# Let's STEM up our education

## THE ROMANIAN EXPERIENCE

### Skills

Coding is not only limited to computer science, it is also very important in terms of interdisciplinary interaction; because they will gain the skills that are necessary for analyzing and organizing the data.

Recognizing the importance of the skills of our age such as algorithmic thinking, analytical thinking, critical thinking, problem solving, design-oriented thinking, many developed countries have made a radical change in their education systems.

## WHAT IS CODING?

- **Python Programming**
- **The most suitable coding languages for beginners**





Developing our students in STEM and Coding fields and creating a process in which students can benefit from Europe's experiences in STEM within the framework of exchanges of good practices.
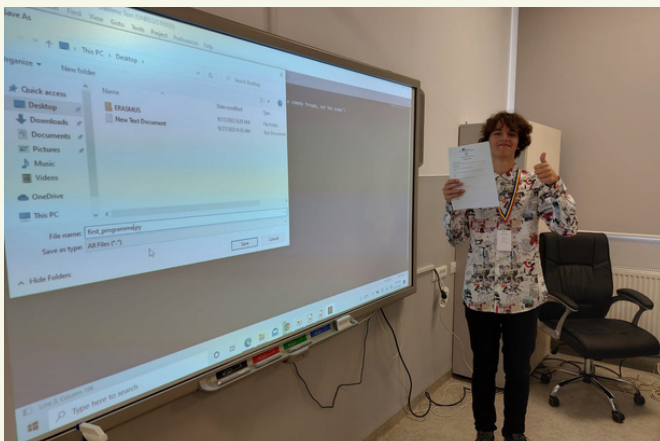
**My experience coaching in Erasmus+**

You might've heard an overwhelmed student say something along the lines of "If we don't have teachers who cover all the subjects, why must we learn all of them?" in the midst of a meltdown. From the perspective of a learning teenager, teaching might seem as easy as snapping your fingers. I'm here to debunk that myth.

I've been a student for eleven years of my life and I've never really considered the viewpoint of a teacher, until this one opportunity shone on me. I was offered the teaching role in an Erasmus-led project, the purpose of which was introducing a group of students to the Python programming language. At first, I was nervous and I began fretting about various aspects: "What if the message I'm trying to convey doesn't get through the way I intend it to?", "What if I don't manage to catch their attention?" and so on. In retrospect, the stress proved to be in vain, being a teacher isn't some tedious task. Our distressed student from earlier might say: "A pupil is burdened with the responsibility of learning, meanwhile the teacher doesn't have to bother with that, they already know.". My mission as a teacher was to make sure that the information I'd gathered actually got passed on to the students. Therefore, neither role is harder – or easier – than the other in reality.

On the flip side, this role switch I had experienced gave me the opportunity to connect with new people belonging to different nationalities. I came into contact with foreign languages, caught on different words and phrases, found out about the school systems in different countries and many more. I also had the opportunity to improve my ability of tailoring my speech in front of an audience.



The truth is that, throughout our lives, we never really stop learning new things and teachers make no exception.

**Mihai Zgavarogea Cojocaru Romanian trainer**

For a week, I took part in various activities among which I can list: learning the programming language (python), presentations about our countries/schools and exchanges of traditions and customs.
All classes were interactive and we all enjoyed being there, collaborating with each other, helping each other.
One day, our school presented our guests some Romanian traditional dances, which they liked very much. Also, during the breaks, they could taste traditional Romanian food and admire the traditional costumes, pottery and paintings made by the school's students and teachers, as well as the projects that our school has developed and continues to develop.

The Erasmus project represents for me an experience that I will repeat whenever I have the opportunity. Within the project, I made some best friends from Slovenia, with whom I have been talking since then. Erasmus helps us discover ourselves, opens up new opportunities, we learn new and useful; it is a project that aims to develop our abilities and help us become European citizens.

I am very grateful to my teachers who made it possible for me to take part in this project.

**DRAGOȘ TUDOSE**

At the end of September, it was my school's turn to host teachers and students from Poland, Slovenia, Greece, Turkey and Italy. While they were here, we learned the most popular programming language, "Python", from our wonderful trainers Michael and Andrew, and our maths teacher Florinela Balosu. I was surprised to find out that it is easier and more flexible than the programming language "C++", which I learned last year.





A wonderful aspect of this mobility was that everybody was very interested in our culture, which they got to experience in the afternoons after school and on their road trip to Brașov.
I am very happy that they enjoyed their time here and we all learned new things!

Ines Vecserdi

We were not alone; our teachers and two volunteer trainers helped us. They taught us and showed us step by step how to write programmes in Python on our computers. It wasn't very hard, but it was necessary to pay attention to the very last detail because otherwise the expectations would not have been met.

Rebeca Neagu

One of the purposes of this project was that at the end of the week every student will know how to code simple and interesting things in Python like finding out the value of a number or swapping the letters of a word by just pressing some keys on their computer and I can happily say that its objective was reached successfully. Besides the fact that we had a lot of fun writing different codes that were presented to us or from our own mind, the trainers, experienced students in informatics and technology, did a great job explaining everything we had to know about this language.

All the students that participated in the project can confirm that they made at least one friend during this period. We spent almost every day of the week with the students from foreign countries, so we had to talk with each other. Even if everybody was nervous at the beginning, we understood that there is nothing to be afraid of. Of course, the surroundings also helped because all the students ate lunch together in the same room and after the first day we started to talk more.





As a Romanian student myself, hosting this amazing activity was hard at first because I was very nervous. If we think about it, everything could've gone wrong. But it didn't and I am so grateful to my teachers and my colleagues because they were by my side and did everything they could so this project could go as planned. Everyone was so nice, and I am so glad I got the chance to meet them and talk with these wonderful people.

Beatrice Gagiu

I'm a very sociable and talkative person, so you can take a wild guess that I had a lot of fun participating in the Erasmus+ project. As a member of the greeting team, I had the amazing opportunity to meet high school students from all around the world and show them around my school. I was the guide for a group of a few pupils from Poland and their two teachers, and I can definitely say that it was a very unique and interesting experience. I really enjoyed talking with them and exchanging information about a multitude of values and traditions from our countries, as well as getting to know how the school system works in Poland, while finding differences and similarities with ours.

I also took part in the artistic program, where me and a couple of my classmates decided to add our own twist on some traditional Romanian dances and spice up the atmosphere. We performed "Brașoveanca" and „Sârba", and created our own remix so that the two would blend together nicely.



We all had a lot of fun preparing for this occasion and loved how it turned out in the end. I am very grateful for this opportunity and would love to do it again someday!

Sara Anghel

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Our trip started at 8.30 AM. We drove from Primary School Bogojina to the International Airport Vienna. We had a flight at 1.50 PM. We arrived in Bucharest at 4.25 PM. Romania is in different time zone than Slovenia, they are one hour ahead of us. At the airport teacher Florinela waited for us and welcomed us nicely. Teacher Florinela and the other teacher transported us to City Hotel Bucharest. We were shown lots of things during the ride, such as the Arcul de Triumf, which is like a copy of Arc de Triomphe in Paris, France. After half of an hour, we arrived at the hotel. We took our luggage to the rooms and then we headed to the city center with the Italian team. We went to the see the singing fountains, which were spectacular. After that we had an amazing dinner in restaurant close to the hotel.

We had a tour in the National Bank of Romania and in the CEC Palace. We enjoyed every moment of the tour. Afterwards we explored the old town.





We started with work in school. First, we had presentations of our countries. Then we learnt the basics of coding in Python and even why coding is important. After lunch we went to the Cotroceni palace, which belonged to the Romanian Royal Family. These days the palace is used as the President's office. We took a look of the two floors in the old part of the palace in which were the Romanian Royal Family. Each room was decorated in a different style: German, French, English and Norwegian style. We saw hand crafting furniture, crystal chandeliers, painted ceilings decorated with stucco, bronze statues and oil paintings from the Romantic Era. After the tour we went to the biggest shopping center in Romania-AFI Cotroceni.

We are all so thankfull for this experience and for all the people that worked hard for this. We're sending lots of hugs to everyone. We love you all and we hope that we'll see each other soon<3

On Wednesday we went on an all-day trip to Bran and Brasov as early as possible. The journey through the morning rush hour of Bucharest brought us to Bran after almost four hours of driving. The name Bran means gate in Slavonic, and it is also symbolic of entering the city through the gate. We visited Bran Castle, which stands on a rock and is on the border between Wallachia and Transylvania. The castle is known to the general public mainly for Dracula, who was "embodied" by the Irish writer Bram Stoker in the book of the same name. Dracula is a fictional character, but his cruelty is said to be based on a real person - Vlad the Impaler or Vlad III. There are many attractions inside the castle. We were fascinated by different Romanian mythological creatures. After visiting the castle, we drove to the city of Brasov, which has around 300,000 inhabitants. A walk through the city and a tour of the exceptional architecture, the cleanliness of the city, overwhelmed us.



SLOVENIAN STUDENTS ERIK, DORIS, JAKOB AND IZIDOR WITH THE TEACHERS BARBARA DRAVEC AND PETRA BAJIĆ

On Thursday we continued with our work in the computer classroom and further improved our knowledge in the field of coding. The teachers had a video conference with the coordinator of the STEM project, our teacher Karmen Berlič. Project managers from all participating countries agreed on the continuation of the work. In the afternoon we took the bus to the National Rural Museum "Dimitre Gusti" in a beautiful park.

Living in Romania for one week was nothing like living in Slovenia. I live in a village so living in a city for a week was amazing. I learned new stuff like CODING and a lot about museums and castles. My English really improved, and I loved meeting new people and making new friends. I'm still in touch with some of them through social media. I'm not going to lie I didn't expect Romania to be so nice!
**Doris Kuzma**



Without the Erasmus+ project any of this wouldn't be possible. So, if u ever get a chance, don't hesitate and just GO!
Erik Šemen

I really enjoyed the mobility in Bucharest, Romania. I learned basics of Python and Python Graphic (Turtle). Teachers, students and volunteers were really kind. They were ready to help no matter the situation. I can say in the name of entire Slovenian team, that our experience with Erasmus+ project in Romania was truly fantastic and unforgettable. I met new people, made new friends and saw old faces from previous mobility in Slovenia.

**Jakob Vuk**

On Friday we went to the school one last time. We did a little bit of work and then it was time for the principal to hand us our certificates. Every student and every teacher got one. After that we ate a very delicious chocolate cake made just for us! We had lunch at school and then we took a bus to the Tiriac Collection where we saw a lot of fascinating cars.





I learned some stuff about coding, we visited a lot of museums and castles, we also played basketball and football. I did meet a lot of nice people and got new friends; we are still in touch on social media. The school was great, and the teachers were respectful and kind. They were always prepared to help. I'm going to remember Romania very well and I hope I'm going to visit it in future.
Izidor Casar

Erasmus was an unforgettable and constructive experience from many points of view. One of them is the lessons we have made at school. We have been taught the importance of coding and computer programming in general. Coding is the set of programs aimed at solving problems: it designs systems and generates codes. The term is English and indicates "computer programming". The program we used is called Python. We have been shown how the use of codes is useful for storing and processing information. It was amazing to see how the computer reacted to these stimuli! Today's world is "digitizing" more and more and it's important to understand these dynamics that govern the world of the web.                    Federica D'Ambrosio, student, Italia