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**Minutes of the**

**STEM coordination Zoom meeting**

**December 7, 2022**

**Participants**

Janerik Lundquist (LiU), Martin Widin (LiU), Keelin Leahy (UL), Oona Kiviluoto (UH), Gultekin Cakmakci (HU), Meruyert Serik (ENU), Nursaule Karelkhan (ENU), Gulmira Balgozhina (ENU), Gaukhar Omashova (SKSU), Gulmira Adyrbekova (SKSU), Lyazzat Zhaidakbayeva (SKSU), Agyzar Dauletbek (EKSU), Meunert Kaidanova (EKSU), Nazira Ospanova, Nurgul Tokzhigitova (TOU)

**Agenda**

1. Welcome address
2. Confirmation of the agenda
3. Report from the Summer school 2022 at ENU
4. Report from the Integrated Approach to STEM Teaching Training, Helsinki October 2021
5. Report from Summer Programme for School Children
6. Report on Summer Programme for STEM Ambassadors
7. Report on official recognition of the new MSc STEM programme
8. Status of the STEM Career Atlas
9. Status of the STEM Handbook
10. Report on the monitoring on project implementation at KZ universities
11. Organize a workshop on teaching and learning resources
12. Report from the National dissemination workshop in Nur Sultan spring 2022
13. Preparation for the STEM centres’ network
14. Quality assurance of all STEM activities and outcomes
15. Organize of a joint STEM Day in three KZ cities
16. Create inter-project coaching in Europe
17. Student mobility 2 months KZ to Europe
18. Staff mobility 1 week KZ to Europe
19. Staff mobility 1 week Europe to KZ
20. Develop a STEM engagement programme and its implementation
21. Conduct regional training workshops
22. Conduct peer reviews at KZ partners
23. Analysis of the evaluation feedback
24. Project promotion and STEM homepage
25. STEM raising awareness events
26. Dissemination events in KZ
27. Next coordination meeting in KZ
28. Final conference in KZ – when and where
29. Presentation of all original TSs, JDs, Employment statements and ITRs from each partner
30. Preparation of the final report and money transfer
31. Summing up and closing of the meeting
    1. **Welcome address**

Professor Lundquist, the project coordinator, welcomed all participants with a special welcome to the new STEM partner, Toraighyrov University in Kazakhstan. He also outlined the successful event “STEM project training and STEM & Makers Fest/Expo” in Turkey in November 2022, and thanked colleague Gultekin for a well performed meeting in Nevsehir. The agenda for the day is a follow up of the minutes from the Istanbul meeting 6-7 October.

* 1. **Confirmation of the agenda**

All participating agreed on the presented agenda.

* 1. **Report from the Summer school 2022 at ENU**

ENU - Summer school was performed as planned face-to-face. The meeting was given a report with photos and video from different activities during the summer school. 47 certified students out of 4 classes and 8 school children participated.

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| **Decisions:**   * The homepage will be updated with reports from all summer schools * ENU will provide a report to SKSU |
| **Actions**:   * SKSU will take responsibility for uploading the homepage * Also uploading videos and pictures * Language will be English and Russian   . |

* 1. **Report from the Integrated Approach to STEM Teaching Training, Helsinki October 2021**

UH – Performed a 3-day online ambassadors’ training. First day with 60 participants, and with 30 the following days. Result: approx. 30 certificated ambassadors.

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| **Decision:**   * The homepage will be updated with a report from the event, UH will send info to SKSU. * Language will be English and Russian |
| **Actions**:   * SKSU will take responsibility for uploading * Also uploading program, videos, pictures etc.   . |

* 1. **Report from Summer Programme for School Children**

ENU – conducted as planned with 8 school children in a “big summer school”.

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| **Decisions:**   * The homepage will be updated with report from the children’s “big summer school”. * ENU will supply info to SKSU. * Language will be English and Russian |
| **Actions**:   * SKSU will take responsibility for uploading * Also uploading program, videos, pictures etc.   . |

* 1. **Report on Summer Programme for STEM Ambassadors**

UH – presented that it was conducted online. Was planned to be in Rostov 2022, now gathering students’ feedback. Result will be uploaded. HU is also collecting students’ feedback and SFedU will send information to HU.

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| **Decisions:**   * The homepage will be updated with report from the ambassadors’ training. * UH will supply info to SKSU. * Enough with a ½ page summery. * Also uploading ambassadors’ program, videos, pictures, etc. * Language will be English and Russian |
| **Action**:   * SKSU will take responsibility for all uploading   . |

* 1. **Report on official recognition of the new MSc STEM programmes**

All partner universities confirmed that the new Master’s programmes are officially recognized by both their local universities and the relevant Ministries.

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| **Decision:**   * Partner universities must submit proofs of official recognition of Master‘s programme to the project coordinator within next week. |

* 1. **Status of the STEM Career Atlas**

EKSU – Not yet finished. EKSU has the responsibility to lead to finish of the structure of the Atlas and to allocate roles and responsibilities among the PC partners. It will be translated into English and Kazakh language. The publication will be in printed format but also uploaded at the project web site. The web site must be living until the end of 2023.

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| **Decisions:**   * Partly written * OK to use staff cost for the writing and translation * Media will be printed format and digital at project web site * Printing costs must be reported before 14 January 2023 * EKSU starts the work and informs when it is ready * Deadline 14 January 2023 |

* 1. **Status of the STEM Handbook**

Set goal is a book covering at least 20 pages. The other document “Best practice” is ready, but the link to reach the document doesn’t work. Must be fixed.

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| **Decisions:**   * Not ready, (link to “Best practice” must be fixed) * Target group: students, teachers, educators, administrators * Will contain several articles of 5-6 pages per article * Media will be printed format and digital at web site * Printing cost must be reported before 14 January 2023 * HU is responsible for the Handbook * Deadline 23 December 2022 |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Report on the monitoring on project implementation at KZ universities**

ENU will monitor SKSU and EKSU. Together they will discuss practical issues. The outcome will be a short report.

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| **Decisions:**   * ENU monitoring will be done by 20 December 2022 * Will write a short report to be put on the homepage * ENU will supply info to SKSU |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Organize a workshop on teaching and learning resources**

European partners UH and UL have the lead. The form will be a workshop in teaching/learning and is to be an extension of the workshop earlier held at UH.

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| **Decision:**   * UH will supply the program to SKSU |
| **Action**:   * SKSU will take responsibility for upload   . |

* 1. **Report from the National dissemination workshop in Nur Sultan spring 2022**

ENU – Seminar was held in Mars 2022 together with SKSU and EKSU using social media, articles, and publishing modes. EKSU vice president introduced the seminars program.

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| **Decision:**   * ENU supply report to SKSU. |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Preparation for the STEM centres’ network**

What is the status of each STEM Centre?

EKSU – Robolab has been set up in its own space on the university site. The space also includes office space and a laboratory. The STEM Centre opened in March 2021 and has been running since then. The STEM Centre gets visits from around 20 towns/villages near the campus. The visits are done mainly by teachers who have studied robotics. The teachers will teach other teachers locally after their visit. This way the new methods will reach every student in the region. The visits and the training will continue.

ENU – The STEM Centre has delivered mainly teacher training. They have organized workshops for teachers. The STEM Centre has two rooms on university campus.

SKSU – The equipment has been bought. The STEM Centre was opened in the spring 2021, and it has its own space in the main building of the university. The Centre has organized training for both teachers and pupils. Topics have been computer science, physics, and biology.

It has been suggested to all partners that the STEM Centre should be open for everyone in the region, not just for university use. Also, the STEM logo together with the EU logo should be presented on the wall of all centres. Also, networking, such as national STEM conferences, is encouraged.

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| **Decisions:**   * SKSU writes a report on the STEM centre network * Write about the organization of the STEM centre, the equipment used etc. |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Quality assurance of all STEM activities and outcomes**

Gultekin Cakmakci presented QA activities and outcomes. The quality Assurance is proceeding according to plan. It is required by everybody to fill in the missing information in the QA Plan Table. Gultekin Cakmakci suggested that partners can contact him with questions, and he will provide guidance with evaluation.

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| **Decision:** |
| **Action**: |

* 1. **Organize a joint STEM Day in three KZ cities**

The Joint STEM Day was organized first time in January 2021, the second time in October 2021 and the third time in January 2022. ENU was the main organizer of these first two events and SKSU organized the third event. Next STEM Day will be organized by SKSU.

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| **Decisions:**   * Reports from earlier STEM days are sent to SKSU * Planned to be finished end of December 2022 |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Create inter-project coaching in Europe**

There is a possibility in the project that KZ universities could visit Europe and get to know similar projects. UL has investigated possible projects and after that, KZ universities can decide if they want to visit one or two of these. Visiting universities must be updated about the STEM project. The list of suitable projects is already being drafted and ready to use.

ENU has already done inter-project coaching twice with other Erasmus+ projects: the first in October 2020, and the second in December 2021.

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| **Decisions:**   * ENU will report about the inter-project coaching to be upload * Kazakh partners can still visit any university in the world with a similar project funded by the European Commission as Erasmus+ KA2 CBHE * Virtual visit is allowed |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Student mobility 2 months KZ to Europe**

No mobility has been executed due to COVID-19 and strict university policies (short application windows, long waiting times and heavy bureaucracy). Students should have a good level of independence and satisfactory English language skills, since some universities have language requirements and others expect students to book their own apartments autonomously in English through online systems. Thesis work, for example, can be done at European countries even though the semester is already ongoing.

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| **Decisions:**   * Not possible to realize intended student mobility * Some students are sent to “STEM & Makers Fest/Expo” in Cappadocia instead |

* 1. **Staff mobility 1 week KZ to Europe**

Decided that 2 teachers per PC partner could use the 1-week mobility. Not both at the same time and maximum 2 per hosting university at the same time. Before planning, check if visa is needed. The aim is for teachers to take the lead, be involved in lectures, seminars, presentations etc.

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| **Decisions:**   * To be done in December 2022 * Reports from earlier STEM mobility days to be sent to SKSU |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Staff mobility 1 week Europe to KZ**

The three European partners decided who to visit each PC partner as below:

HU visit ENU

UH visit EKSU

UL visit SKSU

The partners were recommended to decide a date as soon as possible before 14 January 2023. The outline of the visit is to use 3 days teaching/lecturer and 2 days for travel. 1 whole day should be spent scrutinizing the course document’s part for part. The scrutinizing can be done online. The project coordinator will visit each of the involved universities including the new partner during one day per university.

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| **Decisions:**   * Virtual visit is OK * Scrutinize first to last page and report to the project coordinator |

* 1. **Develop a STEM engagement programme and its implementation**

UH – responsible with help from UL if necessary.

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| **Decision:**   * Too late to start this now |
| **Action**: ----- |

* 1. **Conduct regional training workshops**

KZ universities must organize local training workshops for teachers. EKSU and ENU have already completed this action. SKSU must complete the action by the end of the project. .

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| **Decisions:**   * Some already done * SKSU will be run the workshop in December 2022 * Status report over what-has-been-done ½ page for homepage |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Conduct peer reviews at KZ partners**

Peer reviews will be conducted in situ at the universities or online. Universities will agree on the details together: UH & EKSU, UL & SKSU, and HU & ENU. LiU will conduct the review with the 4th KZ university. EU partners will review the new MSc programme content and its relations to ECTS credits, etc.

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| **Decisions:**   * Still possible with a physical meeting * Online meeting is OK |
| **Action**:   * SKSU will take responsibility for uploading   . |

* 1. **Analysis of the evaluation feedback**

Gultekin Cakmakci presented the evaluation questionnaire. Reports were discussed and reports from past trainings and events need to be sent by the end of this month.

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| **Decision:**   * Questionnaire sent |

* 1. **Project promotion and STEM homepage**

Promotion was encouraged. Details of promotion must be conserved: who, when, what and what target group was promoted. The deadline for promotion is the end of the project, the 14th of January 2023. The homepage must be updated as soon as possible. SKSU will contact partners and manage the homepage.

Items 25 and 26 were addressed together

* 1. **STEM raising awareness events**
  2. **Dissemination events in KZ**

Several STEM events have been organized already despite COVID-19. The events have been reported to the project management and unreported ones must be reported by the end of the project. More events can be organized within the project timeline.

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| **Decisions:**   * To do as much as partners can, unreported ones must be reported. * To be visible at schools, local government etc. * Write short reports over what has been done. |

Items 27 and 28 were addressed together

* 1. **Next coordination meeting in KZ**
  2. **Final conference in KZ – when and where**

The Staff mobility (Item 19, Europe to KZ) and peer reviews at KZ partners (Item 22) will take place around the Final conference (before or after the 6th of January). The final coordination meeting will be held on the same day as the final conference.

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| **Decisions:**   * Final conference will be in Astana (ENU) for ½ day on the **6th of January 2023**. * To send invitation letters within 10 days including a short descriptive program. |

* 1. **Presentation of all original TSs, JDs, Employment statements and ITRs from each partner**

The original documents must be handed over to Martin Widin as soon as possible. Also registered post is possible. If the documents are sent via registered post, they must be scanned and sent first by email. Originals can be sent via registered post after they have been approved by project management.

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| **Action:**   * Reminder to send documents |

* 1. **Preparation of the final report and money transfer**

Everyone is expected to contribute to the final report. The project leader will assign parts of the report for each partner to write. The writing work will be carried out in Jan-March of 2023. The template will be distributed as soon as the Commission will publish it.

The last money transfers will be done after the project has ended and the Commission has accepted the project. This might happen in May 2023.

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| **Action**:   * No action   . |

* 1. **Summing up and closing of the meeting**

All the items were run through again and the deadlines were pointed out.

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| **Action**:   * No action   . |