

INTRODUCTION

“Fun missions with Roby” is an educational and prosocial robotics game developed within the “Robotics versus Bullying” project, co-financed by the Erasmus + Program of the European Commission, Sub-program “Support for Policy Re-form”, Action “Forward-looking cooperation projects “(612872-EPP-1-2019-1-IT-EPPKA3-PI-FORWARD). The partnership of the RoBy project is made up of 11 organizations from 9 European countries: public organizations, associations, research centers, universities, industries.

The Robotics versus Bullying (RoBy) Project promotes a holistic approach to learning through the use of robots, and peer cooperation as a tool to prevent bullying and promote social inclusion. This goal is achieved using robotics and digital tools. In addition, thanks to non-formal teaching and game-based activities, students aged 6 to 12 will improve their digital skills and modify their approaches to STEAM.

The educational robotics activities proposed by the RoBy project focus on the prevention of the bullying phenomenon. The robot is suggested as a tool to be used in groups, in order to improve social and communication skills in a creative, engaging, and non-judgmental environment. Working together, in a peer-collaboration, favors the development of a social environment in which bullying actions hardly find space, since the entire group of peers learn an attitude of care and protection towards all its members. The use of simple educational robots also proved useful in facilitating the inclusion of children with cognitive or behavioral difficulties and special educational needs in general.

For more information on the project and on the socio-psycho-pedagogical references on which RoBy’s educational model is based, you can visit the website www.roboticsvsbullying.net

THE GAME - psycho-pedagogical references

Bullying can be seen in many situations at school and in group contexts and it is often difficult for an educator to get the people involved to bring out their experiences, or to find a way to deal with the subject using a language appropriate to the age of their students. The RoBy project partners developed the bullying prevention game as a tool for teachers to use in the classroom in order to develop pupils’ awareness of what bullying is and, experiencing its dynamics firsthand, engage the students in a series of behaviors as an antidote to these social dynamics.

When we teach the Macedonian language, our goal is not for the students to become writers, when we teach mathematics; our goal is not for the students to become mathematicians. With programming the same, our goal is not to make students programmers but to develop computational thinking. It aims to gain insight into logic, automation, robotics and how a large problem can be solved by breaking it down into smaller parts that can be solved more easily. These are the main components of computational thinking which is an important skill for students to possess. It prepared student to understand computer science and its place in the modern world. The idea for this game was born from the very topic of the conference, which is “Robotics vs. Violence”. Since I teach students from the age of 8, I thought that it would be best for students to recognize bullying in some specific examples in a story. That’s how the idea of it being the fairy tale “The Ugly Duckling” was born. The only reason why the duckling was attacked in the duck yard, by his brothers and sisters, by the cat and duck in the grandmother’s house, by the animals in the nearby pond is because of his ugliness. That is, his not fitting into the environment is due to his physical appearance. I often think that this is the root of such peer disagreement and non-

acceptance of student in the school. My goal in this class was not to resolve conflicts, but in a simple spontaneous way, the students recognize inappropriate behavior of a group that has prejudices, a group that does not students to recognize what feelings the group can cause to someone when it is unacceptable, and when pressure is put on him without any reason. Let the students recognize how the duckling felt, how his brothers and sisters behaved, and how his mother behaved. Through this game, we can extract all the points of the reading from the students. We can put them in roles of the mother, the duckling, we can encourage them to. With this game the student it solves issues relevant to the world around us. They work at their own speed. Reading is processed in an entertaining way. It can be used anywhere in the world in processing. As a teacher it was a challenge for me to have students using these computational thinking skills.

GAME DESCRIPTION

This game is intended for children from 6 to 8 years old, and its real application can be found in the teaching of classes when processing a picture book or reading. The game uses a board and the robot Roby. During the game, the children can use a sheet of paper to record some events according to given instructions. At the beginning, Roby is turned on in Free mode. It is placed on the board on which there are 24 squares that are drawn according to the original pattern from the yellow board. Each box has a picture, a task or a lesson. It is nice to play the game in a larger group of students, but it can also be played in pairs. This game was created for the needs of teaching, it achieves several goals that can be derived from the subjects of language, life skills, mathematics, natural sciences and art.

Description of the robot

Describe the robot that can be used for this game.

Example for SuperDOC: Roby in this game is in FREE mode. We use the navigation keys and give order, back, left and right commands. We also use the basket button if give an order to quicklu.

The game has been designed for the educational Clementoni talking robot "Sapientino SuperDOC" (it can also be used with the robots Sapientino DOC and MIND Designer). The choice of this tool is due to the fact that this product does not have a gender characterization and is well received both by males and females, especially for the age group between 4 and 8 (but also for older children at their first experiences with educational robotics). The colors are lively and cheerful, the colored lights, the music, and the friendly voice involve children and keep their attention focused on the activity. The SuperDOC robot is programmable with the arrows above its head in a simple and intuitive way.

Previous experiments have shown how this robot is very useful in facilitating the inclusion of pupils with special educational needs.

Game content

List all the parts required for the game

The game requires the robot Roby and two 1.5 V batteries. A board with 24 square fields with a side of 15 cm.

Description of the board

Describe the game board and the different boxes.



Description of a game session

PREPARATION

Describe how the class is prepared for the game. How to define the division into groups, tips to allow the game to run smoothly from the start. How to prepare the platform material.

Students sit in a circle. The game is placed in the middle of the circle. Assuming that the students are already familiar with the robot Roby and how he moves, they are informed that Roby will be constantly present in the class. He will actually move throughout the class and have certain tasks that we will give him and with which we will achieve the desired goals.

Activity no. 1: You and I are different

We position Roby on the Start field. Roby the robot should go to the "Person" field. A student tries to take should go the field. When Roby reaches the field, each student should think and then write in his notebook. What does he look like, what does he have that other people don't have? What would you like to change? What three things make you unique and special? Teachnique "Two stars and one wish". The question is what do you think the story will be about? Who do you think is the main character in the story? What are steps to get to the illustration of the main character? They look for the main character by moving the teacher reads the instructions.

Activity no.2 – Reading the story, illustrations and sequence of events.

The teacher reads the first part of the story using the "STOP" technique cyclically repeating a series of questions. What do you think will happen in the story? Who was mentioned in this part of the story? Where did the story take place? Was there any problem? What was the problem? What will happen next? What do you think will be the end of the story?

The teacher will read the first part, the second part is read by a teacher and a student, and the third part is read by two students. Students write the codes of all the pictures on the board in a

certain order according to the story. A sequence of events is made All codes are written in a certain order.

Activity no. 3 – Escape

Students are tasked with finding an illustration of an escape with the help of Roby. Has the duckling left the farm? Why? What happens when the duckling meets other animals (the cat and the rooster)? How do they treat him? Why does everyone avoid the duckling? What did you expect from other animals? What would you say to the Ugly Duckling after he leaves? What happens when spring comes? Does the story have a happy ending or not?

Activity no. 4 Dramatize

In the dramatize field, the students should dramatize an incident from the duck yard. To show how it is rejected from the middle and attacked. Why does everyone avoid the duckling? At first the ducks in the yard avoided him. Then his brothers and sisters. Then the cat and the rooster.

Activity no.5

Imagine a telephone conversation between mother Duck and yhe duckling. This time, instructions are given for the students to find the illustration that has a telephone handset. The task is: What will you say to your child whwn his friends criticize and laugh at him? If you were the duckling, what would you say to your mother?

Activity no.6 – Good inspirational advice

With instruction Roby takes to the field for inspirational advice. The students have the task of inventing inspirational advice, expressing it and writing it down. How will you feel when other animals laugh at you because you are different? What would you do when they laugh at you? If you were given the chance to talk to the duckling, what would you say to him? What good and inspiring advice can you give him? As spring comes, what has become of the duckling? How do you think the duckling felt when he noticed the changes in himself? What finally happened? Was he accepted and why?

Activity no.7 – Enrichment activity

Roby positions himself on the Diamond field following the instructions from the game. The duckling in the story has its own unique quality that makes it special. What did the duckling learn? The duckling has learned that he should value the true self, rather than the physical appearance. Name three things that make you unique and special.\

Activity no. 8 – Sequence of events

Roby follows the instructions of the game to go to the field in order of events. This field aims to remind students of the content of the fairy tale. The teacher will present the events again arranged in order.

The Ugly Duckling

1. The biggest egg hatched and a different, huge duckling came out
2. When he swam in the pond everyone laughed at him, even his brothers and sisters.
3. And the animals in the pond, the big ducks, called to him
4. The farm animals laugh at the duckling
5. The duckling decided to leave the farm and wishwd to be a beautiful swam
6. The grandmother`s house was attacked by the rooster and the cat.
7. When spring came, the duckling turned into a beautiful swan.

At the end, the code for inspirational advice is repeated again, which is actually the message of the story.

START

Describe how the game starts, what is distributed at the beginning of the game. How the exchange sequence takes place in cases where there is more than one player ...

Game Steps:

1. START – Roby positions himself on the start field and turns on the Free mode option. He will move it the help of navigation.
2. Look for the “child faces# box and describe yourself. What do you think you have that others don’t? What would you like to change about yourself?
3. Go to the box “Two stars and one wish”. What two things make you unique and special, and one thing you wish you had?
4. Look for the “Sounds” field. What reading do you think it is about? Can you guess who the main character is in the story?
5. Find the field where a large and different duckling was born. Where was the swan born?
6. And on his first swim his brothers and sisters laughed at him. Find that field.
7. What happened next? Find the important events in the fairy tale in chronological order. Retell each picture.
8. What do you think the ending will be? Find the picture.
9. Find the picture with the scene to dramatize. Pretend to be the Ugly Duckling. Dramatize an incident in the pond, in the duck yard or at grandma’s house. How did you feel when you were in his place when the other animals criticized or made fun of you.
10. Go to the “Chat” field. If you were your mother, what would you say to your child when he was criticized and laughed at as the other animals laughed at the duckling? If you were the child who was criticized what would you say to your mother?
11. Go to the field “The ducks call him”. What would you say to the angry ducks?
12. Go to the duckling description field. How would you describe the duckling’s appearance?
13. Go to the field where the duckling is crying. What is the main reason why the duckling is sad?
14. “ Four Questions” – Find the four questions and answer them.
15. “Find the Mother” = how did the duckling’s mother behave?
16. Inspirational advice – “It doesn’t matter if you ae born in a duck’s nest if you hatch from a swan’s egg” What good inspirational advice can you give.
17. “The water was a mirror” – In the spring, the duckling looked into the water, what did he see?
18. Diamond- Find the diamond and say what you got rich by reading this fairy tale.
19. The duckling in the story has its own unique quality that makes it special. The duckling has learned that he should value the true self, rather than the physical appearance.
20. List the things that make you unique and special and list the things you can do to show your love and care to other marginalized and abused people.
21. Go to the “Necklace of the Story” box – Sort the pictures of the events: At the beginning, then, at the end.

The Core of the Game

Describe the process and objective of the game.

Define any challenges and/or advantages that can be received by playing the game.

Identifies a fairy tale, (by listening)

The student:

To identify the true nature of beings that does not depend only on their appearance. To realize that being different is not an obstacle to being successful.

To learn to be happy and satisfied with oneself, from one`s outer and inner nature.

To create its own world of standards based on humane viws towards the environment.

To be able to recognize bullying and find a way to fight against it.

To show love and care to the individuals that surround him.

CONCLUSION

What happens at the end of the game session?

For example:

At the end of the session, the groups tell each other the stories and then reverse the roles, choosing a new starting situation by extracting it from the deck of cards.

At the end, the code for inspirational advice is repeated again, which is actually the message of the story.

Variants

Once the game has been described in detail, it is possible to offer variations on the main version or simplifications to make the game more accessible to younger children or those with difficulties.

Keywords of this didactic proposal:

For example: STORYTELLING, CREATIVE PROBLEM SOLVING, PROSOCIAL VALUES, BULLYING, RoBy