Quaderni di Comunità

Persone, Educazione e Welfare nella società 5.0

Community Notebook

People, Education, and Welfare in society 5.0

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ACTIVE CITIZENSHIP FOR THE DIGITAL SOCIETY.
EXPERTISE, BEST PRACTICES AND TEACHING
IN THE DIGITAL ERA

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INDICE

3. A PERSONALIZED ACTIVE LEARNING PLAN FOR STUDENTS WITHIN THE FRAMEWORK OF THE ERASMUS+ RE-EDUCO PROJECT

by Alexandra Faka* and Toumazis Toumazi**

Introduction

Within the framework of the Erasmus+ funded project "RE-EDUCO - Rethinking Education Competencies. Expertise, best practices, and teaching in the Digital Era", the Intellectual Output 4 (IO4) required the development of a personalized active learning plan for students that catered for the assessment of the current level of the students participating in the project. The assessment aimed to identify their training needs in required digital skills to successfully develop a report for the description of their start-up company's idea and the presentation in front of a panel of judges in the context of a competition. In fact, the IO4 was created in close connection with the IO3, which involved the participating students of the entire consortium in a contest of ideas that developed first at a national level and then at an international level. The Cyprus Computer Society (CCS) was the consortium's project partner responsible for the achievement of IO4. The sections below describe the process followed by the team of the CCS to bring to a successful completion this activity.

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1. *The my-digiskills self-assessment tool*

According to the project proposal IO4 elaborates learning/teaching/training material for *active learning for digital innovation* to improve the students' digital skills and competence. The training helped them to identify their personal gaps and supported them in gaining those skills needed in order to present their projects in an innovative way. The IO4 released in open access the self-evaluation test and the free training modules to help students reach the identified standards set.

In order to develop the learning activities, it was considered vital to address the issue of assessing the level of digital skills of the students. In response to this challenge, the consortium collected data from partner countries, Cyprus, Greece, Spain, Italy, and Finland by requesting the coordinators to introduce their students to the my-digiskills[1] self-assessment tool. This is a specially designed self-assessment tool that helps users to better understand their level of digital skills based on the three pillars of knowledge, skills, and attitude in the five areas; namely *Information and Data Literacy*, *Communication and Collaboration*, *Digital Content Creation*, *Safety* and *Problem Solving* as defined by the European Digital Competence Framework for Citizens, known as DigComp[2] and widely used amongst European countries. In fact, self-assessment represents a crucial strategy to promote awareness and responsible taking charge of one's own learning process by the learner (Capogna, 2019).

[1] My-digiskills assessment https://mydigiskills.eu/.
[2] European Commission, DIGCOMP: https://joint-research-centre.ec.europa.eu/digcomp_en.

2. *My-digiskills data analysis*

Based on their relations with the local educational communities the partners contacted schools and identified teachers that would be interested to participate in the project with their students. Following project briefings interested teachers and students who were given a two-week timeframe to complete the my-digiskills assessment. It was completed by 139 students from all partner countries. Finland did not provide any data as at the time of the process the schools were on vacation and students were not accessible.

More specifically, 25 responses from Cyprus, 62 from Italy, 47 from Greece, and 5 from Spain were collected.

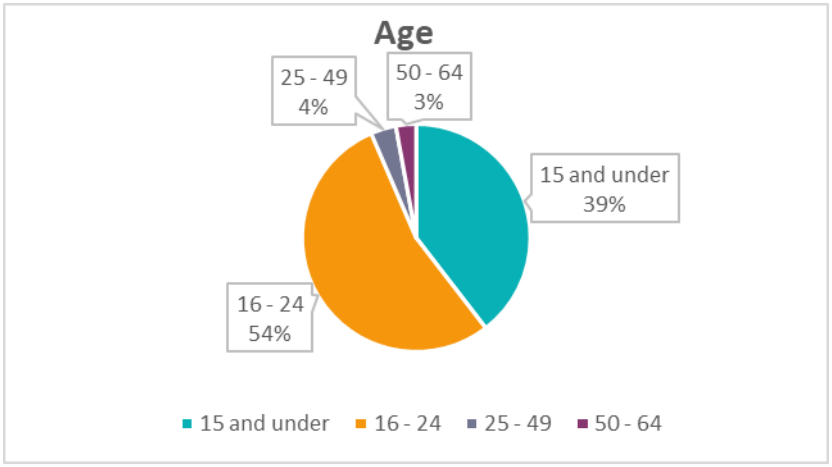
3. *Demographic results*

The first part of the my-digiskills assessment addresses the demographic information of the respondents such as age, gender, education level and employment status.

As shown in the following graphs, most of the respondents were female secondary education students/graduates, between 16 and 24 years old. There was only a small percentage (2%) of the respondents who were still in primary education and a significant percentage of 27% who had already graduated from school. It is worth pointing out at this point that the gender divide is still quite prevalent even today. As a recent UNESCO report titled "I'd blush, if I could", mentions "Women and girls are 25 percent less likely than men to know how to leverage digital technology for basic purposes, 4 times less likely to know how to programme computers and 13 times less likely to file for a technology patent" (West, Kraut, &

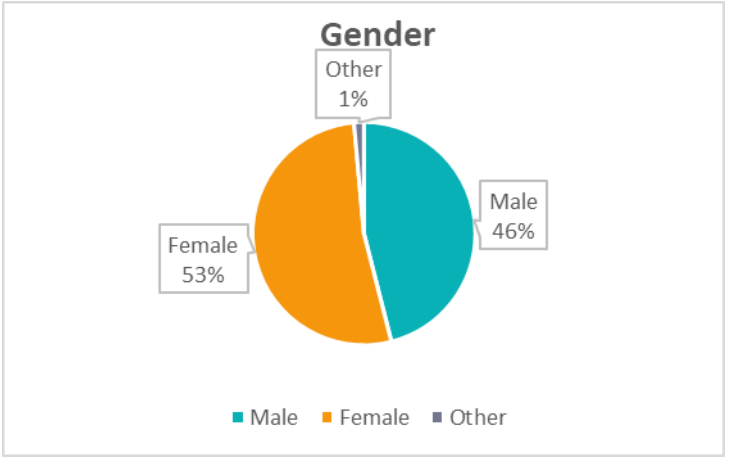
Chew, 2019). In contrast to the above statement, our results surprisingly show a bigger female involvement in this project (53%).

Figure 1: Statistics on the age of the my-digiskills assessment users



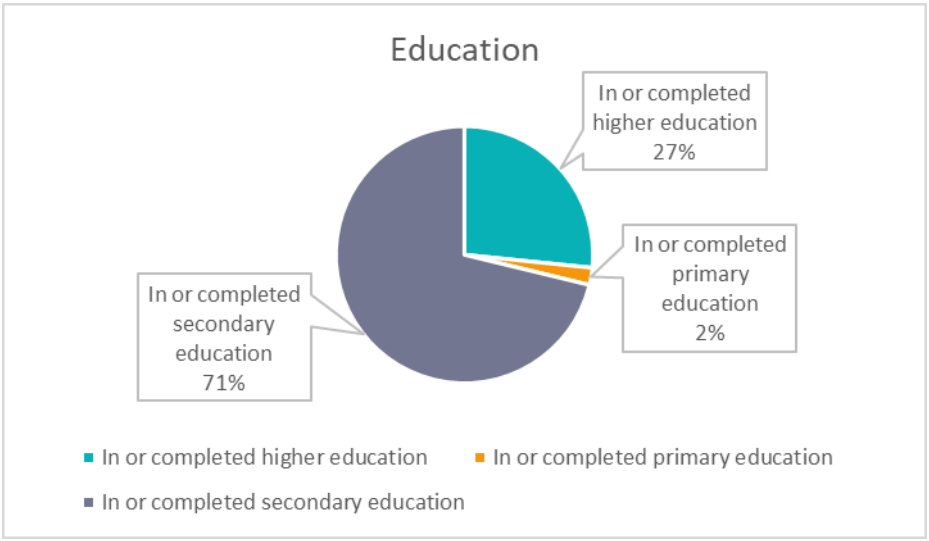
Source: Cyprus Computer Society

Figure 2: Statistics on the gender of the my-digiskills assessment users



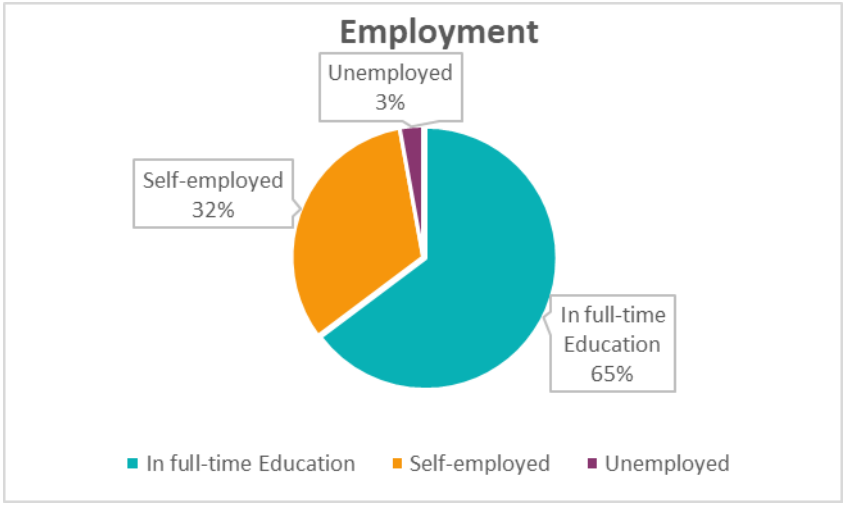
Source: Cyprus Computer Society

Figure 3: Statistics on the education level: my-digiskills assessment users



Source: Cyprus Computer Society

Figure 4: Statistics on the employment status: my-digiskills assessment users



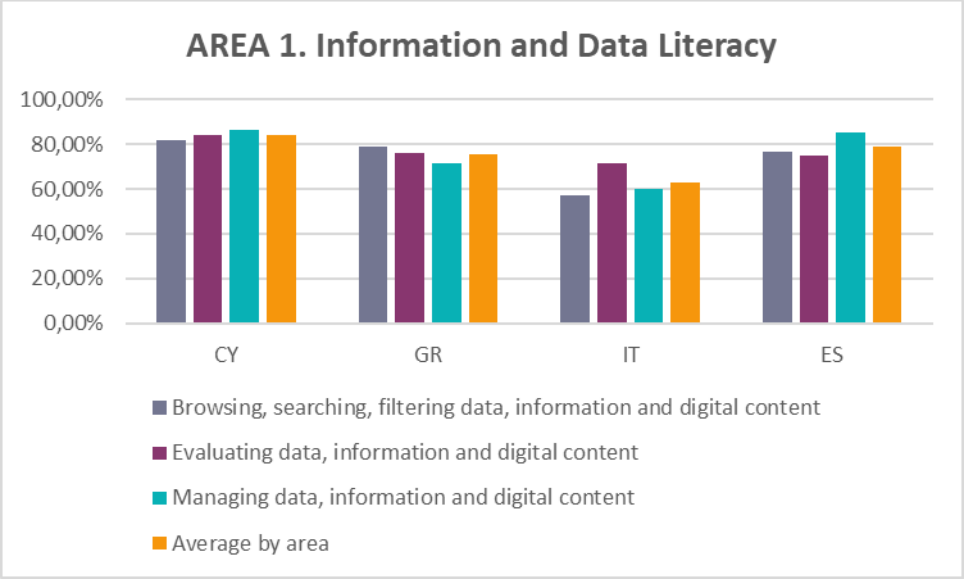
Source: Cyprus Computer Society

4. *The 5 Areas of my-digiskills assessment tool*

The my-digiskills tool assesses skills in 5 different areas as highlighted below. It is noted that although skills in area 4 (safety) and area 5 (problem solving) were not identified as areas for which participating students would in practice require skills to handle and manage their project, they are also presented for giving the reader a complete picture of the various domains covered. Details of the actual skill items for each area are presented within the graphs.

In the section that follows the results per digital skills area are presented.

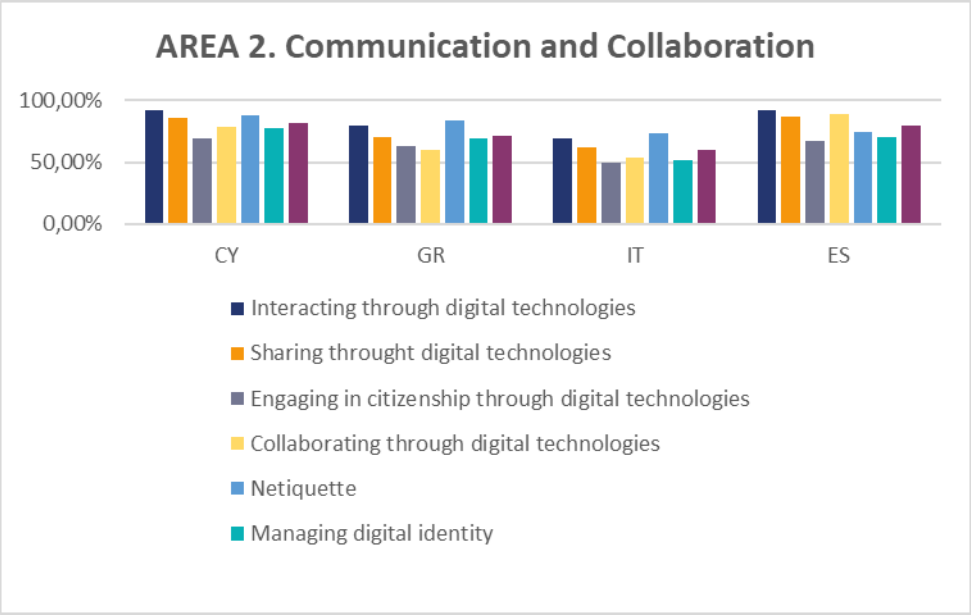
Figure 5: Statistics on Area 1 – Information and Data Literacy: my-digiskills assessment



Source: Cyprus Computer Society

Apart from skill item of "evaluating data, information and digital content" at which students from Italy score high, students from the country appear to perform lower in all other skills items compared to the students of the other countries.

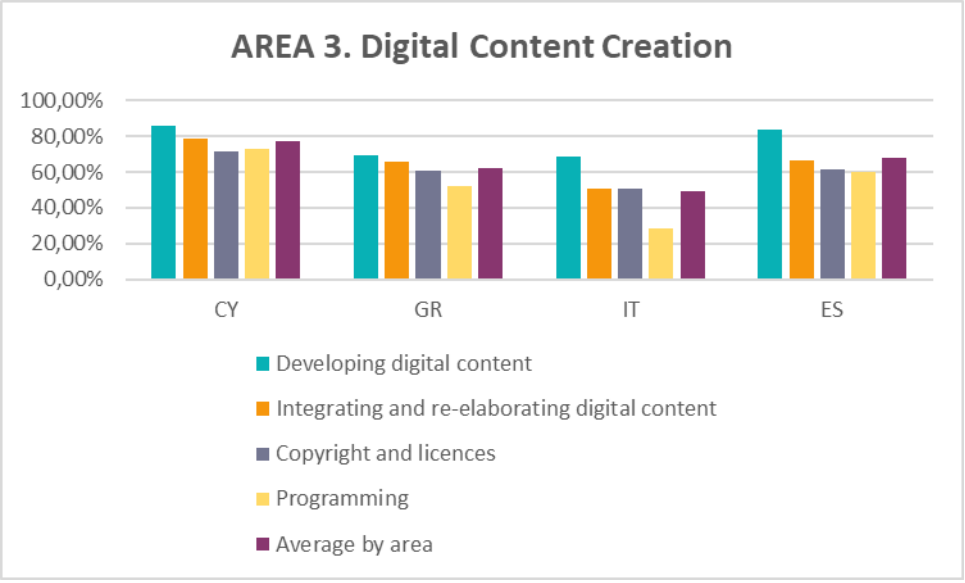
Figure 6: Statistics on Area 2 – Communication & Collaboration: my-digiskills assessment



Source: Cyprus Computer Society

Students from Cyprus and Spain seem to have the best averages on all skills items of area 2 while the skill item "engage in citizenship through digital technologies" seems to be the weakest item in all countries.

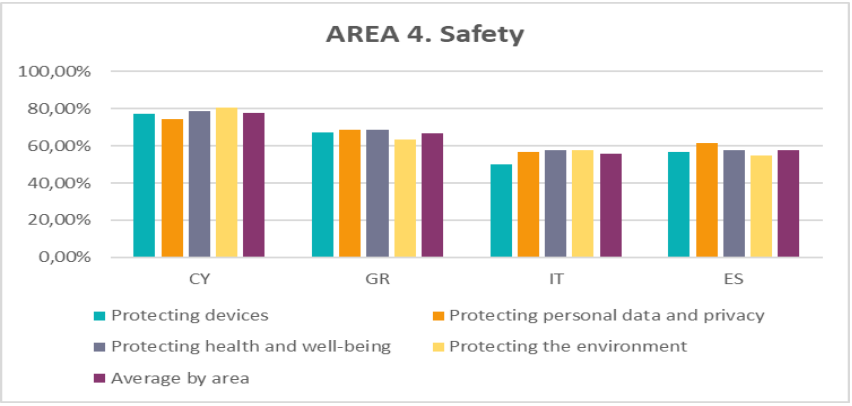
Figure 7: Statistics on Area 3 – Digital Content Creation: my-digiskills assessment



Source: Cyprus Computer Society

A similar pattern with area 2 is observed for students from Italy who appear to assess themselves lower in three skills items compared to the other partner countries. Amazingly students from Cyprus appear to have the best overall average and students from Spain and Cyprus to lead in the "developing digital content" item.

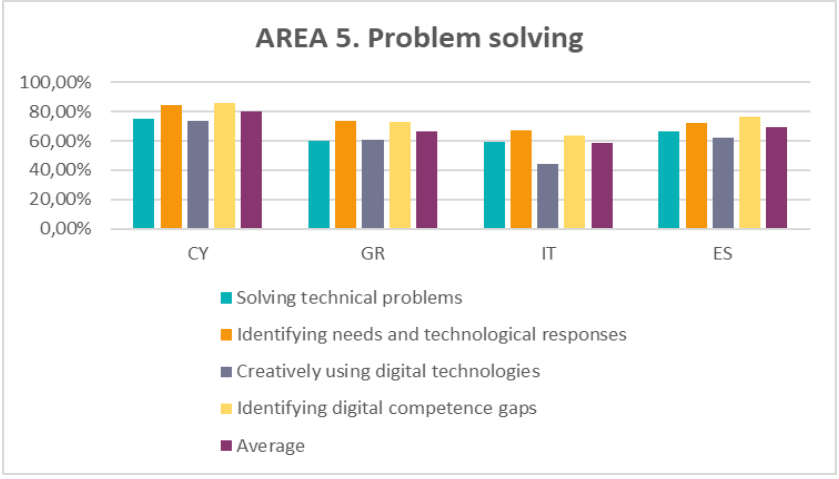
Figure 8: Statistics on Area 4 – Safety of my-digiskills assessment



Source: Cyprus Computer Society

Students from Cyprus appear to have better results in all skills item in the safety area with students from Italy and Spain to have very similar results.

Figure 9: Statistics on Area 5 – Problem Solving: my-digiskills assessment



Source: Cyprus Computer Society

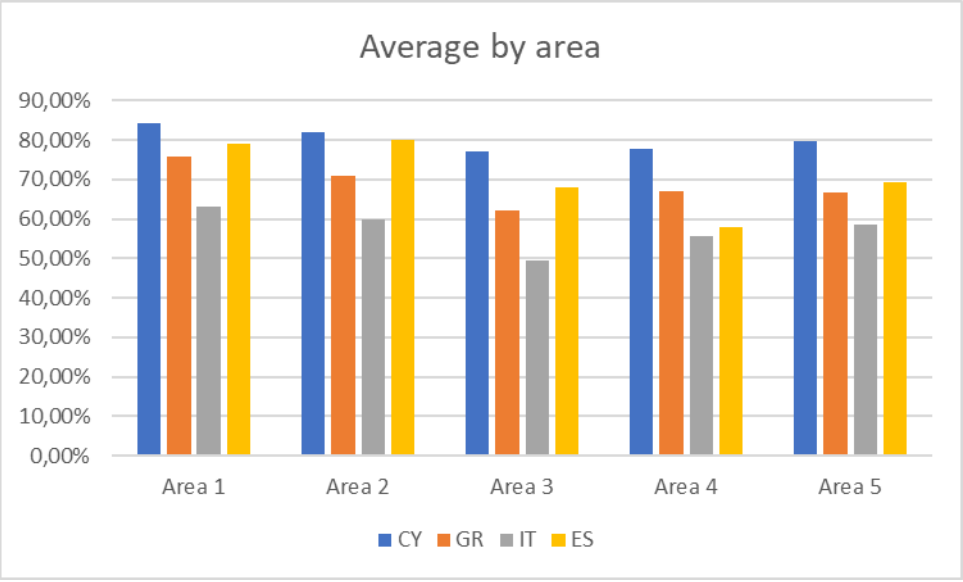
For area 5 students from Greece and Italy appear to have very similar results and the same appears for students from Cyprus and Spain but at a slightly higher level.

Numerous similarities in the results amongst countries can be identified. For all countries, the strongest areas were Area 1 and Area 2. Skills such as: interacting through digital technologies, netiquette, sharing through digital technologies, managing data, information and digital content, evaluating data, information, and digital content and browsing, searching, filtering data, information and digital content, scored quite high in most of the cases.

These results are not very surprising if we take into consideration, the average age group of the responders who are digital-native and usually very familiar with the use of technology in their daily communication and interactions. The average age of the respondents (16-24 years old) places them in the so-called "Technology Generation" or "Generation Z" (Gen Z), which is the first digital-native generation, as they cannot recall a world without the internet (Cruz and Díaz, 2016). Generation Z (Schroer, 2008) encompasses children or teenagers who were born between 1995 and 2012.

The area identified to be the weakest in all countries is Area 3 and more specifically, skills such as programming, copyright, and licenses.

Figure 10: Averages based on the 5 Areas: mydigiskills assessment



Source: Cyprus Computer Society

5. *Training materials development*

The data collected helped the consortium identify the lowest-scored skills areas among the responders and decide about the content of the training materials to be developed to address the gap indicated by those lowest-scored skills areas. Based on the above the CCS team considered that participating students would be required to have basic skills in using the computer and common applications that would help them develop their project proposal and present it to the judges' panel. To this end, the common office applications of word processing for developing the report, spreadsheets for developing their proposal's budget and presentations for briefly showcase their proposal to the judges'

panel would be the minimum skills required. Further discussion revealed that digital communication skills that would facilitate the communication among the team members and web browsing and searching for information would also be required that would help students in researching their business start-up idea.

The learning activities that constitute IO4 of the project were subsequently developed following the review of the mydigiskills assessment results. The actual content of the activities was based on the curriculum of the various modules of the globally recognized ICDL[3] certification program namely *Computer and Online Essentials*[4]*, Word Processing*[5]*, Spreadsheets*[6] and *Presentations*[7]*.*

A team of three persons, one writer and two quality assurance reviewers, were assigned the task of developing the training materials that include step-by-step instructions on how to perform various practical tasks useful and required for the preparation of their project deliverables. The materials were shared with the other project partners and used by students in their learning and practical workshops in a structured process to upgrade their skills for readiness to initiate their projects.

To complement the digital skills learning and practicing materials, the students' personalized active learning plan also included a series of video tutorials that focused more on the communication and presentation skills needed when presenting and promoting a start-up idea. These video tutorials focused on topics such as "The power of presentation[8]", "Avoiding Jargon[9]",

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[3] ICDL – www.icdleurope.org.
[4] https://icdleurope.org/workforce/computer-and-online-essentials/.
[5] https://www.icdleurope.org/workforce/word-processing/.
[6] https://www.icdleurope.org/workforce/spreadsheets/.
[7] https://www.icdleurope.org/workforce/presentation/.
[8] https://www.youtube.com/watch?v=crWgafnlhAA.
[9] https://www.youtube.com/watch?v=ZhQyYOIYk4k.

"My Biased Brain[10]", "Using body language[11]" and "Presentation Skills[12]" and "How to K.I.S.S Better in Science[13]". The video tutorials were bundled as a workshop and all interested students attended it through the RE-EDUCO YouTube Channel[14]. The workshop coincided with the final stages of the start-up ideas development and aimed at giving the students, the support, and skills they needed to effectively present their ideas.

6. Feedback from students and teachers

Towards the end of the workshops and the school competition (within the framework of Intellectual Output 3) the consortium collected feedback from the participating teams. Samples of the feedback collected are summarized below. The great teamwork experience with teachers and themselves working on the same level in a slightly more mentoring role with ideas coming solely from them was highlighted by students. Experiencing what it is like to work in an actual business environment where other employees/supervisors would listen to their ideas carefully, evaluate them and give them feedback on what might work and what not was highly valued by students. They also came to understand the difference between a good idea and its potential for implementation by considering the issue of high production cost that could lead to its rejection by potential investors and the abandonment of the idea by the start-up team itself. Students expressed their gratitude to their school and teachers who gave them the opportunity to participate in a unique activity like the

[10] https://www.youtube.com/watch?v=aT99vnwat8U.
[11] https://www.youtube.com/watch?v=Tf-87ZfXhaw.
[12] https://www.youtube.com/watch?v=Tf-87ZfXhaw.
[13] https://www.youtube.com/watch?v=NeenXh_4tkE.
[14] https://www.youtube.com/@re-educo93/videos.

competition! The whole experience was found wonderful, and the knowledge gained by both the students and us teachers is of inestimable value and difficult to teach in a subject at school. The competition helped the students to understand how difficult it is to transfer a business idea to paper, but how easy and interesting it can be if they gain the skills required and use the right tools. Through good cooperation, as should be the case in every new company that wants to progress, these three months passed without us noticing them. The students through the educational videos and guidance adapted to the data, worked together harmoniously, agreed, and disagreed and adapted their ideas, above all they discussed and shared roles according to their skills and interests and observed the timetable set at the beginning of the project. In practical terms, they experienced the dynamics of a real team and managed to resolve the issues arised successfully and to bring their projects into successful completion.

The program was identified by students as very different and unique compared to other programs communicated to their schools. It was innovative and it gave them the opportunity to discuss with students and colleagues on various issues that relate and affect their local community and society. Through the discussion and the ideas exchanged teachers managed, on one hand, to get to know the students better and to learn their hidden talents, on the other hand. Teachers were impressed by the students' ideas that found them innovative and they were satisfied that they managed to support and guide their teams in implementing them.

Students pointed out that the execution of the final phase of the competition should be planned at a different time to avoid conflict with school examinations that prevented students from preparing adequately for their presentation in front of the judges' panel. With the benefit of the hindsight this is an issue that all project

coordinators in similar projects should take into consideration in their planning tasks.

7. Conclusion

In conclusion, based on the collected feedback the consortium is proud to assert that the project and its integral elements were completed successfully. In practical terms, the combination training with the use of suitable and learning materials, the mixture of a variety of learning modalities, the opportunity given to students to develop their innovative ideas through a structured and well monitored process supported by their teachers, the well-organized competition and pitching in front of a qualified panel of judges can be identified as the critical success factors of this project; thus creating a model for future implementation in other setups and variable content.

Most importantly, however, and evident of the project's success is the fact that both students and teachers expressed their willingness to actively engage in similar projects in the future; thus, allowing us to assume that participants benefited from their overall project participation and gained valuable both digital and soft skills and experiences that will prove useful in the future as well.

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