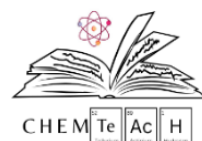




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Dissemination report on ChemTeach promotion activities in the first year

Public institution medical school Banja Luka, Bosnia and Herzegovina

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Erasmus+ Project

Improvement the quality of chemistry teaching in VET in Bosnia and Herzegovina

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1. INTRODUCTION

This report describes the promotional efforts and dissemination activities carried out by the partner institutions involved in the ChemTeach project. Each partner worked actively to involve students, teachers and key stakeholders, with the aim of increasing awareness and participation in chemistry education. The activities reflect a joint and strategic approach taken by project partners to improve the quality and visibility of chemistry teaching in different regions. During the duration of the project, various activities were organized, from face-to-face events to online initiatives and traditional media. These activities were instrumental in fostering engagement at local, regional and international levels, involving a significant number of participants.

Facebook page of the project:

<https://www.facebook.com/profile.php?id=61559475132891>

SLOVAK UNIVERSITY OF TECHNOLOGY

Face-to-face activities:

Slovak University of Technology focused on dissemination of project mostly on international scale. Prof. Špánik presented project philosophy, consortium, project aims as well as project activities and deliverables during his visits abroad. The ChemTeach project was presented at:

1. University of El-Oued, Algeria 11.3.–18.3.2024, audience: 24
2. Jommo Kenyatta University of Agriculture and Technology, Nairobi Kenya 4.6.2024, audience: 45
3. Makerere University, Kampala Uganda 13.6.2024, audience: 12 present, 28 online
4. University of Zambia, Lusaka Zambia 4.7.2024, audience: 18
5. University of Botswana, Gaborone Botswana 18.7.2024, audience: 9
6. Seoul National University, Seoul, South Korea 6.11.2024, audience: 15
7. Korean Institute of Science and Technology, Seoul, South Korea 7.11.2024, audience: 17

The audience was mostly academic staff and in case of Jommo Kenyatta University of Agriculture and Technology, Makerere University and Seoul National University also university students.

Activities of ChemTeach project were also presented during 3rd Educational course for VET teachers within ChemIQSoc meeting in Ružomberok, Slovakia 29.6.2024.

Online activities:

Slovak University of Technology was responsible for creation and programming project webpages. The content of webpages was discussed with coworkers from University of Banja Luka and approved by all participating VET institutions during summer school in Bratislava. After the first obstacles with domain and location the first version was introduced September 2024.

SECONDARY VOCATION SCHOOL OF CHEMISTRY, BRATISLAVA, SLOVAKIA

Face-to-face activities:

Secondary Vocational School of Chemistry, Bratislava, hosted several significant live events. On March 12, 2024, the school hosted a meeting with the teachers of ITT M. Buonarotti Trento, Italy, which enabled the exchange of teaching methods and strategies. In addition, the school organized an Open Day on 15 January 2024, which was attended by 36 primary school students and their parents, showing interactive chemistry demonstrations. On January 16, 2024, the key event brought together students and teachers from VOŠZ and SZŠ Praha, Czech Republic, to share best practices in chemistry education, promoting cross-border cooperation. Seasonal events such as the Erasmus Christmas Marathon and Summer Marathon 2023 and 2024 have attracted over 300 students, offering chemistry-focused workshops and projects, sparking enthusiasm for science.

Online activities: The school made maximum use of social networks to promote the project. Instagram and Facebook posts regarding the kickoff meeting (February 22, 2024) reached over 800 individuals, raising awareness among stakeholders. An online open house on February 29, 2024, involved 13 students and parents, maintaining visibility despite physical distance. Further promotional efforts, such as advertisements for an educational course in August 2024, reached over 1,000 viewers via social media.

Paper Activities: An Erasmus newsletter for 2024 has been prepared, which will provide updated information and project results, reaching stakeholders at different levels.

Impact: Secondary Vocational School of Chemistry engaged over 400 students directly through its activities, offering practical workshops, open days and virtual presentations. These initiatives increased students' interest in chemistry, making a significant contribution to the overall goals of the ChemTeach project.

UPPER SECONDARY SCHOOL OF CHEMISTRY, PARDUBICE, CZECH REPUBLIC

Face-to-face activities:

Upper Secondary School of Chemistry Pardubice is focused on improving teacher cooperation and chemistry teaching methods. Noteworthy events included the Kick-Off Meeting (February 21-22, 2024) and the Conference on Improving Chemistry Teaching (March 25-29, 2024), where five educators and representatives from various industries discussed the quality of chemistry education. Project was presented for new management team, during international projects' meetings for international partners, during road show / presentations in various national / regional / local events about the school for basic/secondary schools in Czech Republic.

Online activities: The school published two articles via website in April 2024, reaching around 1,000 readers, including teachers, students and school management. These articles provided insight into educational courses held in Slovakia and the Czech Republic, further promoting the key messages of the project. Social media was used to present project and its progress (LinkedIn, Instagram, Facebook) and especially after staff training and summer school (T2.2 / T4.1).

Impact: Dissemination efforts reached local, regional and international audiences, facilitating the exchange of best practices in chemistry teaching and contributing to the project's educational goals.

UNIVERSITY OF BANJA LUKA, BOSNIA AND HERZEGOVINA

Face-to-face activities:

The university hosted several meetings, the aim of which was to familiarize the academic community and students with the project.

In addition, the Educational Course for secondary school teachers in Bosnia and Herzegovina (April 8-12, 2024) is focused on improving the chemistry teaching methodology. About 20 secondary school teachers attended the educational course and 13 stakeholders.

The university also participated in the European Night of Researchers at the end of September 2024, an event that brought students together and had an impact at the European level with 1000 visitors.

Online activities: Several articles have been published on the university's website, including coverage of the introductory meeting (February 22, 2024), educational courses (April 19 and 22, 2024.) and article about summer school in Bratislava (September 6, 2024.). These publications reached local and regional audiences, effectively promoting the project.

Impact: The university has successfully engaged its local and regional audiences, highlighting the importance of the ChemTeach project in improving chemistry education.

PUBLIC INSTITUTION MEDICAL SCHOOL BANJA LUKA, BOSNIA AND HERZEGOVINA

Face-to-face activities:

The Public Institution Medical School Banja Luka actively participated in a series of dissemination activities within the ChemTeach project, with the aim of disseminating information about the project and improving the quality of chemistry teaching in secondary schools. Their activities included live events as well as media promotion through social media and newspaper articles.

- 1) In April 2024, the school organized a Round Table with representatives of the city administration from Banja Luka, the Ministry of Education and Culture the Doboj Medical School. This event, held in Banja Luka, gathered 30 participants and had a significant impact at the local and regional level. During the meeting, the importance of the project and the ways of its implementation were discussed, and the activities were aimed at representatives of the city administration and Doboj high school students.
- 2) Participation in the project's kick-off meeting, 2 participants which was held in February 2024 in Bratislava, Slovakia, which began international efforts in cooperation with partners from Slovakia and the Czech Republic.
- 3) In March of the same year, 6 chemistry professors participated in a conference dedicated to improving the quality of chemistry teaching, in which business representatives also participated. This event had a significant impact at the local level and enabled the exchange of experiences among the participants.
- 4) Furthermore, in April 2024, an educational course was held for secondary school teachers from Bosnia and Herzegovina in Bratislava and Pardubice, which supported regional and national cooperation on the project.
- 5) In May 2024, the school participated and promoted the ChemTeach project at the 12th Science festival in Banja Luka, 1000 participants.
- 6) Also, at the end of June 2024, the school participated a summer school for students in Bratislava, thereby expanding the impact of the project at the regional level (4 students and 1 professor).

PUBLIC INSTITUTION MEDICAL SCHOOL BANJA LUKA, BOSNIA AND HERZEGOVINA

- 7) The school also participated in the European Night of Researchers at the end of September 2024, an event that brought students together and had an impact at the European level with 1000 visitors. The promotion of the project at this event further strengthened its visibility and confirmed the importance of international cooperation.
- 8) Erasmus Days in our school participated 60 students (October 16, 2024.)

On online platforms: the school actively promoted project activities through its official website and social networks. In April 2024, they published news about projects in Slovakia and the Czech Republic, as well as about a conference dedicated to the improvement of chemistry teaching in Banja Luka (Mart 31, 2024). In addition, the school published regular updates on the Erasmus ChemTeach project, including details of the summer school (September 6, 2024.). All these activities were aimed at teachers, students and school management, and had regional significance. In addition to live activities, the school also promoted the ChemTeach project through print media. All these activities contributed to strengthening the visibility of the ChemTeach project at the local, regional and international level and ensured a wide dissemination of the key results of the project among the relevant target groups.

Paper Activities: In April 2024, the Bosnia and Herzegovina newspaper "Nezavisne novine" published an article highlighting the contribution of chemistry professors from Banja Luka, who brought new knowledge from Slovakia and the Czech Republic through this project. This media coverage had a regional, national and European impact, further spreading information about the importance of the project in May 2024, the school magazine "Puls" published an article about our school's participation in the ChemTeach project, which was printed in 400 copies

Impact: The active participation and presence of the Public Institution Banja Luka Medical School significantly contributed to the regional and national dissemination of the results of the ChemTeach project.

PUBLIC INSTITUTION TECHNOLOGICAL SCHOOL BANJA LUKA, BOSNIA AND HERZEGOVINA

Face-to-face activities:

The school participated in project meetings, such as the Kick-off meeting (February 21-22, 2024. In Bratislava)- 2 participants, and was a participant in an educational course on teaching chemistry held in Banja Luka, organized by the University of Banja Luka at the Faculty of Science and Mathematics (March 25-29, 2024)- 5 participants. Educational course for B&H high school teachers in Bratislava and Pardubice (April 8-12, 2024.)-2 participants and summer school of chemistry for students in Bratislava (August 25-31, 2024)- 5 participants

Online activities: Public Institution Technological School published articles on its website and social networks:, news about the introductory meeting in Bratislava (3.4.2024), Conference on improving the quality of chemistry teaching in secondary schools with teachers and business representative (16.4.2024.), visit to enterprise SHP Celex a.d., Banja Luka, Educational course for B&H high school teachers, Summer school of chemistry for students Bratislava 2024, Erasmus days at Public Institution Technological (16.10.2024.), targeting about 50 participants.

Impact: The school's outreach efforts reached a significant audience of teachers and students, raising awareness of the ChemTeach project and increasing the impact of the activity.

PUBLIC INSTITUTION GYMNASIUM BANJA LUKA, BOSNIA AND HERZEGOVINA

Face to face activities:

15 students participated at the 12th science festival in Banja Luka on 23-24 May 2024 with 1000 participants

Online activities: the school focused its distribution efforts on digital channels, sharing articles on its website and social networks. First article was about the initial meeting (March 7, 2024), second education course for chemistry teachers in secondary schools and business representatives (April, 4, 2024), third educational course for B&H high school teachers in Slovakia and Czech Republic (April 19, 2024), fourth summer school for students in Bratislava (September 23, 2024), fifth participation at 12th science festival in Banja Luka (May 31, 2024).

Impact: The school outreach effectively promoted the ChemTeach project to both local and regional audiences, contributing to the overall visibility and impact of the project.

ALL PARTNERS

ChemTeach project partners have successfully engaged a wide range of stakeholders, including students, teachers and educational administrators, through a wide range of promotional activities. Both face-to-face events and online campaigns effectively raised awareness of the project and encouraged collaboration to improve chemistry education at multiple levels. The activities emphasized the importance of innovation in teaching, cross-border cooperation and the integration of new approaches to improve the quality of chemistry education in the participating countries.

Overall, the dissemination activities carried out by ChemTeach project partners have successfully engaged various interest groups, including students, teachers and education managers. Through face-to-face meetings and strong online communication, the project promoted awareness and collaboration in improving chemistry education at different levels.

Each of the partners applied different communication formats and strategies, adapted to their specific needs and capabilities.

All partners from Bosnia and Herzegovina present project in TV broadcasting:

<https://www.rtrs.tv/vijesti/vijest.php?id=579149>

SUMMARY

The dissemination and promotional activities of the ChemTeach project were implemented across all partner institutions during the first project year. Overall engagement was high and partners contributed actively to increasing project visibility through various channels including live events, conferences, online dissemination, school promotion, science festivals and participation in public outreach activities.

The dissemination and promotional activities of the ChemTeach project were implemented across all partner institutions, demonstrating strong engagement, collaboration, and commitment to promoting project activities aimed on innovative approaches in chemistry education. The following section provides an overview of the main strengths and areas for improvement identified through the analysis of dissemination efforts.

Strengths

1. **Wide International Reach**

The dissemination activities extended beyond Europe, reaching audiences in Africa and Asia, including Algeria, Kenya, Uganda, Zambia, Botswana, and South Korea. This international exposure significantly enhanced the visibility and reputation of the ChemTeach project.

2. **Multi-Channel Communication Strategy**

Partners combined face-to-face activities, online dissemination, print materials, and traditional broadcasting media to reach a broad audience. Social media platforms such as Project web page, Facebook and Instagram were established.

3. **Strong Partner Involvement and Cooperation**

All partner institutions were actively involved in promoting the project through local and international events, such as open days, teacher training courses, science festivals, and summer schools. This ensured balanced participation and reflected a shared commitment to the project's objectives.

4. **Stakeholder Engagement**

Dissemination activities attracted large numbers of students, teachers, and educational administrators. Events like the European Researchers'

SUMMARY

Night and national science festivals engaged numerous participants, creating a strong multiplier effect for the project's outcomes.

5. **Promotion of Innovation and Cross-Border Collaboration**

The project activities emphasized cooperation between institutions, modern teaching methodologies, and the exchange of good practices. This fostered a network of chemistry educators motivated to implement new approaches in their schools and universities.

Areas for Improvement

1. **Uneven Reporting Across Partners**

While some institutions provided detailed data on dissemination activities and participant numbers, others offered limited or less structured information. A standardized reporting format could ensure greater consistency in future projects.

2. **Limited Measurement of Long-Term Impact**

Most activities focused on immediate outreach and awareness-raising. However, evidence of long-term impact—such as changes in teaching practices or learning outcomes—was not systematically collected or evaluated.

3. **Initial Delays and Uneven Online Visibility**

The project website experienced early delays due to domain and hosting issues, slightly postponing online visibility. Additionally, not all partners maintained equally frequent updates across social media channels.

4. **Fragmented Communication Strategy**

Although dissemination was extensive, activities were often conducted independently by partners.

Overall, the dissemination efforts of the ChemTeach project were highly effective in raising awareness of innovative chemistry teaching practices and in fostering collaboration among educational institutions. The partners demonstrated strong initiative and creativity in engaging diverse audiences

SUMMARY

A significant strength of the dissemination process was its international reach. Activities extended beyond Europe to audiences in Africa and Asia.

Another strength was the implementation of a multi-channel communication strategy. Although the project website was activated later than originally planned due to administrative and technical delays, all partner institutions compensated through active promotion on their own platforms. As a result, visibility was maintained despite initial setbacks.

One of the notable challenges was that dissemination capacity and output varied among schools. Some schools provided extensive structured reporting, while others provided shorter or less formal summaries. This was partly due to differences in staff availability, organizational structures, and technical support. However, despite these differences, all schools engaged in dissemination according to their capabilities and available tools, demonstrating commitment and adaptability.

Unexpected positive outcomes included increased motivation and confidence among students exposed to international learning environments.

List of partners social media

Web pages:

Web page of ChemTeach Project:

https://www.fchpt.stuba.sk/sk/ustavy-a-oddelenia/ustav-analytickej-chemie/projekty-1/chemteach/about-the-project.html?page_id=5385

Slovak University of Technology, Bratislava:

https://www.stuba.sk/english/university/faculties.html?page_id=2989

University of Banja Luka: <https://www.unibl.org/en>

Gymnasium Banja Luka: <https://gimnazijabanjaluka.org/>

Medical High School Banja Luka: <https://medicinska-skola-bl.net/>

School of Technology Banja Luka: <https://tehnoloskabl.org/>

Upper Secondary School of Chemistry Pardubice:

<https://www.spsch.cz/cs/>

Vocational School of Chemistry Bratislava: <https://www.sosch.sk/>

Facebook:

Slovak University of Technology, Bratislava:

<https://www.facebook.com/UALCH/>

University of Banja Luka: <https://www.facebook.com/unibl.org>

Gymnasium Banja Luka:

<https://www.facebook.com/people/JU-Gimnazija-Banja-Luka/100063909530535/#>

Medical High School Banja Luka:

<https://www.facebook.com/JuMedicinskaSkolaBanjaLuka>

School of Technology Banja Luka:

<https://www.facebook.com/jutehnoloskaskolabl>

Upper Secondary School of Chemistry Pardubice:

<https://www.facebook.com/SPSCH.Pardubice>

Vocational School of Chemistry Bratislava:

<https://www.facebook.com/soschba/>

List of the main stakeholders, whom we shared information about the first-year project activities

1. Public institutes at the level of the Republic of Srpska, such as the Public Health Institute, Veterinary Institute, Institute for Ecology and Protection.
2. Public laboratories at the level of BiH, such as the Laboratory of the Indirect Taxation Authority of Bosnia and Herzegovina.
3. Public laboratories at the level of the Republic of Srpska, such as the Forensic Laboratory of the Police and the Laboratory of the Institute of Forensic Medicine.
4. Public enterprises such as the Water Utility Company Banja Luka.
5. Private companies such as Nora Plast, which deals with the processing of plastic materials.
6. Private institutes such as the Master Institute.
7. Public educational institutions such as the Faculty of Technology.

List of additional VET schools, whom we shared information about the first-year project activities

1. School of Agriculture, Banja Luka
2. High School Center, Prijedor
3. Elementary School Ivo Andrić, Banja Luka
4. Gymnasium Gradiška