

Erasmus + KA2 Mobility in Portugal

Numeracy and Literacy through Coding and Robotics

18th – 21st November 2019

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The Goals

To enhance Literacy and Numeracy through coding and robotics

- To help educators be involved in training activities;
- To view good practices from different countries about teaching and learning through coding and robotics;
- To explore the various technological tools that engage 21st century students: collaboration, problem-solving, creativity, self-direction and by doing;
- To observe students in class making use of different tools by being integrated through cross-curricular.



Day 1 – School Welcome and Presentations

1. School Welcome and tour by the students of the tourism course.







2. Sharing best practices (using Blue Bot)

- Ocean Mission (Plastic Pollution)
- Money Problem Solving
- Story Telling



Day 2 – eTwinning, Minecraft and Microbit



1. ETwinning

For every mobility done – the hosting country must create an event in the eTwinning live. This is a proof that work is being done. Moreover, the eTwinning space must be used to upload the work.

2. Minecraft as a pedagogical tool

21st century skills – learning by doing, the use of critical thinking. The game addresses these skills and can address them through gameplay and fun. It is a game which can be used in many ways in various subjects.







3. Microbit

The possibilities are endless. It is a pocket-sized codeable computer packed with features.

1. Students get motivated through hands on experiences by creating and designing ;
2. Encourages engagement and creativity in today's young generation;
3. Prepares students for future jobs (coders, designers, artists, engineers and scientists)
4. Infuse computational thinking and problem solving across different subjects
5. Promoting 21st century skills – collaboration, communication, innovation
6. Relatively inexpensive tools



Day 3 – Astro Pi and QR Code

1. Astro Pi

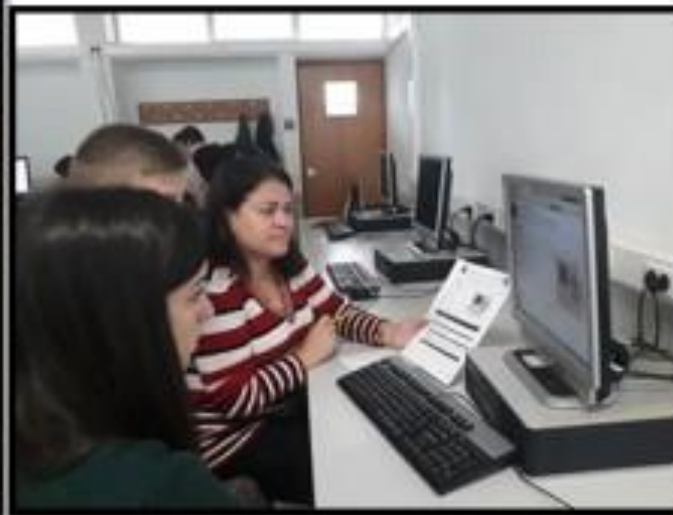
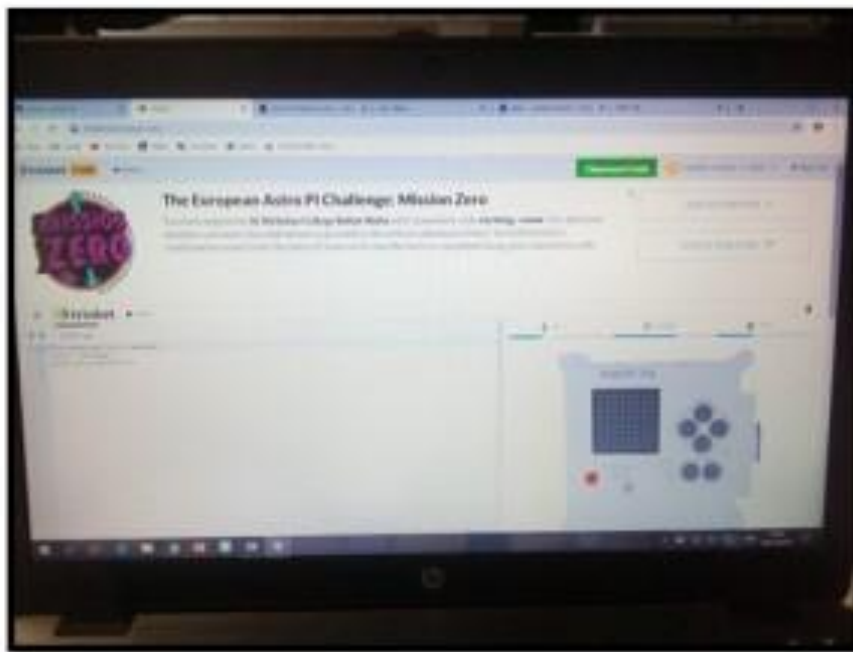
Astro Pi is a Raspberry Pi computer encased by a housing specially designed for conditions in space.

This device is already used within our college, Rabat Middle School students.

Astro Pi challenge is a bit challenging for early years students and would be more suitable for the senior section in our Primary school with clear guided instructions by the teacher.


Students will benefit by having hands on experience on coding, be creative and conduct scientific investigation in space by writing computer programmes.

Astro Pi can be accessed from an internet website <https://trinket.io/mission-zero/register>.



trinket.com/submissions-zero

Gmail YouTube Maps Translate News Chrome Web Store



The European Astro Pi Challenge: Mission Zero

You have registered **St Nicholas College Rabat Malta** with classroom code **exciting-room**. You and your students can enter this code below to proceed to the official submission form. You will receive a confirmation email from the Astro Pi team each time the form is completed using your classroom code.

trinket ▶ Run

```
main.py
from sense_hat import SenseHat
sense = SenseHat()
sense.set_rotation(270)
sense.show_message("Rabat Primary the best", scroll_speed=0.05)
purple = (102,0,153)
sense.show_message("Rabat Primary the best", text_colour=purple)
yellow = (255,255,0)
blue = (51,51,204)
sense.show_message("Rabat Primary the best", text_colour=yellow, back_colour=blue)
time.sleep(10)
```

2. QR Codes

- The teacher introduced this area by presenting the following link [Bit.ly/etwTAu](https://bit.ly/etwTAu) – project on trees.
- The project involved the research of the trees, pictures and audio.
- The project helped to increase the number of trees in the school.



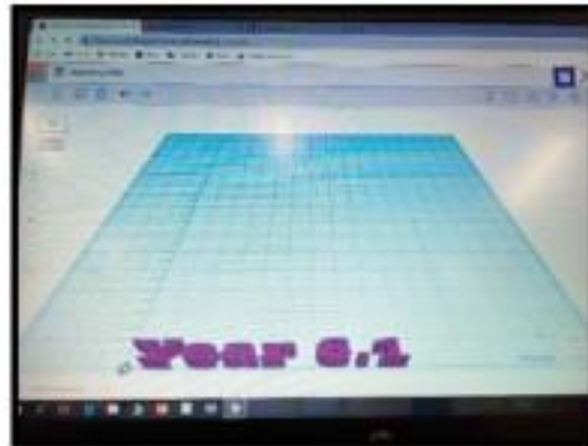
Steps involved in Qr Coding :

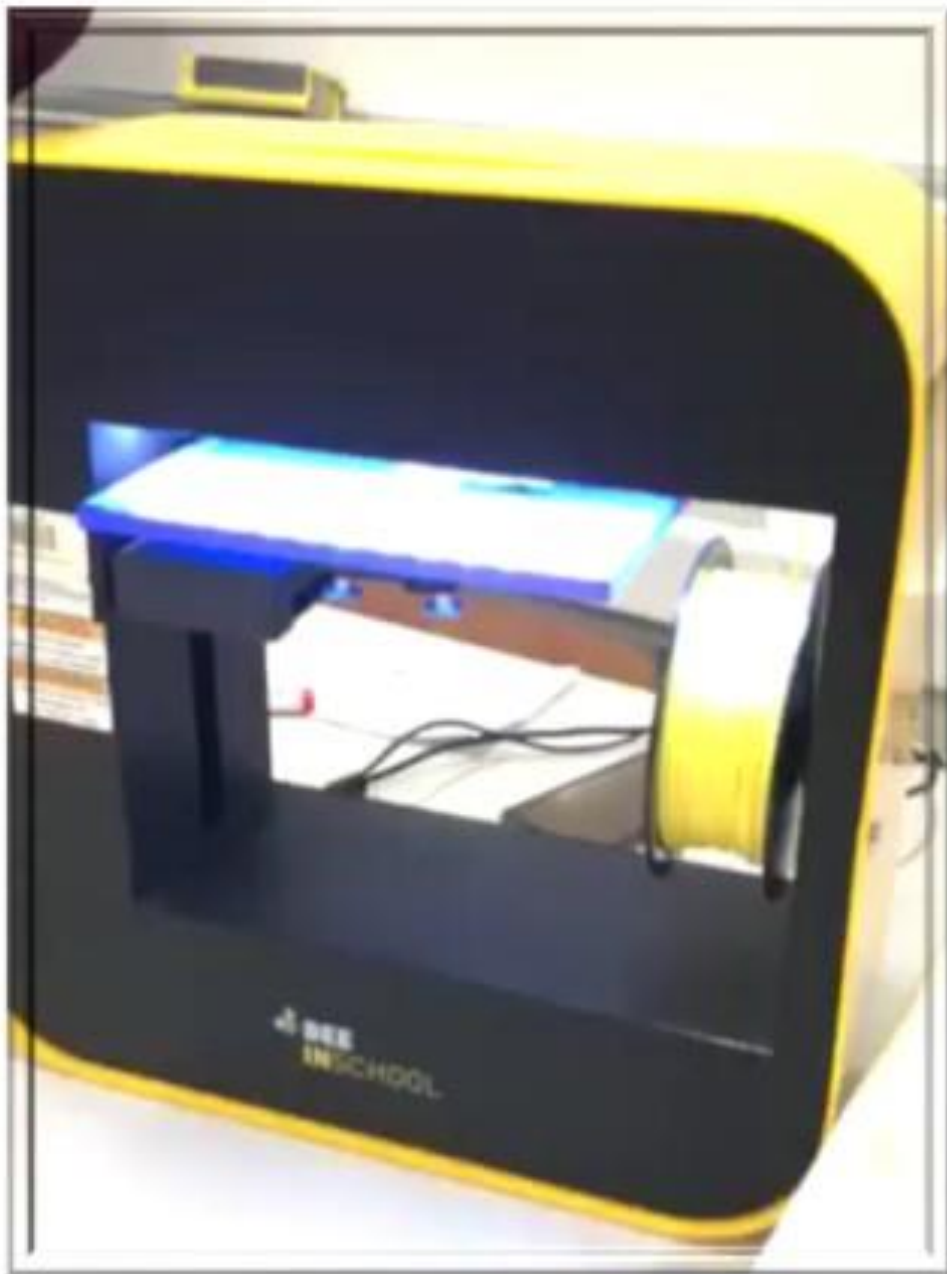
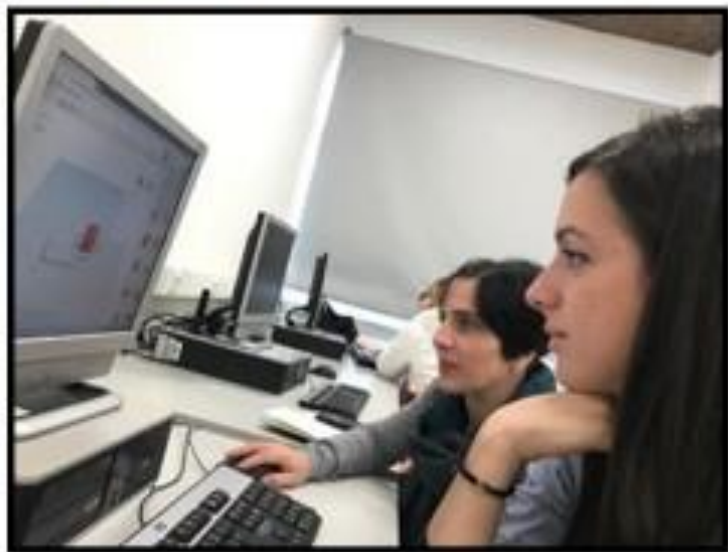


Day 4 – 3D Print and School Visit (Early Years)

1. 3D Print

- tinkercad.com
- During the activity, we had the opportunity to view the 3D design in action.
- Currently, we do not have access to the 3D printer in primary schools. However, it is available at Rabat middle-school.
- Tinkercad might be used by the upper primary students where they design their project and then print them at the secondary school.
- A disadvantage of this tool is related to the size of the objects.





2. School Visit (Early Years)







Exploring Portugal



Group Photo 😊



St Nicholas College
Rabat Primary



Thank you for a great learning experience!

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