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THE A-STEP 2030 SUMMER SCHOOL

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REPORT 7: REPORT ON THE PROGRAMME ACTIVITY DEVELOPMENT PROCESS - THE A-STEP 2030 SUMMER SCHOOL

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Executive Summary

This report outlines the design and evaluation of the Learning and Teaching Activity which forms part of the A-STEP 2030 (Attracting diverse Talent to the Engineering Professions of 2030) project. This project is an EU Erasmus+ project funded under call number 2018-1-FR01-KA203-047854. The document begins by explaining the purpose and aims of the overall research project and more specifically, the background to the design of the Learning and Teaching Activity.

The report provides a detailed description of the organisation of the learning and teaching activity and a summary of the feedback received from participants. Exemplars of the future scenarios co-created as part of the learning and teaching activity are included in Appendix 2. These can be used by engineering educators to engage students in conversations about the future of engineering education. The report is completed with recommendations for future learning and teaching activities which can build upon this pilot project.

1.0 Summary of Overall Research Project

The main objective of the A-STEP 2030 project was to develop new and innovative teaching approaches relevant to learners' values yet appropriate to teach a new set of skills and competencies needed for the future. Our goal was to create an attractive and fascinating learning environment thereby encouraging young people and adult learners with diverse backgrounds to engage in engineering studies and the profession as a whole. The project comprised the following three activities:

Activity 1: Determine future roles and skills requirements of engineers to enhance the sustainable development of society.

Activity 2: Investigate the values and motivations of young people, students and adult learners to determine how this influences their future career choices and use this knowledge to make a career in engineering more attractive to all young people.

Activity 3: Develop new and innovative teaching and learning practices to respond to these findings.

The project consortium has 7 members from six EU countries (France, Denmark, Finland, Ireland, Sweden and Belgium) and 9 associated partners. The team includes four different European HEIs all involved in Engineering Education Research. (ENSTA Bretagne, France, TU Dublin, Ireland, Aalborg University, Denmark and Metropolia University, Finland.) The team is also complemented by representatives from SEFI (European Society for Engineering Education) and Universum - experts in research relating to student motivations and career choices. Students are also represented through our project partner BEST (Board of European Students of Technology) which represents HEI students in STEM.

Figure 1 shows the main activities associated with the project. This report focuses on the result of Activity 3: Co-creation and testing of an innovative learning activity.

A-STEP 2030 - PERT Diagram

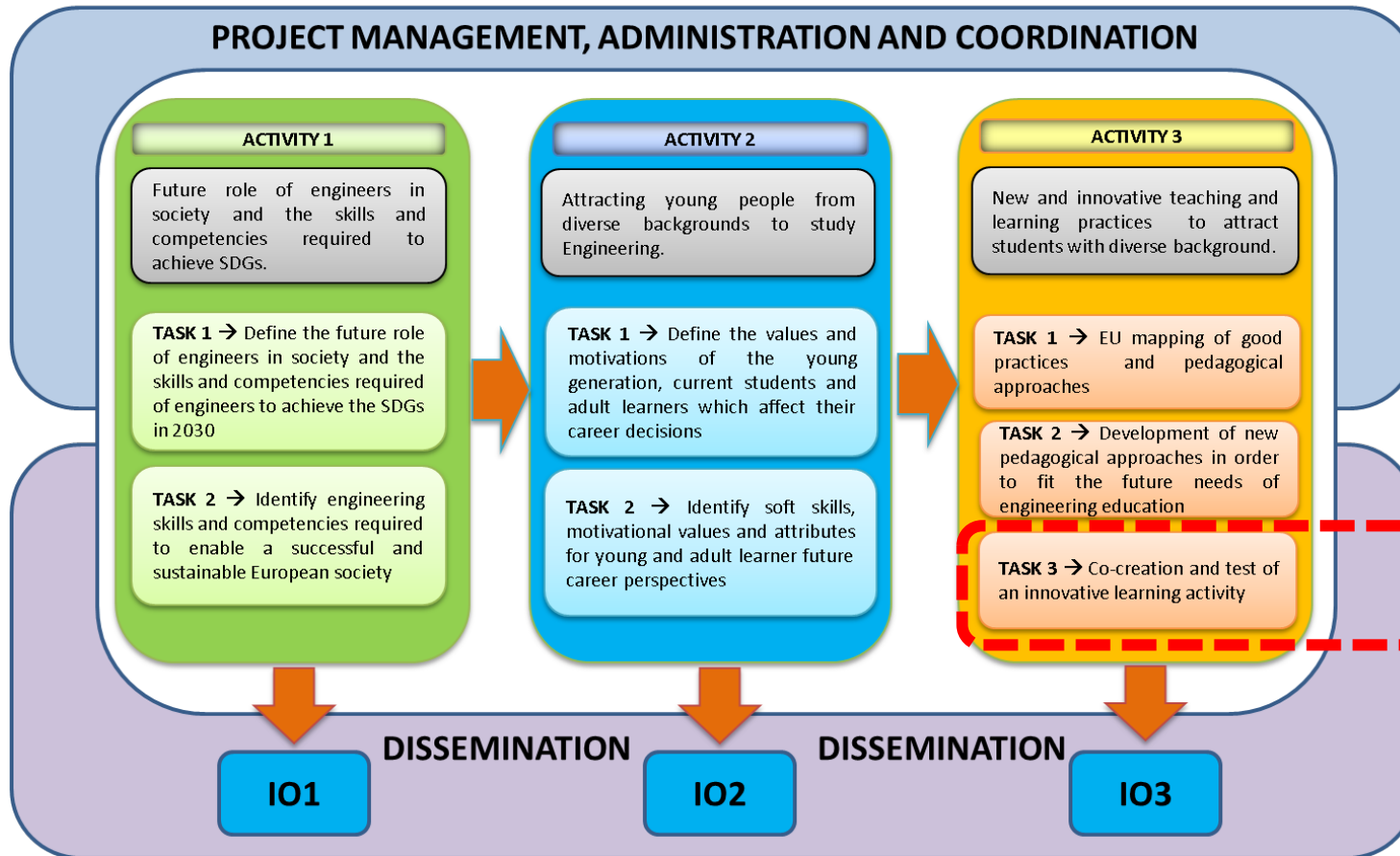


Figure 1: Overall Project details showing the aims of each activity.

2.0 Background to Design of Learning and Teaching Activity

One of our aims is to educate future engineers with new and better teaching approaches. An overall goal for Activity 3 is to combine our findings in Activity 1 and 2 to create a learning and teaching activity which would match the skills needed in the future (Activity 1) with young people and adult learners' values (Activity 2) whilst using best practice approaches in engineering education.

Full reports from Activity 1 (Future Skills Needs) and Activity 2 (Young people and Adult Learners Values) are available at <https://www.astep2030.eu/en/project-reports>. However, for the purposes of Activity 3, we focussed specifically on the issues identified in Table 1.

Table 2: Key issues identified in Overall Project details showing the aims of each activity.

Key Issues identified in Activity 1 which were chosen for the Learning and Teaching Activity	Key issues identified in Activity 2 which were chosen for the Learning and Teaching Activity
Collaboration ✓	Inspiring purpose ✓
Intercultural Skills ✓	Communication ✓
Teamwork ✓	Diversity ✓
Respecting diversity ✓	Teamwork ✓
Challenging the status quo ✓	

Furthermore, through the work completed in relation to innovative pedagogical approaches, scenario writing and co-creation were identified as key components of a curriculum which orientated students towards **challenging the status quo** and enhancing their future thinking skills whilst aiming for the **inspiring purpose** of creating a sustainable future for all.

It is important to note at this point that the original intention was to run the Learning and Teaching Activity (Summer School) in one of the partner's host institutions as a physical five day Summer School. Due to the travel restrictions associated with the COVID-19 pandemic, this was not achievable. However, the research team used this as an opportunity to pivot and approach the design of the Summer School with a new lens, that of working in a digital world where physical location does not inhibit multicultural learning. Hence an online Summer School was organised and was opened not only to the students from partner organisations but to students worldwide. Specifically therefore, the learning outcomes associated with the Summer School are:

- Identifying trends and forces influencing future engineering
- Familiarity with problem-posing and –selection techniques
- Applying scenario building methodologies

- Applying critical thinking
- Developing scenarios for future sustainable engineering
- Developing scenarios for future engineering education
- Collaborate and build a network with international students
- Practice future-orientated thinking

3.0 Recruitment and Selection of Participants

Several of the key issues identified which we used for the basis of the design of the summer school enabled us to determine that we wished to have a diverse student group, where students would work in teams in order to develop their skills in **communication, collaboration, teamwork, intercultural skills and respecting diversity**. Hence, we wished to engage and attract a diverse range of students. We created both a flyer and a short video which was circulated through project partners, on social media and through the BEST organisation. Applicants were invited to complete an online application form with collected data about their gender, university location, nationality, age, type of course and the type of Belbin role they would most likely be in a teamwork scenario (Belbin, 2011). Applicants were also invited to provide a personal statement on why they wished to be considered for the Summer School. As we aimed for maximum diversity, the applications were not restricted to only STEM or engineering students, all students were encouraged to apply. The advertisement flyer and application form are included in Appendix 1 and the video is available [HERE](#).

At the closing date, there were 266 applications received. The research team determined that priority would be given to students attending European Universities as this was a European funded project and so all European university students were offered a place (26). It was then determined that to ensure intercultural interactions, that the next step was to select students with different cultures and hence students from different countries were selected based on the number of applicants from that country. This included Canada (1), India (2), Philippines (2), Costa Rica (2), Saudi Arabia (2), India (3). There were 120 applications from students studying in Turkey and 14 from students studying in UAE and therefore these were prioritised by scoring the personal statement and then selecting applicants to ensure gender, age and programme of study diversity.

Teams were created initially by sorting by country of study to ensure that there was a balance of cultures in each team. There were ten teams composed of 3-5 students created for the Summer School.

4.0 Collaborative Work Space

The team set up a Collaborative Workspace before the event so that each team member could upload pre-reading material and resources. Worksheets and documentation that were required for each activity

was also provided within separate folders. This allowed students to access, work on and upload progress in each session and was available to all hosts and students within that group to work on and review. We also provided a Code Of Conduct (Appendix 3) for student's participation online and a certificate of participation for students who completed the Summer School.

One partner took responsibility for the set up of the Collaborative Workspace. It was important to determine which partner was best placed to control the workspace in relation to GDPR so that sensitive information such as people's names and responses to survey questions or feedback were stored within the confines of one academic partner avoiding sharing sensitive information across European countries.

All partners uploaded information before the Summer School to give students an opportunity to review material before the formative event. This included introductory videos on the A-STEP 2030 project and the Summer School and personal videos from project partners introducing themselves to the group.

Each group of participants were allocated to a specific "channel" within the online meeting system which allowed informal chat to happen before the event. This was initiated by each partner host to enable people to begin to feel connected before the Summer School took place.

5.0 Summer School Schedule

Through experience, the team determined that three days online would be the most beneficial to encourage work life balance and to avoid participants becoming mentally exhausted over the course of the Summer School. Hence, the school agenda was created to allow short directed online sessions of 2 hours and to give participants an opportunity to work offline or in small groups in a self-directed fashion. The agenda for the Summer school is included in Table 2.

Table 2: Overall Schedule for Summer School

<p>Wednesday 18th August 2021 (9.00-11.00 GMT+1)</p>	<p>Wednesday 18th August 2021 (13.00-15.00 GMT+1)</p>
<p>Session 1: Futures Literacy Session Hosts: AALBORG and ENSTA Purpose of Session: Introductions to the project and to the participants</p> <p>Schedule: 09.00-09.10 Setting up, welcomes, Code of Conduct 09.10-10.00 Introductions [Interactive Session] 10.00-11.00 Future Literacy Interactive Session</p>	<p>Session 2: What is scenario thinking? Session Hosts: METROPOLIA Purpose of Session: Introduction to Strategic Thinking, Driver Mapping & Creation of four futures</p> <p>Schedule: 13.00-13.05 Joining the room 13.05-13.15 Introduction to Strategic thinking 13.15-13.30 Introduction to Driver Mapping 13.30-14.55 Students work in groups 14.55-15.00 Wrap Up</p>
<p>Thursday 19th August 2021 (9.00-11.00 GMT+1)</p>	<p>Wednesday 18th August 2021 (13.00-15.00 GMT+1)</p>
<p>Session 3: Backcasting Session Hosts: TU Dublin</p> <p>Purpose of Session: Introduction to the technique of backcasting and deepening the four futures they have identified in Session 2.</p> <p>Schedule: 09.00- 09.05 Joining the room 09.05- 09.15 Intro to Backcasting techniques 09.15- 10.55 Students work in groups 10.55- 11.00 Wrap Up</p>	<p>Session 4: Roadmapping Session Hosts: ENSTA</p> <p>Purpose of Session : Deepening of scenario building – Creating a strategic plan</p> <p>Schedule: 13.00-13.05 Joining the room 13.05-13.15 Introduction to Roadmapping 13.15-13.30 Discussion with whole group on realism 13.30-14.55 Students work in groups 14.55-15.00 Wrap Up</p>
<p>Friday 20th August 2021 (9.00-11.00 GMT+1)</p>	<p>Friday 20th August 2021 (13.00-14.30 GMT+1)</p>
<p>Session 5: Designing a Monster Session Hosts: AALBORG</p> <p>Purpose of Session : Introduction to the technique of Monstering with a view to creating a plan or model for a future classroom and how it will function.</p> <p>Schedule: 09.00- 09.05 Joining the room 09.05- 09.15 Introduction to Monstering 09.15- 10.55 Students work in groups to create their Monster 10.55- 11.00 Wrap Up</p>	<p>Session 6: “Show and Tell” Session Hosts: TU Dublin</p> <p>Purpose of Session: To see the outputs of the scenarios created by each group</p> <p>Schedule: 13.00-13.05 Joining the room 13.05-14.00 Two parallel sessions of “Show and Tell” 14.00-14.15 Feedback 14.15-14.25 BEST Presentation 14.25-14.30 Wrap up, thank you and goodbye</p>

The research team considered the findings of Task 1 in order to design the Summer School and in particular the students' wish to have self-directed learning. To this end, each session host began with a short presentation to the topic which was covered. This generally lasted about 15 minutes. Students then joined individual group rooms to work on a task which was provided by the instructor. The researchers visited each team to assist with any queries and to listen to the ideas the students were discussing, but the work was very much student centred.

As the final aspect of the Summer School, we asked students to "Create a Monster". We specifically left this exercise open to interpretation, to initiate creativity in the final artefact. Students created videos to describe their "monster" which ranged from scenario orientated radio interviews to a scenario where students were describing a dream and also included an advertisement for some new edible products which would help people better understand engineering topics. Overall, there was much novelty, creativity and lots of fun had by all.

6.0 Collection of Feedback

The purpose of the Summer School was to test a learning and teaching activity and to then assess how effective the learning and teaching activity was in achieving the aims of the project. More specifically:

- The attractiveness of this type of learning and teaching activity
- The effectiveness of the learning and teaching activity in developing skills such as;
 - critical thinking,
 - future orientated thinking,
 - teamwork,
 - communication,
 - multicultural skills,
 - scenario writing.

The team undertook an online survey of participants after completion of the course to assess these research questions and received 26 responses. The findings show that overall students very much enjoyed their participation in the summer school, with an average score of 9.4/10 for the question: "How likely would you recommend taking part in the A-STEP 2030 Summer School to a fellow student?".

Overall, students were asked how effective the Summer School was in developing specific skills and allowing for opportunities such as building a network with international students. Students were asked to select between 1-5 "Star Rating". For example, the first question is extracted here in Figure 2.

2. For the next series of questions you will be invited to give feedback on how effective the Summer School was in helping you develop specific skills.

Firstly - Identifying trends and forces influencing future engineering *



Figure 2: Example of question related to selecting effectiveness of Summer School in helping participants develop specific skills (Personal opinions – not measured).

Figures 3a-h indicate the number of “stars” participants noted in response to each question.

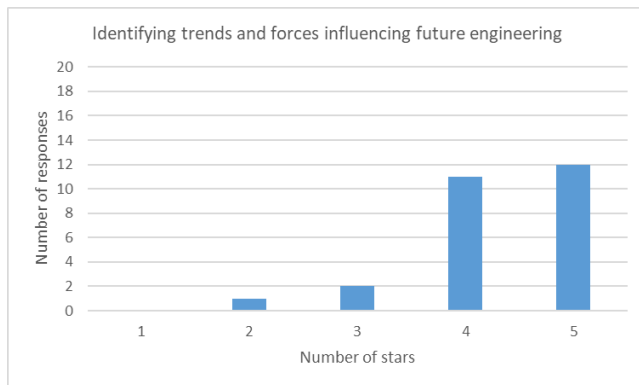


Figure 3a: Identifying trends and forces influencing future engineering

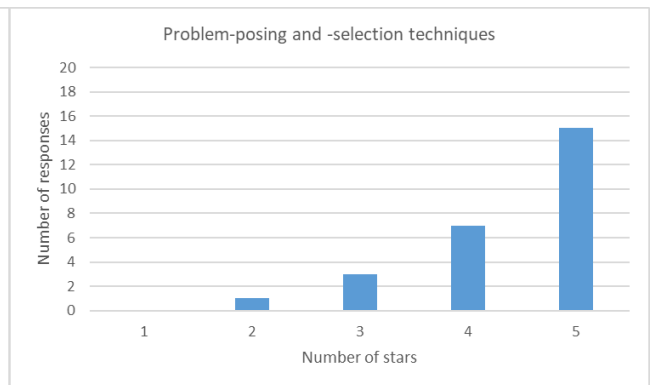


Figure 3b: Problem Posing and selection techniques

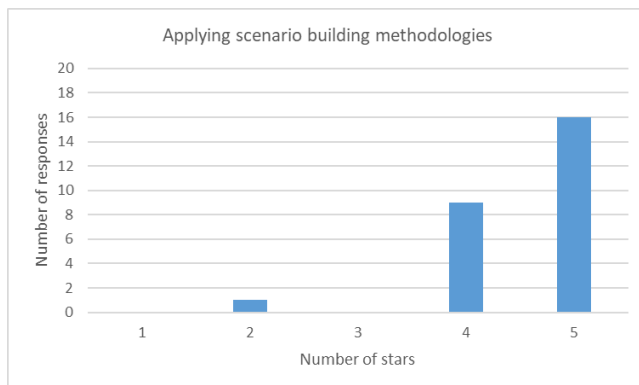


Figure 3c: Applying scenario building methodologies

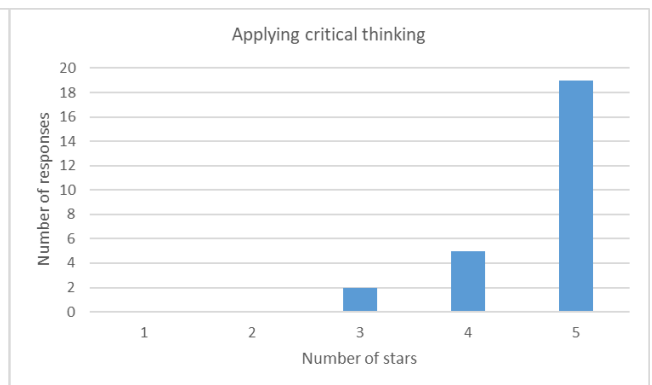


Figure 3d: Applying Critical Thinking

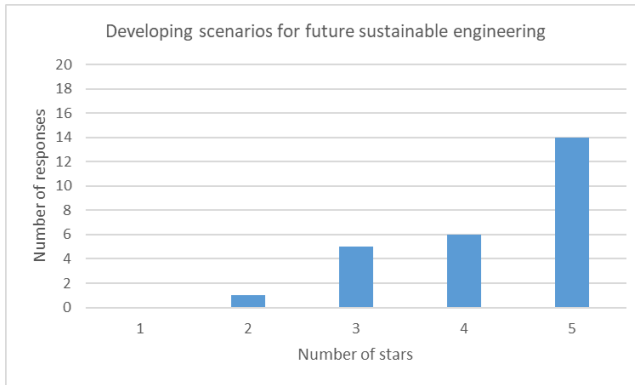


Figure 3e: Developing scenarios for future sustainable engineering

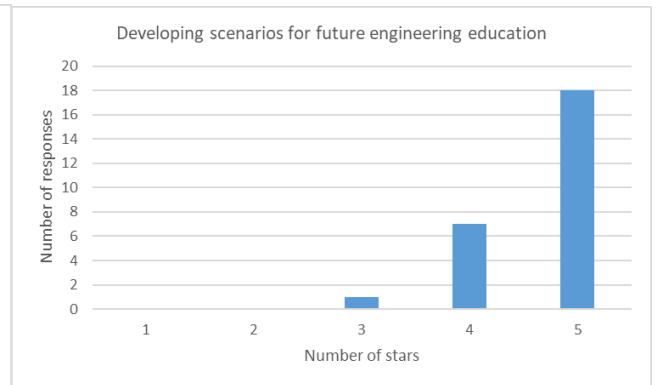


Figure 3f: Developing scenarios for future engineering education

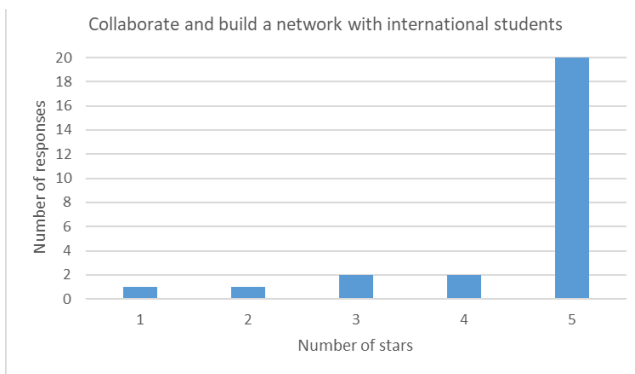


Figure 3g: Collaborate and build network with international students

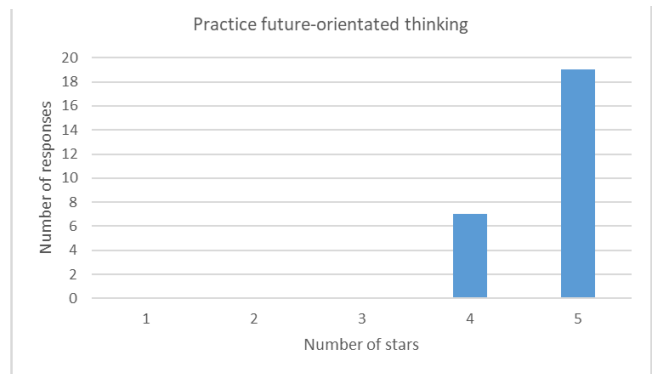


Figure 3h: Practice future-orientated thinking

Figure 3: Overall Responses for each rating question.

In addition the average score for each response was calculated based on the 26 responses and averages are noted in Figure 4.

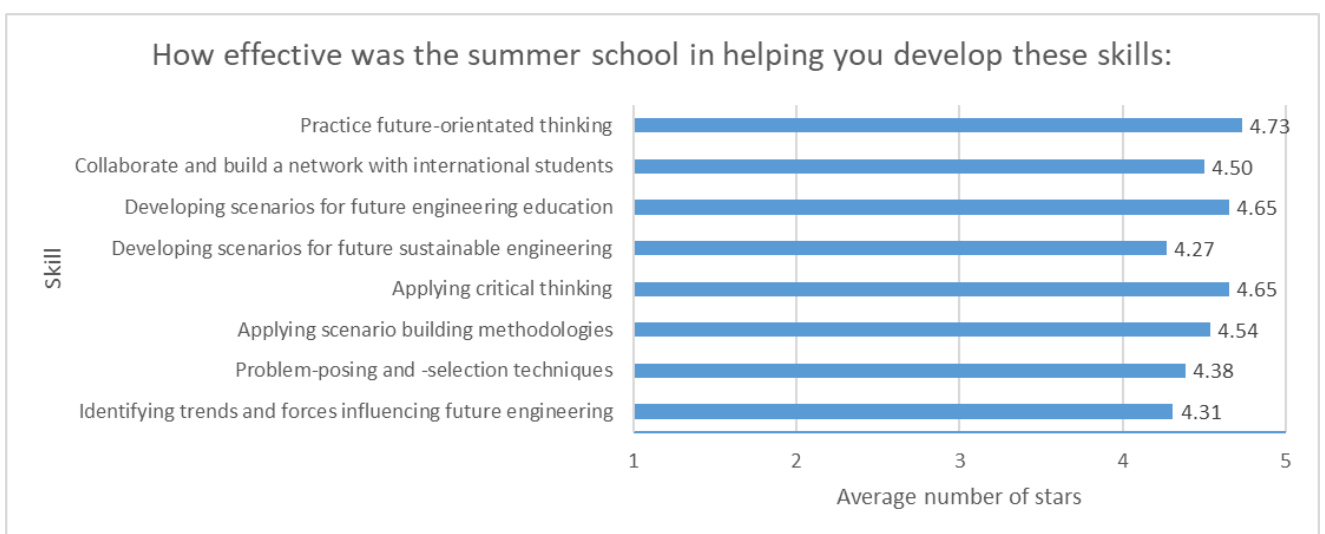


Figure 4: Average student response score for effectiveness of Summer School in reaching goals.

Overall participants felt the participation in the Summer School helped develop many skills and when asked specifically, which skill was developed in particular, there was significant mention of Critical Thinking, Future Orientated Thinking, Teamworking and Scenario Building as indicated by the word cloud shown in Figure 5 in response to “Which skill do you think you developed the most over the summer school?”

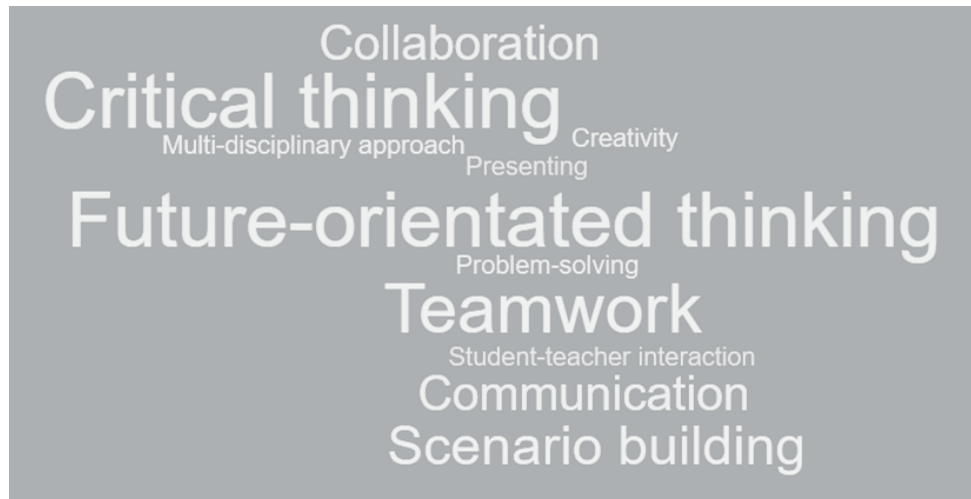


Figure 5: Word cloud showing most mentioned skills in response to question: “Which skill do you think you developed the most over the summer school?”

These are all skills which were identified earlier in the project as being important for the future and hence shows the effectiveness of this learning and teaching activity. However, one student also recognised the importance of being involved in such initiative in order to help improve confidence overall.

“I learnt how to get out of my shell and interact with teachers and students around the world. It helped a lot in increasing my confidence”. [P8]

Participants were also invited to comment on the innovative nature of the activity, whether they were exposed to this type of teaching before and particularly what they found innovative. The average score for innovation was 4.2/5 indicating that most participants had not experienced this type of activity before. Number of responses with a score (1-5) are indicated in Figure 6.

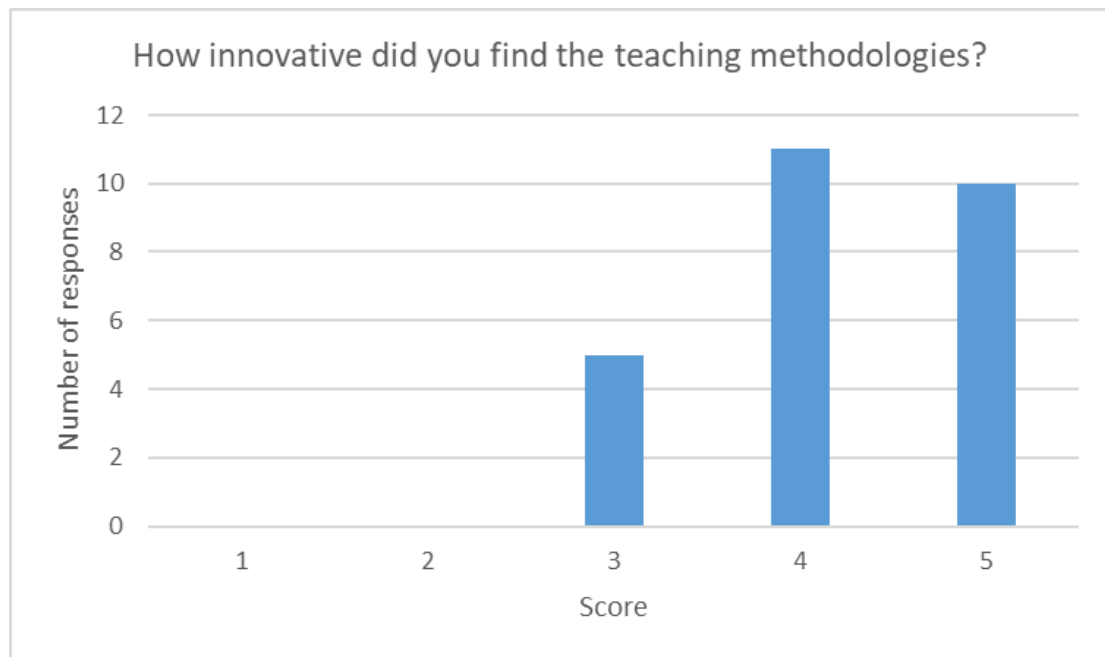


Figure 6: Number of responses (Score 1-5) to the question: “How innovative did you find the teaching methodologies?” (1= Not very innovative: 5= “Very Innovative”)

Some examples of innovation in the learning and teaching activity included the emphasis on questioning things and on reflecting, learning by doing and working with a diverse team of people. For some it was their first time undertaking this type of group work and for one participant, they felt it was innovative because the contribution of the instructors was minimum allowing them to think for themselves.

Some quotations are provided here as background.

“I really enjoyed the questions about defining what the future is and when the future is, questioning what makes something realistic, I found myself thinking and looking at these topics from different angles, some questions I never really thought of before.” [P14]

“I found it really effective to brainstorm with diverse people and hear new opinions, more engaging than normal teaching methods” [P17]

“I really enjoyed the group work and collaboration which I found innovative. I much preferred this to just listening to lectures. I also found the monster challenge really innovative. I really enjoyed it and I loved having the opportunity to work on a team to create some original ideas.” [P10]

“The break out groups were very good, it helped to understand the teaching more when a fellow student explains” [P2]

“The questions asked and lessons learned were very thought-provoking and engaging” [P3].

“It is really innovative, and leave a lot of spaces for students to develop their own ideas/thinkings”[P5].

“Very different from the basic form of learning in school, was able to communicate with new people and find new perspectives.” [P24]

Some students had experienced breakout rooms and group work before, but not to the extent of the Summer School and others have had very little exposure to this method of teaching and the emphasis on

student directed learning. One participant noted that they had undertaken group work before, but within a student organisation, not in “official” learning environments [P19] whilst another recognised the focus on student centred learning “Not really, previously was more teacher-centered or equal between students and teachers, but this type of teaching has its focus on students own interactions” [P5].

Students were also asked specifically how the learning and teaching activity compared with more traditional teaching methods, in terms of Engagement, Effectiveness and Enjoyability, the results of which are indicated in Figure 7. In the main, the participants found the teaching methodologies employed in the Summer School to be either a little bit more or a lot more engaging, effective and enjoyable.

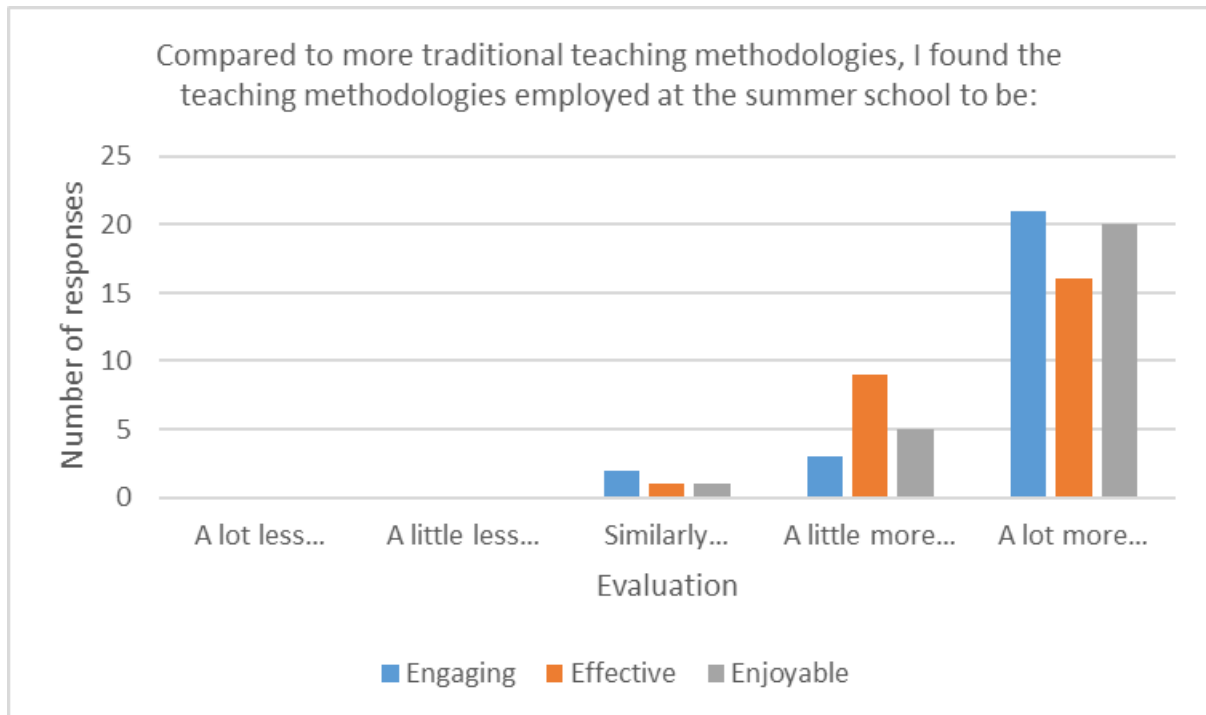


Figure 7: Responses to comparison with traditional teaching methods.

The research team also asked students about their most important takeaway and responses ranged from specific skills they have learned (scenario thinking, future thinking) the diversity of peoples’ opinions and perhaps most encouragingly the acknowledgement that the future is what we make it, that they now feel they have control over it.

“That working with other people can open your eyes to things you would have never thought about on your own” [P6]

“That people has different points of view in different matters pending on where they are from” [P18]

“The importance of other people's input on ideas and how everyone's point of view is unique and special”. [P22]

“Learning with other students will encourage you to come up with ideas that you would otherwise never come up with on your own” [P26]

“That the future can be as near or as far as we want it to be and it is really important to plan for the benefit for future generations.” [P8]

“It has helped me think about the future in a more positive way, I now have the mindset that the future is what I make of it.” [P3]

“How important it is to think about the future now and to take action now with scenario planning and putting road maps in place to achieve sustainable engineering in the future.” [P10]

“There is so much to look forward in the future but also so much to be done also. If we want education to get better we have to start today and the tools we used and learn; the topics we mentioned are a perfect way to start.” [P19].

Scenario thinking, as one of the aims of the Summer School was identified in Activity 1 as a key skill for engineers of the future in order to prepare them to achieve the Sustainable Development Goals (SDGs). Having completed the Summer School and the scenario thinking exercise, we asked participants for their opinion on whether scenario thinking would be useful for future engineering students and graduates. Ninety two percent of participants agreed it would be useful, with the remaining responses as “Not Sure”.

We also asked participants how likely they would be to recommend the A-STEP Summer School to other students. The average score was 9.4/10, but the distribution of scores is also interesting as indicated in Figure 8.

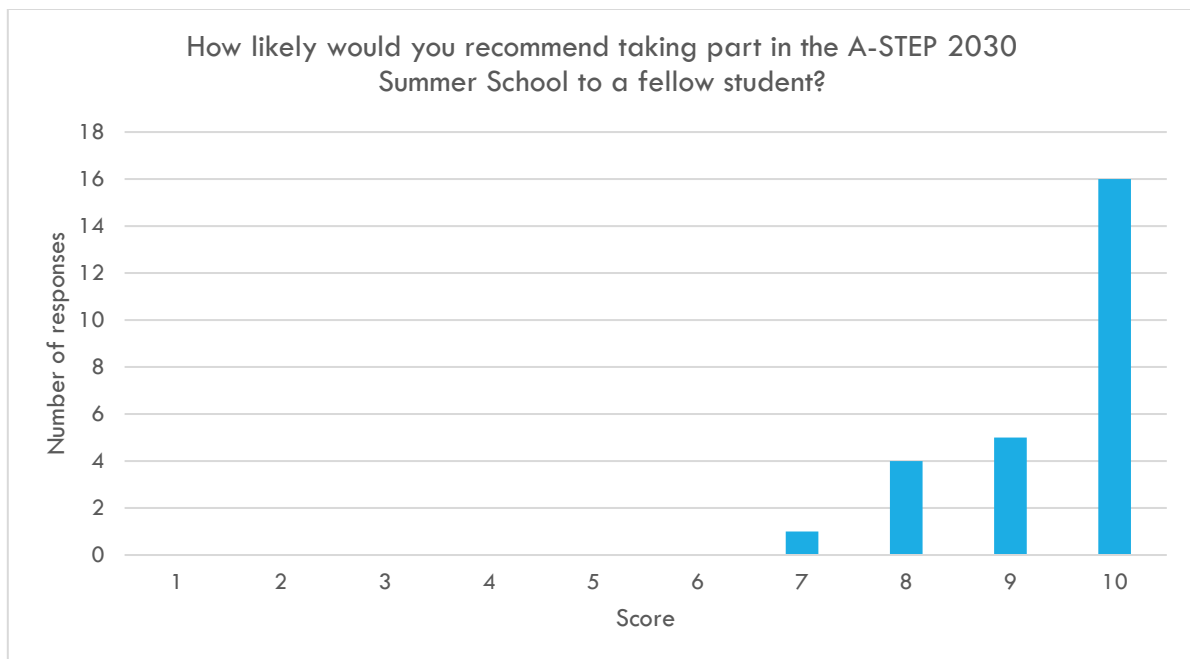


Figure 8: Responses to question “How likely would you recommend taking part in the A-STEP 2030 Summer School to a fellow student?” (Score 1-10)

Explanatory Note:

The Net Promoter Score (NPS) is calculated based on responses to a single question: How likely is it that you would recommend our company/product/service to a friend or colleague? The scoring for this answer is based on a 0 to 10 scale. Those who respond with a score of 9 to 10 are called Promoters, and those people are most likely to sincerely enjoy and promote the service. Those who respond with a score of 0 to 6 are labelled Detractors, and they are most likely to have a negative experience with the service and disapprove the service if asked about it. The ones which score 7 or 8 are neutral and by norm should not promote nor discourage the usage of the service.

As seen in the graph above, 16 participants responded 10 and 5 participants responded 9. Therefore, there are 21 Promoters. No participants attributed a score below 7, therefore, there are no Detractors. Dividing the difference of the Promoters (21) and Detractors (0) by the total number of respondents (26) yields the Net Promoter Score: 81%. Bain & Co, the source of the NPS system, suggests that above 80% is world class.

The final section of the feedback questionnaire was to engage participants in feedback which could assist in designing the next iteration of the Summer School. Overwhelmingly, participants highlighted the request to meet in person in order to form stronger bonds with other students. Some participants noted the importance of having cameras turned on to help engagement in the groups. Each group remained intact during the Summer School, and it was recommended that groups be mixed up to enable students to get to know more participants. Others suggested that the Summer School be extended to 5-6 days with a 3 hour session each day so that groups had more time to work on their activities between sessions. Finally, participants noted that there were different levels of English ability throughout and thus the published presentations along with written notes explaining what was required were helpful to those students who have differing English competence. Overall, there was a clear wish from participants to network and meet other students, they very much enjoyed this opportunity which would have been enhanced with a physical summer school activity. Their responses to the questionnaire (both qualitative and quantitative) indicate that they felt there was value in this experience in the learning and teaching pedagogies used and that they came away with a sense of action about the future and a positive mindset about the Summer School.

“The entire Summer School was perfectly thought out and used so many strategies to help us develop, and I can't think of a single thing to change. It was an absolutely wonderful experience.” [P22]

7.0 Conclusions

One of our aims was to educate future engineers with new and better teaching approaches. We aimed to discover, and trial a new innovative learning and teaching activity which would enable students to develop the future skills and competencies needs we highlighted in Activity 1. In particular we focussed on Future Orientated thinking, Critical Thinking and Teamwork.

The A-STEP 2030 Summer School was delivered online with 8 facilitators in August 2021 over the course of three days. Thirty participants were involved from an international audience. The research team introduced students to the conceptions of Futures Literacy, Scenario Thinking and allowed them to trial the techniques of Backcasting and Roadmapping. Students were tasked with designing a “monster”, a scenario of what the future of engineering education will look like. Eight novel innovative and engaging scenarios were created, details of which are included in Report 6.

Students were invited to provide feedback on the value of the Summer School and it can be concluded that this learning and teaching activity has shown success in not only using future thinking and scenario writing as an innovative teaching approach, but also one that is appreciated by students as preparing them to face the future in their careers.

Full details of the project and the Summer School are included on the project website

(www.aste2030.ie)

8.0 Acknowledgements

We would like to acknowledge the EU Erasmus+ funding body and all partners and associated partners in the A-STEP 2030 project for their help in this Activity. Many thanks also to all Summer School Participants who engaged with the project

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

9.0 References (Chicago)

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Appendix 1 – Advertisement for Summer School

Copy of Advertisement flyer for Summer School

A-STEP-2030

Summer School for STEM Students

18th, 19th, 20th August 2021



BEST
Board of European
Students of Technology



Erasmus+

The A-STEP 2030 Summer School provides an opportunity for STEM students to develop skills in future orientated thinking. The school has been designed based on best practice techniques from different teaching approaches throughout Europe.

Participants will:

- Collaborate and build a network with international students
- Practice future-orientated thinking
- Identify trends and forces influencing future engineering
- Become familiar with problem-posing and –selection techniques
- Apply scenario building methodologies
- Apply critical thinking
- Develop scenarios for future sustainable engineering
- Develop scenarios for future engineering education

The event will take place over (6 x 2 hour sessions) using online methods and participants will also be expected to undertake work outside of formal sessions. Learning certificates and a digital badge will be provided to participants who successfully complete the summer school.

Wednesday - August 18th 2021

(9am -11am) – Introductions and Future Thinking

(2pm – 4pm) – Future thinking Workshop

Thursday - August 19th 2021

(9am -11am) – Introduction to Scenario writing

(2pm – 4pm) – Scenario writing workshop

Friday - August 20th 2021

(9am -11am) – Scenario writing workshop on future engineering education

(2pm – 4pm) – Team outcomes and celebration

Participants will have the opportunity to engage with the engineering education community and to contribute to proposals to prepare engineering students for a sustainable future.

Organisation

The summer school is organised to foster discussion and engage students in teamwork activities thus numbers will be limited to 30 students from a broad range of countries. All sessions will have an interactive format, facilitating exchange of ideas and opinions.

What is included?

There is no cost for student participation, however all participants are required to make themselves available and engage in all aspects of the summer school.

Who can attend?

Applications are open to all students registered on STEM courses worldwide who have sufficient English language capability to participate. The selection team aims to select a diverse body of students to participate. The application form is available [HERE](#).

Applications to be submitted by **5pm on 31st May 2021**.

This summer school is facilitated and supported by the following universities:

- Aalborg University, Denmark
- Metropolia University, Finland
- ENSTA Bretagne, France
- TU Dublin, Ireland

For further information, please contact una.beagon@tudublin.ie



Appendix 2 – Application Form for Summer School

Copy of Application Form provided for Summer School Applicants.

Application for A-STEP2030 Summer School (18-20 August 2021)

* Required

1. Name: *

2. Email address: *

3. University attended:

4. Type of programme:

- Bachelors
- Masters
- PhD
- Other

5. Specialisation (Title of programme):

6. Nationality:

7. Gender:

- Female
- Male
- Other
- Prefer not to say

8. Age:

9. Please explain why you would like to take part in the A-STEP2030 Summer School. (Max 200 words)

10. Tick your preferred role when working within a team? (<https://www.belbin.com/about/belbin-team-roles> (<https://www.belbin.com/about/belbin-team-roles>))

- Resource Investigator: Uses their inquisitive nature to find ideas to bring back to the team.
- Teamworker: Helps the team to gel, using their versatility to identify the work required and complete it on behalf of the team.
- Co-ordinator: Needed to focus on the team's objectives, draw out team members and delegate work appropriately.
- Plant: Tends to be highly creative and good at solving problems in unconventional ways.
- Monitor Evaluator: Provides a logical eye, making impartial judgements where required and weighs up the team's options in a dispassionate way.
- Specialist: Brings in-depth knowledge of a key area to the team.
- Shaper: Provides the necessary drive to ensure that the team keeps moving and does not lose focus or momentum.
- Implementer: Needed to plan a workable strategy and carry it out as efficiently as possible.
- Completer finisher: Most effectively used at the end of tasks to polish and scrutinise the work for errors, subjecting it to the highest standards of quality control.
- No preference

11. Please confirm that you agree to fully participate over all 3 days in the Summer School. *

- I commit to fully participate in the A-STEP2030 summer school.

Appendix 3 – Code of Conduct for Students in Summer School

Thank you for signing up to our A-STEP 2030 Summer School. We look forward to working with you over the next few days.

Remember that you all agreed to participate in all Summer School sessions. Please respect this commitment and contribute to your group's achievement – both in scheduled sessions and in sessions organized by the group outside scheduled hours.

As a general Code of Conduct for online meetings, we would ask all participants to work within the following:

- Be kind! Show respect and listen to one another.
- Join in – contribute!
- Wear earphones if in a noisy area.
- Mute your microphone unless you want to speak.
- Ask participants to be in bright lighting so we can see one another.
- Attendees should dress as they would when attending in person.
- Participants should be in a suitable area of the house if participating from home.
- Do not eat while online or on mic.
- No recording the meeting.
- No private messaging during the course of the call.
- No screen shots should be taken of events/online meetings.
- Files uploaded in the Group channels must have descriptive filenames (incl. version number, group number & session number).
- Files uploaded in the Group channels should be relevant, non-discriminatory and respectful.
- Show understanding that not everyone is familiar with this technology.
- Raise your hand if you want to speak using the "raise hand" feature.
- Close all other open applications on your computer/device.
- Have your phone on silent.
- Please use a virtual or blurred background to keep background distractions at a minimum.
- If you have technical issues please try to leave/re-join a meeting or use a different device before you ask facilitators for help.

If a participant is engaging in disruptive or disrespectful behaviour, they will receive a warning and can be permanently removed from the Teams meeting room.