows best their progress is the **rubric**.

When the project is ready, the teams will prepare a report that they will present to the rest of the class and to the companies. The rubric will have two parts, technical-academic and communicative.

USER STORY

1. Basic information

WHEN: November 2021, students will be in their third semester
WHERE: Institut Escola del Treball de Lleida
WHO (students): Maria, Francesco, Alex and Laura
WHO (teachers): Jordi, Gemma, Pilar and Cristina are the members of the teacher's team who will be with the IMM students group.
WHAT: The course on Innovation management will take part of the IMM studies curriculum.
WHY: The students will discover every aspect of Innovation management with a real example of a company thanks to a project development.

2. Settings

2.1. ONCE UPON A TIME…

Maria, Francesco, Alex and Laura are students in the International Marketing Management. They spent their first semester in Italy and their second in the Netherlands. Now they are in their third semester in Catalunya before continuing their studies in Portugal. The second part of this third semester will be held in Escola del Treball de Lleida, and one of the relevant subjects in the curriculum is Innovation management. The teachers' team have planned to apply the methodology Project-based learning to develop the different IMM lessons.

2.2. GEOGRAPHY

The course will take place in Escola del Treball de Lleida in a classroom specially designed to inspire students to work and be focused in the creation of projects.

2.3 GOALS

The main goal of Maria, Francesco, Alex and Laura is to get their IMM degree. They are also interested in experiencing the Project-based learning methodology, as they have heard that this method will introduce real company cases and will allow them to learn as if they were part of the real company.

3. The Plot

3.1 DESCRIPTION OF THE EXPECTED STORY

The trainers' team have prepared a document allocated in google classroom where they explain the topics to deal in the subject Innovation management. They explain to the full group of 30 IMM students that the project will focus on different topics. They are very fortunate because the school counts on the collaboration of some local companies. So this project will be based on a

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real situation about the necessities of each company relating to the way they manage innovation. Before going into the project itself, there will be some preparatory sessions (the first and part of the second week) to allow students to get to know the companies through their websites and other available information. The teachers will ask to group to create teams of 4 people to undertake the project. Maria, Francesco, Alex and Laura compose one of them.

3.2 THEN ONE DAY

At the end of the second week, the companies come to class to explain what their activities are about, what needs and problems they think they have elated to the innovation management. Also they clarify at which aspects they would like to have the students' help. The full class listens to the presentations of each company and afterwards, in a plenary session, they decide which group takes which company and challenge. The project structure will be the same for each one. For Maria, Francesco, Alex and Laura the course is becoming very interesting and exciting. They are happy to have the help of the chosen company and focus on a real case. Previously they have studied about creativity and innovation, so now they can guide the company in both aspects, the product innovation and how to manage this process.

Once every team has assigned its company, they maintain contact with their representatives, talking with them about the challenges and informing them about the progress of their project. The team will prepare a questionnaire to obtain the necessary data about the innovation strategy of the company and conduct an analysis. Simultaneously, there will be general workshops addressing creativity techniques and innovation strategies.

3.3 BECAUSE OF THIS

Maria, Francesco, Alex and Laura are acquiring good skills in both collaborative work and innovation management. They feel identified with their team, they have been able to establish good debate sessions and they are going forward with the project. The full group lessons also have been very useful to share ideas with the other teams.

4. The conclusion

4.1 THE RESOLUTION

Maria, Francesco, Alex, Laura, and the other teams have presented their projects to the class and to the representatives of the respective companies. The results have been very good. The companies have been thankful and excited about putting the solutions into practice.

4.2 THE MORAL

The methodology has been successful. The projects have given good results. Students are happy with this methodology as it allows them to learn by doing.

CONNECTED METHODOLOGIES

- **Challenge-based learning (CBL)**

This methodology offers general concepts by being exploited to challenges. Similarly, the Project based-learning methodology helps companies to solve their actual problems, also improving their innovation management. Combining CBL and PBL means that companies will explain their general activity to the students and will point out some innovation aspects, but will not directly ask for a proposal or solution focused in this field. Through the explanation given, students will have to prepare a list of questions that helps them to decide about their challenge. which will be later sent to the company to improve their procedures.
Through the challenge namely, "improving the innovation management", many questions will arise and answering to all these questions will establish and create a project.

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- **Problem-based learning**

We can consider Problem-Based Learning as a specific type of Project-Based Learning. In Problem-Based activities, students have to develop a solution to a problem, which can be an artefact - as in Project-Based - or just a concept and new knowledge.

- **Business Game**

A strong connection exists between the Project-based learning (PBL) methodology and the Business Game. In fact, the Business Game may be described as a "company project", assigned to students. As in PBL, in the Business Game students are asked to solve a real-world problem, creating a result to propose to the involved company. Anyway, the two methodologies have some differences.
The Business Game methodology cannot exist without a company. Instead, the project-based learning does not necessary require the participation of a company. Teachers may propose students an assignment which has no business basis. The phases of the Business Game are defined prior to the beginning of activities. This depends on the fact that students are led into the process of creating a real product for the company. For this reason, some steps are required (including some market researches, design of a solution, preparation of a budget and communication plan...). Also, the Business Game includes a gaming modality, which stimulate students to put a real effort in their work, in order to win a competition.

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PROBLEM-BASED LEARNING

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*Minimum 4 and maximum 25*
Face-to-face / online	*Select: face to face*
Necessary time	*At least 3 hours per week*
Necessary tools	*projector, interactive whiteboard and interactive tools like magnet.*
Involvement of stakeholders	*Yes, companies*
Does the teacher need specific training in order to use this methodology?	*No*
Level of motivation of the class required	*Not relevant but useful for low motivation*
Specific characteristics of the class group	*Other characteristics: Effective for diverse groups*
Assessment	*Post assessment and self assessment*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the ***Logistic Management*** and of the ***Statistics in Research marketing*** competence, which we aim to develop in our international joint courses' students.

LOGISTIC MANAGEMENT COMPETENCE

DEFINITION

The Logistic Management competences will provide an introduction to tactical logistics management with a focus on various tiers or levels of management; the functional supply chain activities that are implemented and organised through tactical logistics management; the main tactical management objectives in a supply chain; the planning systems that are used in the flow of goods from point of origin to point of consumption, and push, pull and push-pull supply processes.
It includes knowledge of:

- Contemporary issues in logistics;
- Contemporary issues in supply chain management;
- Establishing a logistics distribution system;
- Evaluating the logistics cost calculation methods.

SKILLS

- To know Contemporary issues in logistics;
- To know Contemporary issues in supply chain management;
- The ability to establish a logistics distribution system;
- The ability to know the logistics cost calculation methods;
- The ability to evaluate the logistics cost calculation methods.

ATTITUDES

- Getting and acquiring basic principles and trends of logistics;
- Getting and acquiring basic principles and of supply chain management;
- Developing an ability to use logistics management practices in business performance;
- Developing an ability to evaluate the logistics cost calculation methods;
- Curiosity towards new logistics trends.

INDICATORS

The learner develops:

- The ability to understand and deal with Contemporary issues in logistics;
- The ability to understand and deal with Contemporary issues in supply chain management;
- The ability to establish a logistics distribution system;
- The ability to know the logistics cost calculation methods;
- The ability to evaluate the logistics cost calculation methods .

STATISTICS IN RESEARCH MARKETING COMPETENCE

DEFINITION

The statistics in market research competence is the use of statistical tools to measure, analyze and relate the variables involved in quantitative research in a market. It includes knowledge about:

- Statistical centralization, dispersion and correlation parameters;
- Objectives of a commercial investigation;
- Primary and secondary information;
- Acceptance of hypotheses from normal distribution;
- Commercial report;
- Infographics;
- English language.

SKILLS

Mastering this competency the student will be able to:

- Understand the concepts and application of a selection of univariate and bivariate quantitative descriptive and inferential research techniques to be able to use them in appropriate situations;
- Interpret the results of a quantitative investigation by using the concepts acquired (measures of centralization, dispersion and correlation);
- Manage applications to develop data, built infographics and organize tasks;
- Develop a hypothesis and accept or reject it on the basis of normal distribution;
- Implement statistical methods for decision making in commercial research;
- Present the results in a graphic, orderly and clear manner.

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ATTITUDES

A commercial researcher in international marketing should (have):
- Work in teams;
- Communicative attitude;
- Find open solutions.

INDICATORS

The indicators for this competence are the following:
- Be able to use and interpret the centralization, dispersion and correlation indicators;
- Built a strategy to respond to a hypothesis (normal standard);
- Identify the client that the company needs to reach;
- Write a report specifying the methodology used and the conclusions;
- Elaborate an infographic.

OTHER APPLICATIONS

The Problem-Based learning methodology can be applied to following competences of ITHEN:
- Social media and community manager skills
- Sales techniques for international markets
- Strategic corporate social responsibility
- Marketing management
- Digital marketing for international markets
- Logistics and IT structure in non-profit organization

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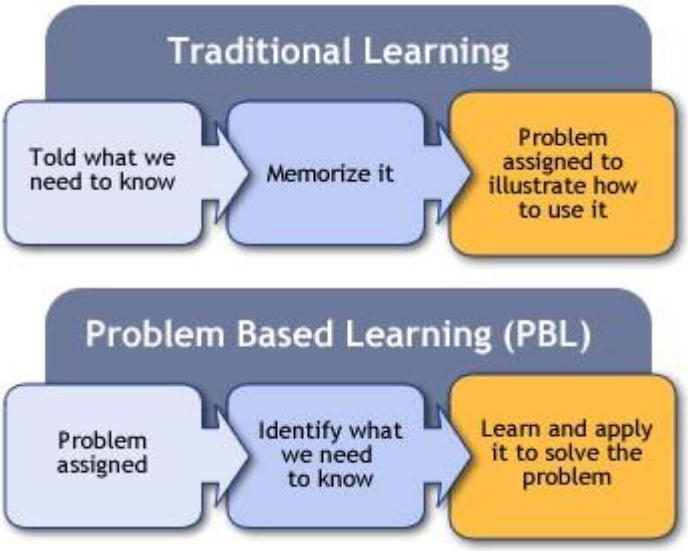
THE METHODOLOGY

SHORT DESCRIPTION

Problem-Based Learning (PBL) is a teaching method in which complex real-world problems are used as the vehicle to promote student learning of concepts and principles as opposed to direct presentation of facts and concepts. In addition to course content, PBL can promote the development of critical thinking skills, problem-solving abilities, and communication skills. It can also provide opportunities for working in groups, finding and evaluating research materials, and life-long learning (Duch et al, 2001). PBL can be incorporated into any learning situation. In the strictest definition of PBL, the approach is used over the entire semester as the primary method of teaching. However, broader definitions and uses range from including PBL in lab and design classes, to using it simply to start a single discussion. PBL can also be used to create assessment items. The main thread connecting these various uses is the real-world problem.

The comparison of problem based learning and traditional learning can be summarized by the following figure.



Any subject area can be adapted to PBL with a little creativity. While the core problems will vary among disciplines, there are some characteristics of good PBL problems that transcend fields:

- The problem must motivate students to seek out a deeper understanding of concepts;
- The problem should require students to make reasoned decisions and to defend them;
- The problem should incorporate the content objectives in such a way as to connect it to previous courses/knowledge;
- If used for a group project, the problem needs a level of complexity to ensure that the students must work together to solve it;
- If used for a multistage project, the initial steps of the problem should be open-ended and engaging to draw students into the problem.

This model is summarized as "students have not previously received formal instruction in the necessary background material and the solution process is more important than the final product."

SESSION GUIDE

In the PBL process, the problems can come from a variety of sources: newspapers, magazines, journals, books, textbooks, and television/ movies. Some are in such form that they can be used with little editing; however, others need to be rewritten to be of use. The following guidelines can be applied in simpler uses of PBL:

- Choose a central idea, concept, or principle that is always taught in a given course, and then think of a typical end-of-chapter problem, assignment, or homework that is usually assigned to students to help them learn that concept. List the learning objectives that students should meet when they work through the problem.

- Think of a real-world context for the concept under consideration. Develop a storytelling aspect to an end-of-chapter problem, or research an actual case that can be adapted, adding some motivation for students to solve the problem. More complex problems will challenge students to go beyond simple plug-and-chug to solve it. Look at magazines, newspapers, and articles for ideas on the story line. Some PBL practitioners talk to professionals in the field, searching for ideas of realistic applications of the concept being taught.

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- The problem needs to be introduced in stages so that students will be able to identify learning issues that will lead them to research the targeted concepts. The following are some questions that may help guide this process:
  - What will the first page (or stage) look like?
  - What open-ended questions can be asked?
  - What learning issues will be identified?
  - How will the problem be structured?
  - How long will the problem be?
  - How many class periods will it take to complete?
  - Will students be given information in subsequent pages (or stages) as they work through the problem?
  - What resources will the students need?
  - What end product will the students produce at the completion of the problem?

- Write a teacher's guide detailing the instructional plans on using the problem in the course.

- The final step is to identify key resources for students. Students need to learn to identify and utilize learning resources on their own, but it can be helpful if the instructor indicates a few good sources to get them started. Many students will want to limit their research to the Internet, so it will be important to guide them toward the library as well.

TIME

Minimum duration of a session using this methodology is 3 hours for in class activities.

NECESSARY MATERIAL

- PC with access to Internet;
- Online tool for group videocalls (e.g. Microsoft Teams, Zoom, Google Meet..);
- Online tool for sharing material (e.g., Moodle, Microsoft Sharepoint..)
- Online tool for creating social contents and training creativity, such as:
  - Tools for creating storyboards;
  - Tools for creating and editing videos .

THE INNOVATION

This methodology is innovative since the method for distributing a PBL problem falls under three closely related teaching techniques: case studies, role-plays, and simulations. Case studies are presented to students in written form. Role-plays have students improvise scenes based on character descriptions given. Simulations often involve computer-based programs. Regardless of which technique is used, the heart of the method remains the same: the real-world problem.

ONLINE APPLICATION

There will be four steps for problem - based learning method have to be followed by teachers and learners:

Step 1: Choose a central idea, concept, or principle that is always taught in a given course, and then think of a typical end-of-chapter problem, assignment, or homework that is usually assigned to students to help them learn that concept.
Step 2: Think of a real-world context for the concept under consideration. Develop a storytelling aspect to an end-of-chapter problem, or research an actual case that can be adapted, adding some motivation for students to solve the problem.

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Step 3: The problem needs to be introduced in stages so that students will be able to identify learning issues that will lead them to research the targeted concepts.
Step 4: The final step is to identify key resources for students. Students need to learn to identify and utilize learning resources on their own, but it can be helpful if the instructor indicates a few good sources to get them started.

MONITORING & EVALUATION TOOLS

The learner develops:

- The ability to understand and deal with contemporary issues in logistics;
- The ability to understand and deal with Contemporary issues in supply chain management;
- The ability to establish a logistics distribution system;
- The ability to know the logistics cost calculation methods;
- The ability to evaluate the logistics cost calculation methods .

The following evaluation tools will be used for each indicators of the competence:

- Quiz
- Selection of assessment tools.
- Problem Diagram.
- Objectives and effects diagrams.
- Decision Diagram.
- Survey questionnaire.
- Context indicators.
- Interview.
- Focus group.

USER STORY

Logistic Management course in Muğla Sıtkı Koçman University, has been conducted in International Trade and Finance department. The students in International Trade and Finance Department are addressed the problem of designing a logistics network for international enterprises. Logistics network design is one of the most important problems in supply chain management. Consequently, students learn about logistics network design and resolving the problem at the three levels: supplier, wholesaler and retailer. In the network the students are presenting their views and solutions at the three level. Besides the students are aware of the many factors which affect how the vehicles are chosen to carry and transport products.

After implementing this model in this course, it can be said that Problem-Based Learning (PBL) is a useful teaching method in which complex real-world problems are used as a tool to promote student's learning of concepts as opposed to direct presentation of facts and concepts.

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BUSINESS GAME

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*5 - 50*
Face-to-face / online	*not relevant*
Necessary time	*at least 4 sessions*
Necessary tools	*projector*
Involvement of stakeholders	*Y : usually one company*
Does the teacher need specific training in order to use this methodology?	*Y: some basic knowledge in business administration and innovation*
Level of motivation of the class required	*high motivation*
Specific characteristics of the class group	*none*
Assessment	*ex ante and ex post assessment tests, ex ante interviews*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the ***Sales techniques for International Markets*** competence, which we aim to develop in our international joint courses' students.

SALES TECHNIQUES FOR INTERNATIONAL MARKETS COMPETENCE

DEFINITION

The ***Sales techniques for International Markets*** competence is defined as the ability to conclude agreements with the customer.
It includes knowledge of:

- Sales strategies;
- Sales techniques;
- Customer segmentation analysis techniques;
- Contractual elements;
- English language;
- Elements of international payments;
- Elements of cultural awareness;
- Elements of international trade law.

SKILLS

Mastering this competence means being able:

- To apply effective communication techniques;
- To apply negotiation techniques;
- To apply service sales techniques;
- To apply motivational techniques;
- To apply customer segmentation techniques;

- To use interpersonal communication techniques;
- To use intercultural communication techniques;
- To apply active listening techniques;
- To apply customer interaction techniques;
- To use the English language for normal business interchanges, including technical interchanges.

ATTITUDES

The perfect seller in International Markets should have:

- open attitude towards different cultures;
- communicative attitude;
- pro-activity.

INDICATORS

When developing this competence, the learner should become able to:

- identify different types of customers;
- simulate a fruitful negotiation;
- recognize different linguistic registers to use in different situations;
- Identify the main characteristics of the cultures involved in the sales process;
- identify the relevant international trade laws for each sales process.

OTHER APPLICATIONS

- Creativity and innovation;
- Innovation management;
- Marketing management;
- Management and planning in non-profit organizations;
- Digital marketing for international markets.

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THE METHODOLOGY

SHORT DESCRIPTION

The Business Game is a contest in which teams of students compete to develop a solution following a "challenge" launched by a company in their sector.
Companies propose cases, which must respect the following:

1. It must be within the field of reference of the courses.
2. It must be formulated as a request for support/help from the entrepreneur to the students' teams (e.g., "I want to add a new product in the catalogue, but I don't know which one", "I would like to improve a service I provide ", "I would like to enter a market where I am not present, help me to understand how").
3. It must be a real problem (that the company is experiencing or has experienced).
4. It must be suitable for what will be the project phases:
    - An initial market/product/service study
    - The first design of the basic solution
    - An advanced technical design of the solution
    - A budget and a communication plan
    - An elevator pitch with a final presentation.

The teams that are composed of 5 students will develop a project having different phases. Simultaneously, students receive training on hard and soft skills. It is included a gaming strategy, creating competition among the teams of students. The game includes periodic

checkpoints, where assessment of the project progress and the ranking of the teams will be updated. As last step, teams will present their complete project to a jury composed by company's referents and facilitators, with the goal of "selling" their solution. The winners of the contest will be awarded.

SESSION GUIDE

1. Define the competences you want to develop;
2. Identify the working sector where you can develop the competences;
3. Identify within (or out of) your network the companies operating in the sector defined above;
4. Define with the company the details of the activity:
    a. Contents (what kind of project to propose to students)
    b. Timing
    c. Company's involvement (participation in meetings and evaluation of result, possible participation in the training on hard skills)
    d. Benefit for the company (e.g. possibility of having qualified students working on a real company's issue; possibility of choosing interns among the students participating in the activity)
5. Define the contents of the training to be delivered to students and the professors;
6. Schedule the meetings and checkpoints with students and company's representatives;
7. Prepare the evaluation criteria and sheets for the students' projects.
8. Find a trophy for the winner team.
9. Start!

TIME

It is suggested to have at least two weeks of activity, with:

- a kick-off meeting (2 hours)
- at least one intermediate checkpoint (2 hours)
- final meeting for evaluation and award ceremony (2 hours).

In parallel, organize training sessions with students on hard and soft skills.

NECESSARY MATERIAL

- PC with access to Internet;
- Online tool for group videocalls (e.g. Microsoft Teams, Zoom, Google Meet);
- Companies!

THE INNOVATION

The Business Game is an innovative methodology for learning by doing and by playing. It fosters students' engagement and creativity. In this case, an additional innovation can be tiggered by the involvement of **international companies** that are always characterized by their dynamism or cultural differences. When working with them, students must pay attention to the characteritics of their markets and customers, as well as to the international and local regulations. In addition, they must work in English, choosing for each situation the most appropriate linguistic register.

This methodology can be well used for the development of the ***sales techniques for international markets*** competence. In particular, the ability of selling will be used in the final speech, where students must "sell" their solution to the company, motivating and supporting their proposal against other teams' proposals.

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ONLINE APPLICATION

There is no limit for an online application of this methodology.
All the activities can be delivered online, thanks to the possibility of creating groups and subgroups for video calls and chats. Here is an example on how to use groups and subgroups to conduct the activity online with Microsoft Teams and Zoom:

	TOOL	LIVE MEETINGS
PLENARY MEETING	Zoom	Training on hard skills
STUDENTS' GROUPS	Microsoft Teams	- Autonomous group's meetings - Meetings organized by the facilitator - Counselling desk with the facilitator/company (on demand)
CLASS CHANNEL	Microsoft Teams	- Kick-off - Training on soft skills - Checkpoints

If possible, it is desirable to have the kick-off meeting offline as it better ensures the creation of engagement. Also the final presentation and awarding ceremony can be held offline as an occasion for networking and celebration.

MONITORING & EVALUATION TOOLS

During each checkpoint students present their work to their facilitators, who evaluate their progress and the development of the competence. In addition, at each checkpoint facilitators add a new small request for students (e.g. using a specific tool for the following phase).
Four checkpoints are suggested, to evaluate:

1) the group's project idea (idea, logo, claim, vision, mission, market analysis, draft of a business model canvas, etc.)
2) development of the business idea in a concrete way (e.g. In the case of a website or app, analysis of its creation and possible prototyping)
3) provisional documents about the economic and communication field (communication strategies and tools, business plan)
4) presentation of the final project ideas.

Facilitators are provided with a common reference sheet for their evaluation. The last presentation is directly evaluated by the company, together with the facilitator.

USER STORY

Federico is the mentor of a group of students in Fondazione ITS JobsAcademy. Speaking with Monica, as the coordinator of the course of *International Marketing Management*, he realizes that the students have limited sales competences. As this competence is one of the main objective of the course, Federico and Monica agree on organizing an additional activity with students, using the Business Game methodology.
Week 0: Monica immediately identifies the company to involve: Tebby spa, which works in the automotive sector and has a big export flow to Spain. With the company, they identify the right project to propose to students: selling a new type of brake in the Spanish market, rising above the competition with the local companies.
Week 1: Federico organizes the kick-off meeting with the students and the company, where he explains the activity, and the Export Manager of Tebby spa presents its request. Students are divided in six groups of 5, and, at the end of the meeting, Federico assigns to the students the first task: drafting their first idea, to be presented during the first checkpoint, after one week.

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The groups immediately start their autonomous work, and, at the same time, Monica starts to deliver some training sessions on the development of a business idea.
Week 2: Thanks to the training provided, and some counseling meetings organized by Federico, the groups arrive to the first checkpoint with some good ideas. Federico evaluates them and a first ranking is prepared. Then, Federico assigns the next task to the groups: detailing their business idea and designing a communication strategy. All of this will have to be directly presented to the company during the final meeting in the following week.
Week 3: Federico organizes the final meeting with Monica and the company. Here, the six groups present their ideas to the Export Manager of Tebby spa. They present their projects as they were external consultants trying to sell their idea to the company. Finally, the Export manager values all the projects, but one of them convinces him more for its attention to the characteristics of the Spanish market.
This project wins the game and all the students of this group receive a reference letter from the company.

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SIMULATION OF A KNOWLEDGE MANAGEMENT ANALYSIS

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*5-25, work in small groups, up to 5 students /group*
Face-to-face / online	*Face to face and online is possible, but face to face is better*
Necessary time	*At least 4 weeks/better 8 for the whole training: in the beginning a 1-2 days workshop is recommended to introduce the topics to the students. Afterwards , they work for 3 weeks in groups (1 seminar every week for reporting the process) and in the 4' th week (end of the project) 1 day seminar will be held for presenting the results.*
Necessary tools	*During the face to face sessions: projector, white board with cards and pens for each group. Online: interactive online whiteboard, e.g. miro, computer, internet connection.*
Involvement of stakeholders	*N/ if available a company could be involved as an example.*
Does the teacher need specific training in order to use this methodology?	*Y / The teacher should be familiar with knowledge management concept, and knows methodologies of project based learning, which can be also applied in the simulation methodology.*
Level of motivation of the class required	*Select: High motivation / interest for analyzing and reflecting on work environments, interest and basic knowledge in business administration*
Specific characteristics of the class group	*Other characteristics: work experience in a company would be helpful (e.g internship or student job)*
Assessment	*pre- and post assessment tests, interviews, presentation of the final work*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the competence "**Knowledge Management as a trigger for organizational development**", which we aim to develop with our international joint courses' students.

KNOWLEDGE MANAGEMENT AS A TRIGGER FOR ORGANIZATIONAL DEVELOPMENT COMPETENCE

DEFINITION

Knowledge management competence contains the ability to identify key information, knowledge and data an organization must have for reaching their goals. On an organizational development side, the competence first includes the ability to analyze the status quo including key persons, relevant technologies, processes and governance. Second, knowledge management refers to the ability of planning and taking necessary steps to improve an organization's knowledge management.

SKILLS

- to know relevant technical tools for information and data management, and possess a general understanding of their functioning, licensing and implementation
- to possess a basic understanding of processes and human factor in organizations based on relevant models
- to know and implement methods for organizational analysis (data collection methods like surveys or focus group interviews as well as data analysis, and visualization)
- to be able to accompany change processes in organizations through applying communication skills, facilitating workshops or presenting results.

ATTITUDES

- understand and bridge the link between technical and non-technical staff
- high regard and cultural sensitivity not only for people, but also for contexts in which they operate
- solution- and resource orientation; the ability of perceiving and treating challenges in a resource-oriented manner
- cooperation- and relationship orientation
- constructivist-relativist attitude to our own knowledge and our language

INDICATORS

- student knows the difference between data, information and knowledge in an organization / company.
- student knows different knowledge types that are needed for running a business or marketing a business.
- student knows and uses tools for analyzing data, information and knowledge in an organization / company.
- student knows and can apply tools and methods for designing and implementing a KM Strategy.

OTHER APPLICATIONS

The methodology can be applied to all the competences identified by the ITHEN network.

THE METHODOLOGY

SHORT DESCRIPTION

In groups, students take over the role of a consulting team and realize a knowledge management analysis. This way, students enhance their skills in organizational analysis, project management in teams and in participatory, qualitative research. The professional reference that will be applied and studied is the KM framework.

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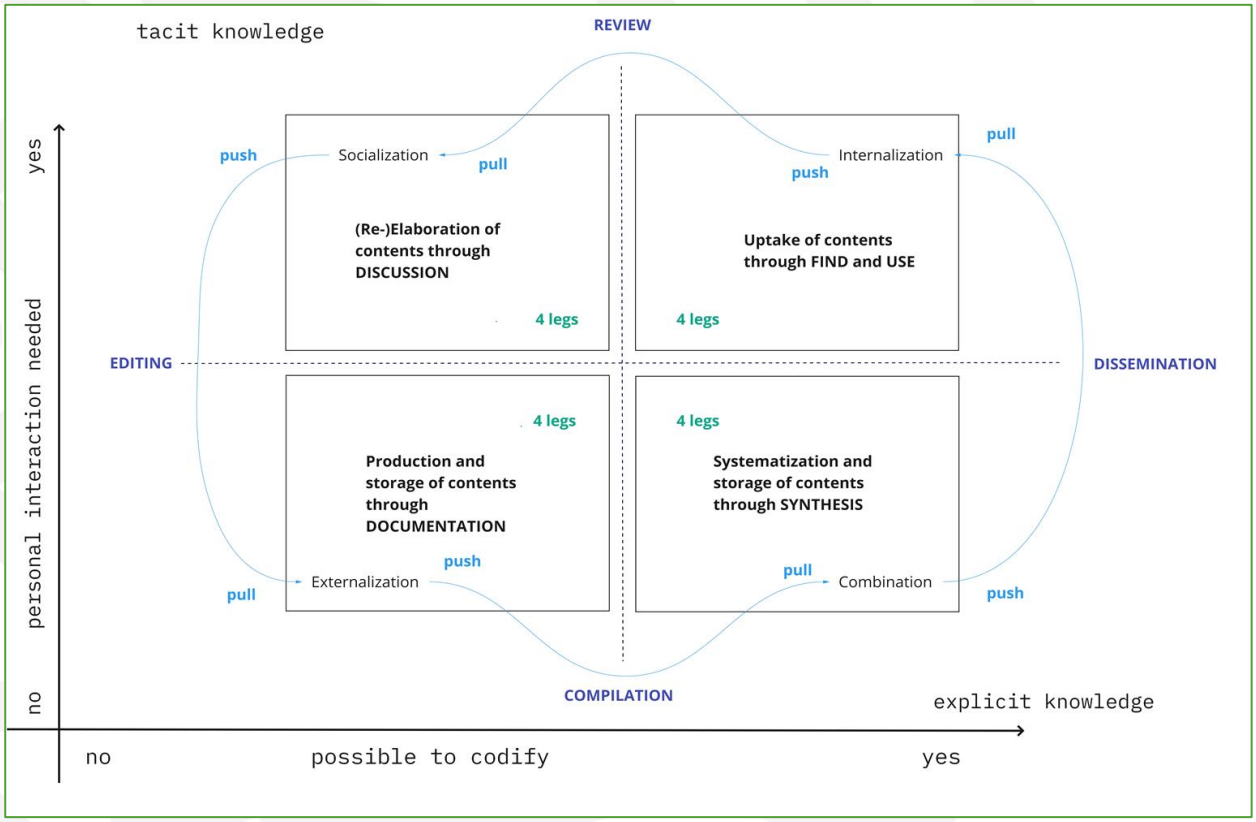

Graph 1: The KM framework helps to understand processes in organisations.

The educational product of the methodology is a visual representation of knowledge and information flows between institutions and people. For drafting it, students conduct small interviews during which they are accompanied by their teachers.
For motivational purposes, the students apply the methodology to their concrete setting, as they chose one of two scenarios that fits their need:

1. analyzing the knowledge management within their school / course etc. or
2. analyzing the knowledge management of a company they work with, e.g., in an internship.

SESSION GUIDE

Role of the teacher: facilitator, provides the setting for students to work independently. Approach is hybrid (online and offline) and in phase 2 asynchronous.

Phase 1: Preparation (1-2 days)

During this phase, necessary expertise is acquired, roles are defined and tasks planned:

(1) background knowledge: introduction of the KM-framework (look at example visualizations to understand the methodology); product: design a quiz on KM-framework
(2) planning I: divide class into teams; plan the analysis; set the research area; product: work plan
(3) planning II: design questionnaire; pilot with group members; revise product: questionnaire.

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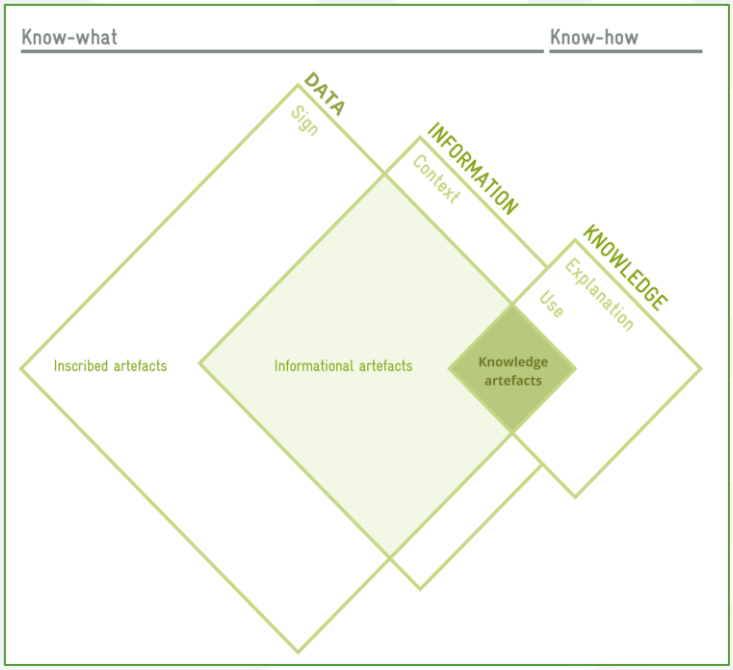

Graph 2: Students will learn to differentiate data, information and knowledge

Phase 2: Realization (flexible: 4-8 weeks)

Teams work on the analysis independently. Teachers guide them with meetings each two weeks.
Weeks 1 and 2: realization of interviews, documentation
Week 3: visualize results / draft presentation
product: visualization(s) and its presentation

Phase 3: Presentation of results (1 day)

The groups return to their headquarters, present results and receive feedback from customers (other teams). Students individually reflect on the process (written form).

TIME

Two workshops 3hs each + 2 works of independent work.
Most of the work happens independently.

NECESSARY MATERIAL

- Knowledge Management Framework
- Example of a visualization of an analysis (see e.g., Source on Community Mapping)
- Role cards for defining roles in the team

THE INNOVATION

Realizing a detailed analysis of knowledge management can only be learned in a practical setting. Furthermore, it takes time to achieve a deeper understanding. Thus it was chosen to develop a methodology that is closely oriented with the real work of consultants that support organizations in knowledge management, however, based on a didactic simplification.

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The methodology is innovative as the teacher from the beginning takes the role of a facilitator or – in the words of agile project management – the Scrum Master1. She or he makes sure that student teams possess the necessary material and knowledge for organizing their work independently, and supports everyone in their individual needs. This realistic setting is further supported through the hybrid approach during phase 2 which follows the up-to-date project management approach Scrum. Lastly, the competences that students acquire will be relevant for the digital era (source), as they combine both aspects of IT-knowledge and organizational development in a systemical approach. This way, interdisciplinary thinking is not only encouraged but also students excel on hands-on tools.

ONLINE APPLICATION

The proposed simulation can very well be implemented online or in a hybrid settings.

If applied online, the first phase should be divided into two steps:

1. Following the flipped classroom approach, students can study the knowledge management framework and questionnaire development independently at their own pace. Quizzes or questions (e.g., using Kahoot or even in an more interactive way using a Miro board) can be applied to enhance learning.
2. For the concrete planning of phase 2, the teacher should set up a video conference for planning with each team.

The second phase is realized by the students independently. Two possible tools can be recommended:

- For organizing the project management in the team, the teacher can set up boards in either Trello or Miro.
- A free recommended video conferencing platform for realizing the interviews is Jitsi.

Depending on the size of the class, there are two ways to realize the presentations online:

- For smaller classes, set up a video conference where presentations are held.
- For bigger classes, it might be more effective to ask students to record their results, e.g., as on a video. It is also possible to trigger a discussion in a World Café format. Finally, a very motivating interactive platform namely, gather.town is also suggested.

Final feedback and reflection on the process can happen through a Padlet that was prepared by the teacher.

MONITORING & EVALUATION TOOLS

Formative assessment should be in the center of this project-based methodology. Especially during phase 2, students are asked to hand in their unfinished products regularly and receive feedback for their continuing work. Furthermore, in order to achieve an evaluation that takes into account several levels of Bloom's taxonomy, the following approaches can be used:

- **Test** on the knowledge of basic terminology, concepts and methods in the OneOffTech Knowledge Management framework: here, a questionnaire (test) is recommended that can be realized both on- and off-line. In order to ensure that students are aware of the application of the framework the questionnaire should mainly contain questions linking theory and examples.
- **Presentation of results of the analysis**: Feedback on the presentations helps students understand how to improve tools usage to analyze knowledge flows within organizations. Feedback criteria should be transparent to the students and – if possible, developed collaboratively beforehand.

[1]For an introduiction to SCRUM please refer to https://scrumguides.org/docs/scrumguide/v2020/2020-Scrum-Guide-US.pdf

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- **Reflection on the process**: The final reflection on the process takes place individually with each students writing an essay about the group work and main learned concepts. This way, a deeper understanding is assured.

USER STORY

The methodology proposed here can be used very well to foster practice-oriented elements in a course curriculum. It is thus not only proposed but recommended to link its implementation with students' internships.

There are two ways to have students applying the methodology on their internship:

1. Make students to work on the analysis during their internship. In this case, phase 1 will happen before the students start their work at a company / organization. Then, phase 2 is accompanied by the teacher during their internship. The regular review meetings can be very helpful to improve the regular contact between supervisor and students. Finally, phase 3 is takes place back in class.
2. Students realize the analysis after their internships. In this case, each team picks one company / organization at where one of the team member did their internship. The selection should be based on the interests of the team and on the reliability of the contact.

We recommend version (1) because it enables students to realize a more in-depth analysis. In both versions, however, it is important to discuss the application with all the related companies / organizations beforehand. Also, teachers need to make sure that students are aware of legislation regarding data protection and company regulations that need to be respected.

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COMPUTATIONAL THINKING METHODOLOGY

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*Min. 6 and max. 20*
Face-to-face / online	*Best in used face to face*
Necessary time	*4 hrs per session; the number of sessions depends on the curriculum*
Necessary tools	*Wi-fi, one computer per each group, online resources*
Involvement of stakeholders	*Not necessary*
Does the teacher need specific training in order to use this methodology?	*Specific training can be helpful but it is not mandatory especially if the teacher has a study background in sciences*
Level of motivation of the class required	*High motivation*
Specific characteristics of the class group	*The students need to have basic math knowledge*
Assessment	*Not relevant (teachers can use their usual methods)*

OBJECTIVE

This methodology has been studied to be applicable for the development of the ***logistics and IT structure in non-profit organizations*** competence (as a specific of the ***Logistic management*** competence), which we aim to develop in our international joint courses' students. Consequently, we provide them with a practical and analytical approach that will help successfully entering the job market and developing strong problem-solving and analytical skills.

LOGISTICS AND IT STRUCTURE IN NON-PROFIT ORGANIZATIONS COMPETENCE

DEFINITION

A non-profit organization success depends to a big extend on the efficiency of their logistical performance. In most instances, non-profit organizations have limited human and financial resources. Therefore, it is of essence that the existing resources are used in a cost-effective manner. Logistics includes several complex processes such as transportation/delivery, storage, packaging, cargo handling, distribution processing, and information processing. Non-profit organizations often also deal with IT tools which may be expensive and difficult to use.
The purpose of the competence is to provide students with effective tools that will enable them to get a job in local and foreign non-profit organizations. Also this competence equips students with the ability to solve and predict problems, and find creative solutions to optimize resources. The competence of ***Logistics and IT Structure in non-profit organizations*** will teach students the main aspects of Supply Chain and Logistics Operations; Distribution Network Strategy; Warehousing Operations, using IT tools of non-profits organizations by using the computational thinking methodolgy based on a machine learning approach.

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SKILLS TO BE DEVELOPED

Learners will develop:
- Problem-solving
- Analytical thinking
- Ability to distinguish between major and minor problems
- Communication with peers and clients
- Presentation skills

ATTITUDES

To succesfully apply the competence, it is required:
- Curiosity towards logistics trends
- Creativity for problem solving
- Brain-storming
- Communication skills

INDICATORS

Thanks to the proposed methodology the student will develop:
- The ability to solve problems in a fast and cost-efficient manner
- The ability to use limited resources efficiently
- The ability to implement an efficient logistics distribution system
- The ability to predict problems avoiding previous inefficient solutions

OTHER APPLICATIONS

The "Computational thinking methodology" can be applied to the following competences of ITHEN:
- Sales techniques for International Markets
- Marketing management
- Digital Marketing for International Markets
- Logistic management

THE METHODOLOGY

SHORT DESCRIPTION

Computational thinking is an innovative methodology that has been mostly used for the study of mathematics and science. As defined by Jeannette Wing, computational thinking is "a way of solving problems, designing systems, and understanding human behavior by drawing on the concepts of computer science."
Computational thinking involves the following steps:
1) Decomposition: breaking large problems down into smaller ones;
2) Pattern recognition: recognizing how these relate to problems that have been solved in the past;
3) Abstraction: setting aside unimportant details;
4) Algorithms: identifying and developing the steps that will be necessary to reach a solution;
5) Debugging: refining these steps.

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In our approach computational thinking involves concepts of machine learning to use statistical analysis and IT to predict future problems and find solutions in a cost-efficient manner. The challenge of this methodology lies in successfully applying it in a non-traditional context such as ***Logistics and IT Structure in non-profit organizations.***

SESSION GUIDE

Students will work in small groups and will be presented a fictitious case based on the most common problems and challenges that nonprofits organizations face during logistics operations (i.e., how to ship supplies to isolated villages in developing countries with poor infrastructure in terms of airports/ports/roads).

Students will be encouraged to "decompose" the several problems presented by the case by using a different set of IT tools and/or more traditional methods such as paper graphic representations.

Considered previous experiences and problems faced by the non-profit organization in previous shipments, students will be encouraged to use analytical thinking to highlight similar/different patterns. Also students will be asked to find creative solutions either using the same or more appropriate solutions as those of the past. This step may be combined with the "machine learning" approach by which it can be possible to analytically "learn from past mistakes" and "prevent future known problems by adopting appropriate solutions in advance". Use of IT tools will be strongly encouraged.

The third step involves motivating students to see the "big picture" concentrating on the most important issues to be solved and setting aside the unimportant details which are less relevant to the essence of the problem.
In order to prevent problems and make informed decisions about the organizational resources, money and, time, students will use "algorithms". In our approach, students will be asked to use computational based graphics or simple algorithms to represent possible situations, and both negative and positive outcomes (i.e. If XXX happens, the organization can act Y or Z).

Students will then have to identify and remove errors from the previous steps in an attempt to optimize resources, money and time.

Finally, each group of students will present the methodology described above to other groups and an exchange and debate will be encouraged.

TIME

Minimum duration of a session using this methodology is 4 hours for in class activities.

NECESSARY MATERIAL

- PC with access to Internet
- Online tool for sharing material (i.e., Moodle, Microsoft Sharepoint, etc.)
- Software such as Power Point, Excel, Word
- Posters
- Meeting Online Platforms (i.e., Zoom, Skype, Google Meets, Microsoft teams).

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THE INNOVATION

This methodology is innovative because it involves the application of a math/computer reasoning based methodology in a completely different field using simple and inexpensive tools. In most instances non-profits organizations lack the ability and resources to use sophisticated computer programs involving machine learning and data mining, thus, this methodology applies the same analytical concepts in a simple but at the same time more cost-effective way.

ONLINE APPLICATION

The proposed methodology can be easily applied online, using the numerous software available in the market (Zoom, Microsoft teams, Google meet, etc.), as follows:

1) The trainer will explain how the methodology works and give the students practical case to resolve using the proposed methodology.
2) Students will be divided in groups (using break out rooms), and they will discuss the case and how to solve it.
3) Students will prepare a presentation (using Microsoft Power Point, Google Slides, Canvas, etc.) to show the proposed solutions to the problem, explaining how the solutions were reached.
4) A representative of the group will present the slides to the other groups.
5) Students will be encouraged to ask questions and pose objections to the proposed solutions when necessary.
6) The trainer will close the session while asking for feedback of the students regarding the the methodology: i) does the proposed methodology help to solve the problem and how? ii) if not, why? iii) how the proposed methodology may be improved? etc.).
7) Both the trainer and the students will make conclusions about the practical application of the proposed methodology.

MONITORING & EVALUATION TOOLS

In case of a traditional class setting, the trainer will go around the group of students and answer questions regarding the case at hand. If the trainer realizes that the group is having difficulties in performing the required task, he/she will prepare questions to students to provoke self-learning. In case of online settings, the trainer will join the different break out rooms and stimulate the students likewise a physical class.
A different set of evaluation tools will be used for each competence indicator such as:

- Multiple choice questions
- Graphical representations
- Survey questionnaire
- Context indicators
- Interview
- Focus group.

USER STORY

"Aiuta Argentina", a newly formed non-profit organization created by a group of nationals from Argentina emigrated in Italy send supplies (food, clothes, school supplies, etc.) to the poorest regions of Argentina found several problems in the warehouse and shipping process. These issues have strongly disappointed the organizers and they have been thinking of stopping their activities. "Aiuta Argentina" asks for help to "I Due Mondi", a non-profit organization based in Italy with many years of experience in the logistic field and which also works with Latin American

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partners. "Aiuta Argentina" and "I Due Mondi" representatives meet and "I Due Mondi" offers to train "Aiuta Argentina"'s staff about the logistics proceedings and how to avoid common and recurring problems connected with the non-commercial export of goods from Italy to Latin America.
"I Due Mondi" representatives organize a one-week intensive course at "Aiuta Argentina"'s premises, aiming at sharing past experiences with the organization and developing a method to successfully solve future problems. "I Due Mondi" representatives explain that they have been using a methodology ("Computational Thinking") that has helped them to solve complex and multiple problems, which applies an analytical and logical thinking based on past experiences and errors. The first day of the course, "I Due Mondi" explains the steps of the methodology (Decomposition, Pattern recognition, Abstraction, Algorithms and Debugging) using presentations to attract the attention of the students and encouraging them to engage in an interactive class environment.
During the remaining four days of the course, "I Due Mondi" presents the students with several real cases and helps them to find appropriate solutions developing the proposed methods. Students are encouraged to discuss with each other, to brain storm, to use lateral thinking and to make presentations about the problems, the solution and the "algorithms" used to solve the problems.
"Aiuta Argentina" and "I Due Mondi" agree to make follow up meetings every two/three months for a year to monitor progress. Four months after the course, "Aiuta Argentina" has strongly improved their performance in the field of logistics and IT and after one year of successfully implementation of the proposed methodology in this field, the organization does not need any further support from "I Due Mondi" to perform their activities.

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CROSSOVER METHODOLOGY

BASIC INFO ON THE METHODOLOGY	
No. of students involved	*Min. 5 and max. 30*
Face-to-face / online	*Face to face*
Necessary time	*Total time depending on the course - each session in class is 4 hrs long*
Necessary tools	*Variable*
Involvement of stakeholders	*Not necessary but it can be useful in some cases*
Does the teacher need specific training in order to use this methodology?	*Not necessary*
Level of motivation of the class required	*Not relevant*
Specific characteristics of the class group	*None*
Assessment	*Teachers can apply their usual assessment methods*

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OBJECTIVE

This methodology has been studied to be applicable for the development of the ***Human resources development and Management in non-profit organizations*** competence.

HUMAN RESOURCES DEVELOPMENT AND MANAGEMENT IN NON-PROFIT ORGANIZATIONS COMPETENCE

DEFINITION

Human resources development can be defined as the framework for helping employees develop their skills, knowledge, and abilities, which in turn improves an organization's effectiveness. **Management in non-profit organizations** can be defined as the ability to plan out long- and short-term strategies in order to meet revenue goals, connect with stakeholders, and foster goodwill in the community by assuming a strong leadership in and outside of the organization and monitoring the progress of the organization toward its stated goals. We have put together both concepts in an overall approach, highlighting the role of the human component of the non-profit organizations and the need to promote the staffs' skills and abilities. This healthy and productive approach will lead to the success of the organization and its positive contribution to society.

SKILLS

This competence is aimed at the developing the following skills:

- Leadership
- Active listening
- Problem solving
- Ability to negotiate
- Ability to make sound short- and long-term plans

- Ability to monitor the progress of the organization's activities
- Project Management
- Sound decision making, optimizing the organization's resources.

ATTITUDES

To become a perfect manager in a nonprofit organization, it is required that students are organized, flexibly, accountable, empathic, visionary, positive, influential.

INDICATORS

By developing this competence, the learner is expected to:

- Become a positive and efficient leader of a non-profit organization;
- Successfully plan, implement, and monitor the activities of a non-profit organization;
- Be able to promote the skills of the staff of a non-profit organization, which will make the organization work more efficiently and obtain better results.

OTHER APPLICATIONS

The methodology can be applied for the development of the following competences, as well:

- Social entrepreneurship
- Business management
- Startup management
- Leadership Coaching.

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THE METHODOLOGY

SHORT DESCRIPTION

The crossover methodology combines both formal and informal learning environments and aims to provide students with the best of both worlds to enhance the value of the educational experience. The use of a variety of methods both in formal and informal settings is expected to make the students actually enjoy the learning. This will result in a faster and more productive comprehension of theoretical concepts and their practical applications. The use of different traditional and non- traditional methods also is expected to stimulate the learner curiosity and eagerness to study.

SESSION GUIDE

The methodology includes both formal and informal education. In each setting the instructor is encouraged to apply a variety of learning approaches.

We suggest that the instructor opens the course with an introduction of the methodology to be implemented to prepare the students to a non-traditional learning and raise their curiosity and engagement in the process. Then the instructor will start presenting the concepts of the course to the students. It is encouraged that the instructor uses visual presentations to enhance the teaching and learning experience (formal setting).

The instructor can then propose the students a variety of informal methods including but not limited to:

- Dividing the class in groups, each group will record a role play situation to be provided by the instructor, then each group will watch the video of the other groups and engage in a joint discussion and feedback.
- The students will make interviews with the persons involved in the processes whom they are learning about in the class (i.e. the class will interview a manager of a nonprofit organization).
- Students will be asked to perform a short video discussing a certain topic (i.e. How to become an effective manager?) and then present it to the rest of the class.
- After dividing the class in groups, each group will visit a non-profit organization's premises, and will make a report to be presented to the rest of the class.

The instructor is encouraged to mix both formal and informal methods at regular intervals (i.e., one class in a formal setting followed by the application of one of the informal methods explains above).

TIME

The methodology can be implemented in formal sessions of 4 hours each and informal sessions outside the classroom of variable duration (between two and four hours each). The duration of the course depends on the length of the curricula.

NECESSARY MATERIAL

- Academic books and manuals
- PC with access to Internet
- Online tools for sharing material (i.e., Moodle, Microsoft Sharepoint, etc.)
- Software such as Power Point, Excel, Word
- Meeting Online Platforms (i.e., Zoom, Skype, Google Meets, Microsoft teams)
- Photo and video cameras
- Non-profit organizations that welcome the students.

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THE INNOVATION

Several academics have defined "crossover learning" as one of ten innovations that are on the brink of having a profound influence on education (Sharples et al., 2015) combining formal and informal education. While "crossover learning" has been linked to learning in informal settings such as museums and after school clubs, we propose to include the use of technology such as virtual reality, online meeting platforms, videos as well as visiting non-profits organizations' premises and interviews with its managers and staff.

ONLINE APPLICATION

The proposed methodology can be easily applied online, using the numerous software available in the market (Zoom, Microsoft Teams, Google Meet, etc.), both in joint sessions and break out rooms.

MONITORING & EVALUATION TOOLS

To monitor the progress of the class, the instructor is encouraged to start each class by asking questions to the students about what they have been learning and, if necessary, the instructor will review a specific argument, suggesting additional reading materials.

The course will be divided in segments after which students will be evaluated based on their performance on the informal teaching settings (analyzing their engagement, creativity and

innovation) as well as using traditional tests (i.e., multiple choice questions and essay writing) and nontraditional tests (i.e., writing an article, advice letter or a video shoot).

USER STORY

Maria has been teaching human resources development and management in non-profit organizations in a local higher education institution for several years. Maria is constantly trying to improve her teaching skills and introduce innovative methods to her class. Maria reads several articles and books about "crossover learning" and decides to implement the methodology in her class.

At the beginning of the next academic year Maria introduces the method and her new students get excited about it. Maria combines traditional teaching (such as traditional teaching lectures, case study and the Socratic method, that is, teaching by asking questions to students). After each "traditional class", Maria asks the students to perform different activities (such as role playing and case analysis by recording the results, field visits to various non-profit-organizations, make interviews, conduct surveys, etc.).

At the end of the course, students obtain excellent results, and the average score is higher than the previous classes. Maria asks the students to provide a feedback about their experience and the new methodology adopted. Almost all students declare that they are enthusiastic, and assimilate concepts faster while enjoying the teaching process.

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CONCLUSIONS

FEEDBACK FROM SMEs

Partners have collected **feedbacks from SME representatives** to assess the real impact of the selected methodologies and identified competences that will help students to thrive in international job markets. SMEs' feedback was collected through questionnaires, which were developed in order to understand the needed skills in the job market, while special focus was given to current trends and future dynamics of the job market.

The survey results generally confirmed what were emerged in the partners' initial analysis, which stressed that students lacked main competences and skills that were expected from international marketing and business management graduates. Furthermore, companies have listed some additional methodologies that they have used in their **in-company trainings.**

The methodologies that were indicated are:

- Whiteboard talks: using only a whiteboard and markers, students complete a short (seven minutes or less) informal presentation on a research topic, concept, theory, etc.[2] Whiteboard presentations are ideal for conferences, seminars, trainings, and company events.
- Agile methodologies: as less-structured mode of software development methods, agile methodologies are focused on the objective of delivering functioning and quality software to the customers quickly and frequently. Although each of the agile methods is unique in its specific approach, they all share a common vision and a set of core values. Indeed, all methodologies incorporate the concept of iteration and the continuous feedback in order to release and subsequently refine a software system. All methodologies involve planning, testing and continuous integration activities along with other forms of evolution in order to refine any aspect of both the project and the software. All methodologies are considered simpler (especially when compared to the traditional waterfall process) and yet inherently adaptable. Finally, all methods focus on providing an important incentive for people to collaborate and make decisions together quickly and effectively.
- Scrum: an agile approach based on the theory of empirical process control. Decisions are made on the basis of experience. The work is managed by a team that frequently inspects the product while developing it, and adapt it, if necessary. Scrum is a framework for managing the software development cycle in an iterative and incremental way, using a set of techniques and processes. The method was officially presented to the public in 1995, but it originates from the so-called "holistic" or "rugby" approach, already tested in the automotive industry and by printer manufacturers. The entire process is carried out by an interdisciplinary group of people, who work in stages on a collective project, continuously passing the ball and acting as a single entity. The term 'Scrum', in fact, is borrowed from rugby and indicates the 'scrum' as a metaphor for the team of developers advancing synergistically towards the goal, while dragging the other players involved.
- Lean startup: a continuous design, verification and modification process with extensive use of the web, which all aim at adapting the product step by step to the needs of customers and keeping costs under control. Lean startup is a methodology for developing businesses and products that aims to shorten product development cycles and rapidly discover if a proposed business model is viable. This is achieved by adopting a combination of business-hypothesis-driven experimentation, iterative product releases, and validated learning. Lean startup emphasizes customer feedback over intuition and flexibility over planning. This methodology enables recovery from failures more often than traditional ways of product development. Central to the lean startup methodology is the assumption that when startup companies invest their time into iteratively building

[2] https://brocku.ca/esrc/whiteboard-talks/

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products or services to meet the needs of early customers, the company can reduce market risks and sidestep the need for large amounts of initial project funding and expensive product launches and financial failures.

- 5S methodology: it is based on the organization of the workspace for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new organizational system. 5S is a workplace organization method that uses a list of five Japanese words, translated as "sort", "set in order", "shine", "standardize", and "sustain". The list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new organizational system. The decision-making process usually comes from a dialogue about standardization, which builds understanding among employees of how they should do the work.

USE OF THE METHODOLOGIES

These methodologies will be first used in the **pilot activity** that will involve students of ITHEN partner TVETs and Universities. The trials will take place in Italy, Portugal, Slovenia, Spain and Turkey between October 2021 and May 2022. Each ITHEN partner will use and test some of the methodologies in their regular classes. Evaluation tools to measure the success of the pilot will be prepared, and short video interviews will be conducted starring students who participated in the pilot.

After this pilot, guidelines on the introduction of new methodologies in new or existing courses will be published by the network. The guidelines will be an Open Educational Resource, **available for external stakeholders** (mainly TVETs and Universities, together with their professors) to improve their courses in the areas of marketing and international business management. Also, the guidelines include standards and instructions that must be followed by all new TVETs and Universities joining the I-THEN network to standardize the selected methodologies in their own modules.

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