STEAM

BOSS

boosting soft skills

WP3 – STEAM APPROACH

Results of Satisfactions Questionnaires – Pilot Projects

ifoa Sapere utile

UNIMORE UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA

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Introduction

The European project “STEAM Boosting Soft Skills” (approved by the Italian National Agency INAPP, 2023-1-IT01-KA220-VET-000163992) adopts the STEAM approach, an educational methodology that integrates science, technology, engineering, art and mathematics to promote the development of soft skills. In the ever-changing landscape of the labour market, which is constantly undergoing upheaval, soft skills have in fact become increasingly crucial for professional success. By collaborating with local companies, the project aims to achieve three key objectives:

- To enhance the soft skills of students enrolled in vocational education and training (VET) programmes;
- To develop STEAM pilot projects in line with the needs of the labour market;
- To bring the skills of VET trainers into line with European standards.

Within the framework of this European project, pilot projects were developed in all partner countries based on the STEAM approach, with the main objective of fostering the development of students’ soft and transversal skills in response to real labour market needs. These pilot projects resulted from the practical application of the knowledge acquired by trainers during the WP2 training activities and promoted close cooperation between the education sector and the business world.

Each pilot project was designed by interdisciplinary teams of trainers and included the active involvement of companies, particularly human resources professionals, ensuring alignment between the proposed activities and the skills most valued in the professional context. In total, five pilot activities were implemented, involving students, trainers and companies in each partner country.

This report aims to analyse the results of the implementation of these pilot projects, with a specific focus on the analysis of satisfaction questionnaires collected from the participants and trainers involved in the design of the activities in each country, to assess overall satisfaction levels, identify strengths and areas for improvement, and evaluate the perceived impact of the activities on the development of soft skills.

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You can find the questionnaire used to measure trainers' satisfaction at this link: https://docs.google.com/forms/d/e/1FAIpQLSfm3Lmfeb3ZMih3TSDACfVquxWSZdXb3GbwIHWYeOcax_6BCg/viewform?usp=preview

You can find the questionnaire used to measure students' satisfaction at this link: https://docs.google.com/forms/d/e/1FAIpQLScifwso0MQYUcvh-LkCdVdQbghEe6PsmbdF9JTqhdA6xvSDjQ/viewform?usp=publish-editor

As part of the project, summaries of the various projects carried out were also produced, along with a document containing a SWOT analysis of the pilot projects developed within the STEAM Bo.SS partnership.

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1. Pilot Project - Presentation

Below is a brief overview of the five projects carried out, providing a summary of the main features and characteristics of each.

1.1. Spain

Item	Description
Country	Spain
Project Title	*Break Barriers, Build Bridges*
Main Topic	Awareness and reduction of barriers faced by people with functional diversity in commercial spaces
Partner Organisation (VET)	CIPFP Misericordia
Company Involved	Novodecor (refurbishment and commercial space design company)
Target Group	Second-year VET students in Social Integration
Number of Participants	27 students
Age Range	19–30 years
Methodology	Challenge-Based Learning
Duration	35 hours (25 classroom hours + 10 hours of autonomous work)
STEAM Approach	Analysis of accessibility barriers (Science & Technology), design of inclusive solutions and prototypes (Engineering), awareness campaigns and podcasts (Arts), use of data and measurements to assess accessibility (Mathematics)
Main Activities	Analysis of real commercial spaces, company collaboration and feedback, design of inclusive solutions, development of prototypes, social media campaigns and podcasts
Final Outputs	Design plans or mock-ups, awareness campaigns on social networks, podcasts on inclusion

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Item	Description
Soft Skills Developed	Creativity, teamwork, problem solving, empathy, effective communication, adaptability, proactivity, commitment
Company Role	Identification of real market needs, feedback on student proposals, contribution to inclusive design perspective
Assessment Tools	Pre- and post-project student self-assessment questionnaires; final presentations and reflection
Key Focus	Inclusive design, accessibility, alignment with labour market needs

1.2. Portugal

Item	Description
Country	Portugal
Project Title	*Missão Comunidade+ | Social Impact Escape Room*
Main Topic	Development of soft skills through the creation of a digital Escape Room aimed at social and digital inclusion of vulnerable groups
Partner Organisation (VET)	VET provider delivering Apprenticeship Courses in IT and Health
Company / Organisation Involved	AI9.PT – Association for Innovation and Social Entrepreneurship
Target Group	Apprenticeship students in IT and Health
Number of Participants	32 students
Age Range	17–25 years
Methodology	Project-Based Learning / Challenge-Based Learning
Duration	20 hours
STEAM Approach	Scientific reasoning applied to challenge design (Science); use of digital platforms and multimedia tools (Technology); project planning and

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Item	Description
	problem solving (Engineering); graphic design and storytelling (Arts); logical reasoning and data management for puzzles and scoring systems (Mathematics)
Main Activities	Group work with defined roles, design and development of a digital Escape Room, checkpoints with formative feedback, testing and final public presentation
Final Outputs	Digital Escape Room prototypes with social impact focus; presentations to peers and stakeholders
Soft Skills Developed	Empathy, communication skills, teamwork, collaboration, creativity, critical thinking, planning and organisation, autonomy, proactivity, problem solving, public presentation skills
Company / Organisation Role	Contribution to the social impact perspective, feedback on project development, potential participation in final presentation
Assessment Tools	Pre- and post-student self-assessment, observation sheets, satisfaction questionnaires for students and trainers
Key Focus	Social impact, digital and health literacy, inclusive design, alignment with labour market soft skills

1.3. Italy - Project 1

Item	Description
Country	Italy
Project Title	*Marketing Strategy for Atobit Formazione*
Main Topic	Development of soft skills through the design of a digital marketing and communication strategy for a company spin-off
Partner Organisation (VET)	Post-diploma training provider (Digital & Event Coordination courses)

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Item	Description
Company Involved	Atobit – Custom software development company
Target Group	Post-diploma students in digital communication and event coordination
Number of Participants	21 students
Age Range	19–35 years
Methodology	Project-Based Learning (PBL)
Duration	33 hours (27 May – 14 July)
STEAM Approach	Data collection and interpretation for campaign evaluation (Science); use of digital tools and platforms for communication and advertising (Technology); project planning, role distribution and event organisation (Engineering / Project Management); visual creativity, branding and storytelling (Arts); KPI analysis, budgeting and performance metrics (Mathematics)
Main Activities	Group work with defined roles, competitor and market analysis, design of digital strategy and marketing campaigns, development of editorial plans, checkpoints with feedback, final presentation to company
Final Outputs	Marketing and communication strategy for Atobit Formazione, including website page proposal, social media editorial plan, Google campaign and on-site event concept
Soft Skills Developed	Curiosity, data analysis, creativity, listening and proactivity, planning and organisation, teamwork, leadership, public speaking and communication
Company Role	Definition of real business needs, participation in meetings and final presentation, feedback on students' proposals
Assessment Tools	Pre- and post-student self-assessment questionnaires; observation forms completed by project manager/tutor; evaluation during checkpoints and final presentation
Key Focus	Alignment with labour market needs, digital marketing skills, project management, soft skills development

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1.4. Italy - Project 2

Item	Description
Country	Italy
Project Title	*Fresh Taste, Fresh Take for Copiaincolla communication agency*
Main Topic	Follow the launch of a B2C brand (Bontù) and find an alternative positioning to the usual themes of territory, Italy, tradition, table, family.
Partner Organisation (VET)	Post-diploma training provider (Communication and design)
Company Involved	Copiaincolla – Communication agency
Target Group	Post-diploma students in digital communication and event coordination
Number of Participants	17 students
Age Range	19–35 years
Methodology	Project-Based Learning (PBL)
Duration	33 hours (27 May – 14 July)
STEAM Approach	Data collection and interpretation for target's behaviors analysis and market and competitor research (Science); use of digital tools and platforms for marketing (Technology); project planning, role distribution and event organisation (Engineering / Project Management); visual creativity, branding and storytelling (Arts); KPI analysis and forecasting of results (Mathematics)
Main Activities	Group work with defined roles, competitor and market analysis, design of brand and digital strategy, development of communication format, checkpoints with feedback, final presentation to company
Final Outputs	Branding and communication strategy for Bontù, including name for product, logo, and packaging proposals, social media teaser video, communication format proposal

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Item	Description
Soft Skills Developed	Curiosity, data analysis, creativity, listening and proactivity, planning and organisation, teamwork, leadership, public speaking and communication
Company Role	Definition of real business needs, participation in meetings and final presentation, feedback on students' proposals
Assessment Tools	Pre- and post-student self-assessment questionnaires; observation forms completed by project manager/tutor; evaluation during checkpoints and final presentation
Key Focus	Alignment with labour market needs, digital marketing skills, project management, soft skills development

1.5. Estonia

Item	Description
Country	Estonia
Project Title	*Sustainable Waste Challenge*
Main Topic	Development of soft skills through real-world environmental challenges focused on waste management, sustainability and community behaviour
Partner Organisation (VET)	Kuressaare Regional Training Centre (Kuressaare Vocational School)
Company / Organisation Involved	Saaremaa Municipality – Environmental Department
Target Group	10th grade students (K-12)
Number of Participants	30 students
Age Range	15–16 years

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Item	Description
Methodology	Project-Based Learning (PBL), Design Thinking, inquiry-based and collaborative learning
Duration	16 hours (2 days)
STEAM Approach	Creative problem-solving using SCAMPER and upcycling concepts (Science & Arts); robotics and programming for urban waste solutions (Technology & Engineering); data analysis, logic and use of digital tools for mapping problems and solutions (Mathematics)
Main Activities	Educational game *Creative Junk Mashup*; robotics workshop on urban waste management using mBot robots; panel discussion and debate with local authorities on community waste challenges
Final Outputs	Prototype solutions for waste management, group presentations, debate outcomes and proposed community-level solutions
Soft Skills Developed	Creativity, critical thinking, teamwork, problem solving, proactivity, effective communication, empathy, leadership, respectful dialogue
Company / Organisation Role	Presentation of real community waste challenges, participation in discussion and Q&A, contribution to real-world context
Assessment Tools	Pre- and post-student self-assessment questionnaires; satisfaction questionnaires for students and teachers
Key Focus	Environmental sustainability, community engagement, behavioural change, alignment of STEAM learning with real societal challenges

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2. Satisfaction Questionnaires – Results

2.1. Spain

2.1.1. Trainers' Satisfaction Answers – Spain

The analysis of the trainers' satisfaction questionnaires shows a high overall level of satisfaction with the Spanish pilot project. Most evaluation items received positive scores (levels 3 and 4), confirming the quality and relevance of the activity.

Trainers particularly valued the structure and clarity of the project objectives, as well as the appropriateness of the activities and materials, indicating that the project was well planned and coherently implemented. High scores were also reported for student engagement, reflecting the effectiveness of the inclusive, challenge-based approach adopted.

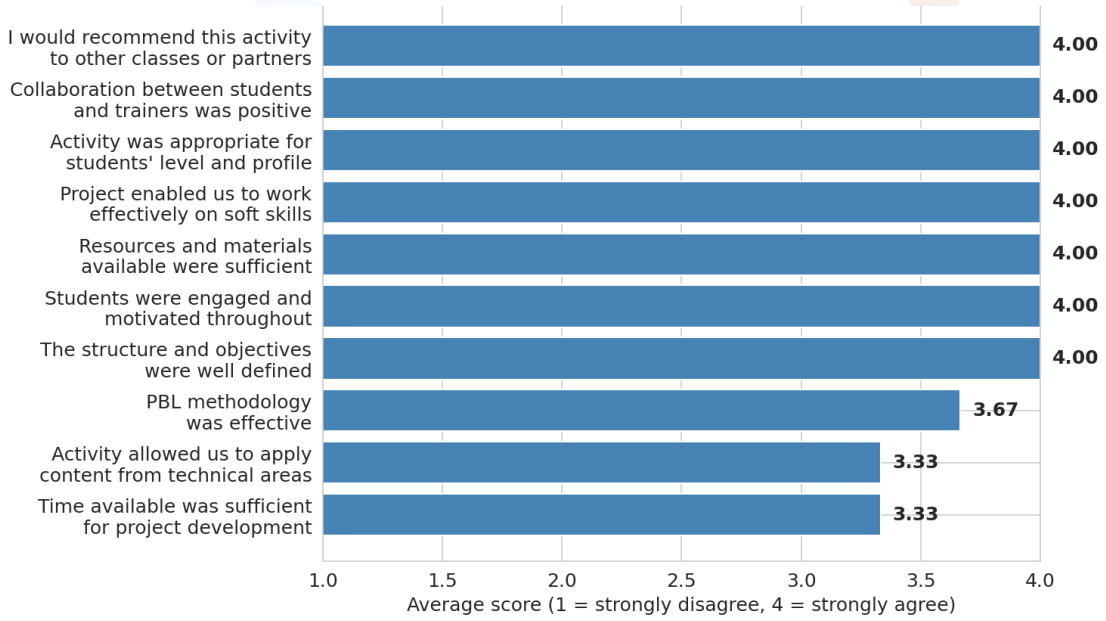

Figure 1 – Trainers' Satisfaction Average – SPAIN

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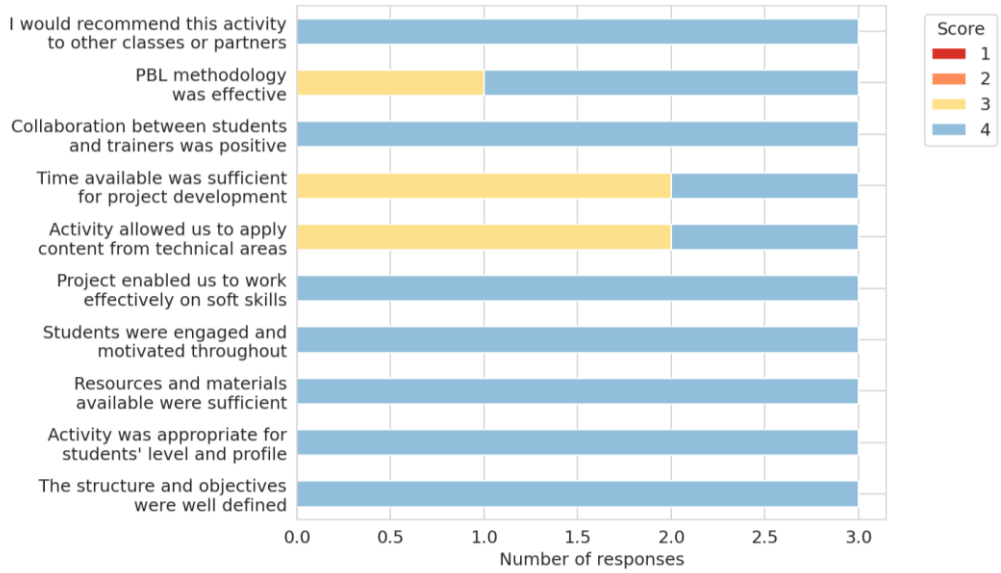

Figure 2 – Trainers' Satisfaction Distribution – SPAIN

The trainers agreed that the project enabled the achievement of its intended objectives and that the methodology supported active learning and soft skills development, especially through real-world problem analysis and collaboration with the partner company.

Some variation in responses was observed regarding time availability and collaboration dynamics, with slightly lower scores compared to other indicators. This suggests that these aspects could be further optimized, for example by extending certain phases of the activity or strengthening coordination moments.

Despite these minor aspects for improvement, trainers expressed a strong willingness to recommend the activity and positively evaluated the PBL methodology, highlighting its relevance for vocational education and training and its alignment with labour market needs.

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2.1.2. Students' Satisfaction Answers – Spain

The analysis of the students' satisfaction questionnaires shows a generally positive evaluation of the Spanish pilot project. While a wider dispersion of responses is observed compared to other countries, most answers are still concentrated in levels 3 and 4, indicating overall satisfaction with the learning experience.

Students highlighted positively that the activity was clearly explained and understood from the outset, confirming the effectiveness of the initial presentation and guidance. The theme of the project was also perceived as interesting and relevant, particularly due to its focus on inclusion, accessibility and real-life challenges.

High satisfaction levels were reported regarding teamwork, with many students indicating that they worked well within their groups. Similarly, the support and guidance provided by trainers were positively evaluated, contributing to a supportive and structured learning environment.

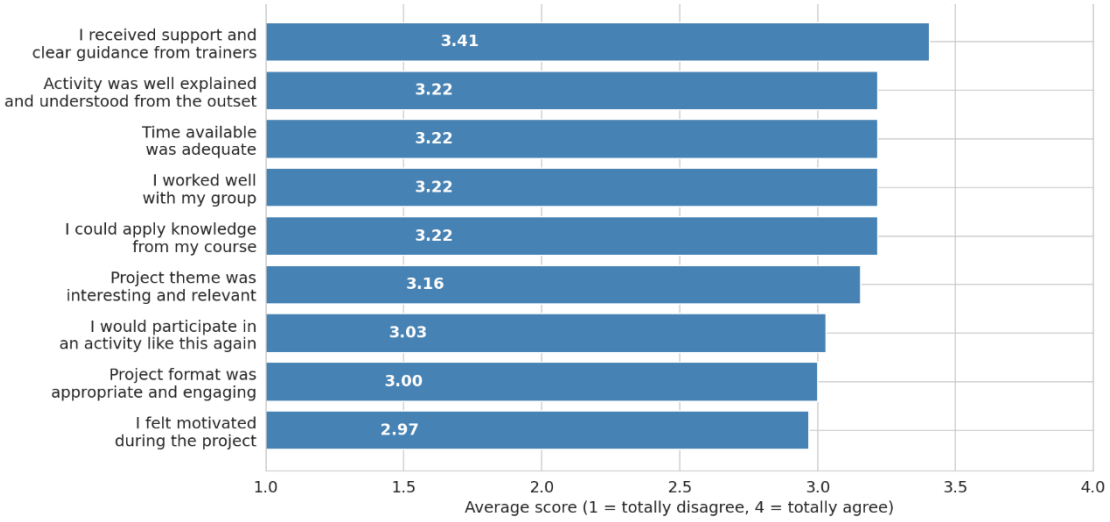

Figure 3 – Students' Satisfaction Average – SPAIN

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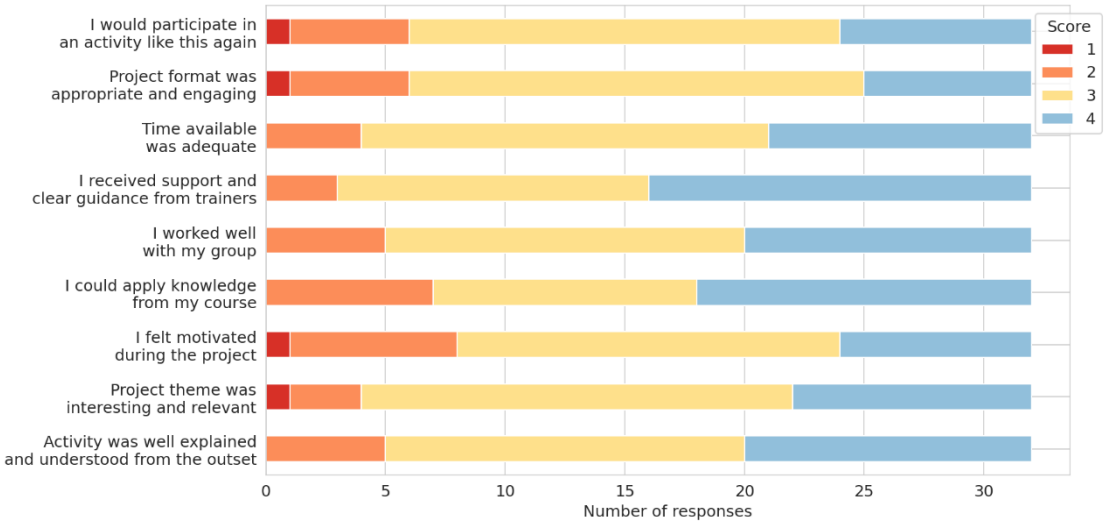

Figure 4 – Students' Satisfaction Distribution – SPAIN

The opportunity to apply knowledge acquired during the course and the format of the project were generally well received, though with slightly more varied responses, suggesting different levels of engagement or confidence among students.

The item related to time availability showed more mixed evaluations, indicating that some students perceived the allocated time as insufficient, while others considered it adequate. This points to a potential area for improvement in future implementations.

Finally, most students expressed a willingness to participate in similar activities again, confirming the perceived value of the project and its contribution to both personal development and soft skills acquisition.

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2.2. Portugal

2.2.1. Trainers' Satisfaction Answers – Portugal

The analysis of the trainers' satisfaction questionnaires indicates a very high overall level of satisfaction with the Portuguese pilot project. Most evaluation items received high scores (levels 3 and 4), reflecting a strong positive assessment of the project's design, implementation and outcomes.

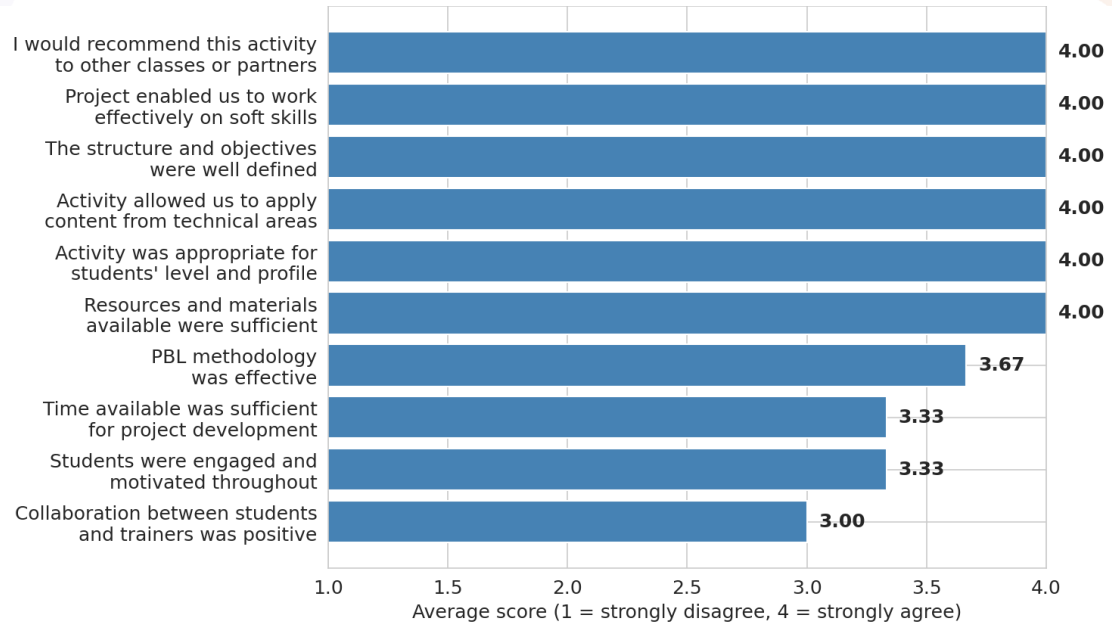

Figure 5 – Trainers' Satisfaction Average - PORTUGAL

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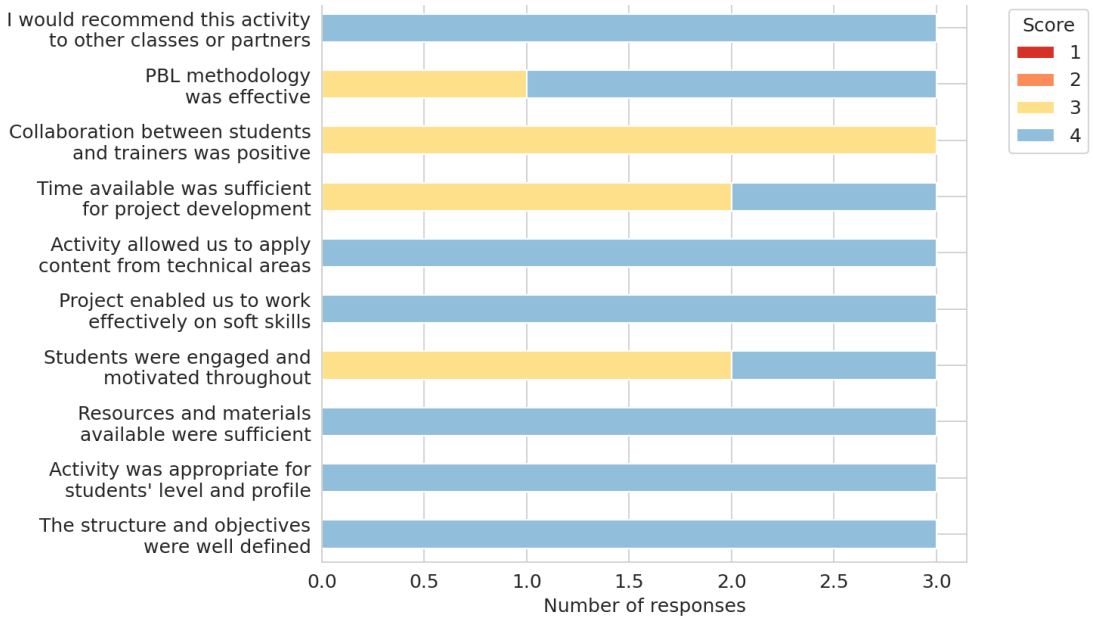

Figure 6 – Trainers' Satisfaction Distribution – Portugal

Trainers particularly valued the structure and clarity of the project objectives, as well as the appropriateness of the activities and resources, confirming that the project was well planned and aligned with the intended learning goals. High satisfaction levels were also reported regarding student engagement, highlighting the effectiveness of the challenge-based and collaborative methodology adopted.

The trainers agreed that the project enabled the achievement of its objectives and that the methodology supported active learning and soft skills development, especially through the creation of a digital product with social impact.

Positive evaluations were also recorded for collaboration dynamics and the Project-Based Learning methodology, which was considered highly suitable for vocational education and for linking learning with real-world contexts.

Slightly more varied responses were observed regarding time availability, suggesting that while the allocated time was generally considered adequate, some trainers would have benefited from additional time to further develop or consolidate the activities.

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Finally, trainers expressed a strong willingness to recommend the activity, confirming its perceived value, relevance and potential for replication in other educational contexts.

2.2.2. Students' Satisfaction Answers – Portugal

The analysis of the students' satisfaction questionnaires reveals a very positive overall evaluation of the Portuguese pilot project. Most responses are concentrated in levels 3 and 4, while very few or no negative responses (level 1) were recorded, indicating high levels of satisfaction across all evaluated dimensions.

Students reported that the activity was well explained and clearly understood from the outset, highlighting the effectiveness of the initial presentation and guidance provided by the trainers. The theme of the project was perceived as interesting and relevant, particularly due to its focus on social impact, digital inclusion and real community needs.

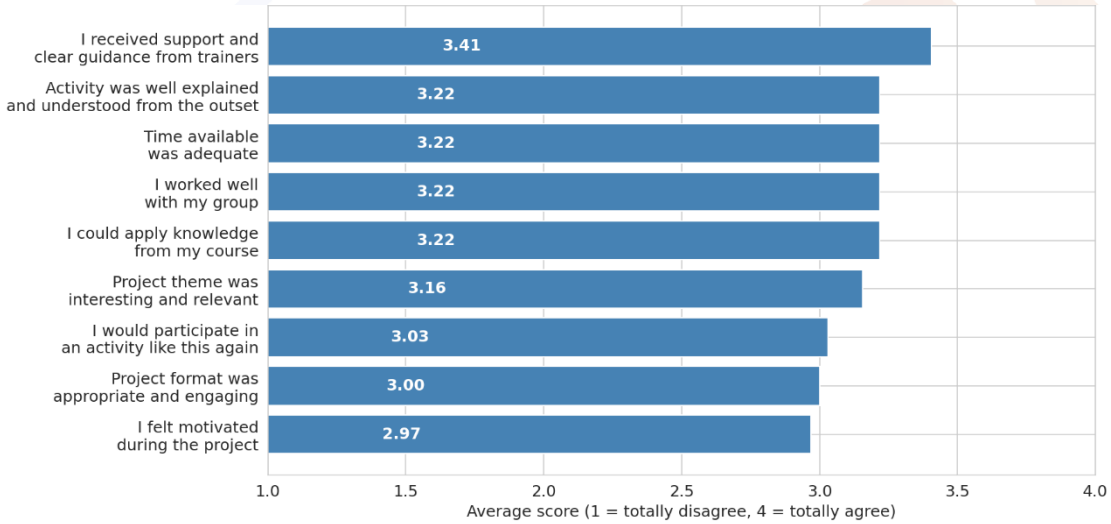

Figure 7 – Students' Satisfaction Average – PORTUGAL

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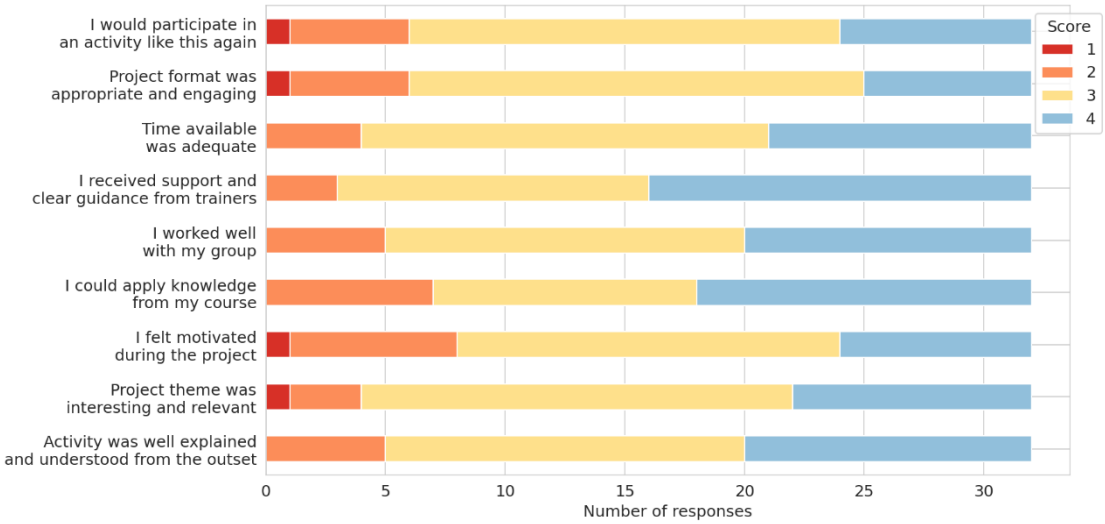

Figure 8 – Students' Satisfaction Distribution – PORTUGAL

High satisfaction levels were also observed regarding motivation during the development of the project and the opportunity to apply knowledge acquired during their courses, confirming the strong link between theoretical learning and practical application through the digital Escape Room challenge.

Students positively evaluated the development of important skills for the future, reinforcing the project's contribution to soft skills such as teamwork, creativity, problem solving, communication and autonomy. In line with this, teamwork and collaboration were rated highly, with students indicating that they worked effectively within their groups.

The support and clear guidance from trainers received consistently positive evaluations, contributing to a structured and supportive learning environment. The project format was also considered appropriate and engaging, reflecting the effectiveness of the chosen methodology.

The item related to time availability showed slightly more varied responses, suggesting that some students would have appreciated additional time to further develop or refine their projects. Nevertheless, overall satisfaction with the project duration remained positive.

Finally, a strong willingness to participate in similar activities in the future was expressed, confirming the perceived value, relevance and impact of the project on students' learning experience and preparation for future professional challenges.

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2.3. Italy

2.3.1. Trainers' Satisfaction Answers – Italy

Overall, the Italian trainers expressed a very high level of satisfaction with the pilot project, with most indicators receiving scores between 3 and 4, confirming the quality and relevance of the activity.

The structure and objectives of the project, as well as the quality of resources and materials, were rated very positively by all trainers, indicating that the activity was well designed and aligned with the intended learning outcomes. Trainers also strongly agreed that the project enabled the achievement of its objectives and that the methodology supported effective learning.

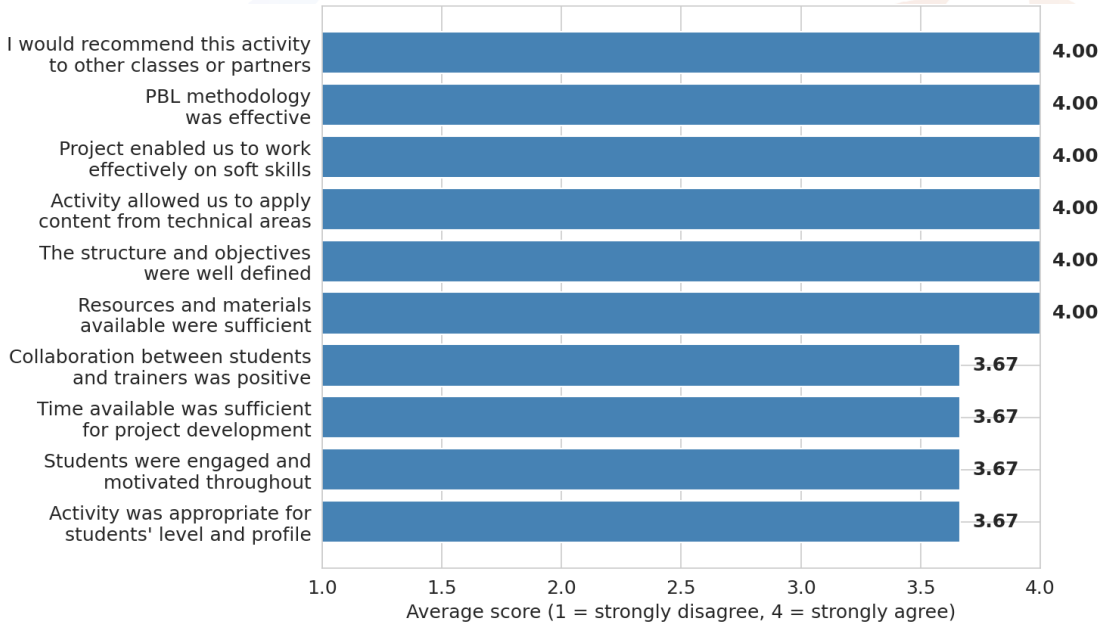

Figure 9 – Trainers' Satisfaction Average – ITALY

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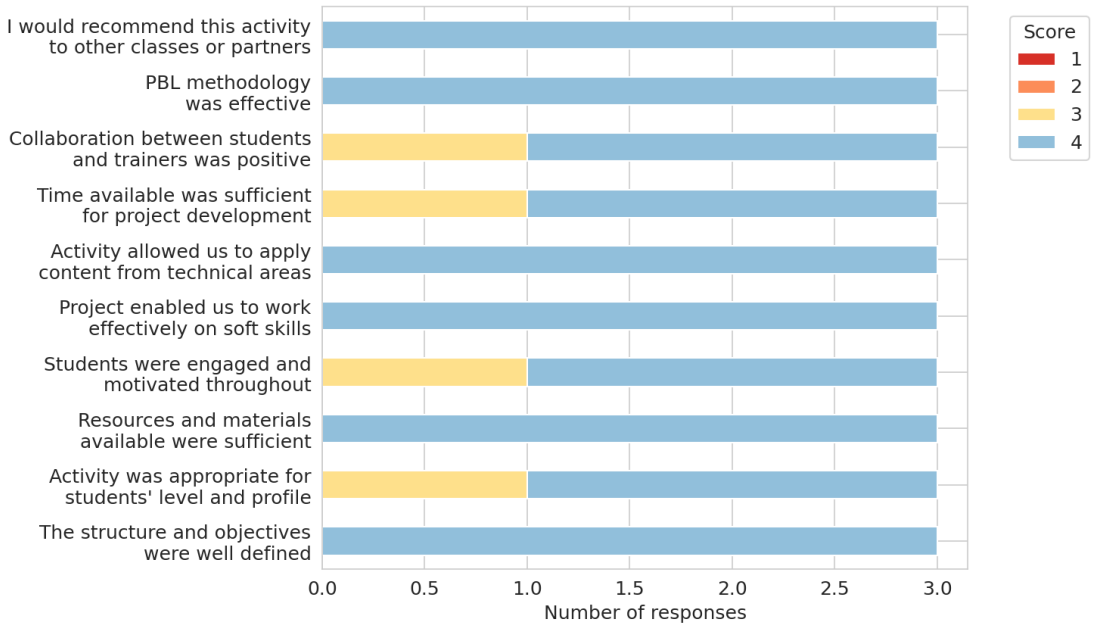

Figure 10 – Trainers' Satisfaction Average – ITALY

High satisfaction levels were reported in relation to student engagement, suggesting that the real-world, project-based nature of the activity successfully motivated students and encouraged active participation throughout the project.

The Project-Based Learning (PBL) methodology was particularly appreciated, with trainers confirming its effectiveness in fostering both technical competencies and soft skills relevant to the labour market.

Some slightly lower, though still positive, scores emerged in relation to time availability and collaboration dynamics, indicating that these aspects could benefit from minor adjustments, such as extended timeframes or additional coordination moments.

Finally, trainers showed a strong willingness to recommend the activity, reflecting an overall positive assessment of the project's impact, pedagogical value and alignment with professional and market-oriented needs.

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2.3.2. Students' Satisfaction Answers – Italy (Atobit project)

The analysis of Atobit project students' satisfaction questionnaire shows an overall positive evaluation of the pilot experience. As shown by the response distribution, no level 1 (totally disagree) answers were recorded, and the majority of responses fall within levels 3 and 4, confirming generally high satisfaction across all dimensions.

The strongest result concerns the possibility to apply knowledge from the course, with responses almost entirely concentrated at the highest level. This clearly indicates that students perceived the activity as highly effective in connecting academic content with practical, real-world tasks—fully in line with a Project-Based Learning approach.

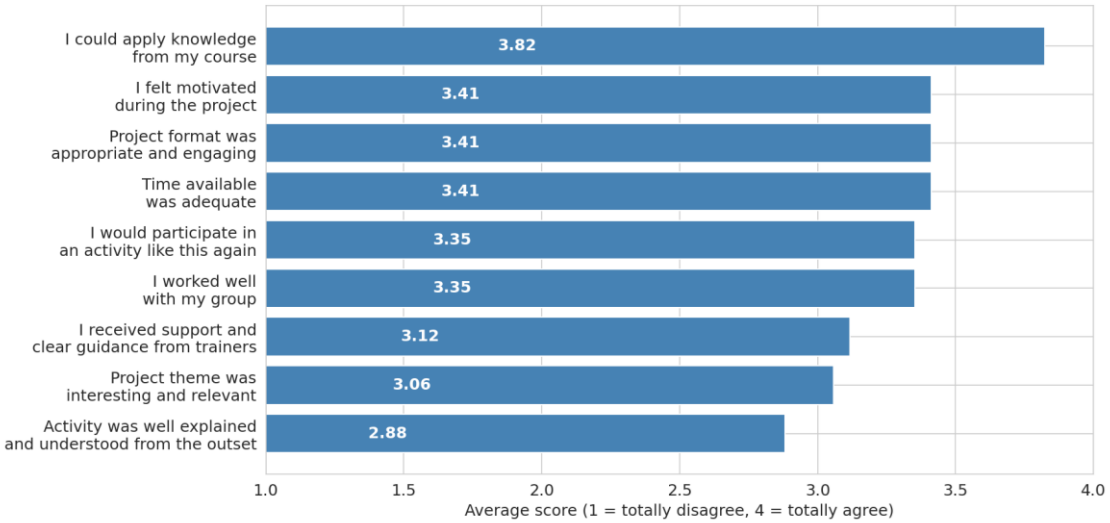

Figure 11 - Students' Satisfaction Average (ATOBIT) – ITALY

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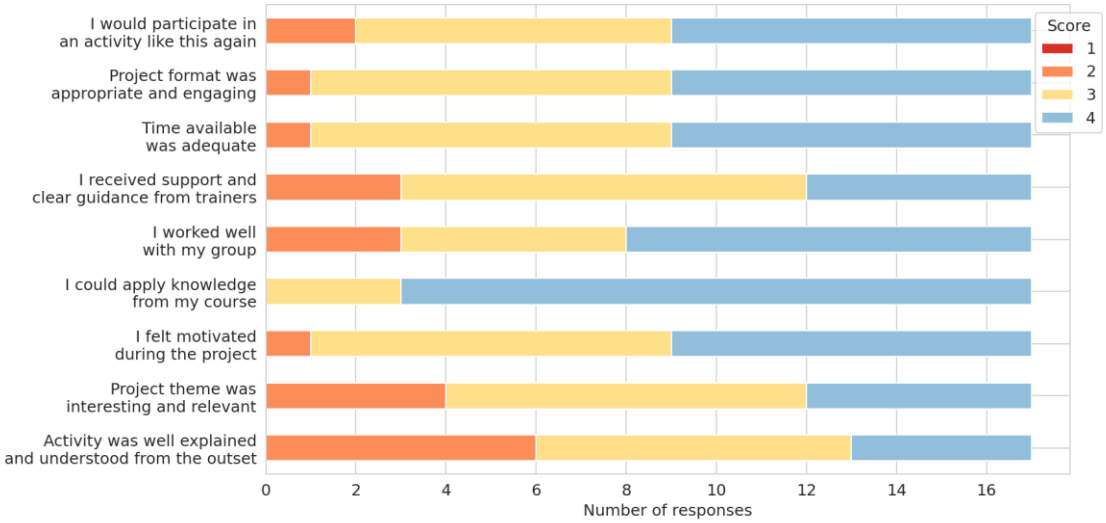

Figure 11 – Students' Satisfaction Distribution (ATOBIT) – ITALY

High and consistent satisfaction also emerges for motivation during the project, the engagement/appropriateness of the project format, and the perception that the time available was adequate. In addition, students reported good experiences with teamwork and expressed a strong willingness to participate in a similar activity again, suggesting that collaboration and the overall design of the activity supported involvement and sustained interest.

More moderate, though still positive, evaluations were observed for support and guidance from trainers and the perception that the project theme was interesting and relevant. The item with the lowest score relates to the initial phase — "the activity was well explained and understood from the outset" — and the distribution shows a higher concentration of level 2 responses compared to other items. This suggests that, for this group, the introductory briefing and initial clarity of expectations could be strengthened (e.g., clearer instructions, examples, or a short alignment moment at the start) to ensure all students feel fully oriented from the beginning.

Overall, Atobit project students' feedback confirms a valuable and engaging learning experience, particularly strong in its ability to translate course knowledge into practice, while pointing to initial communication/briefing as the main area for refinement.

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2.3.3. Students' Satisfaction Answers – Italy (Copiaincolla project)

The analysis of Copiaincolla project students' satisfaction questionnaire indicates a very positive overall evaluation of the Italian pilot experience. The response distribution shows no level 1 (totally disagree) answers, and responses are largely concentrated in levels 3 and 4, confirming consistently high satisfaction across the different aspects of the activity.

The highest-rated items relate to the overall design and relevance of the experience. Students strongly agreed that the project format was appropriate and engaging, that the project theme was interesting and relevant, and that they could apply knowledge from their course. These results suggest that the activity was perceived as meaningful, well-aligned with learning objectives, and effective in translating classroom knowledge into practical application.

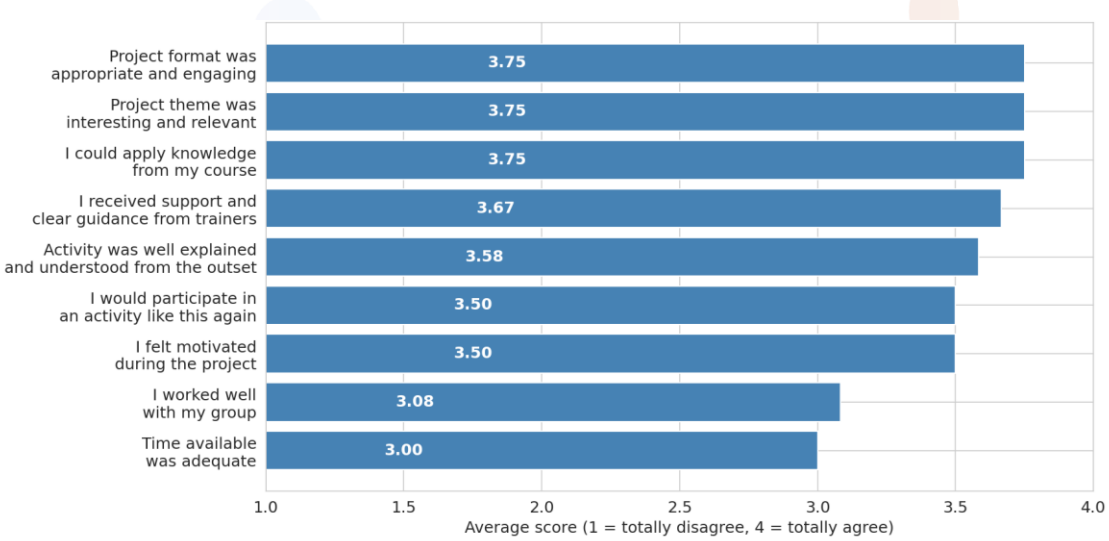

Figure 12 – Students' Satisfaction Average (COPIAINCOLLA) – ITALY

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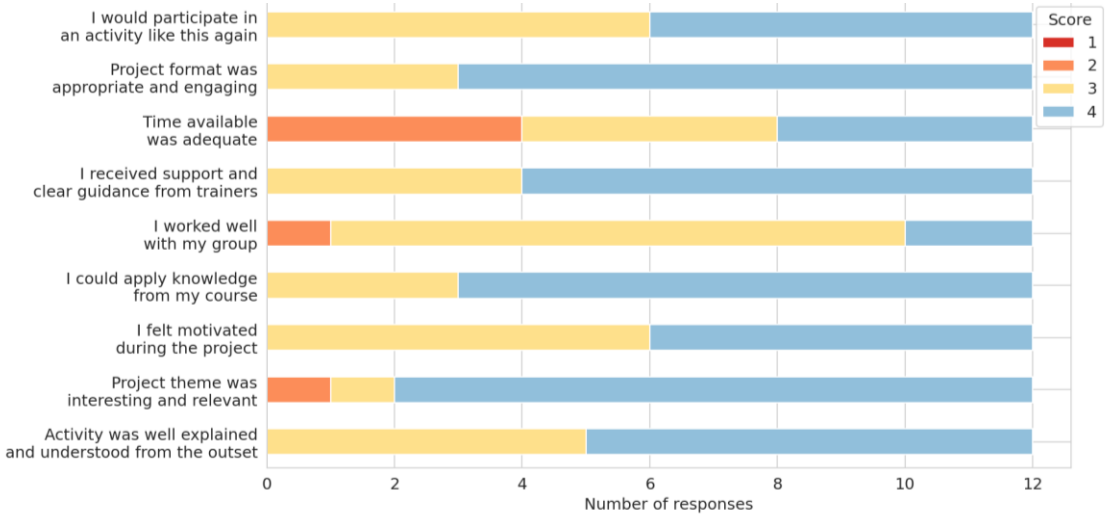

Figure 13 – Students' Satisfaction Distribution (COPIAINCOLLA) – ITALY

Students also reported a strong perception of receiving support and clear guidance from trainers, together with a high score for the fact that the activity was well explained and understood from the outset. This indicates that, for this group, the initial briefing and facilitation were generally effective, supporting structured learning while allowing autonomy during project development.

Positive feedback was also recorded regarding motivation during the project and the willingness to participate in a similar activity again, confirming high engagement and perceived value of the experience.

More moderate results appear in the areas of teamwork and especially time available. The distribution shows a noticeable presence of level 2 responses for these items, suggesting that some students experienced challenges in group coordination and/or would have benefited from additional time to further develop their proposals.

Overall, Copiaincolla project students' feedback confirms strong satisfaction, particularly in relation to the project's format, relevance, and learning impact, while pointing to time management and group-work dynamics as the main areas that could be strengthened in future editions.

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2.4. Estonia

2.4.1. Trainers' Satisfaction Answers – Estonia

Overall, the trainers' satisfaction with the Estonian pilot project was very high, with most evaluation items receiving scores between 3 and 4 on the satisfaction scale.

The structure and objectives of the activity, as well as the appropriateness of the content and materials, were rated very positively by all trainers, indicating that the project was well planned and aligned with its intended learning outcomes. Trainers also strongly agreed that the activity enabled the achievement of the proposed objectives and that the methodology allowed students to actively participate and learn effectively.

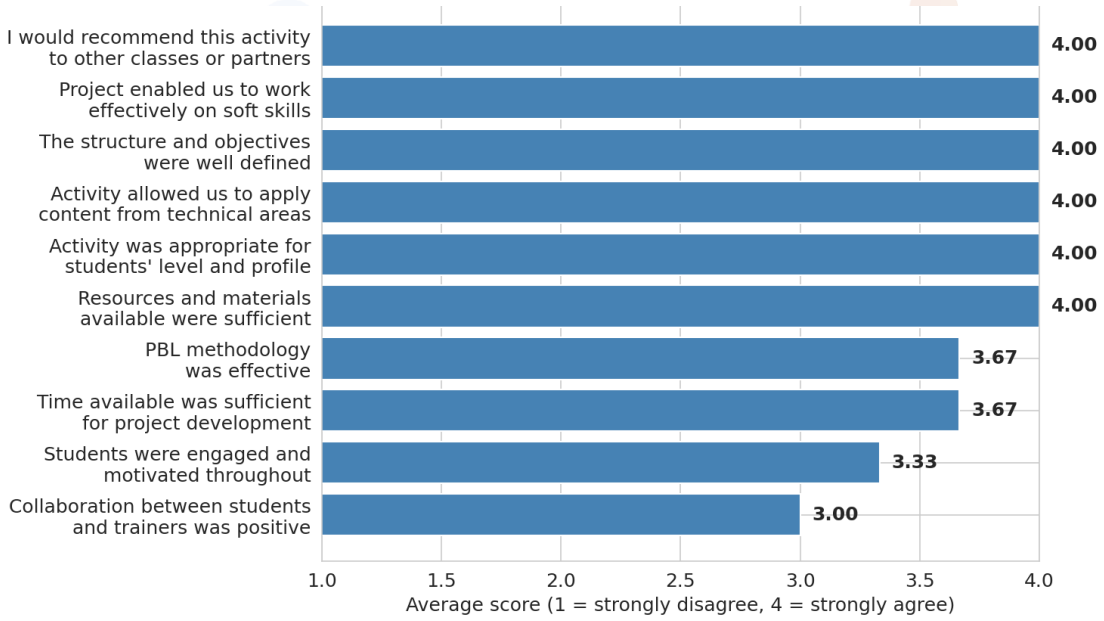

Figure 14 -Trainers' Satisfaction Average - ESTONIA

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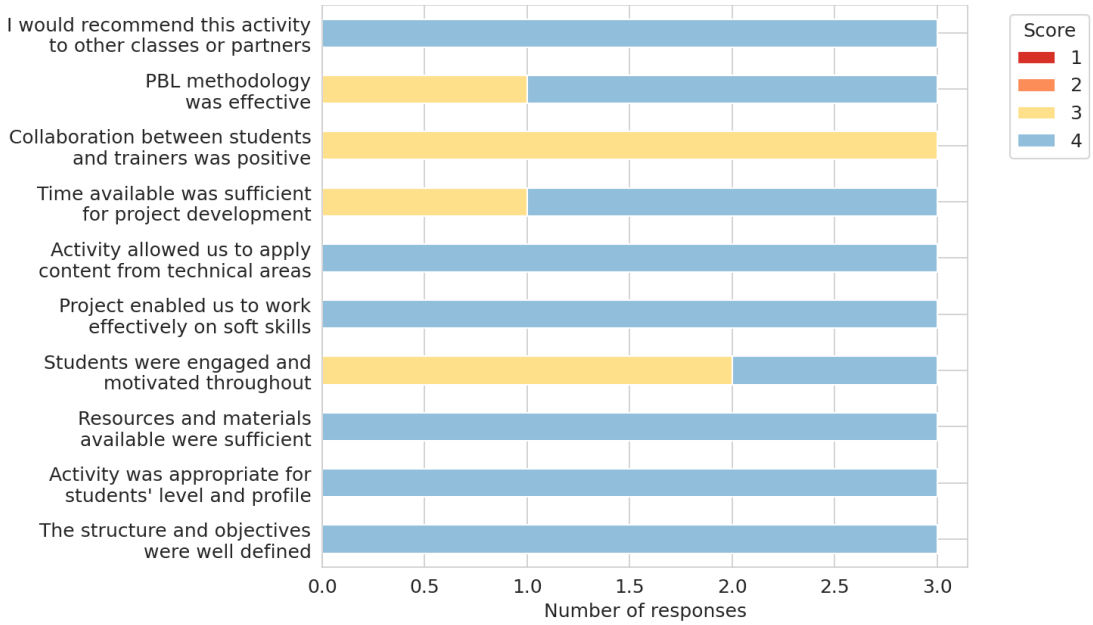

Figure 15 - Trainers' Satisfaction Distribution - ESTONIA

High satisfaction levels were also observed regarding student engagement, confirming that the activities successfully motivated students and encouraged active involvement throughout the project. Similarly, trainers expressed a positive evaluation of the Project-Based Learning (PBL) methodology, recognizing its effectiveness in supporting learning and soft skills development.

Slightly lower, yet still positive, scores were recorded in relation to collaboration between participants and time availability, suggesting potential areas for minor improvement, such as allocating additional time for teamwork or discussion phases.

Finally, trainers indicated a strong willingness to recommend the activity, reflecting an overall positive perception of the project's quality, relevance, and impact.

2.4.2. Students' Satisfaction Answers – Estonia

The analysis of the students' satisfaction questionnaires shows a very positive overall perception of the Sustainable Waste Challenge. Most of the responses are concentrated in the highest satisfaction levels (levels 3 and 4), while a few negative evaluations (level 1) were recorded.

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Students particularly highlighted that the activity was well explained and clearly understood from the outset, which received the highest proportion of top-level ratings. This indicates that the project objectives, structure and expectations were communicated effectively.

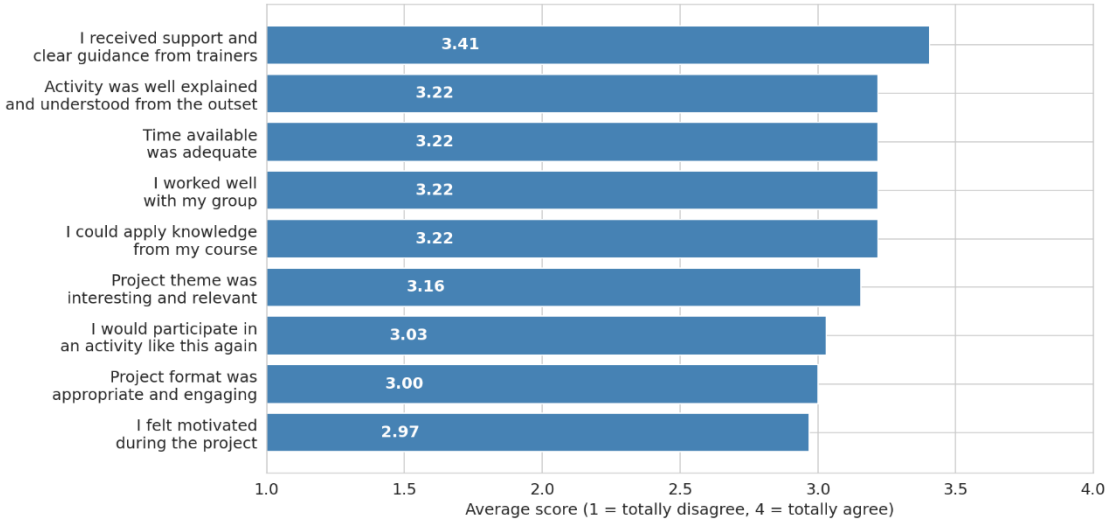

Figure 16- Students' Satisfaction Average – ESTONIA

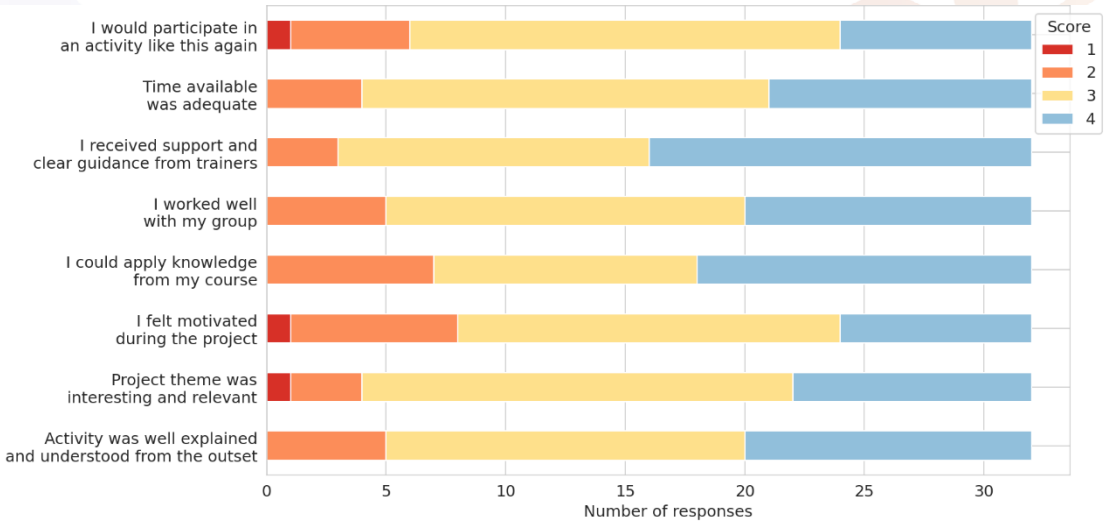

Figure 17 - Students' Satisfaction Distribution – ESTONIA

High satisfaction levels were also reported regarding the relevance and interest of the project theme, confirming that the focus on real-world environmental challenges and waste management strongly resonated with students. Similarly, students reported feeling motivated

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throughout the development of the project, reflecting the engaging and hands-on nature of the activities.

Another key strength identified was the opportunity to apply knowledge gained during their studies, demonstrating the project's success in linking theoretical learning with practical, real-life contexts through STEAM and project-based methodologies.

Students also expressed positive feedback regarding teamwork and collaboration, as well as the support and guidance received from trainers, indicating a well-balanced learning environment that fostered cooperation, autonomy and continuous feedback.

The item related to time availability received slightly more moderate scores compared to other indicators, suggesting that some students would have appreciated additional time to further develop or refine their ideas. Nevertheless, overall satisfaction with the project duration remained positive.

Finally, a strong willingness to participate in a similar activity again was observed, confirming the perceived value, relevance and positive impact of the project on students' learning experience and soft skills development.

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Conclusions

General Conclusions

The implementation of the pilot projects across the four partner countries demonstrates that the STEAM-based approach adopted within this project was highly effective in fostering the development of soft and transversal skills**,** while simultaneously responding to real labour market and societal needs. The results collected through satisfaction questionnaires from both students and trainers consistently show high levels of satisfaction, confirming the relevance, quality and impact of the activities implemented.

Across all countries, the pilot projects successfully translated the knowledge acquired during the WP2 training activities into concrete educational practices, strengthening the link between vocational education and real-world challenges. The active involvement of companies, public institutions and social organisations contributed significantly to ensuring the authenticity and relevance of the learning experiences, reinforcing the value of cooperation between the VET sector and external stakeholders.

The STEAM approach proved to be flexible and adaptable to different national contexts, target groups and thematic focuses, ranging from inclusion and accessibility to social innovation, digital marketing and environmental sustainability. Despite these differences, common patterns emerged, particularly regarding the positive impact on students' motivation, engagement and perceived usefulness of the activities for their future professional paths.

Overall, the project confirms that project-based and challenge-based learning methodologies, when combined with STEAM principles and real-world problems, represent a powerful tool for enhancing both technical competencies and soft skills in VET contexts.

Specific Conclusions

From a country-level perspective, each pilot project addressed distinct challenges while contributing to shared objectives:

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- In Spain, the focus on inclusive design and accessibility raised awareness of social barriers and successfully promoted empathy, teamwork and problem-solving skills through collaboration with a real company.
- In Portugal, the development of a digital Escape Room with social impact effectively combined technological skills with creativity, communication and social responsibility, particularly in relation to digital and health literacy.
- In Italy, the design of a marketing and communication strategy for a company spin-off strongly aligned learning outcomes with labour market needs, fostering curiosity, data analysis, planning and professional communication skills.

- In Italy, the Copiaincolla project focused on developing a brand and communication strategy for a B2C product launch, emphasizing creativity, digital marketing, and strategic thinking.

- In Estonia, the environmental sustainability focus, combined with creative thinking and robotics, engaged younger learners in real community challenges and promoted critical thinking, collaboration and civic responsibility.

From the perspective of students, the results consistently show:

- Clear understanding of project objectives and activities.
- High levels of motivation and engagement.
- Strong appreciation for the opportunity to apply theoretical knowledge in practical contexts.
- Positive evaluations of teamwork, collaboration and trainer support.
- A clear perception that the activities contributed to the development of skills relevant for the future.
- A strong willingness to participate in similar activities again.

From the perspective of trainers, the feedback highlights:

- High satisfaction with project structure, objectives and materials.
- Recognition of the effectiveness of PBL/CBL methodologies.
- Positive assessment of student engagement and learning outcomes.

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- Strong endorsement of the STEAM approach as suitable for VET contexts.
- A high level of willingness to recommend the activities.

Critical Analysis

Despite the overall positive results, some common challenges and limitations were identified across countries. The most recurrent issue concerns time availability, which received slightly lower or more varied evaluations from both students and trainers. In several cases, participants expressed the need for additional time to further develop, test or refine their outputs.

Additionally, differences in group dynamics and collaboration levels suggest that heterogeneity among learners (in terms of age, background or prior experience) may require more structured support mechanisms, especially in shorter pilot activities.

While company involvement was generally positive, the depth of engagement varied depending on context, indicating that clearer role definitions and longer-term collaboration frameworks could further enhance impact.

Recommendations

Based on the results and critical analysis, the following recommendations are proposed:

1. Extend or better balance project timelines, particularly for creative and technical development phases, to allow deeper learning and refinement of outputs.
2. Strengthen preparatory phases, ensuring that all participants start with a shared understanding of objectives, roles and expected outcomes.
3. Enhance company and stakeholder involvement, where possible, by including more structured feedback moments or co-design phases.
4. Maintain and expand the STEAM-based PBL/CBL approach, given its proven effectiveness in developing soft skills and increasing learner motivation.
5. Support scalability and transferability, by documenting methodologies and tools that can be adapted to different VET contexts and learner profiles.
6. Continue systematic evaluation, combining satisfaction questionnaires with qualitative feedback, to further improve future implementations.

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Final Remarks

In conclusion, this project demonstrates that STEAM-oriented, real-world pilot activities can play a key role in modernising vocational education and training in Europe. By bridging education, business and societal challenges, the project contributes meaningfully to the development of 21st-century skills, employability and active citizenship.

The strong positive feedback from both students and trainers confirms the sustainability and replicability of the proposed approach, positioning it as a valuable model for future European initiatives in the VET sector.

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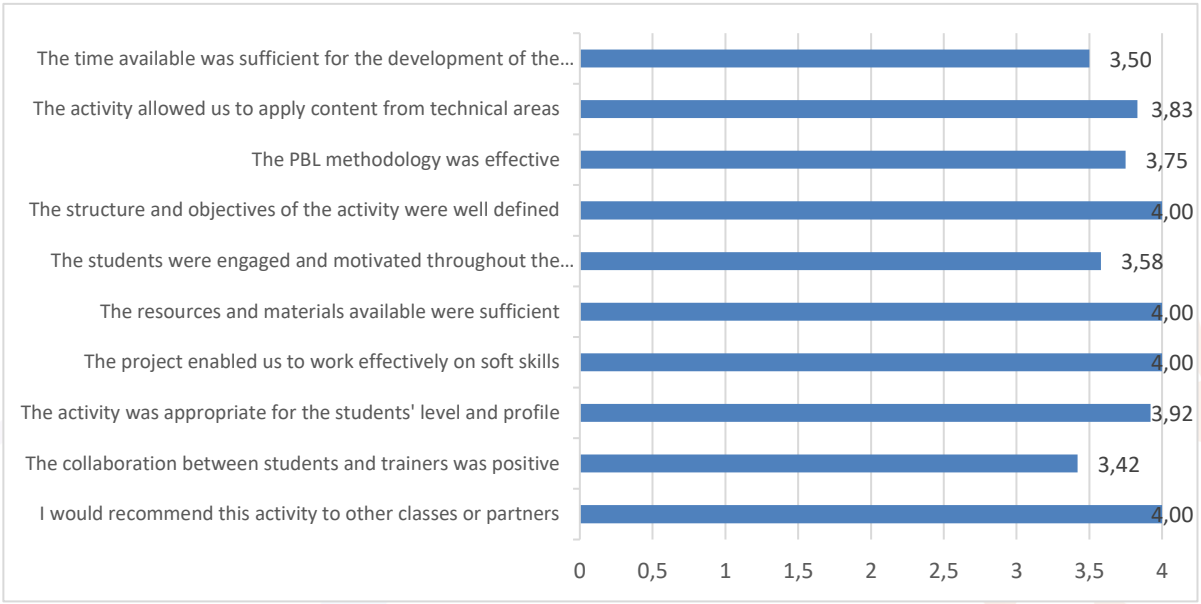
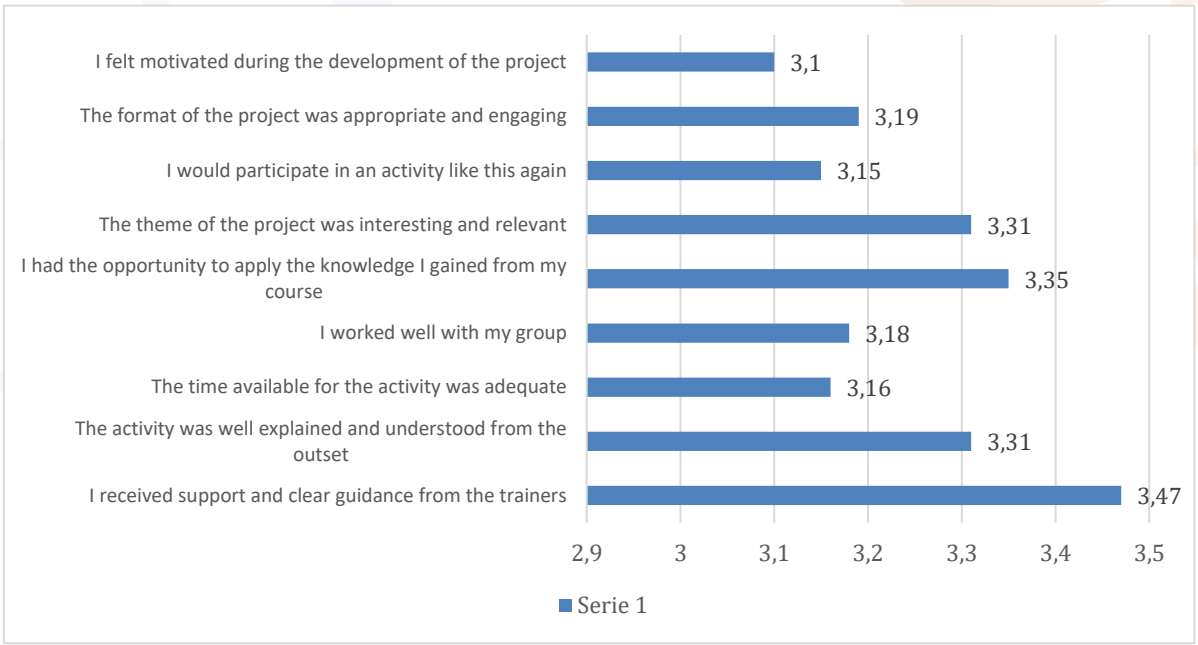
General - Trainer Satisfaction (Average per item)



Average score (1 = strongly disagree, 4 = strongly agree)

General - Student Satisfaction (Average per item)



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