



*Erasmus+ KA2 Knowledge Alliances project
“Greening Energy Market and Finance – GrEnFln”*

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**WP3 – D3.2 Reports about the Testing Phase;
D3.3 Reports about the criticality of the tested learning and possible solutions**





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WP Leader	UNIBO
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Authors	UNIBO
Revised and Approved by	Prof. Silvia Romagnoli

INDEX

1. Summer School structure and organization	3
2. Testing Phase: student opinion – June 2020	5
2.1. Overall evaluation	5
2.2. Logistic	5
2.3. Lecturers – aggregated results	5
2.4. KPI	6
3. Summer school partner evaluation – June 2020	7
3.1 Overall evaluation	7
3.2 Structure evaluation	7
3.3 Content evaluation	8
4. Summary	8



1. Summer School structure and organization

The first GrEnFin Summer School was held online from 8 to 11 June 2020.

According to the initial plan, it was supposed to take place in presence in Bologna in order to make the teaching even more effective, to test several validation's activities and to develop the Team Works in the best possible way, giving the possibility to all students (with sometimes different backgrounds) coming from 6 different universities, to work together in a Team.

The design of the first summer school UNIBO took into account the output of the survey and the report of the already existent educational offer in order to be innovative and effective in both the contents and the methodologies. The school gave us also the opportunity to test the joint work of academies-enterprises.

The COVID emergency which has involved all the countries of the world has not allowed us to organize the summer school in presence. We had to maintain the rules respecting the social distancing and it would not have been possible to bring students from different countries to Bologna University.

The exceptional condition that has affected the world has forced UNIBO to pursue the objectives and carry out the summer school even in a virtual way. This situation added an additional challenge for everyone involved into the school, either the participants and the organizers.

The Summer School was the first test of the drafted EP. Based on the weight we attributed to the singular areas and the multidisciplinary approach we aimed to, we had planned the teaching following the schedule described below:

- **Scientific/Technological track 8H**
- **Risk and Finance track 14H**
- **Social Welfare/Policy and Economic track 8H**

The teaching have been held by the following partners:

- HEI: UNIBO, Birkbeck, LMU, WU, UEK, IMPA
- IP: HERA, TAURON

During the First Summer school the above topics and methodologies have been tested. The school has been organized in order to have a different topic every day. The topic of the first day (please check the Agenda, ANNEX I) was "**Natural risk modelling**". It was divided into 2 teaching sections:

- 1) "**Extreme natural risk and finance in ambiguous settings**" – Prof. Romagnoli (UNIBO)
- 2) "**Climate Risk and model uncertainty**" – Prof. Mazzon (LMU)

The aim of this first day was to provide some mathematical techniques very useful in the field of interest. As a matter of fact climate change introduces a further reason of uncertainty which is usually referred as ambiguity. The mathematical representation of this ambiguity is hence peculiar in modelling.

Continuing with the description of the course of the summer school, the theme of the second day was "**Climate Policy, Politics and Consumer behaviour**" with the following lectures:

- 1) "**Climate Change, and Financial Risk**" – Prof Monasterolo (WU)
- 2) "**The transition risk and the regulations: Green bonds and beyond**" Prof. Dziwok (UEK)



This topic belongs to the policy and economic track. The impact of the climate change in financial risk was discussed on the ground of possible interventions and regulations. The economical implication of both the physical and the transition risks have been deeply analysed in order to have also a more qualitative perception of the possible impact of climate in the sustainable transition.

The main theme of the third day was “ **The energy market-new perspectives and risk management**” with the following lectures:

- 1) “**Smart Grids for Smart Cities: the Potential of Local Energy Communities**” – Prof. Nucci (UNIBO)
- 2) “**The Outlook of Energy Markets in the Spring of 2020**” – Prof. Geman (BIRKBECK)

Here the main objectives were to provide basic technical knowledge about the renewable sources of energy along with an overlook of the current status of the energy market. The perception of the dreamed green market and the conscious evaluation of the how far we are from it, gives a dimension to the reliability of the 2030 targets.

The last day was the most full-bodied and full of presentations from professionals belonging to the consortium. The topic was “**Risk management, consumption reduction and emission avoidance**” with the following lectures:

- 1) “**Power to Gas and Decarbonisation pathways**” - Dott. Filippo Reggiannini (HERA)
Dott. Stefano Verde (HERA)
- 2) “**Adaptation to climate change in practice**” - Dott. Adam Adamek (TAURON)
- 3) “**Energy trading and economic evaluation of risk**” - Prof. Irineu Luciano (IMPA)

The main goal of the last day was to give a look to the challenges the industries are facing every day and to show their approach. The other side of the problem related to the evaluation of risk connected to any kind of project involving a natural risk, has been also deeply analysed.

At the end of the day, a final test was carried out in one hour where it was requested to all students to provide their answers related to the full programme of the summer school.

At the end of the test it was time to present the team works of the First GrEnFln Summer School, as a result of the team working (and also of the post-teaching evenings!). The project requested them to determine the impact of climate change on infrastructure (they are supposed to imagine building a solar farm and analyze how climate change will affect the installation considering also the adaptation arguments). The groups presented their impressive projects done with rigor and passion at the same time, showing that they have completely learned and understood the outcomes of GrEnFln, going further because their hearth had been shown to have a big role in this social fight. The commission was very satisfied and evaluated the teamworks with high grades.

Please check the ANNEX I – GrEnFln Summer School 2020: Final Test, along with the Team work assigned to the attendants.

2. Testing Phase: student opinion – June 2020

2.1. Overall evaluation

Altogether, results show a general satisfaction from participants with regards to the content of the summer school. There is although significant evidence that the organizational structure could have been handled better. Recurring *comments* and ratings point in the direction of a need for:

1. Better coordination between lectures;
2. Reduced or better distributed workload;
3. Increase in student engagement.

2.2. Logistic

Feedback on logistics is generally positive, with ratings above 3 in four out of six areas, but shows the presence of room for improvement – especially regarding Duration of classes and Final project work. Comments point in similar directions, showing crucial points for future focus:

- Excessive workload (8 hours / day + teamwork);
- Better coordination between topics;

Moreover, individual comments point toward the need to increase the number of industry-driven lectures, increase spaces for discussion between students and lecturers.

Figure 9 summarizes the results for this section.

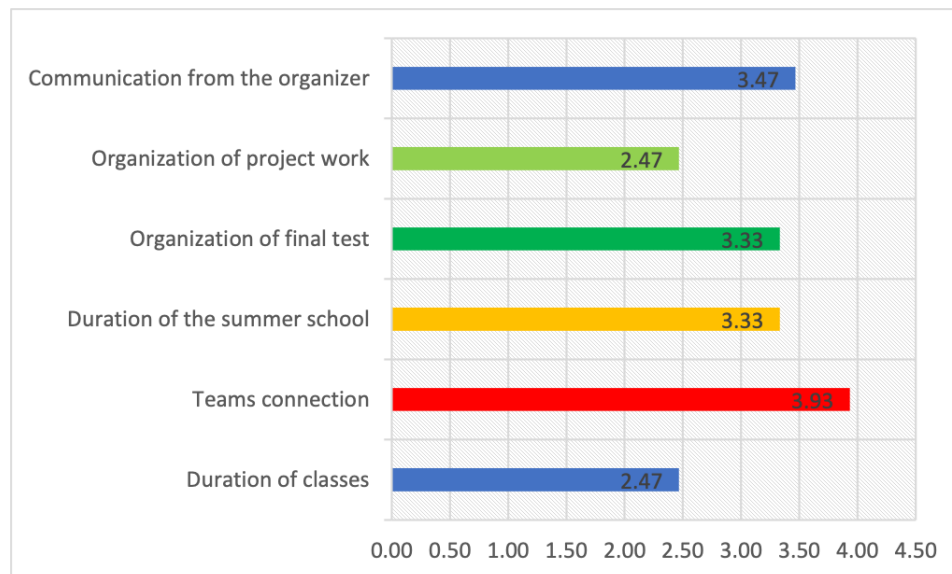


Figure 9: Average ratings – Logistic

2.3. Lecturers – aggregated results

The survey shows positive evidence about the relevance of the topics covered and the interest toward them. Indeed, previous knowledge of the subjects is low, ranging on average from 2.13 to 3.13 (on a 1-5 scale); and the topics are seen as very interesting in most cases, with average scores ranging from 3.93 to 4.27.



Evaluations are positive also with respect to several items of the specific lectures, as shown in Figure 10 below. Average evaluation cross lectures range between 3.62 and 4.13, clearly showing a strong positive signal from students. Important to notice, no single lecture-level average falls below 3 on any point. Weaker areas are the degree of engagement of the exposition and the connection between topics, as already emerged in the Overall section.

Individual comments point in the direction of a better structure and organization, also concerning the chronological order of lectures; as well as the excessively theoretical focus of some lectures and the need for more student engagement.

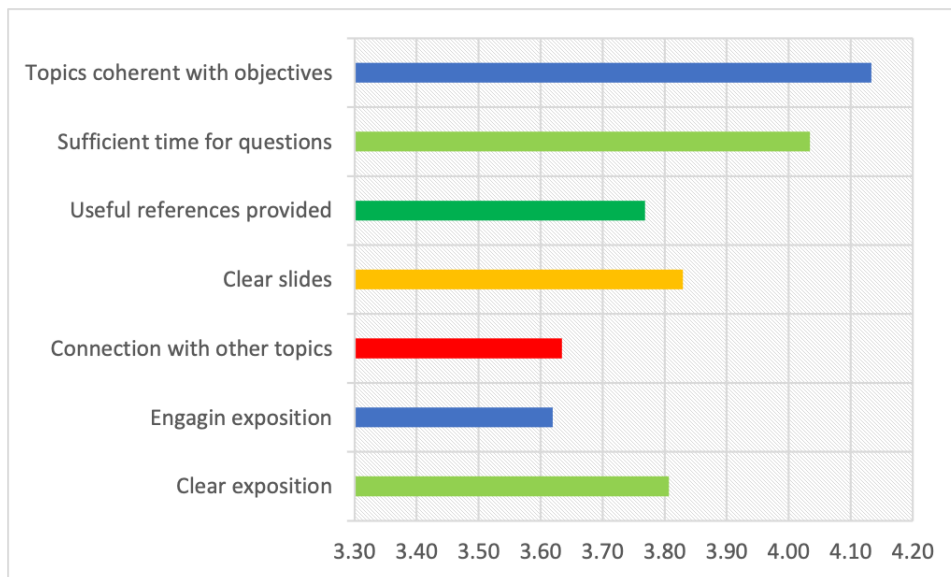


Figure 10: Average evaluations (cross-lectures) by topic

2.4. KPI

- 10.2 rate of response: 15 questionnaires have been received and analysed, out of 40 students. Rate: **37.5%**, not satisfactory.

This low rate of response is a criticality we should correct in the next tested activities. A possible solution could be to submit the questionnaire before the ending of the school, stressing at the same time the importance to have a feedback from them in order to improve the educational activities.

3. Summer school partner evaluation – June 2020

3.1 Overall evaluation

- 6 questionnaires from partners are available on the Summer school evaluation; 4 are coming from Academia, 1 from Industry and 1 from Other stakeholders.
- The overall evaluation from partners shows high satisfaction with all features of the summer school. Suggestions gathered from the comments highlight the need for a more effective distribution of materials, and the acknowledgement of the difficulty of the final test.
- Figure 1 summarises the main aspects of the evaluation. As clearly shown, all marks are, on average, above 4.

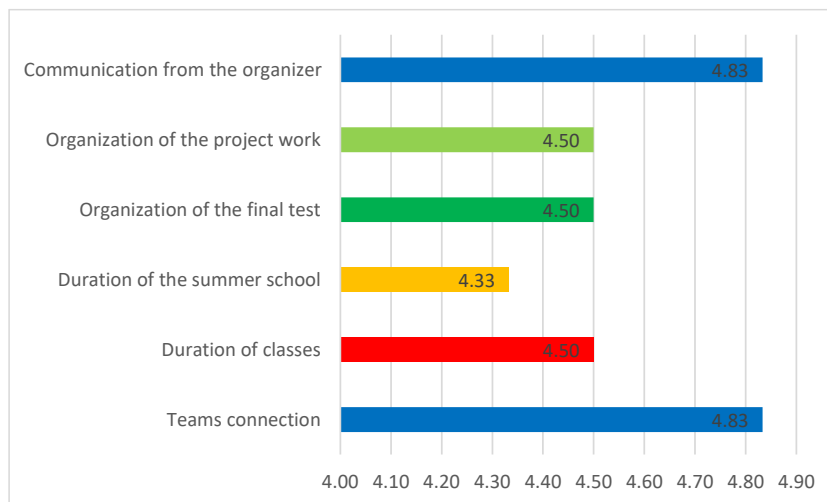


Figure 1: Overall evaluation of the summer school

3.2 Structure evaluation

The structure of the summer school proved generally effective from the perspective of partners, although comments pointed out the fact that it may have proven too intense. Despite this, as highlighted in Figure 2, satisfaction was high between partners. Additional insights on this point have been gathered in the students' questionnaire.

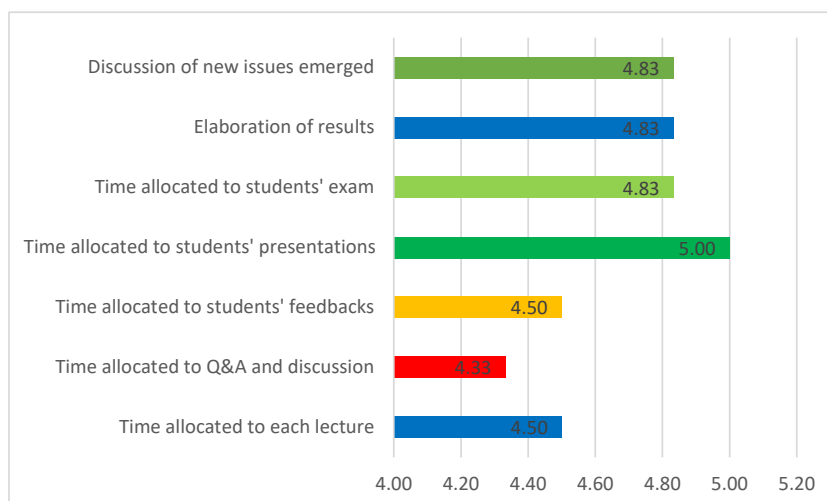


Figure 2: Evaluation of the structure of the summer school



3.3 Content evaluation

Finally, content has been positively evaluated for all the three tracks, gathering high satisfaction from all respondents. From the gathered comments, awareness about the intensity of the summer school emerged, coherently with the students' evaluation.

4. Summary

To summarize, the evaluation gathered from partners have been extremely positive; as in the case of students, there is some awareness that length and intensity of the summer school, as well as a few organizational aspects, could be improved for future editions.

Based on the comments of students and partners the future edition of the Summer School is expected to be organized in more days in order to reduce the workload of students or with a reduced number of lectures. Moreover we could imagine to submit a daily short test instead of just one final test in order to increase the engagement of students. Moreover based on the evaluation of students in the next Summer school we will combine a theoretical section to a practical one where the theory is used to face a real problem.

Finally we observe that the low rate of response is a criticality we should correct in the next tested activities. A possible solution could be to submit the questionnaire before the ending of the school, stressing at the same time the importance to have a feedback from the attendants in order to improve the educational activities.

Greening Energy Market and Finance



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



University
of Economics
in Katowice



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