

Title: ROBOTIC DANCERS

Educational Level: 3rd grade, 2nd cycle of Early Childhood Education (5 years old).

Curricular Areas: Growth in Harmony.

Timing: 1 session (45 minutes) (in any term)



Summary

In this activity, students will develop computational thinking and knowledge of the human body in the early childhood stage through games, dance, and music.

To achieve this, the decomposition of movements of different body parts will be used, as well as the recognition of patterns or rules within a more complex structure and the training of simple sequences or basic algorithms.



Aims

- Identify and recognize the main parts of the human body.
- Follow sequential instructions: perform actions in a specific order suitable for computational thinking.
- Break down a choreography into simpler movements. Divide a complex task into simpler parts.
- Use logical intelligence to move the body based on certain rules.
- Understand the cause-and-effect relationship of specific movements

Key competencies to develop: linguistic communication, mathematical, scientific and technological, personal, initiative, social, and learning to learn.





1. **INTRODUCTION:** the teacher explains that the pupils will become "robotic dancers" by following orders to move body parts, just like the instructions followed by a robot.
2. **MATERIALS:** the body part cards, movement cards, whiteboard, and a music player device will be used.
3. **DESCOMPOSITION:** the students sit in a U-shape, and the teacher shows a card with an image of a body part and asks what types of movements can be made with that part, repeating this action with all the cards of the human body (each body part will have associated action cards).
4. **PRACTICE:** with each body part card, the group will practice one of the movements from the action cards, repeating this step with all possible movements for each body part.
5. **CREATION OF ALGORITHMS:** the teacher selects two body part cards (three in more advanced stages of the activity) and puts them in order on the whiteboard. Then, the same number of action cards is selected and placed under each body part card (taking care of the possible movements of each part), creating an algorithm.
6. **MOVEMENT SEQUENCE:** the students get up to follow the created sequence of movements.
7. **PATTERNS AND REPETITION:** to work on recognizing algorithms, a sequence of movements from those proposed in steps 5 and 6 will be repeated several times with background music (working on the concept of nested loops).
8. **PATTERN CHANGE:** after following the algorithm several times, the teacher will change the pattern so that the students can recognize the sequences.
9. **REFLECTION:** after performing several choreographies, the teacher asks the group what would happen if they did not follow the correct order, or if the dance could be done the same way. This reinforces the idea of the need to follow ordered instructions.
10. **CONCLUSION:** the students can create their own algorithm to make choreographies using the cards and show it to their classmates.

Suggestions

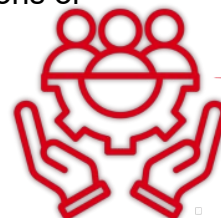
Once the students in the group are able to comfortably handle the initially established sequences, an advanced level can be introduced.

To do this, more action or movement cards can be added, or certain conditions can be incorporated into the choreography, such as: "if the melody changes, clap your hand."



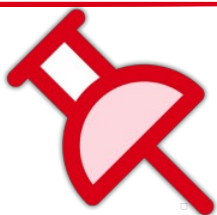


- **Human:** teachers and students.
- **Material:** cards with simple images of different parts of the body, cards with basic movement instructions, music, a whiteboard to indicate instructions or sequences.



Spaces: large classroom or gym.

Type of activity: whole group.



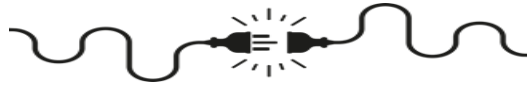
Printable Cards:

[Parts of the body](#)




[Action cards](#)

[Video](#)

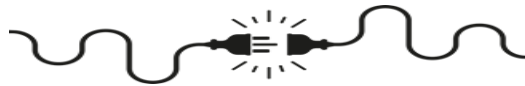




What have we learned?

Evaluation			
Sequencing of movements.	The movements follow the sequence correctly and without errors.	The movements follow the sequence with some minor errors.	The movements are performed without a clear order or in a random manner.
Understanding of the algorithm.	The students understands the instructions on the cards and follows them without assistance.	The students understands that the cards are instructions and follows them with some assistance.	The students does not understand that the cards represent instructions to follow.
Coordination and synchronization.	The students shows excellent coordination and synchronization with the group during the choreography.	The students coordination is inconsistent and synchronization with the group is limited.	The students movements are not coordinated with the group.
Knowledge of the parts of the body.	The students recognizes all the parts.	The students shows some difficulty in recognizing the parts.	The students is unable to recognize the parts of the body.





Computational Thinking

Decomposition: children break down a full choreography into small steps or movements, focusing on specific body parts and the types of movement they will perform.

Pattern recognition: by observing how certain movements and combinations repeat, children can identify patterns used in the choreography. For example, if the hand moves in circles several times, they recognize a pattern in that sequence.

Algorithms (step sequences): children create sequences of movements organized logically, a key aspect of computational thinking. Creating a choreography involves arranging the cards of body parts and movement in a specific order that must be followed for the movements to make sense.

Evaluation and debugging: children test their choreographies, identify if the order or movements work correctly, and adjust the cards if necessary. This process of reviewing and correcting errors is similar to debugging code in programming.



More information

On this platform:  Learning.com
EXCEL IN A DIGITAL WORLD

You can get more resources: "[Learning.com](https://www.learning.com)"

QR codes to the activity resources:



Parts of the body



Action cards



Video