PAKRUOJIS "ATŽALYNAS" GYMNASIUM

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MINUTES -SUMMARY OF TRANSNATIONAL SHORT-TERM JOINT STAFF TRAINING ACTIVITIES AND SHORT-TERM EXCHANGE OF GROUPS OF PUPILS

Date(s) of activities – 28th November – 2nd December 2022
Place of meeting – Pakruojis, Lithuania
Host school - Pakruojis "Atžalynas" Gymnasium, Lithuania

The transnational short-term joint staff training activities were organized following the topic

- International Teacher's Room 4 - Assessment Techniques

Short-term exchange of groups of pupils was organized following the topic

- International Science Learning Circle

Project Title
Erasmus+ School Exchange Partnership Project (KA2)
"Engaging Ways to Science: Empowering Project-based Learning for Interdisciplinary Science Education"

Participants
Partner school 1 (host) – Pakruojis "Atžalynas" Gymnasium, Lithuania
Teachers
Mrs. Asta VALUNTIENĖ (headmistress), Ms. Rasa AUGUSTINAITIENĖ (deputy head, Chemistry teacher), Mrs. Rasa BERTULIENĖ (deputy head, Physics teacher), Ms. Rima LEIMONTIENĖ (coordinator), Ms. Rasa STRAVINSKIENĖ (teacher of English), Ms. Daiva MAKAUSKIENĖ (Biology teacher), Ms. Rita VINSKŪNAITĖ (Maths teacher), Ms. Vita GUDONIENĖ (Chemistry teacher), Roma STOČKĖ (social pedagogue), Inesa TAMULIONYTĖ-POŠKAUSKIENĖ (class teacher) , Mindaugas KĖBLIS (IT specialist).
Students
Gerda BERTULYTĖ, Julius ŠAPOKA, Matas ŠIMANSKIS, Austėja SADZEVIČIŪTĖ, Vincentas LEKAS, Agnietė KAPUČINSKAITĖ, Patricija GELEŽĖLYTĖ, Donatas DARGIS, Elinga GENDVILAITĖ, Samanta BARKAUSKAITĖ, Juta VIŠNIAUSKAITĖ, Goda RUTKEVIČIŪTĖ
Partner school 2 - Jedlik Ányos Gimnázium, Hungary
Teachers
Ms Judit KOHUT (coordinator, teacher of English), Mrs. Enikő ZAHA (Chemistry and Physics teacher), MR. Attila KÉKESI (Physics and Biology teacher)
Students

Máté BICZÓ, Fruzsina BARTÓK, Gréta BOGDÁN, Gergő KOVÁCS

Partner school 3 – Agrupamento de Escolas Daniel Sampaio, Portugal
Teachers
Ms. Cristina SANTOS (Maths teacher), Ms. Carla VAZ (Biology teacher), Ms. Paula PAIVA (Physics and Chemistry teacher), Mr. Fernando REBELO (coordinator).
Students
Leonor PASSARINHO, Sofia MARTINS, Tomás SOUSA, Laura SOARES

Partner school 4 (coordinator) – Johann-Heinrich-Voss-Schule, Germany
Teachers
Petra KÖNIG (Art and Geography teacher), Christopher RASCHPICHLER (Physics and Chemistry teacher), Alheid SZELLINSKI (teacher of English and German).
Students
Jan GEBHARDT, Alina ROSE, Timon SEVERIN, Charlotte WITT

Summary of the activities carried out

Monday, 28th November
The teachers participated in session for sharing good practice on the assessment/evaluation techniques in partner schools. There were the examples of best practices regarding assessment techniques they use, used or find useful to try in the context of carrying out interdisciplinary short-term project based Science activities shared during the session.
The students were invited to take part in team building activities led by host school teachers Roma and Inesa. Afternoon session was organized for their presentations on the Science learning circle activity results in every partner school (as local activities).

Tuesday, 29th November
The teachers participated in workshop/lecture on assessment techniques "Assessment for Learning Success" by assoc. prof. Dr Ramutė Gaučaitė from Šiauliai Academy of Vilnius University.
The students started their Science learning circle activities (there were 4 international groups of 6 students in each group formed; different articles: "Concerning the origins of charge transfer in the micro-structure of matter: The contribution of Theodor von Grotthuss" by Juozas Al. Krištopaitis (2006), "Theodor von Grotthuss' Contribution to Electrochemistry" by Rasa Pauliukatė, Jurga Juodkazytė, Rimantas Ramanauskas (2017), "An update of the chemiosmotic theory as suggested by possible proton currents inside the coupling membrane" by Allesando Maria Morelli, Silvia Ravera, Daniela Calzia and Isabella Panfoli (2018-2019), "The Grotthuss mechanism" by Noam Agmon (1995)were chosen for each group; they learned more about Theodor von Grothuss works by analysing the aforementioned scientific articles and searching for relevant information, preparing presentations in study groups).

Wednesday, 30th November
The learning/teaching/training activities were organized in the Faculty of Chemistry and Geosciences of Vilnius University (Vilnius).
The teachers had a practical session for assessing students'presentations. This was a practical application of the assessment tool for Science Learning Circle Activity introduced by host school teachers Rita Vinskūnaitė and Rasa Bertulienė.

The students continued the Science learning circle activities by presenting the results of the scientific article studies and participating in the discussion/lecture with Prof. Aivaras Kareiva – the head of Grotthuss Association in Lithuania.

Thursday, 1st December

The teachers had a discussion on practical application of the introduced assessment tool (for evaluation, self-evaluation) "The Target" providing feedback on the most applicable parts for further use in partner schools as well as suggestions for further/possible improvements. The second part of the discussion was related to the agreements on the further tasks for preparing the final products (E-book), updating the project website and carrying on final evaluation of the "Scientify" project.

The activities for **the students** took place at Šiauliai STEAM Centre. The participants were divided into two groups and performed the experiments "What plant pigments are involved in photosynthesis?" (laboratory of Biology- Chemistry), and "Rainbow in the palm of your hand" (laboratory of Physics) under the supervision of the STEAM centre staff members Ms. Ilona Kerienė and Ms, Irma Gincerienė, as well as host school teachers Vita Gudonienė and Daiva Makauskienė.

Friday, 2nd December

The teachers and the students were involved in a feedback session. They were asked to fill in questionnaires. The questionnaires were aimed to measure the quality of the activities, the impact of events on improving teachers'/students' skills/competence, and the significance / impact of the events on the project participants. The summarized results of the answers are being presented in the annexes of this document (please, find Annex 1 and Annex 2 below). In addition, the participants had to answer two questions and participated in a feedback circle activity.

The second part of the feedback session was organised for the teachers and the students together. The participants presented the main points, observations, comments, agreements from the feedback session.

Social Activities

There was a short guided tour in Pakruojis and a visit to "Dolomite" (dolomite excavation place nearby Pakruojis), an educational programme at the Palace of the Grand Dukes of Lithuania (Vilnius), visit to the Hill of Crosses organized for the participants. The aforementioned activities were organized with an intention to provide participants with opportunities to know the culture and history of Lithuania better.

Conclusions and agreements

The summarized feedback and evaluation shows that **the teachers** highly evaluated the organization and the content of the activities, emphasizing the opportunity given for exchanging ideas and experiences (84,7 % of them strongly agreed with this statement), stating that the activities helped them to aquire new theoretical knowledge, methodological background and practical skills related to the assessment techingues (38,5% of the teachers strongly agreed and 53,8% agreed with that). Summarizing their opinions towards the organization and and the content of the activities, 84,6% of the respondents stated and strongly agreed that the activities met their expectations.

Stating that as a consequence of this training the respondents learned from good practice abroad was the main point while evaluating the impact of activities on teachers' skills / improvement of competences (69,2% of the respondents strongly agreed and the rest – 30,8% agreed with the aforementioned statement). In general 77 % teachers stated that during the participation in the activities they were able to experiment and develop assessment tools for Science activities/projects, their learning resulted in their improved awareness of ways for developing new assessment tools and

they became more motivated to look for and apply new assessment tools related to Science projects (for 84% of respondents).

Improved knowledge about partner countries and culture (in general 100% of the teachers were positive about this) was especially highly emphasized when they expressed their opinion on the significance/impact of the activities to the participants. The teachers also mentioned that the training event in Lithuania resulted in their improved teamwork (69,3% of the respondents strongly agreed and 23% agreed) and practical skills (46,2% strongly agreed and 46,1% agreed), higher self confidence (61,6% strongly agreed and 23% agreed with this statement).

While answering the question „What were the most important experiences this week" the participants emphasized that from the professional point of view exchange/sharing good practice, learning from the host school colleagues (7 respondents, some of the feedback - „exchange of ideas on evaluation especially the one developed by Lithuanian teachers", „assesment with rubrics displayed in a visual target", „use of subject – specific publications in the class", the lecture/seminar by assoc. prof. Ramutė Gaučaitė (4 respondents), observing the organisational aspects of the activity (3 respondent, for example: „the linking of students' and teachers' work – from the beginning up to the evaluation", „the involvement of participants") were the most important experiences for them. From the emotional/personal perspective the aspect of positive atmosphere and communication was dominant in the feedback given by teachers (13 teachers emphasized this, „the good mood and harmony", „ solidarity and good humour").

Being asked to use one word to describe the week, teachers summarised that it was *white, complex, fine, changing, exciting, affectionate, short, joyful, amazing, varied (diverse), colourful, fascinating,* full of *warmth* and *happiness.*

The students highly evaluated the opportunity for exchanging ideas and experiences (66,7 % of them strongly agreed and additional 25% agreed with this statement), stated that the learning circle activities helped them to aquire new theoretical knowledge and practical skills related to learning Science (in general 75 % of them had no doubt about that). Summarizing their opinions towards the organization and and the content of the activities, 83,3% of the respondents stated and strongly agreed or agreed that the activities met their expectations.

Stating that as a consequence of this short-term exchange the respondents were encouraged to establish closer ties with students from other countries was the main point while evaluating the impact of activities on students' skills / improvement of competences (70,83% of the respondents strongly agreed and the rest – 29,2 % agreed with the statement). In general 75% of the students agrreed or strongly agreed that the activities had fostered their thinking processes- such as critical thinking, reading comprehension, analysis, from 50 % to 59% students stated that during the participation in the activities they had increased self-study skills and motivation to learn Science.

Improved knowledge about partner countries and culture (91,7% of the students highly agreed with the staement), impoved teamwork and cooperation (62,5% of the respondents strongly agreed and 29,2% agreed),social/emotional skills (50% of the respondents strongly agreed and 45,8% agreed) were especially highly emphasized when they expressed their opinion on the significance/impact of the

activities to the participants. 87,5% students had no doubts the exchange resulted in their improved English language skills.

Students also answered the question "Mention one aspect you liked the most during this week" individually and then had a short discussion in teams based on their answers. *(A place, Persons, Activities, Something else). Persons:* 17 students mentioned that their best experience is connected to human relations. (host family, the group atmosphere, their partner, meeting people they met during previous conferences again, making friends, talking with other students about cultural and language differences). *A place:* For 2 students the most memorable experience was visiting Vilnius and to see the Christmas lights and decoration there. *Activities:* Some of them mentioned that the team building activities on the first day were very enjoyable and they would have liked even more of them during the week. *Something else:* Trying new food (e.g., Surelis), walking to school in a snowy landscape.

Students were asked to work in groups of 4 with people they hadn't had the chance to work with during the week and discuss on the topic "What would be your advice to improve such a meeting next time?" Some suggestions are contradicting the previous question, so obviously something which was the very best for some, were to be changed for others. Issues mentioned are: time management (too much free time in Vilnius, too early starting time after a long day), students should plan free time activities better, the articles they had to work on were too difficult/too theoretical, participating teachers should speak English, more joint activities with teachers.

1. Regarding the further implementation of the new ideas for evaluation discussed and used evaluation tools teachers will share discussed and used evaluation tools with their colleagues (until the end of the project).

2. For ensuring effective project final evaluation and E-book preparation, the website updating processes, the following agreements were made:

- The Google drive section created by the Hungarian school will be used by partners for uploading the needed files, photos, materials for the E-book in a more organised way and following the discussed deadlines (responsible – team from Jedlik Ányos Gimnázium (Hungary) until the end of the project – 31st December and during the final report preparation time).
- To update the website www.scientify-erasmus.net the partners will send the introductions to the news they wish to be seen online and a collection of photos to illustrate the international events (responsible – Lithuanian team, deadline – 16th December, 2022).
- For starting the project final evaluation procedures, the questionnaires for teachers and students will be applied (responsible for the design of the questionnaire - Portuguese team, until the end of the project).

Annex 1

Erasmus+ School Exchange Partnership Project (KA2)

"Engaging Ways to Science: Empowering Project-based Learning for Interdisciplinary Science Education"

Short-term exchanges of groups of pupils (students)

"International Science Learning Circle"

28th November - 2nd December 2022

EVALUATION

The aim of this questionnaire is to measure the quality of the activity, the impact of the activity on improving students' skills / competence, and the significance / impact of the event on the project participant.

Criteria and arguments	Strongly disagree (1)	Disagree (2)	Neutral/Neither agree or disagree (3)	Agree (4)	Stongly agree (5)
Organisation and and the content of the activities					
The appropriate places for the activities were chosen		1 - 4,17 %	2 – 8,3 %	14 – 58,3 %	7 – 29,2 %
The appropriate time and duration were chosen		5 – 20,83 %	7 – 29,2 %	8 – 33,3 %	4 – 16,7 %
The learning circle activities helped me acquire new theoretical knowledge and practical skills related to learning Science		1 - 4,17 %	5 – 20,83 %	13 – 54,2%	5 – 20,83 %
There was an opportunity for exchanging ideas and experiences			2 – 8,3 %	6 – 25 %	16 – 66,7 %
The activities met my expectations		2 – 8,3 %	2 – 8,3 %	11 – 45,8 %	9 – 37,5 %
The teachers I worked with were competent			4– 16,7 %	7 – 29,2 %	13– 54,2 %
The impact of activities on student skills /improvement of competences					
Increased self-study skills	2 – 8,3 %	3 – 12,5 %	6 – 25 %	7 – 29,2 %	5 – 20,83 %
Fostered my thinking processes - such as critical thinking, reading comprehension, analysis.		1 - 4,17 %	5 – 20,83 %	13 – 54,2%	5 – 20,83 %
Increased motivation to learn Science	2 – 8,3 %	1 - 4,17 %	7 – 29,2 %	13 – 54,2%	1 - 4,17 %
Encouraged to establish closer ties with students from other countries				7 – 29,2 %	17 – 70,83 %
Significance / impact to the participant Thanks to this learning activity, I have also improved my					

English language skills			3 – 12,5 %	3 – 12,5 %	18– 75 %
Teamwork and cooperation skills		1 - 4,17 %		7 – 29,2 %	15– 62,5 %
Knowledge about partner countries and culture				2 – 8,3 %	22 – 91,7 %
Social and emotional skills (e.g . being more confident, communicative)			1 - 4,17 %	11 – 45,8 %	12– 50 %
Analytical skills	1 - 4,17 %	1 - 4,17 %	6 – 25 %	14 – 58,3 %	2 – 8,3 %
Practical skills (planning, organising, project work etc.)		2 – 8,3 %	2 – 8,3 %	15– 62,5 %	5 – 20,83 %

Annex 2

Erasmus+ School Exchange Partnership Project (KA2)

"Engaging Ways to Science: Empowering Project-based Learning for Interdisciplinary Science Education"

Short-term joint staff training event (teachers**)**

"Assessment Techniques"

28th November – 2nd December 2022

EVALUATION

The aim of this questionnaire is to measure the quality of the event, the impact of the training on improving teachers' skills / competence, and the significance / impact of the training event on the project participant.

Criteria and statements	Strongly disagree (1)	Disagree (2)	Neutral/Neither agree or disagree (3)	Agree (4)	Stongly agree (5)
Organisation and the content of the event					
The appropriate places for the activities were chosen					13- 100%
The appropriate time and duration were chosen				6 – 46,2%	7- 53,8%
The activities helped me acquire new theoretical knowledge, methodological background and practical skills related to assessment techniques			1-7,7%	7- 53,8%	5 – 38,5 %
The activities created spin-off effects for the launch or development of assessment tools for short-term Science projects in my school			3- 23%	5 -38,5 %	5- 38,5 %
There was an opportunity for exchanging ideas and experiences given				2 – 15,4%	11-84,6 %
The activities met my expectations				2 – 15,4%	11- 84,6 %
The impact of activities on teacher skills /improvement of competences As a consequence of the training, I have ...					
Improved my knowlegde of assessment techniques for Science learning circle activity			2-15,4%	4- 30,8%	7- 53,8%
Learned from good practice abroad				4-30,8 %	9 – 69,2 %
Improved my awareness of ways for developing new assessment tools			2 - 15,4%	3-23 %	8-61,6 %

Shared my own knowledge and skills with colleagues and other people			2-15,4%	6 - 46,1%	5- 38,5 %
Been able to experiment and develop assesslent tools for Science activities/projects			3-23 %	3 - 23%	7- 53,8%
Become more motivated to look for and apply new assessment tools related to Science projects			2 - 15,4%	6- 46,1 %	5 - 38,5 %
Improved my knowledge of education systems in other countries			1-7,7%	8 – 61,5 %	4-30,8 %
Significance / impact to the participant Thanks to this training activity, I have also improved my:					
Analytical skills			2-15,4%	8- 61,6 %	3-23%
Practical skills (planning, organising, project management, etc.)			1-7,7%	6-46,1 %	6 -46,2 %
Communication in foreign language skills			2- 15,4%	6 - 46,1 %	5- 38,5%
Teamwork abilities			1-7,7%	9- 69,3 %	3-23%
Emotional skills (e.g. having more self confidence)			2 - 15,4%	8-61,6 %	3-23%
Knowledge about partner countries and culture				4 – 30,8%	9 – 69,2 %