ROBOSTEAMSEN
Training SEN teachers to use ROBOTICS for fostering STEAM and develop computational thinking

Project Number: 2023-1-ES01-KA220-SCH-000155379

3D Drawing of Robot Parts

Institution	Colégio Internato dos Carvalhos
Disciplina STEAM	Technology
IDD Student Context	Secondary students with Autism Spectrum Disorder (ASD) Level 1 and Attention Deficit Hyperactivity Disorder (ADHD)
Resource used	Autodesk Fusion

Description of the step-by-step activity before the project

1. Presentation of the objectives of the activity.
2. Presentation of the software Autodesk Fusion.
3. Explanation of the main features of the software.
4. Show the principal parts of robots and ask students to select a piece they want to draw.
5. Clearly explain the task to the students, ensuring they understand the objectives and steps involved.
6. Allow them sufficient time to start and engage with the activity independently.
7. Provide support as needed throughout the process, offering guidance and assistance when necessary.
8. If required, revisit the instructions and clarify any doubts before continuing.
9. Conclude the activity, ensuring all students have had the opportunity to draw is part of robot selected.
10. Export the piece designed and print on a 3D printer, then observe and reflect on the result to understand the improvements that can be made on the design.

Description of the activity step by step (changes in red)

1. Presentation of the objectives of the activity.
2. Presentation of the software Autodesk Fusion.
3. Explanation of the main features of the software.
4. Show the principal parts of robots and ask students to select a piece they want to draw.
5. Classify the IDD into Taxonomy: Use the Taxonomy framework to identify sensory sensitivities and cognitive challenges associated with Down Syndrome and Intellectual Disability.
6. Create the Profile for the Students: Develop profiles detailing individual interests in colors, sensory thresholds, and learning objectives.
7. Search for Similar Activities: Identify related AR activities like "Virtual Object Exploration" or "AR in Nature."
8. Define the Activity in the User Model: Document the activity, associating it with the students' educational plans for creativity and sensory engagement.
9. Demonstration: Showcase multiple AR-enhanced coloring examples, emphasizing variety and innovation.
10. Clearly explain the task to the students, ensuring they understand the objectives and steps involved.
11. Allow them sufficient time to start and engage with the activity independently.
12. Provide support as needed throughout the process, offering guidance and assistance when necessary.
13. If required, revisit the instructions and clarify any doubts before continuing.
14. Conclude the activity, ensuring all students have had the opportunity to draw is part of robot selected.
15. Export the piece designed and print on a 3D printer, then observe and reflect on the result to understand the improvements that can be made on the design.

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Extra resources	PC, 3D Printer
Similar activities	3d Printing Design Thinking

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