

NGSS

105 Quality assurance – Monitoring the impact of mobility and learning activities

Mobility/teaching/learning activities evaluation report



ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ
UNIVERSITY OF CRETE

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Mobility events & learning activities in the context of NGSS

As part of the NGSS project, four mobility events and learning activities were conducted across four partner countries. The first mobility event was held in Rethymno, Crete, Greece from 21-25 February 2022 and was hosted by the University of Crete. The second mobility event took place in Rzeszow, Poland, from 9-13 October 2022 and was hosted by Danmar Computers SP Zoo. The third mobility event occurred in Panevėžys, Lithuania from 24-29 April 2023 and was hosted by the Panevėžys District Education Centre. The fourth and final mobility event took place in Istanbul, Türkiye, from 24-25 October 2023 and was hosted by Üsküdar İlçe Milli Eğitim Müdürlüğü.

During the first day of each mobility event, teachers were welcomed and invited to participate in collaborative presentations showcasing their schools' STEAM work, STEAM workshops, and collaborative planning of lessons. In the following days, they were invited to meet host teachers in their classrooms to discuss job shadowing and implement jointly planned lessons. Throughout the mobility event, the teachers also participated in several cultural events prepared by the host partner. Table 1 shows the list of participants from each country who took part and the type of learning activities that occurred in the context of each mobility event.

Table 1: Participant numbers in each NGSS mobility event

No of event	Host country-location	Dates of mobility event	Number of participating teachers per country	Total of participating teachers in each event	Type learning activities
1st	Greece, University of Crete, Rethymno, Crete	21-25 February 2022	Türkiye=4 Romania=2 Bulgaria=2 Lithuania=2 Greece, student-teacher s=43 Greece, professional teachers=21	74	Workshops, Joint lesson planning, Joint lesson implementations, Job shadowing, Joint reflections, Participation in cultural events
2nd	Poland, Danmar Computers SP Zoo, Rzeszow	09-13 October 2022	Türkiye=4 Romania=2 Bulgaria=2 Lithuania=1 Greece=1	10	Workshops, Joint lesson planning, Joint lesson implementations, Job shadowing, Joint reflections, Participation in cultural events
3rd	Lithuania, Panevezio Rajono Svetimo Centras, Panevėžys	24-29 April 2023	Türkiye=2 Romania=1 Bulgaria=2 Lithuania=7 Greece=2	14	STEAM exhibition, Joint lesson planning, Joint lesson implementations, Job shadowing, Joint reflections, Participation in cultural events
4th	Türkiye, Üsküdar İlçe Milli Eğitim	24-25 October 2023	Türkiye=4 Romania=4 Bulgaria=6 Lithuania=3	22	Workshops, Joint lesson planning,

	Mudurlugu, Istanbul		Greece=3 Poland=2		Joint lesson implementations, Job shadowing, Lesson observations, Joint reflections, Participation in the International Conference, Participation in cultural events
Total number of participants				77 professional teachers & 43 student teachers	

The process of evaluating mobility events and learning activities

At the end of the mobility week, teachers were encouraged to reflect on their experiences and draft a reflection document. This reflection could be either individually or collaboratively drafted by each national team.

The reflection document included 10 questions to guide teachers' evaluation of the entire process of participating in the mobility event:

Question 1: During this training, I liked it more...

Question 2: During this training, I felt...

Question 3: During this training, I realized...

Question 4: This training changed / did not change in me...

Question 5: This training motivated me to...

Question 6: This training improved / did not improve the better understanding and application of STEAM training...

Question 7: This training contributed / did not contribute to my professional development in terms of...

Question 8: My suggestions for the next trainees...

Question 9: My suggestions for the trainers of this program...

Question 10: My suggestions for the next host teachers (of schools that offer hospitality)...

In the following analysis, we'll present the reflection documents submitted by participating teachers in the four mobility events.

1st mobility event in Rethymno, Crete, Greece, 21-25 February 2022

The first mobility event was hosted by the Department of Preschool Education at the University of Crete. A total of 43 student-teachers and 21 professional teachers welcomed the mobility participants. In their reflections, both host and visiting teachers as well as student-teachers stated the following:

Question 1: During this training, I liked it more...

During the training week, teachers not only enjoyed collaborating and co-teaching, but also exchanging pedagogical aspects, good practices and educational approaches about STEAM.

Question 2: During this training, I felt...

Teachers highlighted that they had positive emotional experiences and described their cooperation as "friendly" and "warm". This positive atmosphere also helped to motivate teachers to learn. Host teachers felt proud seeing their students collaborating and communicating with guest teachers, even if they didn't speak English. However, some teachers who were unable to

communicate in English felt uncomfortable despite the positive emotions mentioned above.

Question 3: During this training, I realized...

Teachers have emphasized that the STEAM activities taught during the training program were not only interesting and engaging for young children, but also contributed significantly to their socio-emotional development. Furthermore, the training made them aware of the importance of communication and the exchange of ideas and educational practices between the educational community for their professional development. Lastly, they learned that the STEAM approach is applied in many countries internationally through different or similar methodological approaches to provide equal learning opportunities to students.

Question 4: This training changed / did not change in me...

Many of the teachers have reported that the training they attended has inspired them to introduce an eTwinning STEAM program in their schools during the upcoming academic year. They have also mentioned that the training has helped them establish educational objectives that they previously lacked the confidence to pursue, most likely because they were unaware of the benefits of a STEAM-based approach.

Question 5: This training motivated me to...

Many teachers reported that the training they received inspired them to find suitable ways to incorporate STEAM activities and experiments into their teaching, which they had never done before. They also emphasized that interacting with their foreign colleagues helped them realize the value of having foreign language skills for their professional growth.

Question 6: This training improved / did not improve the better understanding and application of STEAM training...

During the training week, the majority of teachers reported that they found the examples of STEAM activities and presentations on new teaching methods helpful for understanding how STEAM activities can be incorporated into their classes. They also noticed that the STEAM approach can be implemented using a wide variety of educational methods, allowing for variations based on children's interests and abilities. Overall, this training was beneficial to the professional development of teachers, providing opportunities for collaboration, idea exchange, and learning.

Question 7: This training contributed / did not contribute to my professional development in terms of...

All of the participating teachers have reported that the training has greatly contributed to their professional development. This is not only because they have gained new knowledge about the STEAM approach, but also because they have been motivated to implement a collaborative eTwinning program relevant to that field in the future.

Question 8: My suggestions for the next trainees...

All of the teachers who participated in the mobility week are urging their colleagues to consider participating in similar projects and to be willing to take part in them. They believe that cooperating and communicating with fellow teachers from other countries could greatly contribute to their professional and personal development. They also encourage future trainees to pay close attention to all meetings and lesson plans before conducting practical activities for children. Additionally, they emphasize the importance of improving their knowledge of English and being informed about the educational systems of the participating countries before the implementation of the program.

Question 9: My suggestions for the trainers of this program...

Teachers have recommended that the program trainers organize more training sessions similar to the one already conducted. They have also suggested that the participation of more primary schools should be encouraged. Furthermore, the teachers have emphasized the need for technical support from an expert in the event of any unexpected technical problems.

Question 10: My suggestions for the next host teachers (of schools that offer hospitality)...

Teachers encourage host teachers to open their schools for similar trainings and prepare children for guest arrival to motivate them to participate in the project.

2nd mobility event in Rzeszow, Poland, 9-13 October 2022

The second mobility event was hosted by Danmar Computers SP Zoo in Rzeszow. Teachers participated in joint lesson planning, classroom observations, and implementations of selected activities. In their reflective accounts, the participants noted the following:

Question 1: During this training, I liked the best...

Teachers liked the lessons designed by the participants and the cooperation with colleagues from other partner countries. They also liked the Montessori method and everything that took place during the mobility event.

Question 2: During this training, I felt...

Teachers answered that during the event felt lucky and renewed, provoked to try new things out, focused, excited and comfortable within the whole experience.

Question 3: During this training, I realized...

During the training, the participants came to the realization of the significance of creative and innovative thinking. They also concluded that they needed to deepen their knowledge of STEAM methods and improve themselves. Additionally, they discussed the implementation of the Montessori method in their lessons and ways to enhance their teaching methods for STEAM in the classroom.

Question 4: This training has changed...

According to the teachers, the training has altered how they use the activities in their lesson designs. It has also broadened their perspective on how to implement the STEAM method, allowing them to be more receptive to new ideas. However, two teachers mentioned that the training has not modified their perception of various STEAM methods.

Question 5: This training motivated me to...

After the mobility event, teachers reported that they were motivated to learn more about using new teaching methods in their classrooms. Additionally, they expressed a desire to implement STEAM methods in their lessons, start learning a foreign language, incorporate STEAM education activities into their classes, and participate in more projects that involve exchanging good practices.

Question 6: This training improved...

The participants claimed that this training improved their understanding, development, and implementation of STEAM education for future activities, as well as their confidence in their knowledge of STEAM.

Question 7: This training contributed to my professional development in terms of ...

As they stated, during the training, teachers were able to improve their professional development in terms of personal and teacher motivation, STEAM competencies, and new methods of STEAM education.

Question 8: My recommendations for the next trainees...

The participants recommend that the next trainees should be prepared to work with individuals from different age groups. They suggest utilizing a variety of lesson designs to accommodate everyone's needs. Additionally, the participants suggest that the same workshops should be conducted to ensure consistency. They also suggest that trainees should take time to relax and enjoy the workshops. One participant did not have any specific recommendations, while another suggested that everyone should participate in this kind of workshop.

Question 9: My recommendations for the trainers of the organization...

The participants provided feedback for the trainers of the organization. They recommended that if lesson designs are to be created, advanced notice of the age groups should be given. Some participants thought that everything was well planned and organized. Other participants suggested improving time management. No recommendations were given by one of the participants, but everything was considered well planned according to another participant.

Question 10: My recommendations for the next Host Teachers...

The participants made several recommendations for the next host teachers. They suggested including more school tours, providing gluten-free food, being flexible, and being supportive.

3rd mobility event in Panevėžys, Lithuania, 24-29 April 2023

The Panevėžys District Education Centre in Lithuania organized the third mobility event, which included classroom observations, joint implementations with local teachers, and an exhibition of STEAM students' work. Participating teachers highlighted the following:

Question 1: During this training, I liked the best...

The participants at the mobility event enjoyed the spacious kindergarten yard, where they were able to engage in various activities such as gardening and sports games, allowing them to use all their senses for authentic learning. They were impressed by the infrastructure of the schools and appreciated the group work, communication between teachers and students, and activities that supported the lessons. The teachers and children were also praised for their kindness, thoughtfulness, and always having smiling faces. The teachers were dedicated to nurturing the children's curiosity and passion for learning, resulting in confident children who are capable of communication and taking responsibility.

Question 2: During this training, I felt...

At the mobility event, teachers expressed their realization that creative S.T.E.A.M. activities can be done with preschool children aged between 3 to 7 years old. The excellent facilities, STEM educational materials, new technologies, and great hospitality provided were highly appreciated. For one teacher, it was her first experience in such an exchange, and she was impressed with the teaching methods, atmosphere in the class, and the physical environment. For the participants all lessons were clear, understandable, and provided sufficient information.

Question 3: During this training, I realized...

At the event, the participants had an opportunity to understand their perception about S.T.E.A.M. education. They discovered numerous amazing activities for young children and the new information will help them enhance their S.T.E.A.M. activities. The approach of studying one topic in depth while emphasizing exercises and self-assessment for children was particularly impressive.

Question 4: This training has changed/not changed my...

Some of the participants in Lithuania's mobility event had a change of heart regarding the application of NGSS methods in activities with preschoolers, and they wanted to extend their gratitude to the organizers. However, their opinion of the European Schools' beauty and excellent facilities remained unchanged. Others realized the importance of paying more attention to peer learning and peer coaching for children.

Question 5: This training motivated me to...

The mobility event inspired teachers to integrate the methods they learned from NGSS into their teaching, particularly in the study of natural sciences. They were excited to observe how children from another country learn and react to these methods. Some were motivated to experiment and try everything they observed in their own classrooms, while others were eager to incorporate new materials and information into their lessons.

Question 6: This training improved...

Some participants perceived routines as less is more. The experience boosted the participants' confidence.

Question 7: This training contributed to my professional development in terms of ...

Participants realized the joy of undertaking Erasmus+ projects to exchange good practices and see better classroom management.

Question 8: My recommendations for the next trainees...

The teachers had some recommendations for the upcoming trainees. They advised them to participate in activities, as everything was wonderful. The trainees should rejoice in every moment as this is a unique experience. The teachers promised that the trainees will see excellently conducted lessons with interesting activities. Lastly, they suggested planning some sessions using zero waste materials.

Question 9: My recommendations for the trainers of the organization...

The organization's trainers were recommended to extend the period and hours of observation.

Question 10: My recommendations for the next Host Teachers...

The participants have recommended some suggestions for the next host teachers. They suggested to have interactive activities, a combination of theory and practice, and to organize the same training. They also recommended showcasing the best educational process solution for more people to see and experience. Overall, the participants were pleased with how well everything was planned, and they loved all the activities that were planned for them by the host country.

4th mobility event in Istanbul, Türkiye, 24-25 October 2023

The fourth mobility event was organized by Üsküdar İlçe Milli Eğitim Müdürlüğü in Istanbul. Some participants chose to observe lessons in publicly funded and private schools, while others carried out lesson implementations with the support of local teachers. The event culminated in an International Conference on STEAM practices, where participating teachers were given the opportunity to showcase their STEAM work and have discussions with an international audience. In their reflective accounts, the participants noted the following:

Question 1: During this training, I liked the best...

The participants pointed out that they enjoyed the visits from schools the most. They also liked observing preschool classes and how young children learn. They were particularly impressed by the way the teacher conducted the morning meeting through music. They appreciated the activities they observed, especially the use of Sudoku games at the preschool level. The morning circle based on music and dancing that they had witnessed in the classroom also left a positive impression. They were impressed by the energy of the teacher and her interactions with the children.

The participants enjoyed the historical lesson on present Turkish culture. They were pleased to see that the school children they visited had access to practical exercises, which allowed them to apply what they learned. The interaction between the teachers and the children, as well as the enthusiasm and energy of the teachers working on NGSS, impressed them. They felt that the teachers' efforts were meaningful and useful for their students and would lead to high educational and personal outcomes. The cooperation and collaboration between the teachers and children were adorable.

The attendees were thrilled to witness an interesting STEAM activity. They also noticed the warm rapport between the teacher and students and admired how each student was actively involved in the activity. The students were attentive as the teacher narrated a story, and the attendees were impressed by the teacher's composure and capacity to manage the entire group of children while also providing individual attention. The students' group work impressed the participants,

and they appreciated the teacher's encouragement of experimentation and the chance to learn in multiple languages.

During the mobility event, some participants particularly enjoyed meeting teachers from other countries. They valued the opportunity to exchange teaching experiences and discuss teaching strategies and policies with their peers. Participants also appreciated the chance to experience teaching implementation in Turkish schools through teaching observations. Additionally, they found the visits to various educational environments and the interaction with fellow colleagues regarding policies and strategies in education to be informative and beneficial.

Question 2: During this training, I felt...

During an activity with preschoolers at a school, the participants felt involved in the classroom activities. They also received training in a class with Turkish children where they learned new methods of working with children, such as a robotic lesson, which was different from the ones they applied in their own classrooms. They were excited to see a lot of new teaching methods and a strong connection between teachers and students, as well as the overall atmosphere of the country.

In general, the participants experienced a lot of positive emotions due to the relationship between the teacher and the children. They found it valuable to get involved in the students' activities, such as creating works together from natural materials and presenting while dancing. They felt a warm feeling from the teacher and appreciated her ability to include STEAM activities. Some participants also experienced the differences and similarities between their own educational system and that of the Turkish system, which led to open discussions with their colleagues about good practices and innovative ideas. Others claimed that it was a pleasure to be among teachers who are fully committed to their profession.

Question 3: During this training, I realized...

Teachers have realized that they can use creative methods and activities to promote creativity among children. They can implement different games and activities that help in developing various skills among children. This once again highlights the importance of STEAM lessons in early childhood education. The participants observed the teacher's work through the STEAM method and realized that practical classes are an effective way to stimulate student engagement. However, it was difficult for them to recognize which methods the teachers used in private schools. They also realized that they needed more opportunities for learning through STEM and Arts, grade-to-grade building projects, and incorporating the humanities into STEM. Collaboration and cooperation are crucial to achieving the aims of the tasks, and in the class, every student was noticed and given timely help.

Some participants realized that children benefit greatly from STEAM activities in the process of education. Some teachers realized that being a kindergarten teacher is a demanding job that requires continuous training to include innovative teaching methods in practice. Other teachers realized that the need to discover new ways to communicate and share ideas is a common thread that connects people. They also acknowledged the importance of the work of educators who care and how it can change the world positively. Lastly, the benefits of bilingual children learning two languages were noted as well as that a multilingual approach to bilingual children is also essential.

Question 4: This training has changed/not changed my...

During the training, teachers' perceptions about education changed significantly. They discovered numerous exceptional activities that preschoolers can do. It also altered their understanding of the educational system and the specifics of working with preschoolers. The training transformed their perception of new ways to implement STEAM projects. Additionally, it changed some participants' approach to teaching and their view of the importance of the relationship between teachers and students. They realized that education through STEM and arts was important but challenging for teachers to organize. The training also changed the way some participants organized their teaching program.

The mobility event made some participants receptive to new ideas and interaction with other teachers. However, some participants' opinions about teachers did not change. They still believed that teachers did a great job, and that STEAM was an effective method for individualized instruction with a smaller number of students. The mobility event did not alter their view that STEAM should be the basis of the activity, nor did it diminish their willingness to try to be better teachers. They still believed that teachers should always evolve and be open to new knowledge, as everyone is different.

Question 5: This training motivated me to...

During the training, some participants felt motivated to incorporate STEAM activities with their children. They plan to include more music moments, use as many STEAM methods as possible in the classroom, and focus on activities that children enjoy. They also want to create new opportunities for learning based on the drama method they learned.

The mobility event motivated teachers to improve their teaching practices and use new methods with their students. They gained a better understanding of their students' needs and will implement more practical lessons to spark curiosity. The event also inspired participants to work harder in the field of STEAM and involve their colleagues in the process. They plan to try out the methods they learned in their own classrooms and share their experiences with other teachers.

The training motivated participants to conduct activities for their students, such as developing stories, creating comprehension tasks, doing creative work, and creating stories with a character. They also want to include more innovative teaching methods and incorporate new practices into their teaching. Participants expressed a desire to communicate with teachers and educational staff to exchange ideas and challenges. Finally, they plan to keep experimenting and try an outdoor lesson with their students.

Question 6: This training improved...

Several participants reported that this training had enhanced their ability to lead inquiry-based learning by improving their skills.

Question 7: This training contributed to my professional development in terms of ...

The mobility event provided an opportunity to connect with professionals from different countries, engage in interesting discussions, and exchange educational practices.

Question 8: My recommendations for the next trainees...

The participants of the mobility event had some recommendations for the next trainees. They suggested that the trainees should be interactive, open-minded, and willing to participate in everything that happens during Erasmus projects. Two participants didn't have any other recommendations.

Other participants recommended continuing this kind of collaboration. They also suggested using noise management exercises and games as children get tired quickly from too much work. Other participants suggested simplifying the tasks and not discussing with the children how they managed to complete the task. Further recommendations were to experience this opportunity to the fullest, as it can be life-changing, and never to fear expressing their ideas, as other shadowers can find them helpful and new. They also advised grasping knowledge by the handful.

Question 9: My recommendations for the trainers of the organization...

Some participants recommended observing interesting working methods and arranging exciting races for the children to learn more about different countries. They didn't think it was appropriate to have lessons with unknown children and an unknown language because it would be difficult for the children to understand the task. Some participants wanted to see more everyday activities. A few participants mentioned that it's best to be willing to implement more activities in local schools and present more activities they used to implement in their schools.

Question 10: My recommendations for the next Host Teachers...

The participants suggested that the next host teachers should create interactive lessons and activities, combining theory with practice, and maintain the same enthusiasm and positive energy. Some recommended that the host teachers should keep their classes as they usually do, so that the visiting teachers can experience the authenticity of their teaching styles. Others advised the host teachers not to be afraid of sharing their experiences. Some participants concluded that the teacher should be creative and free, and they wished for interesting and productive lessons. Others recommended that the host teachers should be relaxed and show more daily activities and include longer teaching observations for the visiting teachers. Some participants suggested that it would be a good idea to get in touch with their host teachers since they were well-prepared and made them feel welcome. They also recommended a broader spectrum of activities, classes, and educational environments. Overall, participants mentioned that they would be happy to have more time for common experiences and observing lessons. Three participants did not have any other recommendations.

Summarising the outcomes of teachers' mobility events and learning activities

What the teachers enjoyed the most in all the mobility events

In all mobility events, teachers enjoyed various aspects of the training programs. Some of the highlights included:

1. Collaborating and co-teaching with colleagues from other partner countries.
2. Observing preschool classes and witnessing how young children learn.
3. The warm rapport between teachers and students, and the positive atmosphere in the classrooms.
4. The visits to schools and the opportunity to observe practical exercises and activities.
5. The interaction with fellow colleagues from different countries and the exchange of teaching experiences and strategies.
6. The lessons designed by the participants and the Montessori method.
7. The historical lesson on present Turkish culture and the use of Sudoku games at the preschool level.
8. The morning circle based on music and dancing in the classroom.

These experiences contributed to the positive impact of the mobility events on the participating teachers.

What were the emotions experienced by the teachers who participated in the mobility events

The feelings of teachers who participated in the mobility events varied, but there were common themes of excitement, inspiration, and motivation. Participants expressed positive emotions such as feeling involved in classroom activities, excited to try new teaching methods, lucky, renewed, focused, comfortable, and motivated to incorporate STEAM activities with their students. They also felt thrilled to witness interesting STEAM activities, impressed by the warm rapport between teachers and students, and appreciated the opportunity to exchange teaching experiences with peers from other countries. Additionally, they realized the significance of creative and innovative thinking and the importance of deepening their knowledge of STEM. These feelings reflect a sense of enthusiasm and a desire for professional growth and development.

Realizations gained by teachers from mobility events

Teachers who participated in all mobility events realized various things, including:

1. The significance of creative and innovative thinking in promoting creativity among children.
2. The importance of paying more attention to peer learning and peer coaching for children.

3. The joy of undertaking Erasmus+ projects to exchange good practices and see better classroom management.
4. The need to deepen their knowledge of STEM and STEAM lessons in early childhood education.
5. The value of getting involved in students' activities and creating works together from natural materials.
6. The differences and similarities between their own educational system and that of the host country.
7. The significance of communication and exchange of ideas with professionals from different countries.
8. The importance of improving their knowledge of English and being informed about the educational systems of the participating countries before the implementation of the program.
9. The potential of using new teaching methods and incorporating new practices into their teaching.
10. The ability to lead inquiry-based learning by improving their skills.

These realizations reflect a deeper understanding of the importance of STEAM education and the potential for professional growth and development through international collaboration and the exchange of ideas.

Changes Experienced by Teachers due to Mobility Events

The training changed various things in the teachers who participated in all mobility events, including:

1. Inspiring them to introduce an eTwinning STEAM program in their schools during the upcoming academic year.
2. Helping them establish educational objectives that they previously lacked the confidence to pursue.
3. Motivating them to find suitable ways to incorporate STEAM activities and experiments into their teaching, which they had never done before.
4. Changing their opinion about the application of NGSS methods in activities with preschoolers.
5. Boosting their confidence in leading inquiry-based learning by improving their skills.
6. Encouraging them to participate in similar projects and to be willing to take part in them.
7. Inspiring them to integrate the methods they learned from NGSS into their teaching, particularly in the study of natural sciences.
8. Motivating them to improve their teaching practices and use new methods with their students.
9. Encouraging them to communicate with teachers and educational staff to exchange ideas and challenges.
10. Providing them with an opportunity to connect with professionals from different countries, engage in interesting discussions, and exchange educational practices.

These changes reflect a sense of enthusiasm and a desire for professional growth and development, as well as a willingness to experiment with new teaching methods and incorporate new practices into their teaching.

Post-mobility teacher motivations

The training motivated teachers who participated in all the mobility events to engage in various activities and make changes in their teaching practices, including:

1. Implementing collaborative projects relevant to the STEAM field in the future.
2. Incorporating STEAM activities with their children and including more music moments and as many STEAM methods as possible in the classroom.
3. Conducting activities for their students, such as developing stories, creating comprehension tasks, doing creative work, and creating stories with a character.
4. Introducing an eTwinning STEAM program in their schools during the upcoming academic year.
5. Starting to learn a foreign language and incorporating STEAM education activities into their classes.

6. Participating in more projects that involve exchanging good practices.
7. Implementing more practical lessons to spark curiosity and involving colleagues in the process.
8. Trying out the methods they learned in their own classrooms and sharing their experiences with other teachers.
9. Finding suitable ways to incorporate STEAM activities and experiments into their teaching, which they had never done before.
10. Keeping experimenting and trying an outdoor lesson with their students.

These motivations reflect a commitment to enhancing the learning experiences of their students through innovative teaching methods.

Post-mobility improvements

The training helped teachers in all mobility events improve in several areas, including:

1. Their understanding, development, and implementation of STEAM education for future activities.
2. Their confidence in their knowledge of STEAM.
3. Their ability to lead inquiry-based learning by improving their skills.
4. Their professional development in terms of personal and teacher motivation, STEAM competencies, and new methods of STEAM education.
5. Their skills in implementing collaborative projects relevant to the STEAM field in the future.
6. Their knowledge and application of STEAM training, particularly in the study of natural sciences.
7. Their ability to integrate the methods they learned from NGSS into their teaching.
8. Their professional development through gaining new knowledge about the STEAM approach and being motivated to implement a collaborative eTwinning program relevant to that field in the future.
9. Their understanding of how STEAM activities can be incorporated into their classes.
10. Their ability to connect with professionals from different countries, engage in interesting discussions, and exchange educational practices.

These improvements demonstrate the positive impact of the training on the teachers' capacity to enhance their teaching practices in the STEAM field.

The impact of the mobility events on teachers' professional development

The training contributed to the professional development of the participants and teachers of all mobility events by:

1. Enhancing their understanding, development, and implementation of STEAM education for future activities.
2. Boosting their confidence in their knowledge of STEAM.
3. Improving their ability to lead STEAM practices by enhancing their skills.
4. Fostering their professional development in terms of personal and teacher motivation, STEAM competencies, and new methods of STEAM education.
5. Advancing their skills in implementing collaborative projects relevant to the STEAM approach.
6. Broadening their knowledge and application of STEAM training.
7. Facilitating their integration of the methods they learned from NGSS into their teaching.
8. Providing an opportunity to connect with professionals from different countries, engage in interesting discussions, and exchange educational practices.

These contributions demonstrate the significant impact of the mobility events and their learning activities on the professional growth and development of the participants.

Recommendations to the trainees of future mobility events

The recommendations of participants to the trainees of future mobility events include:

Overall, the mobility events organized by the NGSS project had a positive impact on the participating teachers' professional development and personal growth. The events provided an opportunity for teachers to exchange pedagogical aspects, good practices, and educational approaches about STEAM, as well as to collaborate and co-teach with colleagues from other partner countries. The teachers gained new knowledge and skills, were motivated to implement new teaching practices, and were inspired to work harder in the field of STEAM. The events also provided an opportunity for teachers to connect with professionals from different countries, engage in interesting discussions, and exchange educational practices. Overall, the mobility events contributed to the improvement of the quality of education and the development of more innovative and effective STEAM implementations.

Appendix I – The form used for recording reflective thoughts

REFLECTION AFTER TRAINING-MOBILITY IN

Date.....

Dear colleague,

Complete the following statements. Your contribution will be used solely for research purposes; It will not be made public without your permission.

During this training, I liked the best...

During this training, I felt

During this training, I realized

This training has changed...

This training motivated me to...

This training improved my better understanding of...

This training contributed to my professional development in terms of ...

My recommendations for the next trainees...

My recommendations for the trainers of the organization...

My recommendations for the next Host Teachers...

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İSTANBUL - ÜSKÜDAR
İLÇE MİLLİ EĞİTİM MÜDÜRLÜĞÜ



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UNIVERSITY OF CRETE

