



Initial Test of the Climate University's Pilot Course

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CLUVEX



CLIMATE
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This document is the submitted version of the “Initial test of the Climate University’s pilot course”. The document has been written by the CLUVEX teams of the University of Helsinki (UH, Finland), Mechnikov’s Odessa National University (ONU, Ukraine), Taras Shevchenko National University of Kyiv (TSNUK, Ukraine), Yerevan State University (YSU, Armenia), University of Copenhagen (UCPH, Denmark), and Bioart Society, Finland.

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1. Call distribution for the 1st VE Week (14-18 October 2024)

The Call for Students for the 1st VE Week was open on 15th August and continued until 30th September 2024. The Call was distributed by the CLUVEX partners via their websites, student organizations e-mailing lists, and e-info screens. We also used our networks like The University of Arctic, Pan-Eurasian Experiment (PEEX), social media (Facebook, LinkedIn), etc.



The CLUVEX project and the Call were also advertised/ presented in different forums/ conferences/ seminars:

- Climate University (CU) Annual Meeting (5-7 Nov 2024, Oulu, Finland) presented by Laura Riuttanen (UH). <https://blogs.helsinki.fi/climateuniversity/2024/09/12/climate-university-annual-meeting-2024-registration-open>
- European Geosciences Union, Open session on Teaching & Learning in Higher Education (14-19 Apr 2024, Vienna, Austria; 20979 participants) presented by Alexander Baklanov (UCPH).

<https://meetingorganizer.copernicus.org/EGU24/EGU24-15348.html>

- Helsinki Institute of Sustainability Science (HELSUS) guest hybrid seminar (27 Mar 2024, Helsinki, Finland; 20 participants) presented by Maria Dominguez (UH).
- ERASMUS+ Information Days 2023 : Arsen Aproyan, head of the Grant coordination department of Yerevan State University., presented CLUVEX, the only project with Armenian participation and financed within the framework of the Erasmus+ “[Virtual Exchanges in Higher Education and Youth](#)” action.
- Bioart Society’s artistic director Yvonne Billimore has included the project in presentations to their visitors, stakeholders and partners on various occasions including: Horizon project consortium meeting Madrid 25.09.24; SOLU breakfast 11.09.24; Student visitor group talks 10.10.12 and 12.11.24; Student critic sessions at University of the Arts Helsinki 2.12.24; Creative Europe project consortium meeting Portugal 5.11.24.
- Dissemination of information at the Scientific and practical conference dedicated to the World Meteorological Day ‘On Guard for Climate Action’ and the World Water Day ‘Water for Peace’, Kyiv, Ukraine (online) (Inna Khomenko, Oleh Shablui, Valeriya Ovcharuk, Hanna Lappalainen, Alexander Mahura, Sergiy Stepanenko, Laura Riuttanen, EMPOWERING YOUTH FOR CLIMATE ACTION: THE CLUVEX PROJECT'S ROLE IN BUILDING CLIMATE RESILIENCE AND SUSTAINABILITY), 22-23 March 2024
https://www.uhmi.org.ua/conf/conf_UHMI_CGO_2024/ee342f06-fa40-4591-aaf1-1e89dbf30804
- Publication about working meeting on CLUVEX project at the University of Helsinki during 24-28 June 2024 on ONU’s social media, 9-10 July 2024
https://t.me/Mechnikov_info/7375?single
<https://www.facebook.com/share/p/14ckP3oJkE/>
<https://www.facebook.com/share/p/15Eo7h1eUn/>
- Publication about the opportunity to participate in the Virtual Exchange Week for students on ONU’s social media (Call dissemination) 12-13 September 2024
https://t.me/Mechnikov_info/7928
https://www.facebook.com/story.php?story_fbid=1064777945655716&id=100063705603664&rdid=yBwJy3HF5BtBD5sL#
- Publication about the start of the Virtual Exchange Week was on ONU’s social media, 15 October 2024 <https://www.facebook.com/share/p/14GGb8QkN2/>
<https://www.facebook.com/share/p/1DjRfT747R/> https://t.me/Mechnikov_info/8224
- Publication about the completion of the Virtual Exchange Week on ONU’s social media, 18 October 2024 <https://www.facebook.com/share/p/1DaA3mr5xq/>
<https://www.facebook.com/share/p/15G6SLRX6Z/> https://t.me/Mechnikov_info/8272
<https://www.instagram.com/p/DBVgDBntO7L/?igsh=cGNjN3dINGNvaDBj>

- Publication about students' certificates on ONU's social media, 11 December 2024
https://t.me/Mechnikov_info/8894?single
<https://www.facebook.com/share/p/19rGoLqKma/>
<https://www.facebook.com/share/p/153NTdNj59/>
<https://www.instagram.com/p/DDcEoLgocTs/?igsh=cWdsMXRqaWV5a3lw>
- Publication about the start of the CLUVEX project was on the Meteorology and Climatology Department of TSNUK's social media, 2 September 2023,
<https://www.facebook.com/share/p/rZEJcURsd6mw4PM9/?mibextid=WC7FNe>
- Publication about the start of the CLUVEX project was made on the official website of the Geography Faculty of TSNUK, 4 September 2023,
<https://geo.knu.ua/%d0%b1%d0%b5%d0%b7-%d0%ba%d0%b0%d1%82%d0%b5%d0%b3%d0%be%d1%80%d1%96%d1%97/rozpochavsya-proyekt-climate-university-for-virtual-exchanges-cluvex-yevropejskoyiprogramy-erasmus/>
- Publication about the call for Virtual Exchange (VE) moderators was made on the official website of the Geography Faculty of TSNUK, 12 December 2023,
<https://geo.knu.ua/%d0%b1%d0%b5%d0%b7-%d0%ba%d0%b0%d1%82%d0%b5%d0%b3%d0%be%d1%80%d1%96%d1%97/doluchajtes-do-proyektu-cluvex-v-yakosti-moderatora-grupy-virtualnogo-obminu/>
- Publication about the 1st training for the moderators of Virtual Exchange Week was made on the official website of the Geography Faculty of TSNUK, 9 May 2024,
<https://geo.knu.ua/%d0%b1%d0%b5%d0%b7-%d0%ba%d0%b0%d1%82%d0%b5%d0%b3%d0%be%d1%80%d1%96%d1%97/pershyj-trening-dlya-moderatoriv-virtualnyh-akademichnyh-obminiv-v-ramkah-cluvex-yevropejskoyi-programy-erasmus/>
- Publication about the 1st training for the moderators of Virtual Exchange Week was on the Meteorology and Climatology Department of TSNUK's social media, 10 May 2024,
<https://www.facebook.com/share/p/ZSEUbdHaAgK5rBdp/?mibextid=WC7FNe>
- Publication about the Call for Virtual Exchange Week for students was made on the official website of the Geography Faculty of TSNUK, 27 June 2024,
<https://geo.knu.ua/%d0%b1%d0%b5%d0%b7-%d0%ba%d0%b0%d1%82%d0%b5%d0%b3%d0%be%d1%80%d1%96%d1%97/zaproshuyemo-studentiv-doluchatysya-do-tyzhnya-virtualnyh-obminiv-v-ramkah-proyektu-klimatychnyj-universytet-dlya-virtualnyh-obminiv-cluvexyevropejskoyi-programy-erazmus/>
- Dissemination of information at the International Scientific and Practical Conference «Natural and Geographical Studies of Relief, Climate and Surface Waters: Current State

and Prospects for Development» (Kyiv, Ukraine) “CLUVEX Project Experience: Virtual Exchanges as a Valuable Complement to Traditional Physical Students’ Mobility in the Field of Climate Change Research” (O. Shevchenko, H. Lappalainen, A. Gozhyk, S. Snizhko, S. Zapototskyi, A. Mahura, A. Baklanov, L. Riuttanen, V. Ovcharuk, O. Shablii, S. Stepanenko, A. Markarov, A. Aproyan, Y. Billimore, and P. Puhto) 2–4 October 2024, https://geo.knu.ua/wp-content/uploads/2024/09/2024-materials-of-the-international-scientific-and-practical-conference_min.pdf

- A few publications about the 1st Virtual Exchange Week were made on the official webpage of the Meteorology and Climatology Department of TSNUK in social media,
- 20 October 2024, <https://www.facebook.com/share/p/zVdioKVWBxFhLRBf/?mibextid=WC7FNe>; 21 October 2024, <https://www.facebook.com/share/nzBcqVYVqRraFRUg/?mibextid=WC7FNe>; 31 October 2024, <https://www.facebook.com/share/p/9DrSVCHaGEbAVcU9/?mibextid=WC7FNe>
- Information about Call-for-Moderators for the 2nd Virtual Exchange Week (in May 2025) was published on the official website of the Geography Faculty of TSNUK, 14 November 2024, <https://geo.knu.ua/%d0%b1%d0%b5%d0%b7-%d0%ba%d0%b0%d1%82%d0%b5%d0%b3%d0%be%d1%80%d1%96%d1%97/doluchajtes-do-proyektu-cluvex-v-yakosti-moderatora-pid-chas-tyzhnya-virtualnogo-obminu-u-travni-2025-roku/>

2. VE Week day-by-day program for students

The VE Week Programme contains lectures, demonstrations and hand-on testing of data visualization tools in joint break-out rooms in Zoom and discussing and working on Group Exercise called “Climate Horizon”. Beyond the VE Week students who participated in the course are welcome to continue with Climate Change online courses, (free of charge) at Climate University <https://climateuniversity>.

Programme of 1st VE Week for students **All times are given in EET (i.e., in Finnish time)**

- ❖ 1st Day 14 October 2024 (10:00 – 13:00, 3h online)
- 10:00 - Welcome words (Laura Riuttanen, UH)
- L1: Navigating Planetary Boundaries: Blueprint for a Sustainable Future (Inna Khomenko, OSENU)
- L2: Climate Change, Disasters, Carbon Neutrality and UN SDGs (Alexander Baklanov, UCPH)
- L3: Climate Change Impact on Water Resources (Sergiy Snizhko & Olga Shevchenko, TSNUK)
- L4: Nature hazards – Floods (Valeriya Ovcharuk, OSENU)

L5: Impacts of Climate Change and Future Outlook (Hasmik Movsesyan, YSU)
L6: Climate Change: Mitigation and Adaptation Strategies (Hasmik Movsesyan, YSU)
L7: Artistic Research and Critical Thinking at the Intersection of Art, Science and Society (Yvonne Billimore, Bioart Society)
12:00 - Breaking into small groups (1 moderator + max 10 students in each group)
Introduction round in groups & pre-task sharing (1 hour)
13:00 – End of the day

❖ 2nd Day 15 October 2024 (10:00 – 13:00, 3h online)

10:00 - Tool for Environment and Data Visualization | Past & Present | (Alexander Mahura, UH)
10:30 - Breaking into same small groups (1 moderator + 10 students in each group)
Testing the tool, group discussions. Preparing for Climate Horizon exercises.
13:00 – End of the day

❖ 3rd Day 16 October 2024 (10:00 – 13:00, 3h online)

10:00 - Tool for Socio-Economic Drivers of Climate Change | Past & Future | (Stefan Fronzek, SYKE)
10:30 - Breaking into same small groups (1 moderator + 10 students in each group)
Testing the tool, group discussions. Working on Climate Horizon exercises.
13:00 – End of the day

❖ 4th Day 17 October 2024 (10:00 – 13:00, 3h online)

10:00 - Tool for Climate Scenarios | Future | (Risto Makkonen, FMI/UH)
10:30 - Breaking into same small groups (1 moderator + 10 students in each group)
Testing the tool, group discussions. Working on Climate Horizon exercises.
13:00 – End of the day

❖ 5th Day 18 October 2024 (10:00 – 13:00, 3h online)

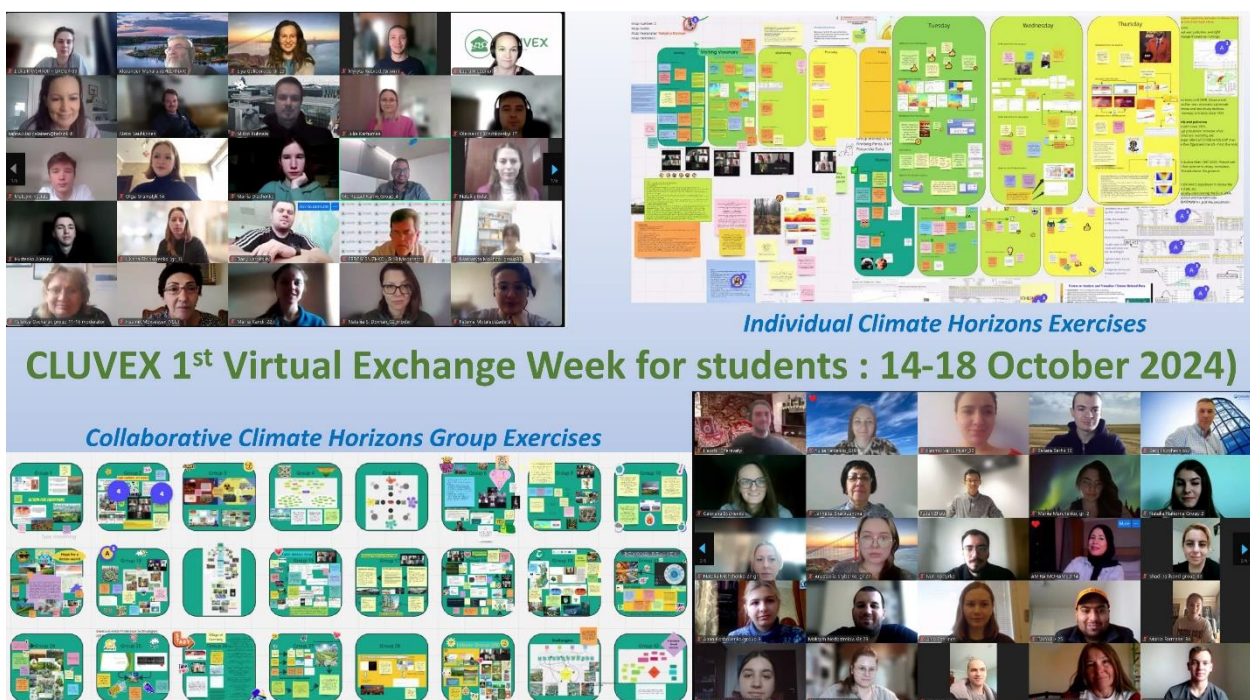
10:00 – Breaking into same small groups (1 moderator + 10 students in each group)
Finalizing work on Climate Horizon exercises
Discussions on collaborative Climate Horizon exercise
Questionnaire with feedback about VE Week
12:00 – Wrap up and Closing the VE Week (Hanna K. Lappalainen, UH)
13:00 – End of the VE Week for students

3. Piloting of the VE Week program: summary

The 1st Virtual Exchange (VE) Week took place online 14-18 October 2024. More than 400 students had registered on DigiCampus for the first CLUVEX Virtual Exchange Week. Out of all registered students, 246 students actively participated in the whole week's program. The work

was done online (3 hours per day). Students/ participants attended the event starting Monday, 18 Oct. Participants from Armenia, Ukraine, Finland, Denmark (as main members of the CLUVEX consortium) as well as students from other countries attended this one-week online training. In brief, this 5-day work online allowed participants to listen to short lectures on climate related topics, learn and practice with web-based tools for visualisation, analysis and interpretation of climate related data, work online as a group/team on Individual and Collaborative “Climate Horizon” exercises, participate in discussions, etc. Note, during the VE Week, the DigiCampus (as educational platform), Zoom (as communication platform), and Miro (as collaborative platform) were actively used by the participants. Many issues related to using zoom communication platform were supported by Mikko Kulmala (Finland), and to using DigiCampus educational platform – by Aleksi Vauhkonen (Finland).

The VE Week started with welcome words to participants, introductory information about CLUVEX project and about individual and collaborative Climate Horizon exercises for students (Hanna Lappalainen, Laura Riuttanen, Julia Karhumaa, Finland). Each day information about exercises was repeated (by Julia Karhumaa, Finland) for participants to keep . On the first day, all students/ attendees were divided into small groups (1 moderator + up to 10 students in each group) and assigned to their own break-out-rooms in zoom. Communication in these separate rooms started by introduction around-the-table and sharing pre-task (outcomes of home-work-assignment required to be done before the VE Week).

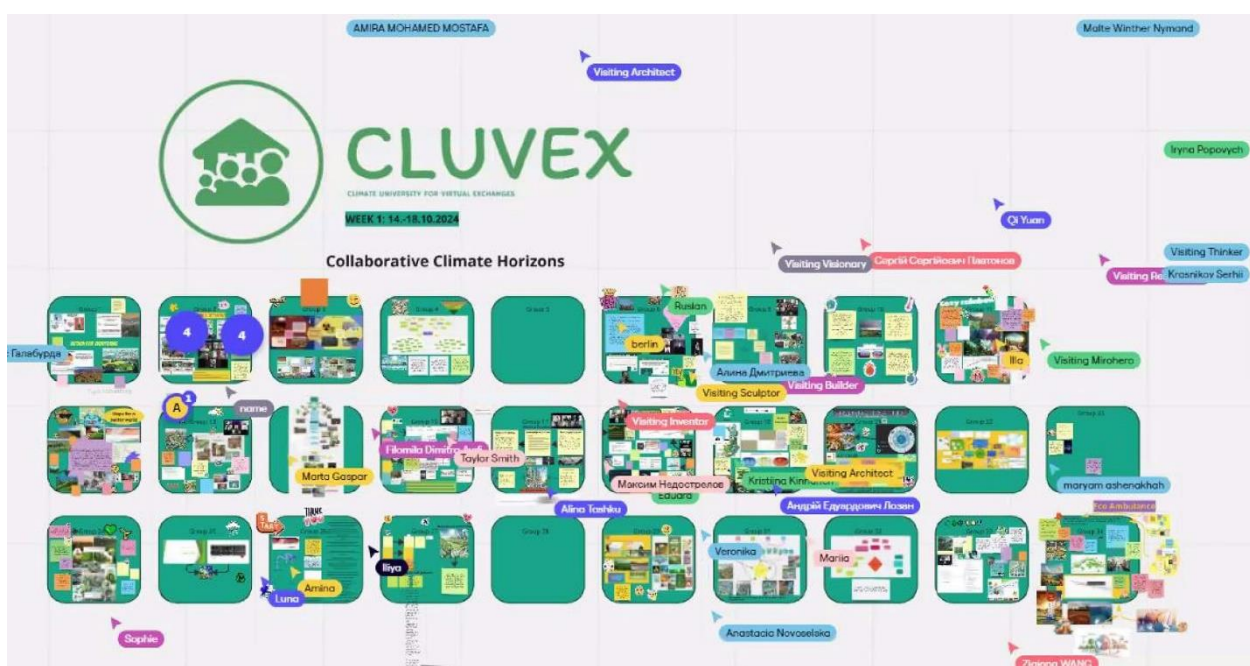


During 14-15 Oct, students (see **Annex 1** with zoom-snapshots of the participants on the first day) listen a series of lectures “Navigating Planetary Boundaries: Blueprint for a Sustainable Future” (Inna Khomenko, Ukraine); “Climate Change, Disasters, Carbon Neutrality and UN SDGs” (Alexander Baklanov, Denmark); “Climate Change Impact on Water Resources” (Sergiy Snizhko, Ukraine); “Impacts of Climate Change and Future Outlook” (Hasmik Movsesyan, Armenia); “Artistic Research and Critical Thinking at the Intersection of Art, Science and Society” (Yvonne

Billimore, Finland); and “Towards Sustainable Futures: Pedagogy of Concrete Utopias” (Antti Rajala, Finland).

During 15-17 Oct, students learned about web-based tools for climate-related data visualisation, analysis and interpretation, as well as they practiced with these tools extracting needed information for individual and collaborative (group) exercises. Tools were introduced and demonstrated at the start of each day, and then, students with moderators continued working online in their groups. After introducing and demonstrating (Alexander Mahura, UH, Finland) the ERA-5 Past Climate Explore tool (<https://era5.lobelia.earth>) as a tool for Environment and Data Visualization & Mapping Past and Present, the students continued their work in groups on individual Climate Horizon exercises. After introducing and demonstrating (Stefan Fronzek, SYKE, Finland) the SSPPathways tool (<https://data.worldbank.org/indicator> & <https://tntcat.iiasa.ac.at/SspDb>) as a tool for Socio-Economic Drivers of Climate Change & Mapping Past and Drafting Future, the students continued their work in groups on individual Climate Horizon exercises as well started discussions on collaborative Climate Horizon exercise. After introducing and demonstrating (Risto Makkonen, FMI/UH, Finland) the IPCC Atlas tool (<https://interactive-atlas.ipcc.ch>) as a tool for Climate Scenarios & Mapping Future, the students continued their work in groups on finalisation of their individual Climate Horizon exercises as well as started their work on collaborative Climate Horizon exercise.

On 18 Oct, on the last day of the training, all students and moderators again joined their groups, continue finalisation of their work and shared their individual Climate Horizons exercises with members of their groups, continued discussions and preparation (using Miro-tool) of their collaborative Climate Horizons (see **Annex 2** with collaborative Climate Horizon exercises by groups). Then, all these collaborative exercises were demonstrated for all participants. At the end, questionnaires with feedback about the VE Week for students and for moderators were distributed.



Students interested in obtaining 1 ECTS credit were required to prepare individual summary reports and submit in the DigiCampus area for evaluation and approval. Moderators, interested in obtaining 3 ECTS credits (as they had already 5 CLUVEX online training sessions for moderators during May-Sep 2024) were also required to prepare moderator's summary reports and submit in the DigiCampus area for evaluation and approval.

4. Preliminary analysis of the Pilot

Participants

429 students had registered in the Students' DigiCampus area. 77 moderators registered in the Moderators' DigiCampus area. Out of all registered students, 247 students actively participated in the whole VE Week program and were granted the CLUVEX certificates, but only 114 of these were granted the 1 ECTS credit based on evaluation of submitted reports in the DigiCampus. Because smaller number (than expected) of students have participated in the 1st VE Week, only 37 moderators had opportunity to moderate the work in groups of students. All these 37 moderators actively participated and were granted the CLUVEX certificates as well as the 3 ECTS credit points (due to their participation and learning necessary skills and materials in 5 online trainings for moderators which took place in May-Sep 2024). The other trained CLUVEX moderators will have opportunity to moderate during the 2nd VE Week for students (in May 2025).

Note, students have a 50% drop-out versus registered and active participation. Majority of the participating students were from Finland and Ukraine. It was noted that the CLUVEX partner universities had different practices, e.g. pre-agreed and attendance of overlapping lectures. For the 2nd VE Week, a better scheduling to avoid the overlap with exam period /vacations /other events is needed. Some of the moderators were very motivated, some just dropped out and "the absence of the moderators at the last minute caused a stressful situation. It is important to consider how we engage moderators to be committed to participate in the VE Week (currently, getting a credit is only one way).

Lectures, Tools, Climate Horizon Exercise

The lectures on climate related topics were clear, the web-based tools for climate related data visualisation, analysis and interpretation were interesting and, in general, relatively easy to use. Presentation with demonstration about the IPCC Web-Based Atlas (by Risto Makkonen, FMI/UH) was especially praised. Additional tool (suggested by Karim Rezaul, UH) called the C-Roads Climate Change Policy Simulator (<https://www.climateinteractive.org/c-roads>) was proposed. The Climate Horizon exercise (individual and collaborative parts) was well received and understood correctly. The Miro (for collaboration to work on exercise) was great, and we also got good students' and moderators' reports. We also received a lot of research material (Miro(s), reports, feedback surveys, etc.), and basically, we plan to use the same materials for the 2nd VE Week in May 2025, only with minor updates where it is needed.

Zoom & Miro & DigiCampus

Zoom max capacity is 500 participants: 440 students + 50 moderators + 10 staff / lectures, etc. During the 1st VE Week Laura Riuttanen (UH) acted as the main host, and for the 2nd VE Week for students (in May 2025) we need new candidates from Copenhagen/Odessa/Kyiv/Yerevan to act as hosts. Mikko Kulmala (UH) was acting as a Zoom key administrator, and there is a need for backup person(s). Julia Karhumaa and Aleksi Vauhkonen (UH) were in the Helpdesk break-out-room and helped in organizing small groups (assigning students and moderators).

Students and moderators as new users quickly learn to use the Miro collaborative platform. For the 2nd VE Week, we do not expect any problems with that tool as a collaborative platform.

Students and moderators as new users quickly learn to use the educational platform. For the 2nd VE Week, we need to minimize the unnecessary registrations on the platform (dropouts). Also answering the pre-questionnaire could be a condition for getting credentials (access) for the DigiCampus area.

Concluding remarks

The 1st VE Week pilot showed that our CLUVEX planned concept / Horizon Exercise worked in practice. Now there is a joint vision and understanding how to organize a good VE Week event for students. The event involves several technical e-platforms: DigiCampus (education), Zoom (communication), Miro (collaboration).

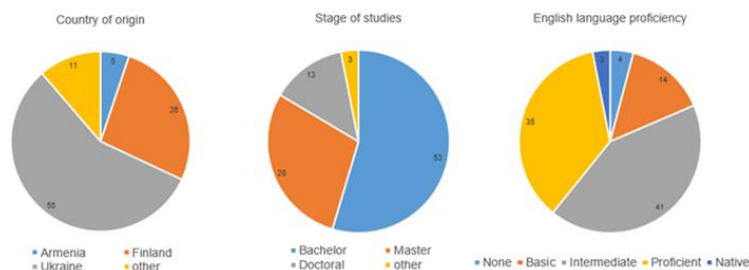
It is also important to remember the challenges of remote communication such as technical interruptions and the special circumstances of the Ukrainian wartime (air alarms, access to the internet / electricity), language skills (English) and soft skills.

5. Students' feedback

After the 1st VE Week the questionnaires were released to students participated in order to obtain the feedback from participants. In total, 97 replies were received. See below the results.

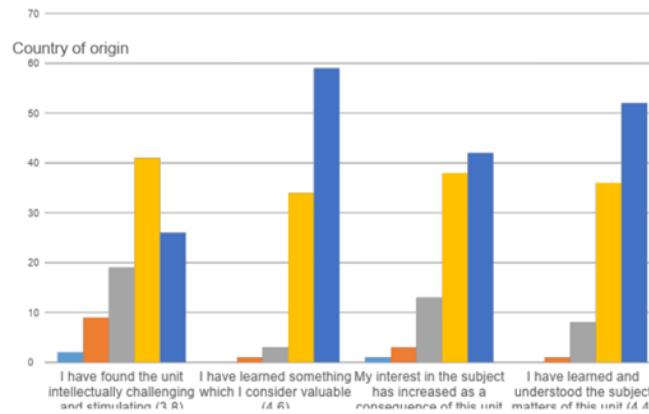
Student feedback (97 answers)

Student demographics



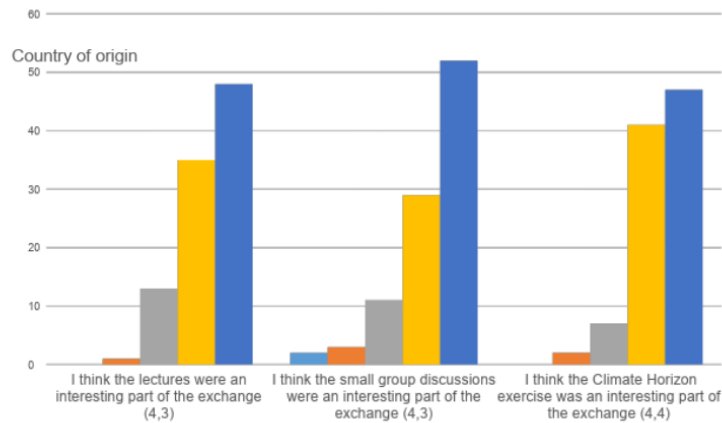
Student feedback (97 answers)

Individual's learning experience, 5 to 1 (average)



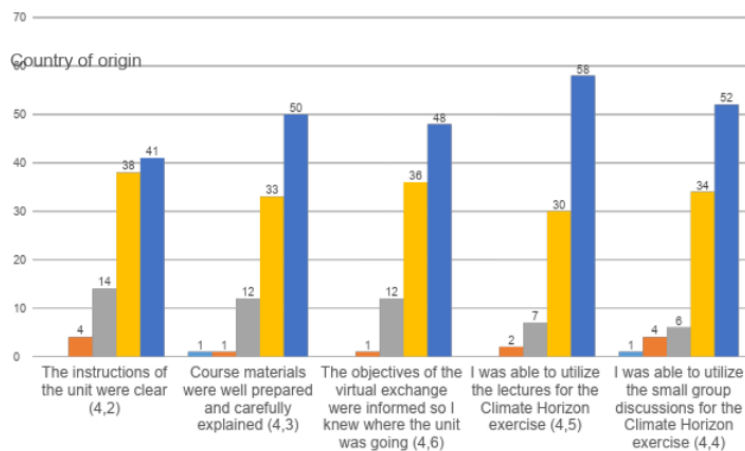
Student feedback (97 answers)

Interest in studies, 5 to 1 (average)



Student feedback (97 answers)

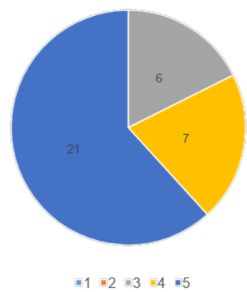
Organization of unit, 5 to 1 (average)



6. Moderators' feedback

After the 1st VE Week the questionnaires were released to moderators participated in order to obtain the feedback from participants. In total, 34 replies were received. See below the results.

Moderator feedback (34 answers)
Overall rating of the virtual exchange experience, 5 to 1 (average)



7. Annex 1: VE Week Participants (1st day, zoom-snapshots)

8. Annex 2: Collaborative Climate Horizon exercises by groups