

Learning Scenario title

“Fairytale Fair”

Educational level / Age group	Beginner to Advanced 6 - 7 years old
AUTHOR:	Lubo Gregor
School name:	BESST (Bilingual English-Slovak School Trnava)
Country or region:	Slovakia



Learning objectives / aspirations

The objective of this learning scenario is to help children use the skills and knowledge they have learned in a meaningful, entertaining way through a presentation to an audience (e.g. to parents, peers). This can be a project to undertake at the end of a series of lessons involving the Matatalab coding sets and should involve cooperation between students. The aim is offer students the opportunity to experience a successful presentation and receive positive feedback and reinforcement.



Narrative overview

We are going to use our MATATALAB robot to do a live performance of your favourite fairytale. We will use Lego bricks to create a scene, props and characters that will be attached to the robot base and also use our Lego guitars to create sound effects and music to the performance. You will program the MATATALAB robot to perform on a stage.

You can choose from these fairytales:

- Three Little Pigs,
- Little Red Riding Hood
- The Wolf and the Seven Young Goats.

You will work in groups of four and create your own scene, characters, music and sound effects. After that you will program the code together and assign each one of the following roles for the performance:

- the main narrator,
- the sound effects & music guy,
- the programmer of the robot(s)
- the puppet master moving all the other characters in your play.

This project will develop through three lessons:

Lesson 1: you will build the scene and characters,

Lesson 2: you will program your robot

Lesson 3: you will add the sound effects and music.

At the end of the project, students' parents will be invited to attend the performances.

(Note - in our case, children performed their plays during a school event in front of their parents only. Intentionally, the performances were done in a sort of intimate setting rather than on a stage to take away nervousness and shyness of the students and create a fun, safe and supportive environment - each group had a table with their props and robots and the parents were invited to gather around the table and watch their performances).



Approach to teaching and learning

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The role of the teacher in this project is to provide guidance and advice to children, should they need it. It is assumed that the children are able to control the MATATALAB bots. In particular, they should be able to set up the tower and robot, switch everything on and create their code as they progress through their story.

Another important role of the teacher in this project is time management. The project will develop over three sessions and children should be guided to complete the task allocated in each session.

Approach to assessment

As part of the assessment, the teacher should evaluate the level of independence when planning and preparing their presentation, as well as the ability to cooperate in a small group by observing if they:

- are communicating and evenly contributing to the development of the solution;
- sharing their ideas, expressing themselves and using their listening skills
- working as a group, sharing the tasks and including all members of the team
- using the coding tiles correctly and appropriately to achieve the desired movement of the Matatalab robot on the play mat.



Roles

Teachers	Time management, guidance and advice, assessment
Learners	Planning, discussing and creating the scenes, sound effects and music and code for the robot. Practicing and performing in an organised manner
Others	For the performance, other people (parents or peers) will act as observers. It is desirable that they provide a supportive and encouraging atmosphere. To provide the opportunity for the children to further showcase their skills, the teacher could ask the parents to ask questions after the performance about the scene, how the robot works and how they created the sound effects.



Learning environment

The learning environment should mainly contain sufficient desk space for the MATATALAB sets and the play mat (the size of the grid could be decided by the children based on their story and scene, it is likely to be larger than a 4x4 grid) as well as other items required for the performance (a tablet used for sound effects) props and parts of the scene.



Learning activities

This project is dedicated to program the movement of one or more characters represented by the Matatalab robot decorated with Lego bricks. The learning activities will be developed through the following four sessions:

Session 1

The teacher can suggest that children build some houses (e.g., the house of the Little Red Riding Hood and Grandma's house; a small forest where the wolf is hiding; three houses for Three Little Pigs and the pen they were born in; The Little Goats house, the blacksmith's workshop and the well). They can work together or decide to split the task and each build one house.

Next option is to create some props that will be moved by children's hands during the performance (LRRD's mum, grandma, the basket, Three Little Pigs' mum). Other props are not necessary, although care should be taken when constructing the three houses, they should collapse in accordance with the story; seven little goats, their mum - unless done as a second robot).

Another option is to create the main character that will be part of the robot and will be coded for the performance as the 'actual' actor in this project.

Alternatively to using Lego bricks, the scene, props and character could be created using cardboard or other craft items.

Session 2

Children should determine their grid and create the scene for the performance i.e. decide what building is going to be located on which grid square - some buildings can take up more than one square. Guidance should be offered on the appropriate grid size and the size of the buildings (they should decide whether they want the robot to enter any house). This should correspond to the story, but of course the possibilities are endless.

Next, they should recap the story and decide what movements will be required to be able to present the story in a meaningful manner. They can try out the line of code for each of the moves and note them down.

There will be several moves required as each story progresses. Children should collect all moves they wish to perform and then have a couple of practice runs to ensure they are happy with the sequences so that everything runs smoothly.

At this point they may decide on the person(s) responsible for the coding part during the performance. They will be required to change the code whilst the speaker develops the story.

Session 3

Activities will focus around developing sounds for the performance. In our case, we used Lego Boost Guitar together with a tablet that allows to record and assign various sounds and then play them using a simple distance measurement assigned to various colours located along the neck of the guitar. Part of the lesson could also focus on a simple final song for the performance with or without words.

Similarly to Lego bricks, an alternative to using the Lego Boost guitar and tablet for sound effects and music, could be either using just a tablet to record sounds and then play them during the performance or using actual musical instruments and own voices (such as an Orff set, small piano, ukulele or a recorder), also depending on the level of ability and experience.

Session 4

This session is recommended to practicing the entire performance and knotting out the details once all aspects have been determined and the roles assigned.



Possible challenges

During testing this learning scenario, we encountered the following challenges:

- Time management - few of the groups did not have enough time to complete the tasks to their satisfaction. This related mainly to poor communication between team members and to a degree of perfection desired.
- It is important to assist the children with writing or noting down the code in a meaningful way, this could considerably speed up their progress. Options could range from taking photographs of each line and then cropping them onto one screen, to writing down the lines of code with a pencil on a piece of paper.
- It could become an issue with assigning the roles within the group. The teacher could suggest swapping roles for the various runs or in a worst-case scenario to pull the roles out of a hat.
- Synchronisation of all team members is crucial for a smooth run of the performance. Whilst small pauses and slower pace would certainly be tolerated and fully acceptable, this last part becomes a true test in which children can display their ability to collaborate towards a common goal.



Resources

- *MATATALAB Code Set*
- *Lego classic bricks of various shape and colour (alternatively craft materials, cardboard, paper, cotton wool, cotton string, pipe cleaners, etc...)*
- *Lego Boost guitar (not essential)*
- *Tablet or other suitable device for recording sounds or programming the guitar*
- *Printed custom grid for the scene for each group (based on their specification)*
- *Optional: Orff set or other musical instruments*



Literature to support

MATATALAB Self-guided course (Course 2)
Children's and Household Tales, Brothers Grimm (1819)



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