DigiFoodEdu

Erasmus+

Digital Transformation of Project-based Learning Guidance in Agri-Food Higher Education Institutions

Project N°: 2020-1-FR01-KA226-HE-095523

NEWSLETTER

#2 – JULY 2022

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Presentation of DigiFoodEdu project

The partners

DigiFoodEdu is a 2 years European project started in April 2021, including 4 partners from 3 different countries:

- the **University of Ljubljana** (Slovenia),
- the **National Technical University of Athens** (Greece),
- the **National Institute of Technology for Life, Food and Environmental Sciences** – AgroParisTech (France)
- the **EEIG ECOTROPHELIA EUROPE**, a European Economic Interest Grouping that aims to unite stakeholders from different Member States (ANIA - France, CCIS-CAFE - Slovenia, FEVIA - Belgium, FIAB - Spain, FII - Iceland, LVA – Austria, SEVT - Greece and FoodDrinkEurope) together around a common objective, bringing together food industry actors from seven different countries to promote innovation and entrepreneurship in the European food industry through the development and implementation of innovative programmes.

Context of the project

DigiFoodEdu is born with the **coronavirus crisis** when the pedagogical issues reveal. In fact, because of the sanitary situation, the teaching way changed suddenly **from face-to-face to distance learning**. The teachers and the students had to adapt themselves to new ways of distance teaching and learning and had to develop **new pedagogical practices based on digital practices**. Project-based learning approaches, and practical classes, that require more guidance and support from teachers and pedagogical staff, were particularly affected by this transition.

In agri-food related Higher Education Institutions (HEIs) European-wide, the effects of the pandemic were notably felt by the participants of ECOTROPHELIA competitions (a food innovation competition for higher education students for the development of eco-innovative food products). Since 2000, ECOTROPHELIA has been fostering creativity and entrepreneurship European-wide by promoting the national and European competitions that bring together HEIs and the agri-food sector to rethink the future of food. This initiative has led HEIs to adapt their curriculum to include new product development projects (from raw materials to market launch) promoting the application of the acquired scientific and technical competences, and the development of soft skills and project management. In 2020, the national and European competitions had to reinvent themselves to continue to provide students and HEIs a platform to showcase their talents. While the students participating were motivated and coached to develop their eco-innovative food products, the educators who guided their project-based learning were faced with new challenges to do so virtually.

Objectives

In this context, DigiFoodEdu aims to **foster the development of digital skills and exchange of good pedagogical practices in the digital era**, directed at the guidance of project-based learning approaches. This project intends to study the practices put in place during the pandemic, collect and analyse the experiences from different partners European-wide and **come up with a best practices guide for education improvement in the digital era**. Ultimately, the project will aim for the modernisation of the pedagogical practices used for coaching and supporting students during their project-based learning activities.

What have been done for now?

The first phase of the project started in April 2021 and will end in December 2021. It consisted of the state-of-the-art put in place during the COVID-19 crisis. In that purpose, several studies have been launched among students, teachers and agri-food professionals with different goals. Presentation of the results below.

This first phase was the most important phase of the project as it is thanks to the results obtained that we are being able to develop the second phase: Exchange, testing and transferability of the best identified Digital Pedagogical Practices.
This second phase started in January, based on the first phase of the project.

Presentation of DIGIFOODEDU results

Task 1 results - Identification and analysis of best practices from universities point of view

The first things to do were to **identify and analyse the best pedagogical practices put in place by universities**, as well as **assess the needs in pedagogical practices in the digital era**. In that purpose, two different surveys have been developed and disseminated among teachers and students of the partner universities to answer these first questions as well as to complete the results obtained thanks to the questionnaires. Focus Groups have been realised with the two target groups: the teachers and the students. Results are being processed and will be available in the following months.

The COVID-19 crisis has surprised everyone. Nobody was prepared to such sanitary measure: telework, school closure, curfew, lockdown, etc… HEIs were affected by these measures and were forced to close and switch to online learning to ensure students education. This had never happened before, teachers and students needed to adapt their habits to new pedagogical practices. An online survey and focus groups were developed and organised to assess and identify the best pedagogical practices put in place by universities among two target groups: professors and students.

During the survey, 83 questionnaires were filled out by professors in agri-food HEIs. There was a great repartition of respondent depending on the country: Greece (35%), France (34%) and Slovenia (31%). Majority of the respondents were professors (49%), followed by lecturer (31%), pedagogical staff (16%) and research associate (4%), with a good repartition between male (49%) and female (51%) and ages: > 56 years old (33%), 46-55 years old (30%), 36-45 years old (27%) and 26-35 years old (10%).

In addition, 144 questionnaires were filled out by students, the majority on France (64%), followed by Slovenia (19%) and Greece (17%). The majority of them were female (71%), in bachelor (55%) or master (44%), and aged between 18 and 25 years old (99%).

During the survey, 144 questionnaires were filled out by agri-food related HEIs. There was approximately an equal participation of professors from the participating European countries; Greece (36%), followed by Slovenia (33%) and France (31). In terms of gender, age and teaching experience of the participants, most of them were females (58%) and at the age above 51 (36%) followed by professors at the age of 40 to 50 (36%), with teaching experience of 11 to 20 years (37%) followed by those with more than 20 years (33%). Regarding the students' participation, students from Greece (43%) and Slovenia (42%) dominated the population size of the study, followed by France (15%). In terms of gender, 76% of the respondents were female.
Concerning the focus groups, 3 focus groups were organized in each partner university with students and teachers. 10 questions established thanks to the questionnaires results were asked to the participants.

Regarding the changes in pedagogical practices, we observed a switch from traditional practices to online class, hybrid class, and an increase of use of learning management systems like Moodles and digital resources such as videos or photos. However, focus group respondents think that traditional teaching should not be completely replaced in favour of distance learning. Teachers and professors suggest opting for hybrid solutions and the use of certain digital tools to improve learning.

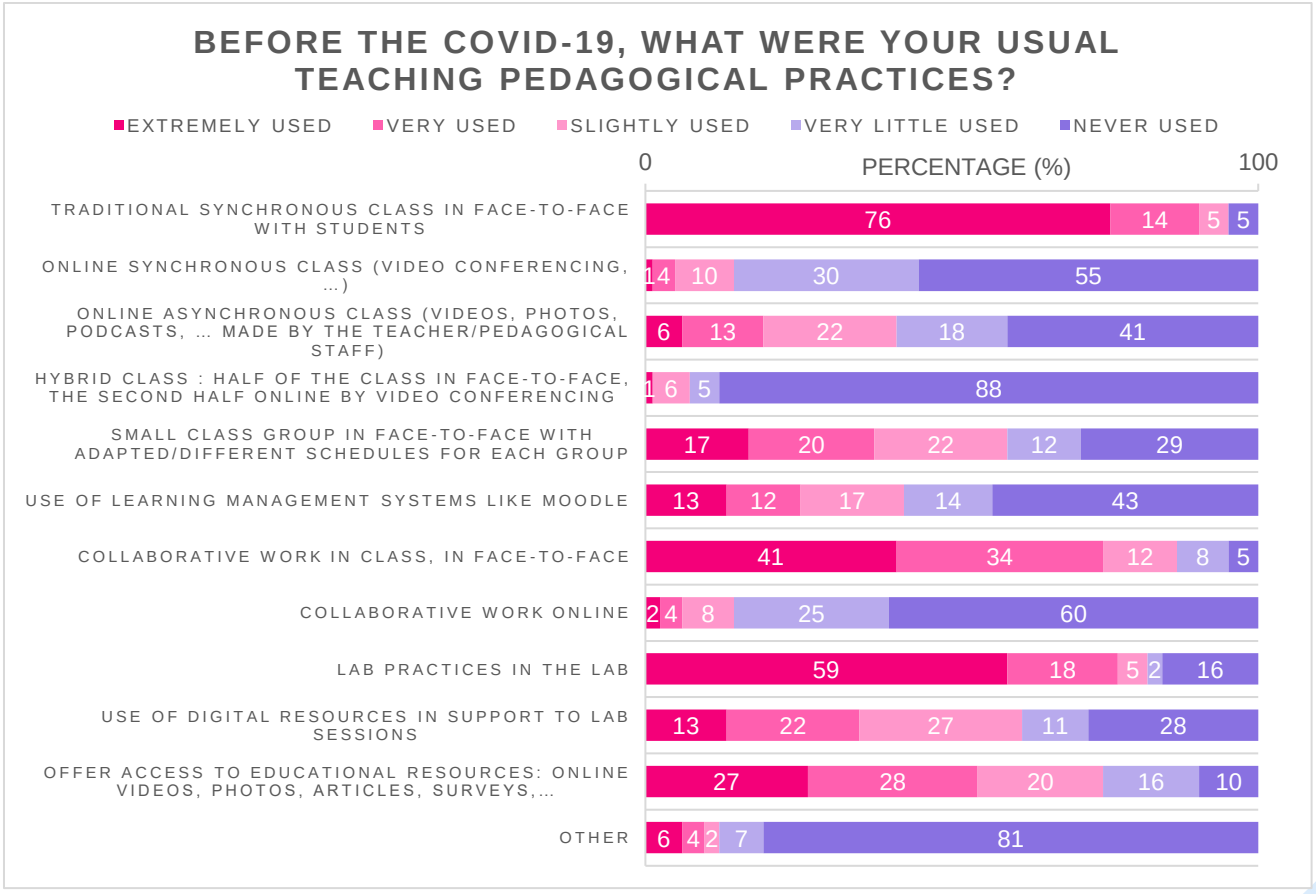

Figure 1: Pedagogical practices used before the COVID-19 crisis according to teachers

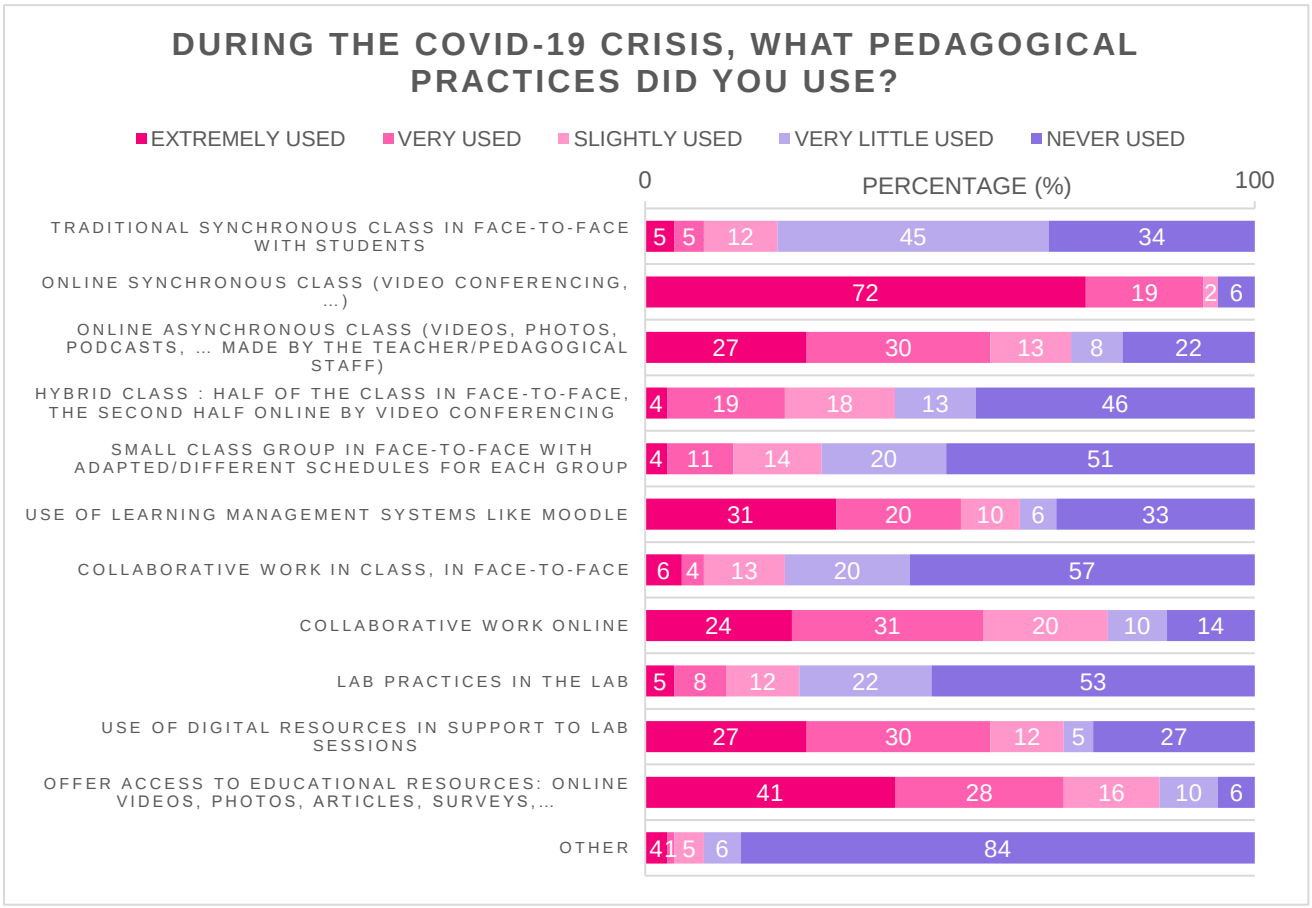

Figure 2: Pedagogical practices used during the COVID-19 crisis according to teachers

For exams, the large majorities of traditional modalities were very little used or never used in favour of digital tools such as Moodle and Examnet in accordance to the surveys. Also, most professors used video conference to monitor students during exams, suggesting they were worried about students cheating during exams and. Thus, we interviewed teachers and students during the focus groups regarding exam modalities. Teachers noticed that students succeeded in the exams, creating the impression that the training had been completed. However, many professors think that a lot of students cheated during exams. There were right because on the other hand, students declared that distance modality exams were easier, they had less to learn as they had their material next to them during the exams and were better organised to cheat. Grades were not representative of the work done and the lessons learnt.

Lab practices were the most difficult training to replace with online learning, as students cannot manipulate and learn by making things. Fortunately, efforts were made by teachers to find alternatives ways thanks to videos or photos. However, these efforts were not enough to replace lab practices into a lab, with utensils manipulated by students. Focus groups confirmed these results and video sharing for preparation beforehand seems a good practice to keep according to them.

Due to the COVID-19 crisis and the enforcement of distance teaching, the professors adopted a new culture such as the use of digital tools. According to the surveys, video conferences to ensure online class were the more used. But interactive tools were used such as Wooclap, Kahoot, Miro or Mentimeter to interact with students. According to the surveys, digital tools fostered online learning and were effective on keeping students attention. Focus groups confirmed that although most of these

tools pre-existed before COVID-19, most professors did not know their abilities, their necessity, and the fact that the use of those tools could benefit the educational process. Professors and students agreed on digital tools are very useful to foster learning and keep students' attention and motivation. Moreover, they think that some pedagogical practices developed during the COVID-19 crisis should be kept, such as online class for some theoretical courses. The use of different material content, such as videos, was also a very good initiative. Students can rewatch the videos in a future time, which can improve motivation and interest.

Furthermore, the focus groups highlighted the need to take breaks in order not to lose students' attention and interest.

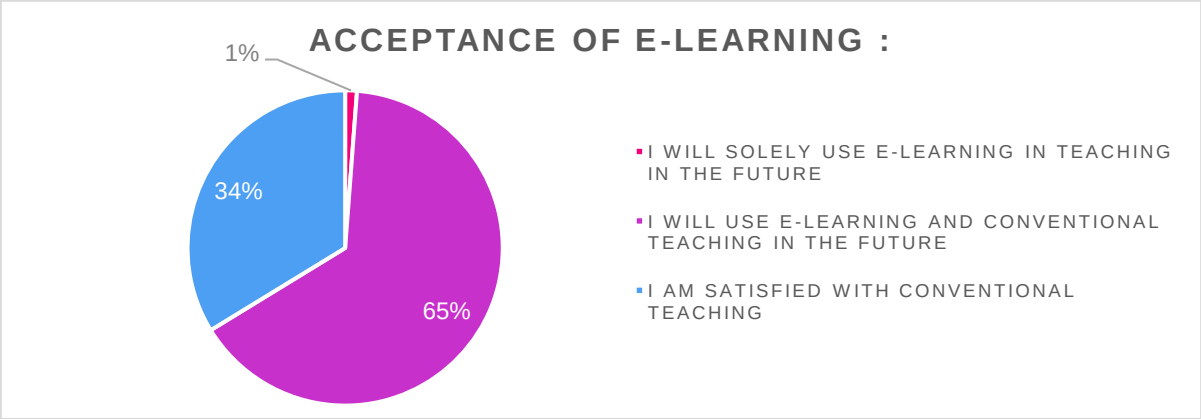

Figure 3: Acceptance of e-learning among teachers

From the survey, the majority of teachers agreed that they will use both e-learning and conventional teaching in the future. This result is encouraging our project because our goal is to identify the best digital pedagogical practices to improve education. Knowing this approval from teachers encourage us to pursue the project as results could interest them to improve their practices.

Task 2 results - Perception of the impact of the COVID-19 crisis on the future talents

The COVID-19 crisis has not only shaken education but companies too. Food companies had to adapt to face the sanitary measures. Thus, we developed a survey dedicated to Human Resources (HR) department of food industries and ECOTROPHELIA experts, members of the judging panels to **assess the impact of the COVID-19 crisis on the young graduated recruitment, the evolution of their profile and the need in skills**. We also interviewed some experts of the target to complete the results obtained with the questionnaire.

The survey comprised 83 questionnaires filled out by the target group, with a majority of French respondents (47%), followed by Slovenia (30%) and Greece (23%). 72% of the respondents worked in the Human Resources department of food companies, the remaining are agri-food experts in food companies or food federations. Both groups represent recruiters' opinion. Considering the size of their company, 48% of the respondents declare they worked for a small and medium company, 31% for a large company and 16% for a multinational company. The location of the respondents' company was relatively well-distributed between big cities, close to a big city and the countryside.

15 food industry representatives and experts were interviewed to complement the survey, i.e. 5 per partner country of the project (France, Greece, Slovenia). 7 questions were asked to the respondents.

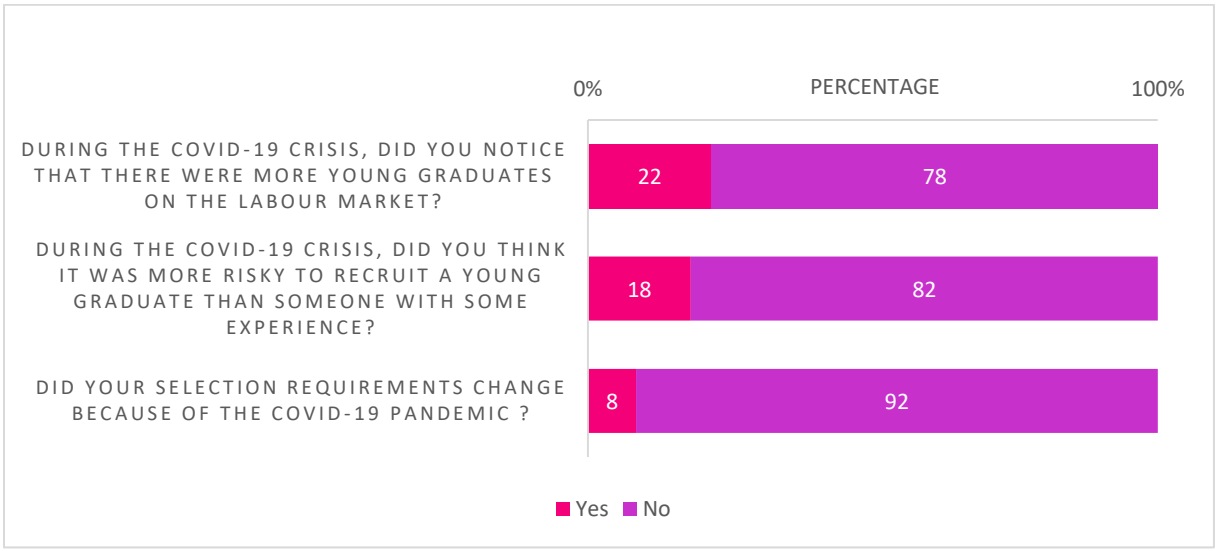

Figure 4: Opinion of the respondents on the labour market during the COVID-19 crisis

Regarding the assessment of the impact of the COVID-19 crisis on the recruitment, the survey and interviews' results show that the COVID-19 crisis did not have an impact on young graduate recruitment. Indeed, professionals from the sector did not notice an increase in the number of young graduates entering the labour market than before. The selection requirements from recruiters, also, did not change because of the crisis. Moreover, the difficulties in recruiting young graduates do not seem to be linked to the COVID-19 crisis, as they already existed before the crisis. However, specific work condition demands from young graduates have emerged with the COVID-19 crisis. According to interviews, the crisis only allowed the emphasis of some issues that already existed as a lack of autonomy and new exigences and expectations.

We were also interesting on the impact of the COVID-19 crisis on receiving students for internships or placements and noticed it was different between countries. More specifically, it was more important for Greece. This should be an issue for students since internships or placements are required to validate their curriculum. It is also an issue for recruiters as they consider internships and placements as work experience which help future talents to acquire companies' expected skills. Recruiters consider that internships and placements should be more included in the curriculum.

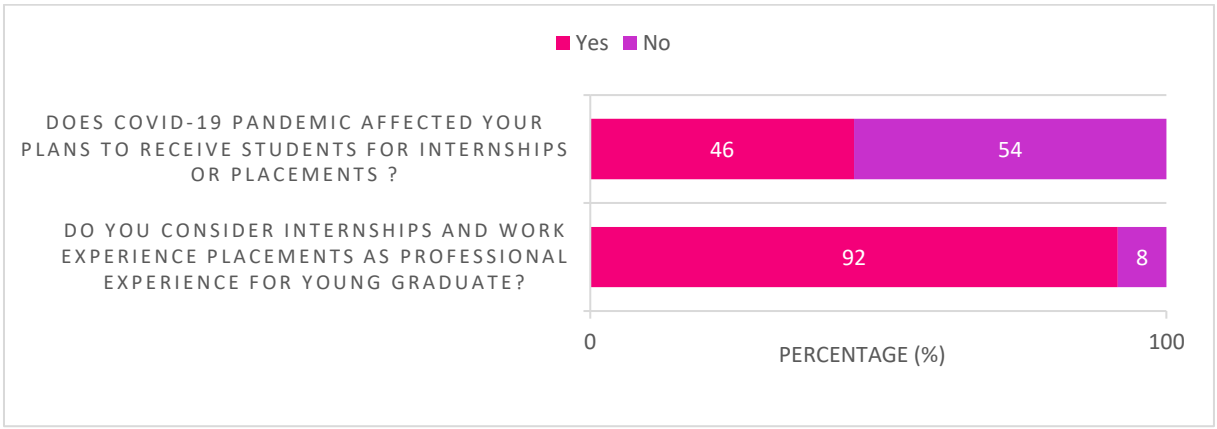

Figure 5: Opinion of recruiters on internships and placements

Concerning the type of young graduates' profile preferred by recruiters, the survey showed they are more interested in the university attended and the previous work experience of the candidates, such as placements and internships. Another proof that placements and internships are very important for companies.

About the need for new skills, the pandemic did not have an impact on the recruiters' expectations concerning the skills of young graduates and the skills required to succeed in the agri-food sector seem to be the same as before the crisis. However, respondents noticed a lack of specific skills in the work area, autonomy, management and social skills among young graduate upon hiring. They definitely recommend more internships and placements in curriculums, and encourage apprenticeships even more as they represent a great opportunity to learn skills from companies and real situations. They also encourage less theoretical learning and more practice learning at school, with case studies or other. Moreover, another important result of the survey is that the large majority of the recruiters are ready to train young graduate, which is encouraging for students and young graduates.

Task 3 results - Identification and analysis of the actual students' and HEIs' needs

Due to COVID-19 health crisis, Institutions of Higher Education (HEIs) faced great challenges on how to swiftly deal with this unprecedented situation regarding the implementation of practical courses and interactive educational activities such as project-based courses. In this context, an online survey was design in order to study, collect and analyze the experiences from different partners European-wide regarding the pedagogical practices used for coaching and supporting students for their project-based courses in the digital era during the pandemic

During the survey, 144 questionnaires were filled out by agri-food related HEIs. There was approximately an equal participation of professors from the participating European countries; Greece (36%), followed by Slovenia (33%) and France (31). In terms of gender, age and teaching experience of the participants, most of them were females (58%) and at the age above 51 (36%) followed by professors at the age of 40 to 50 (36%), with teaching experience of 11 to 20 years (37%) followed by those with more than 20 years (33%). Regarding the students' participation, students from Greece (43%) and Slovenia (42%) dominated the population size of the study followed by France (15%). In terms of gender, 76% of the respondents were female.

Despite the concern that the enforcement of distance teaching significantly would affect the project-based courses, the majority of respondents confirmed that their institution adapted the curriculum in order to include project-based distance courses during the COVID-19 pandemic (Figure 1).

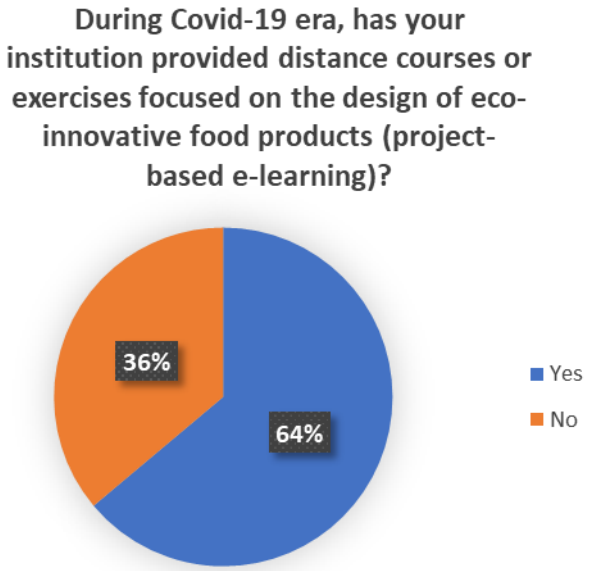

Figure 6: Educators' and students' responses regarding the addition of project-based distance courses in the curriculum, inspired by the ECOTROPHELIA competition

Based on the results, the majority of educators and students agreed that the project-based courses are important for students' future career (Figure 2).

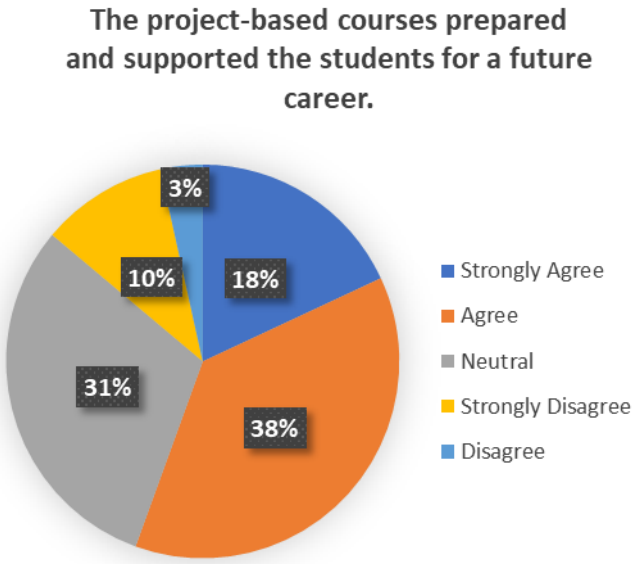

Figure 7: Educators' and students' responses regarding the importance of project-based courses for the future career of students.

Both educator and students were satisfied with the general format and the teaching procedures adopted for distance teaching, also they agreed that the online modality can transmit the educational content properly (Figure 3 & 4). Unfortunately, despite the optimistic result, regarding the satisfaction of both educators and students for the distance teaching modality of the project-based courses, educators commented that they were not enough motivated to teach a class through distance teaching. However**,** overall, the distance teaching modality for the project-based courses did not affect the student-student and student-professor relationship and communication.

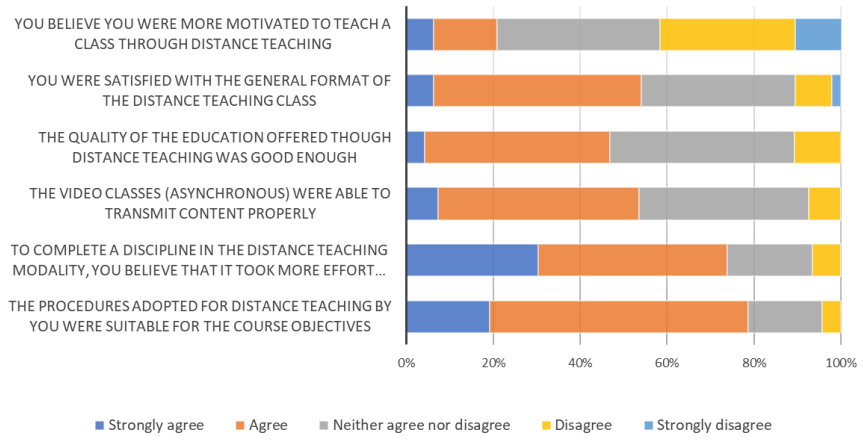

Figure 8: Professors' and pedagogical staff's responses regarding the quality and modality of project-based distance courses

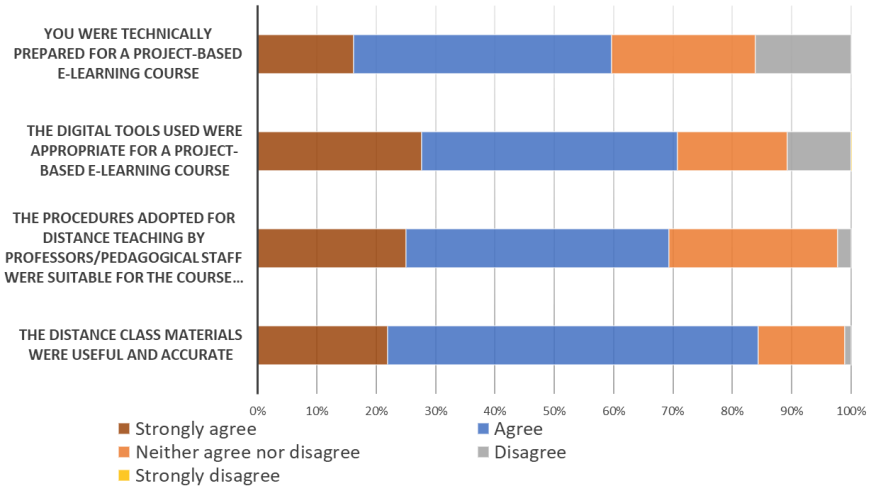

Figure 9: Students' responses, regarding the quality and modality of project-based distance courses

Regarding the digital and technical skills of educator, the majority of them claimed that they are accustomed to using technology and digital tools, they feel very confident when it comes to work with technology at home or at university and they enjoy using digital tools. Moreover, they disagreed with the statement that digital pedagogical tools hinder the educational process.

Regarding how the distance project-based courses can be improved, both educators and students proposed the use of audiovisual materials, interactive media, simulations and virtual manipulatives. Also, they claimed that prerequisites for a successful online course were adequate technical support and necessary equipment, professional development by completing quick courses on online teaching, easy contact with technical experts guiding teachers with the use of digital tools and LMS platforms, access to websites with lists of useful resources, and video clips and lesson plans of good practices.

Concluding, both faculty and students needed to adapt to the distance teaching modality and to become familiar with the use of new digital tools, as the remote classes are not popular in project-based or practical course compared to theoretical courses. Obviously, the imposition of distance

teaching due to COVID-19 outbreak set a precedent in education and the future will be different. The technical skills acquired from distance courses will generally improve the educational competence of the teachers. Overall, distance teaching modality will be very useful and provide benefits, if there is the right technical support, the necessary equipment, and the class material is properly planned *in advance.*

Our Second Transnational Meeting in Greece

The project is including several partners from different countries: France, Greece and Slovenia. A few meetings are planning in the course of the project to visit each others and meet in real. These meetings act as a team building event and allow the partners to know each others. In fact, these few meetings are the only way for the partners to meet in real, exchange and know each other for a better team cohesion.

The first transnational meeting was organised at Ljubljana (Slovenia) in October 2021.

The **second transnational meeting**, in April 2022, was a **hybrid event**, organised by the **National Technical University of Athens**, in Greece.

It was a good time for everyone to record the different tasks to do, discuss administrative tasks of the project and plan the first multiplier event that was held on July 6, at ECOTROPHELIA Greece!

Everyone were happy to meet together under the Greek sun!

Our first multiplier event

On July 6th our first multiplier event took place at ECOTROPHELIA Greece 2022!

Broadcasted online, this event was the perfect opportunity to present the scope and the first results obtained in the project by Mrs. Salta, Project Manager at SEVT (Federation of Hellenic Food industries). Then, M. Tsilidis, HR manager at NIKAS SA shared his expertise on the skills of young generation and the modern needs of businesses, followed by a presentation of the digital transformation of education with the COVID-19 pandemic by M. Taoukis, professor at NTUA. Finally, this event was closed by a roundtable discussion on the theme of «ECOTROPHELIA & Internships: Tools for the development of skills» with the intervention of M. Scandamis, Professor at AUA, Mrs. Zachariadou, Human Resources Business Partner, YIOTIS SA, M. Makras, R&D Manager E.I. PAPADOPOULOS SA and Mrs. Christodoulou, winner of ECOTROPHELIA 2021.

Stay tune!

Want to stay updated on the project?

A newsletter will be disseminated regularly during the project.

If you are interested in having news about the project through the newsletters or future events, enter your email address !!

Click here and enter your email

Future Events

Save the dates!

Paris International Agricultural Fair

February, 2023

Website

Do not hesitate to visit our website!

You will find **dates about the future events** and **results of the project**!

The first results are coming soon!

Click on the picture or copy-paste the link: https://digifoodedu.ecotrophelia.org/