



Prof. Dr. Ulrike Stadler-Altmann

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# I'm not a robot – working with AI in ECE: Educators' Attitudes & Development of Toolboxes

# Project's objectives

■ Digitality as a topic in ECEC

■ AI, robotic as examples, eyecatcher

■ Development, design and testing of toolboxes & online training

► Development of pedagogical work in ECEC

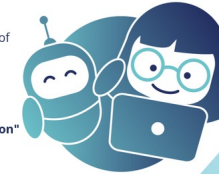
► Processes of change in the attitudes and beliefs of the educators

## About „I'm not a Robot“

### Working with artificial intelligence in early childhood education

Artificial intelligence (AI) technology presents people with new challenges. AI forms a new reality of life that has a direct impact on the socialisation processes of children, as well as on intra-family communication behaviour.

The project "I'm not a Robot - working with artificial intelligence in early childhood education" deals with the pedagogical challenges that go hand in hand with these social and family changes.



The project "I'm not a robot: working with artificial intelligence in early childhood education" is co-funded by the Erasmus+ programme of the European Union.

Only a few publications describe the relevance of the topic of AI for educational work. Also, pedagogical principles for the use and handling of AI in preschool education are hardly available at present. The increasing penetration of everyday life by AI is a new challenge for preschool educational institutions. Implications arising from the interaction between humans and AI in everyday life should also be fundamentally understood by educators in order to be able to derive pedagogical principles for action.

### Europe-wide cooperation

In the project "I'm not a Robot", four European project partners are developing pedagogical instructions which, after successful testing, are going to be integrated into their curricula.

The project is funded by the Erasmus+ program of the European Commission from 03/01/2021 until 08/31/2023.

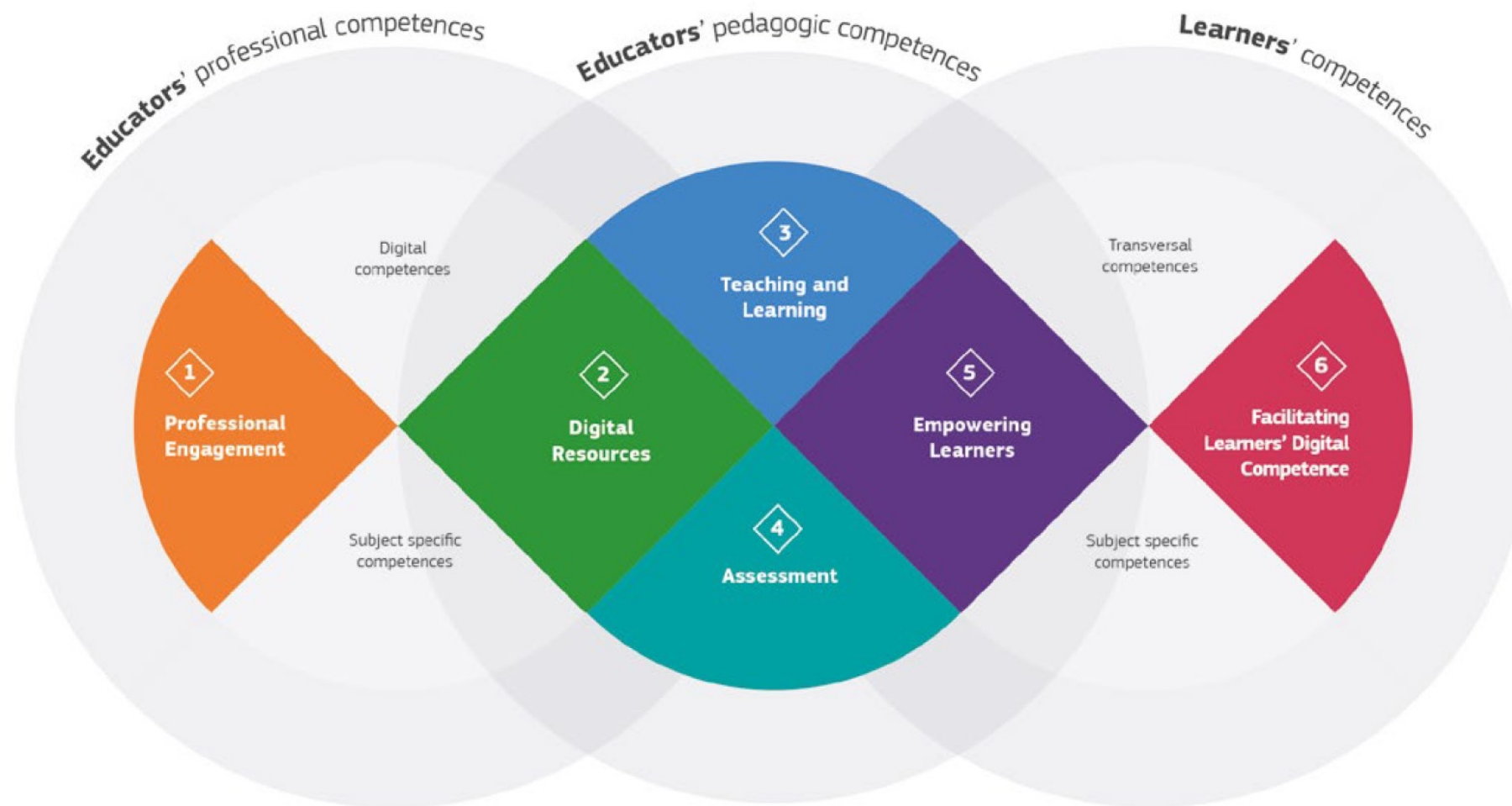
[www.im-not-a-robot.eu](http://www.im-not-a-robot.eu)

## „I'm not a Robot“ Projektpartner



UNIBZ  
Fakultät für Bildungswissenschaften  
Fakultät für Science della Formazione  
Fakultät für Science della Formazione





(DigCompEdu 2017, 15)

FIGURE 2: DIGCOMPEDU AREAS AND SCOPE

# Toolbox development, design and testing

- Play and learning ideas for 3-8 year youngsters
- Developed for the project (homepage) and especially for South Tyrol as physical tool boxes
- EduSpace Lernwerkstatt (learning workshop)



## Toolbox #2 Who can recognize a robot?

Introduction

What we know

Goals

Exercises

### What is this about?

How do children recognize a robot? What do children identify as something technical? Children learn through the games and with the materials in the toolbox.

How they can recognize robots and AI-controlled devices in their everyday life. The educators support the children in thinking about the differences between robots/AI-controlled devices and humans.

### Questions from children

Do you recognize a robot when you see one?  
Would a robot recognize you?  
Where does the robot live?  
What is a robot?  
What does a robot look like? Does a robot have legs, arms, hands, etc.?  
What can a robot do?  
How can a robot move?

### About this Toolbox


Toolbox #2 was created in 2022 by Ulrike Stadler-Altman, Susanne Schumacher, Michael Højbjerg, Mia Lind, Karen Sterling, Michelle Kjær Vennekilde, Paulina Landtved

### PDF Download

 Download Toolbox #2

 Download Pocketbook

### Tips for in-depths study

 „Hello Ruby – Wenn Roboter zur Schule gehen“ by Linda Luikas

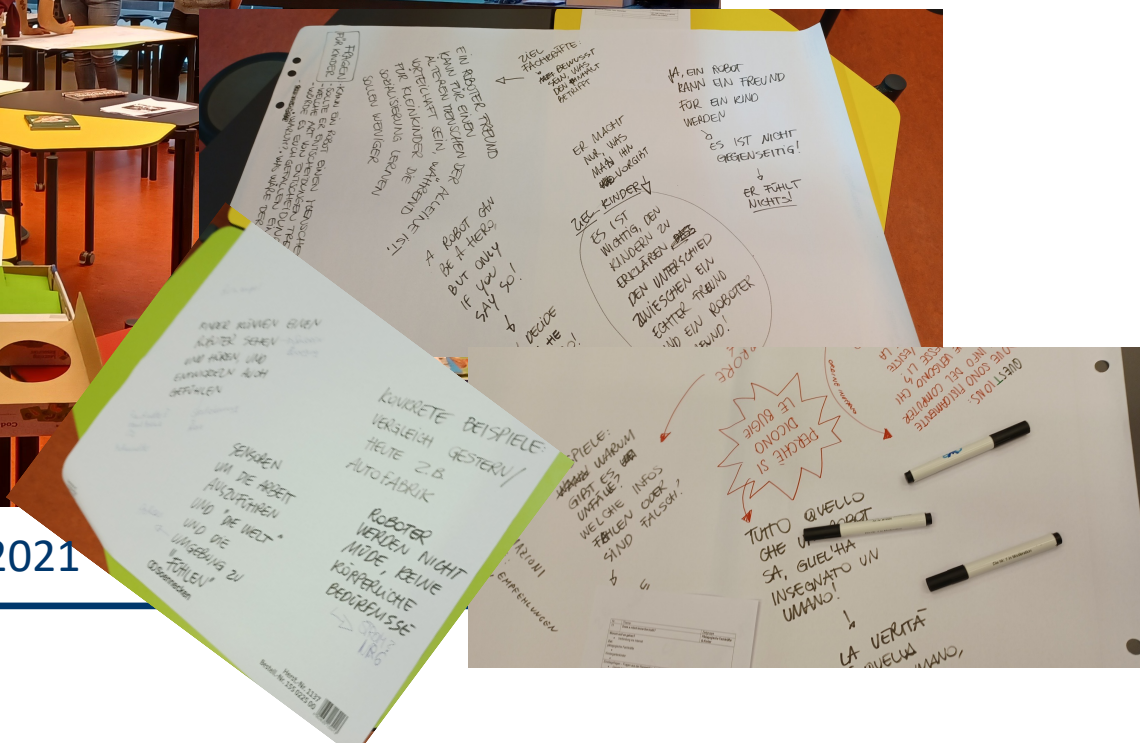
 „Hello Ruby – Journey inside the computer“ by Linda Luikas



# Toolbox development, design and testing



Working Day at EduSpace Lernwerkstatt, 22.10.2021





# Toolbox development, design and testing

## 1. Let's start! (on the website)

Method (related to design thinking, maker centered learning...)

Tips: be aware how children think

## 2. Who knows a robot?

Would you recognize a robot if you see one?

And would the robot recognize you?

Where does the robot live?

## 3. Let us play robots!

Offline robots

## 4. How does a robot/AI think? (coding)

pattern/sequences

## 5. How clever is a robot? (learning)

Can a robot do my homework?

## 6. What does a robot eat? (ethical & political questions)

## 7. How does a robot talk? (learning)

How is it possible that a robot talks?

## 8. Does a robot have feelings? (construction & parts)

Senses

Anthropomorphism/ humanisation of things

## 9. Can a robot be a friend?

Can a robot be a hero? (moral)

## 10. How can a robot help me? (purpose, limitations)

Can a robot solve my problems?

## 11. Does a robot know the truth?

Connection to internet („Google knows everything“)

## 12. Let's create a robot!

What does an AI programmer do?

What do I need to be able to do if I want to create a robot? Shitty robot project challenge

# Toolbox development, design and testing

- Testing:  
October 2022 – February 2023
- Educators  
in all project partners' countries
- Students in Bressanone-Brixen

Tool box	Feedbacksheets/ total	Pre schools	Students
1	5	5	
2	13	11	2
3	6	4	2
4	3	1	2
5	4	2	2
6	3	1	2
7	2		2
8	3	1	2
9	2		2
10	2		2
11	2		2
12	6	4	2





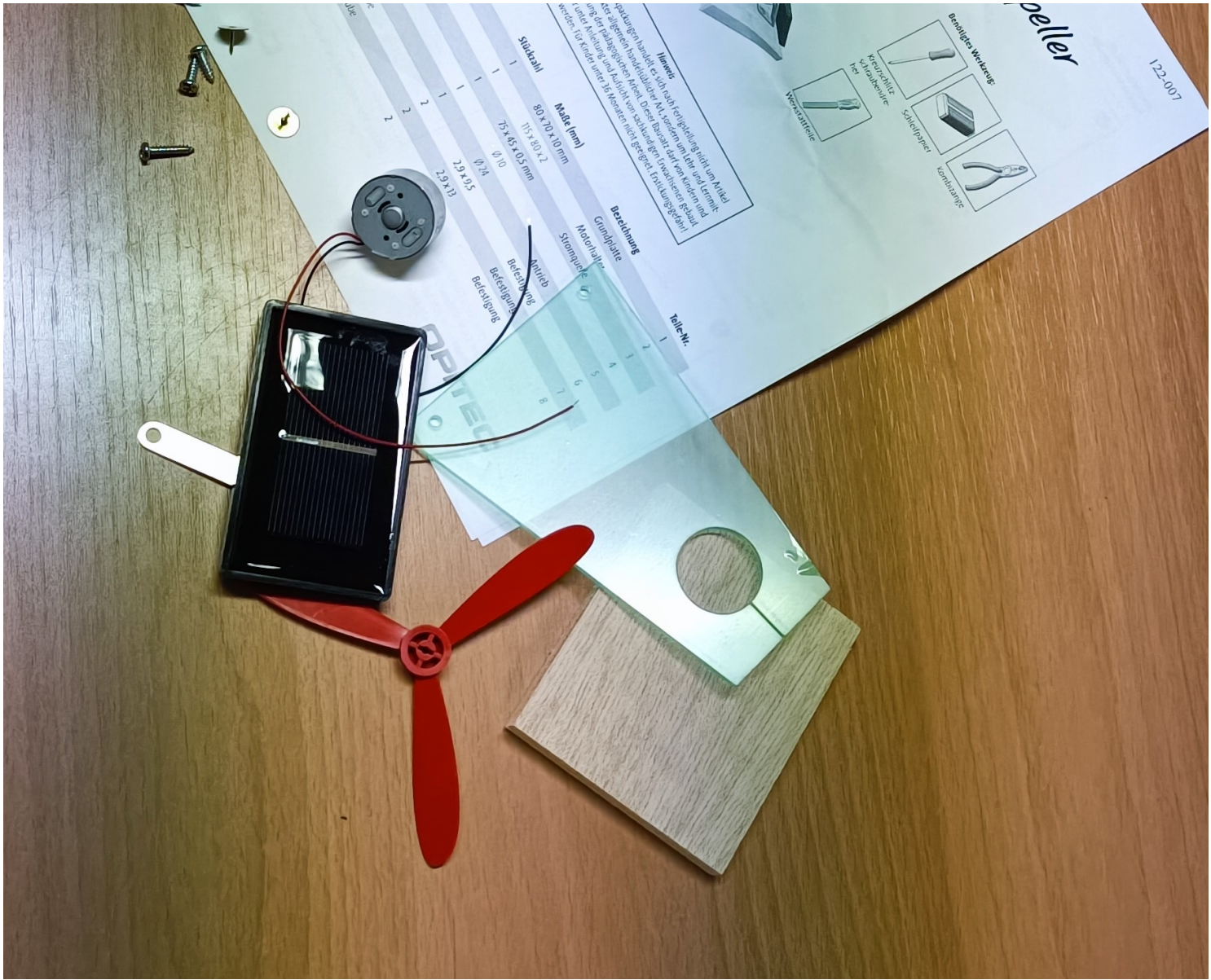
Toolbox 2





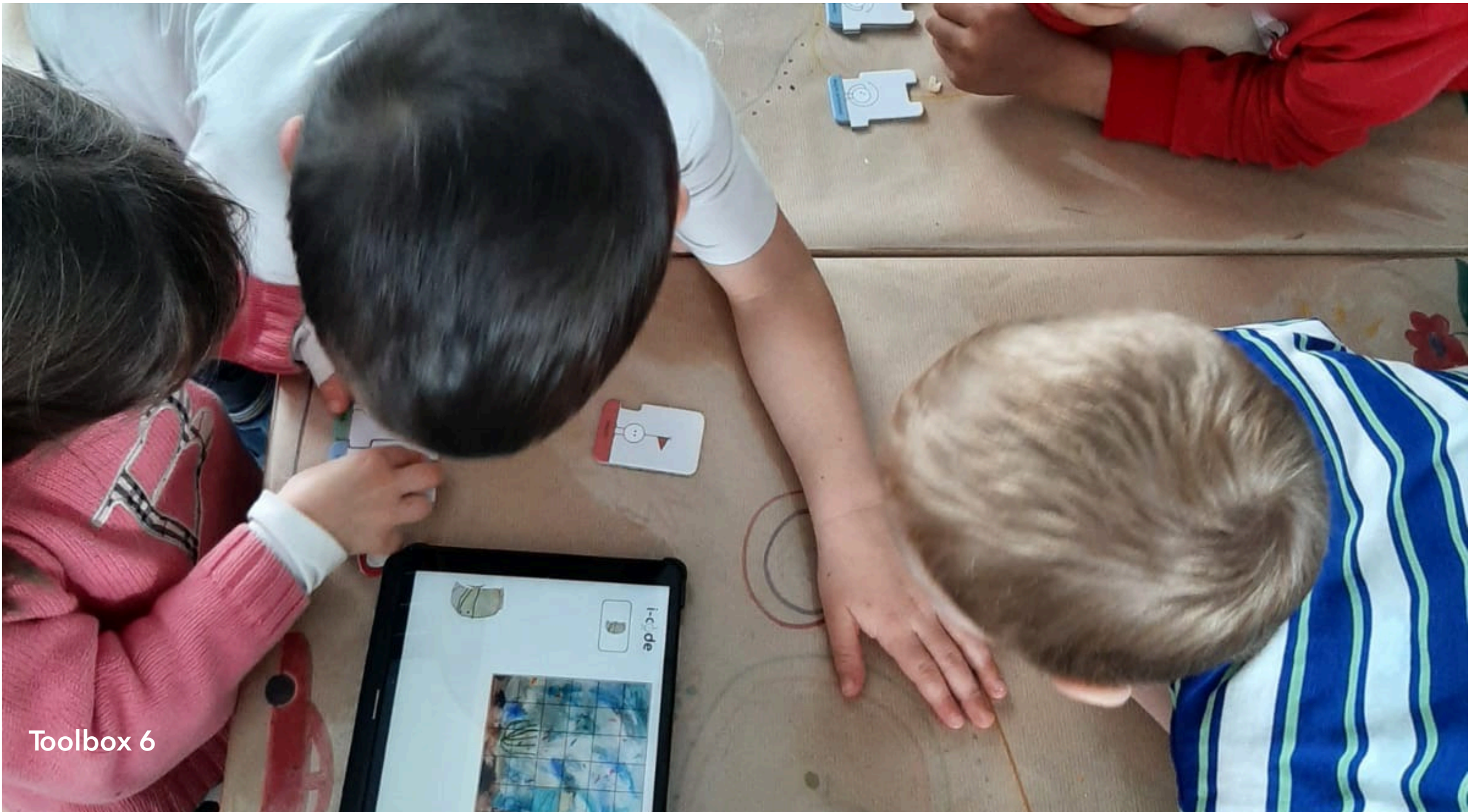






Stückzahl	Menge (mm)	Bezeichnung
1	80 x 70 x 10 mm	Grundplatte
1	11 x 80 x 2	Motorhalter
1	25 x 45 x 0,5 mm	Stromnetz
1	Ø 34	Antreib
1	2,9 x 9,5	Befestigung
1	2,9 x 13	Befestigung





Toolbox 6

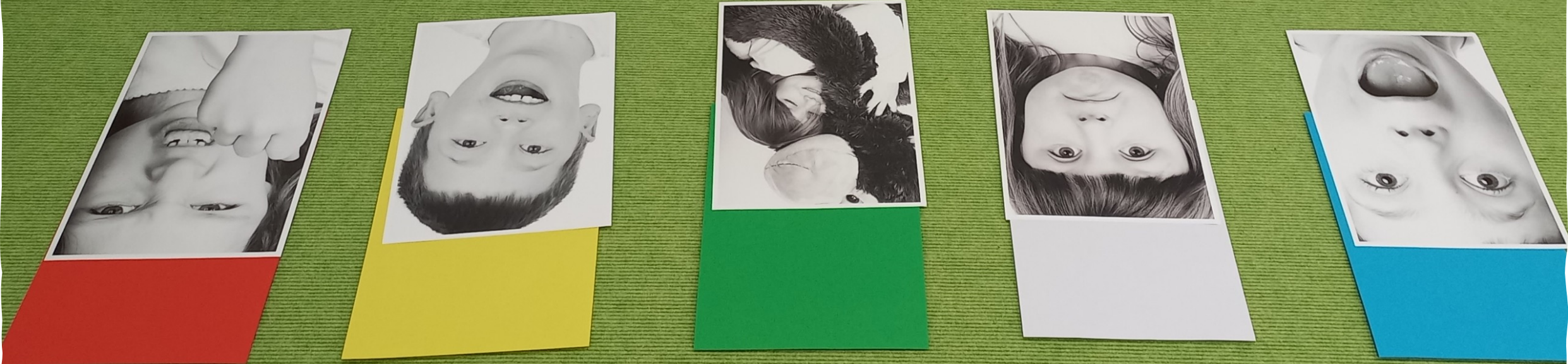
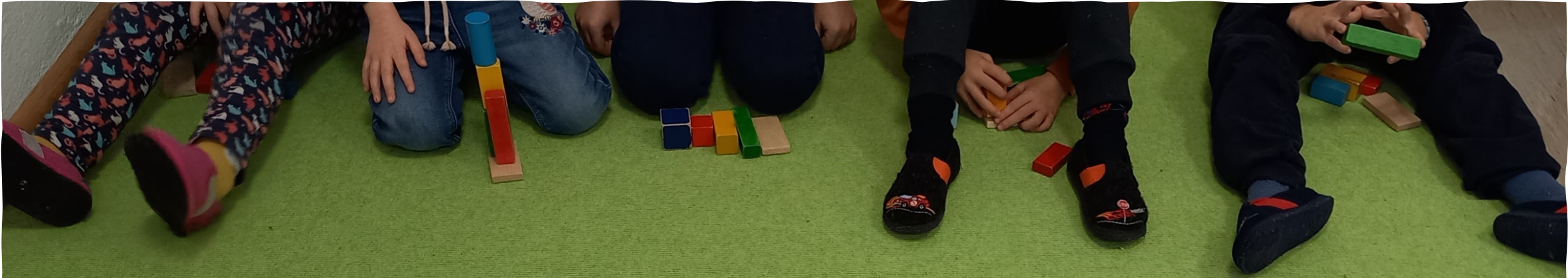




Toolbox 6





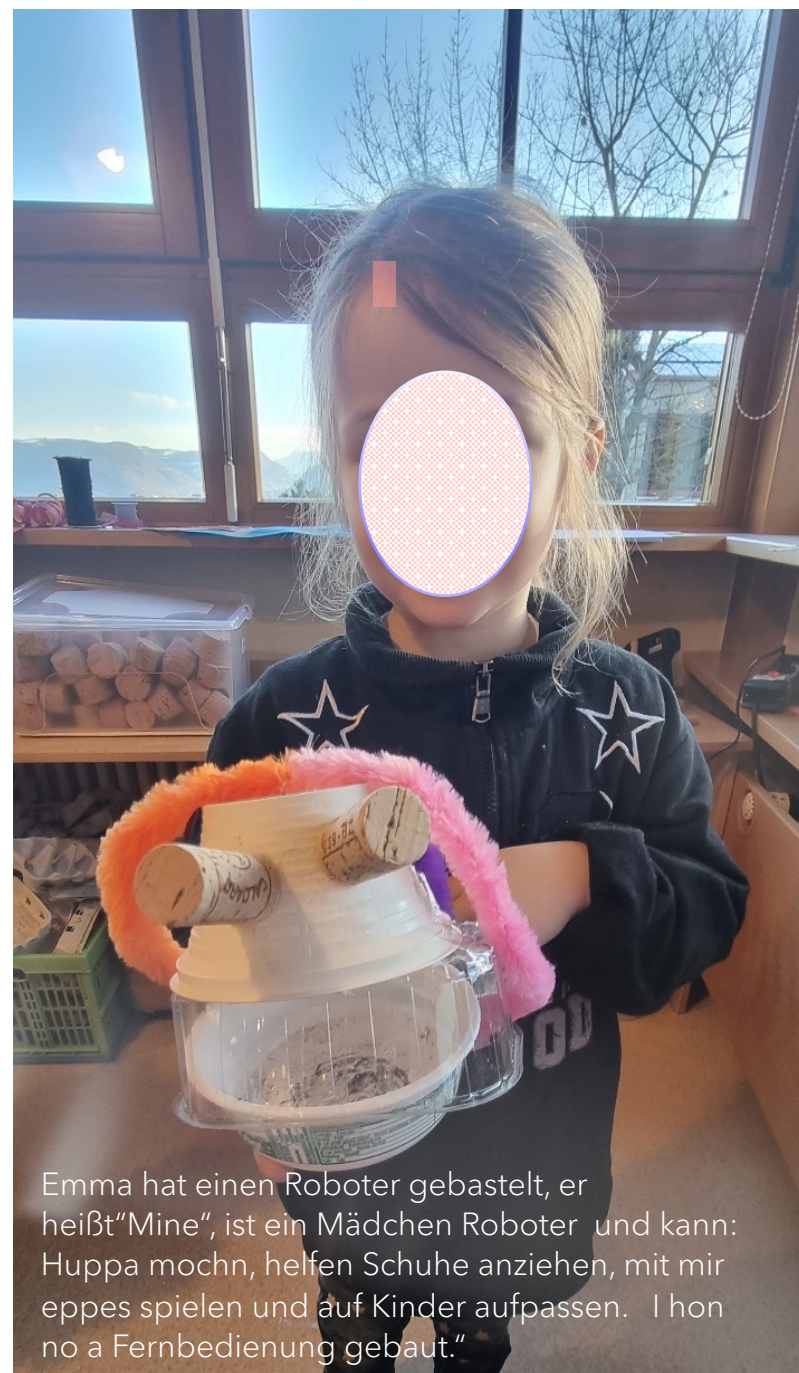


Toolbox 8

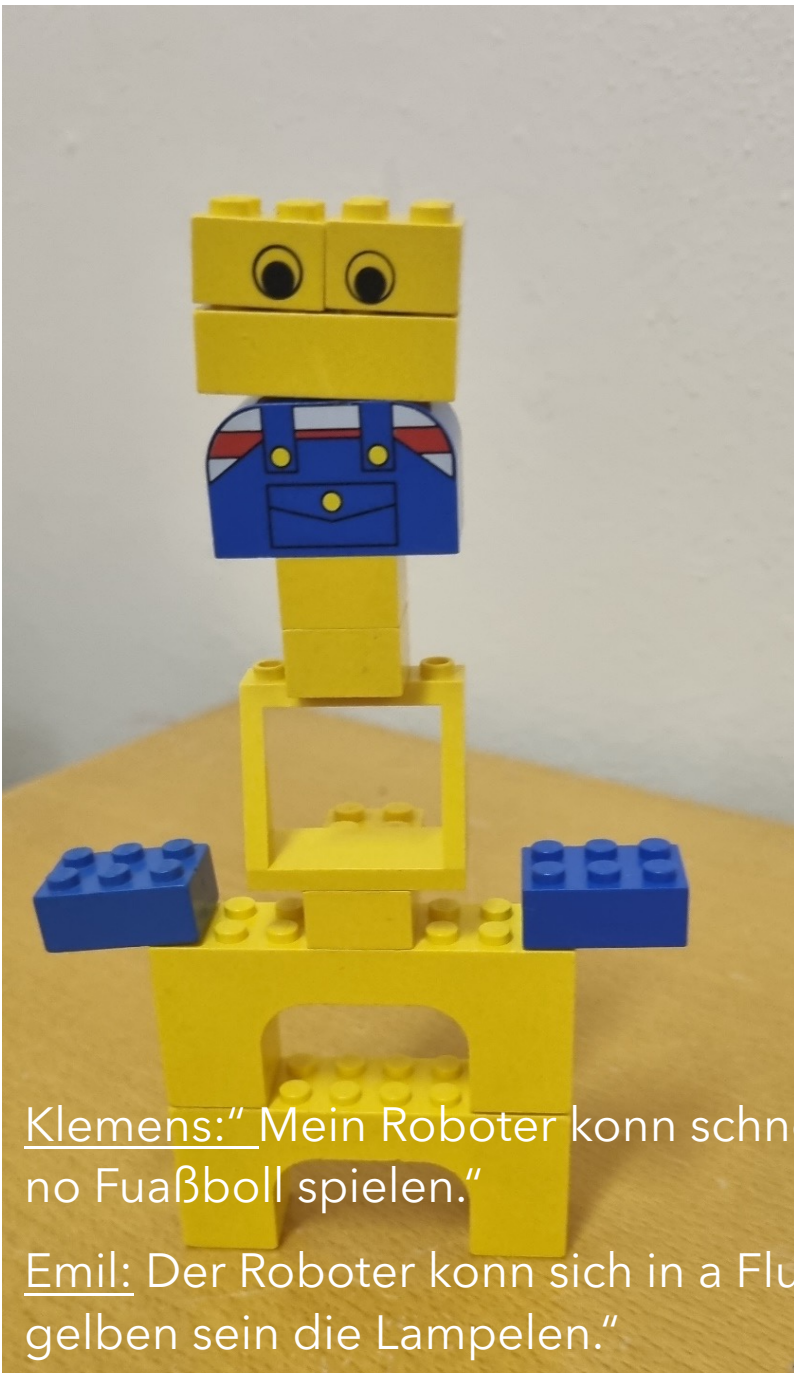












Klemens: "Mein Roboter kann schnell laufen, hupfen, kann sich schnell verstecken, kann die Türen aufmachen und noch Fußball spielen."  
Emil: "Der Roboter kann sich in ein Flugzeug transformieren. Oben ist Blau, sind die zwei Düsen, unten die gelben sind die Lampen."













# Feedback – Overview „highlights“

## Educators

- To work with the boxes no special knowledge is required, except interest and motivation that usually is projected onto participants.
- Box 2 is great
- Some boxes are difficult
- Overall: a lot of fun
- Children are enthusiastic
- Children play robot all the time and find/create robots in different situations

## Students

- Fun
- Some requirements about the topic robot & KI
- Some critical aspects for the theme: Are they appropriate for kindergarden?
- Less knowledge about KI
- Happy to use the material provided in EduSpace Lernwerkstatt





## Feedback – educators' quotes

- An interesting and substantial package of valuable treasures has been created. My compliments to all the contributors.
- It's great that each toolbox represents a unit of its own.
- The segmentation into beginners, advanced and experts advantageous, it is not always transferable, but I would suggest Level 1, Level 2, Level 3 more appropriate.
- The list of aims for both teachers and children is very helpful and provides a quick overview.
- Numerous further ideas and links are given, is awesome. Thus, interested can get specific further ideas - but even some of them can no longer retrievable.
- Many ideas can be implemented with less effort. Material is in stock in almost every kindergarten. No digital media stuff is necessary, which can be a crucial factor to get this topic introduced easier in kindergartens.
- All in all, a very broad spectrum of ideas.

# Just try it out yourself!



**I'M NOT A ROBOT**

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Aktuelles Das Projekt Partner **Toolboxes** Projektziel

Let yourself be surprised by the contents and the learning game ideas in the project and read Toolbox #1 first.

## Toolboxes

<https://www.im-not-a-robot.eu/de/toolboxes>

### #2

Who can recognize a robot?

[read more →](#)

### #3

Let us play robots

[read more →](#)

### #4

How does a robot think

[read more →](#)



*Thank you for your attention,*

*I welcome our exchange during today and beyond!*

*Vielen Dank für Ihre Aufmerksamkeit, ich freue mich auf unseren Austausch während des heutigen Tages und darüber hinaus!*



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