

## 2 The Travelling (Jelly)Bird

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Combining STEM and Intercultural education



### Introduction

The project "The travelling bird" was initiated by a story composed by a teacher, the tutor of the workshop and the **AutoSTEM** teachers guide to making a JellyBird

The pre-school is part of a unified group of local schools in a region (Istituto Comprensivo *Giovanni Paolo II*) that range from pre-primary to upper secondary. The Istituto Comprensivo is in a rural area of Umbria. The region has a significant migrant population and poorly integrated families. The social context is complex as there are families with high economic-social levels and others that are disadvantaged. The presence of

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psychosocial problems affecting students is often not supported within the families.

The Istituto considers it particularly important to promote intercultural awareness and citizenship education from the earliest age, plus the strengthening of mathematical, logical and scientific skills.

The project the Travelling Bird was aimed at promoting STEM content and the development of active and democratic citizenship skills through the enhancement of intercultural and peace education, and respect for differences and dialogue between cultures.

23 children aged 4 and 5 (section A), of which 5 are from immigrant families and two have disabilities completed the project.

## **Context, approach, and implementation**

The project started at the beginning of January 2020 and lasted until the end of February. The Jellybird Automata was used. The project followed a series of steps and followed the principles of cooperative learning.

### **1. Storytelling**

The teacher told the children the story of the Travelling Bird. The JellyBird Automata represents a bird that is travelling over the whole world. In the story, other birds each with a specific colour inhabit each country. The travelling bird goes from country to country and is given different coloured feathers from each bird that he meets. The children engaged with the story, suggesting to the teachers which countries were visited by the Travelling Bird.

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## 2. Cooperative Working

The class was divided into 5 mixed age groups (4 and 5 years old). Each group represented a country and built a different coloured Jelly bird from each other group. The teacher guided the children to look at the materials available, paying particular attention to the use of appropriate terms to expand their vocabulary. Within each group, the different tasks are decided by the children (who colours, who cuts out the pieces). The construction is carried out step by step according to the teacher's oral instructions. At each step, the children pass on the Jellybird to other children in their group, so that at the end they have all been involved in the building of the birds.

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## 3. Research

To complete the story of the Travelling Bird the teacher and the children agree on the need to research relevant information. The children who suggested countries (most of whom named their country of origin) are given paper to take home to write down the results of a short "interview" with their families.

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## 4. Sharing

Each child presents information about the country they represent to all the class. They are helped by a simple Power Point presentation on an interactive whiteboard prepared by the teacher.

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## 5. Individual Work

Each child makes their own bird and a visual chart summarising the information about each country that that bird lives in.

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## 6. Story's Dramatization

The children return to working in groups and representing a country with their coloured jelly bird. The teacher played the role of the travelling bird that goes from country to country, receiving feathers from each bird he met and being told about the country. Within each group of children they decided what and who would say things about their country to the travelling bird (teacher)

In another classroom, a group of 3 year old children were invited to watch the drama. At the end of the play, the performing children approached the younger children to show them how the Jellybird works.

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## 7. Taking action

Following the example of the travelling bird who keeps in touch with his friends by communicating, the children also decided to look for "distant" friends. They made bracelets out of clay. Each child "dedicates" his bracelet to a child from another section of the school. With the help of the teacher the children wrote a nice letter to introduce themselves and went to the Post Office to send it.

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## 8. Follow up

A series of follow up activities were organised:

-  Comparison of the countries' cultural icons (flag, typical dishes, etc.).
-  Walk through the village of Costano with a map of the places seen (shops, church, monuments, schools)
-  Creation of a floor map on which to retrace the path using educational robotics.
-  Reflections on cultural differences and similarities with appreciation of diversity.





## Challenges

The cooperative learning approach helped to solve most of the potential difficulties that younger children might have in the course of the piloting. This approach allowed the inclusion of children with special needs in the whole process.

## Results

### Objectives set/objectives achieved

The objectives achieved were in line with those set. Thanks to the ability to combine elements of mechanics, craftsmanship, manual skills and storytelling, it was possible to encourage the technical and manual skills (cut, paste, fold, slide), mathematical skills (dimensions, topological concepts), engineering skills (observing and making mechanisms), as well as incorporating citizenship and intercultural education objectives such as:

-  To know and compare different cultures
-  Valuing differences
-  Stimulating a sense of belonging to the community
-  Stimulating a sense of friendship and solidarity.



**Figure 1** Cooperative work

## Discussion

The use of the automata greatly stimulated the children's interest from both a narrative and technical point of view. The construction of the Jellybird in the first group was very effective in enhancing individual skills and collaboration towards a common goal.

Once the steps were clarified as a rotation between the children in the same group, they showed a spirit of collaboration and above all autonomy of work that amazed the teacher. The construction of the second, individual Jelly bird strengthened the technical skills of the children who were then able to build the

automata almost without guidance, and consolidating their knowledge of some specific terms.

The presentation part (firstly of the information gathered for their own class group and then during the dramatisation for the other section) stimulated the self-esteem of all the children, who felt an indispensable part of a single project.

The whole workshop was characterised by strong interest and participation, so much so that the teachers decided to make the most of it by continuing with other activities planned for citizenship education and STEM education.

The experience was very positive.

## References

Online published annual self-evaluation report of the school:

<https://cercalatuascuola.istruzione.it/cercalatuascuola/istituti/PGAA84302P/costano-giovanni-paolo-ii/valutazione/sintesi/>