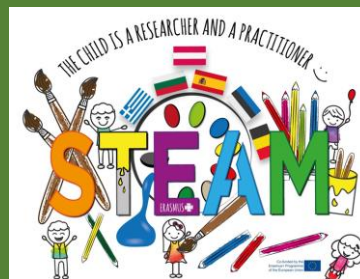




STEAM in the play forest: 4 play learning boxes



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John Matthys

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Reason for research

1. Erasmusproject About STEAM

- In contact with partner schools
- Introduction to different ways of teaching and inspired by outdoor learning

2. Weekly use of play forest

- Teachers' experience: need for additional learning impulses

3. Purpose of project

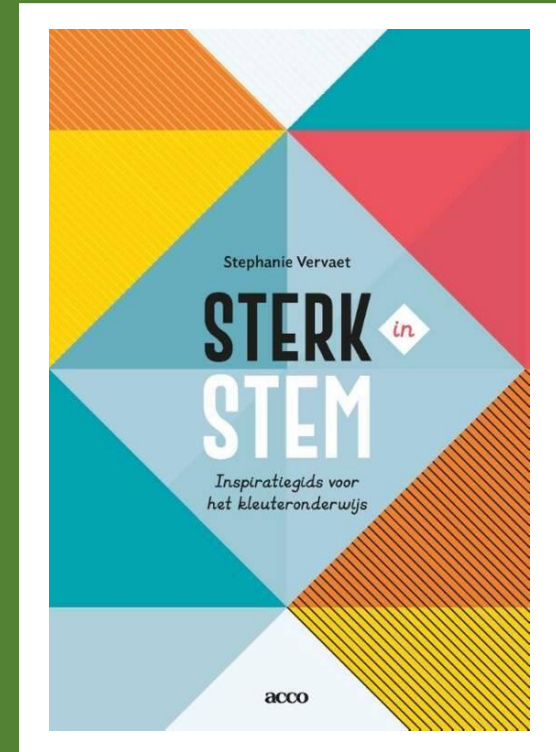
'The aim of this project is to enrich the play forest with learning impulses so that it evolves into a play-learning forest and thus support teachers in offering STEM activities.'



Literature study

?

- What is meant by STEAM?
- What does outdoor education actually mean?
- How does this manifest itself in practice?
- What is the added value of STEM and outdoor education?
-



Partnerships

- **University UCLL Leuven**
Outdoor learning ...Why-How-What... - LTT 29-3-2021 and 2-2-2022
Danielle Cools and Gorik Van Hellepute
- **Artevelde University Ghent**
Loose parts with a wink at STEM - LTT 2-2-2022
Kirsten Devlieger
- **Fyxxi eduCentrum vzw**
STEAM CHALLENGES DUPLO - LTT 2-2-2022
Kevin Bostoën
- **Artevelde University Ghent**
Play learning Boxes - team meeting 14-6-2022
Lily-Rose Deleu and Steffi Roegiers



Main question + sub questions

'In what way can the teachers be supported to allow the play forest to evolve into a play-learning forest with rich STEAM impulses for children?'

sub question 1

'What are the experiences that pre-school teachers already have with offering STEM activities within & outside the classroom context and what are their needs in offering these STEAM activities?'

🔍 Through survey

sub question 2

What criteria must the STEAM design meet so that the preschoolers can derive rich learning impulses from it and so that they can be used by all preschoolers?

🔍 Through interview

sub question 3

What exactly does STEAM mean at pre-school level and how can it be integrated into the outside context?

🔍 Through source research

Design

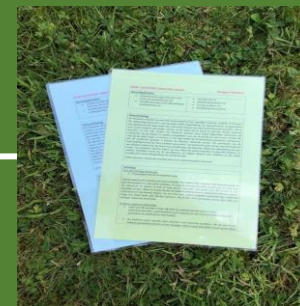


Play learning boxes

- Four practical boxes
- A detailed STEM activity per box



Specific materials



Assignment sheets for youngest and oldest toddlers

Design requirements

- ✓ Usable in the outdoor context
- ✓ Contain differentiation
- ✓ Be sturdy and movable
- Bet on at least one STEM domain
- Contain natural or free materials

STEAM-box 'To the other side'



STEAM-box 'Counting insects'



STEAM-box 'Water for the animals'



STEAM-box 'A nest for duckling Kiki'



Practical test + data collection

Testphase

'To what extent does the STEAM design meet the design requirements?'

☒ *Through observation*

'What is the effect of the presence of the design around STEAM on the toddlers who play in the play forest?'

☒ *Through observation*

'How can we optimize the design around STEAM after testing?'

☒ *Through inquiry*



Optimize design

- Reflection with the teachers at the staff meeting

- Optimization

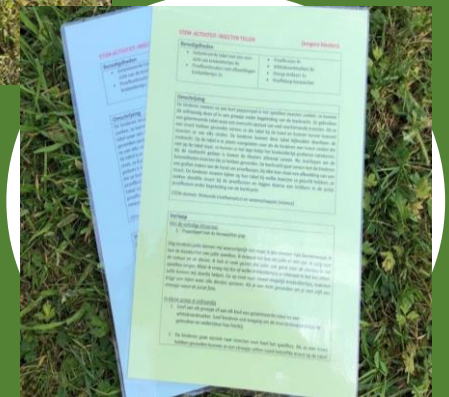
STEAM box 'Water for the animals':
addition of funnels



STEAM box 'To the other side':
addition of natural materials



Changes Assignment sheets :
adding optional steps in progress



Conclusion

- The boxes are meeting the STEAM needs of the teachers
- Rich STEAM impulses added to the play learning forest
- The design is added value for our investigative school
- The teachers have gained more insights into STEAM in outdoor education



What do we want to implement in our school practice?



Spain

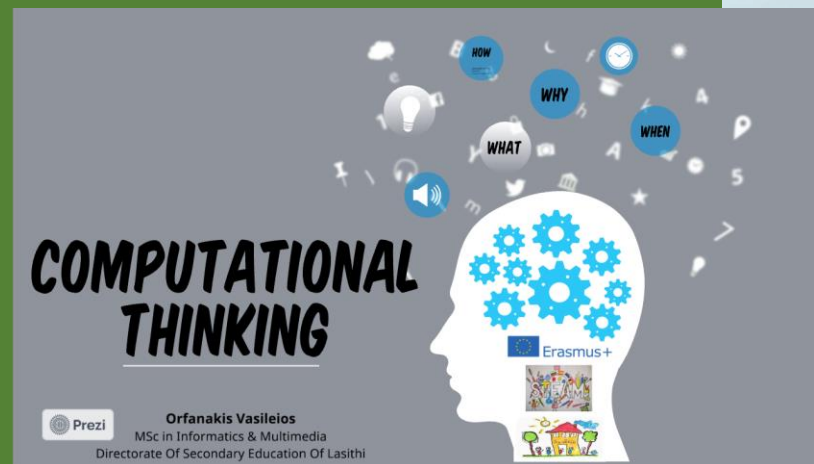
- Inspired to set up a vegetable garden at our school : eco farming and sustainability
- Using the outdoor space for STEAM activities
- Bringing external STEAM specialist to school for workshops



Greece



- Connection with local culture
- Computational Thinking by Vassily Orfanakis
- Scratch junior



Estonia

- Ruby and Robots
- Sportgames



Bulgaria

- Connection with local , national culture through dancing and singing.
- Jobshadowing: “Formation of mathematical ideas through activities in nature” : coordinated outdoor activities with all classes about a STEAM topic.



Latvia

- Congratulations to Mrs. Ilze Spunde for the perfect organization and follow-up of this innovative project.
- Thank you to all coordinators and teachers for the cooperation: We have gone through a growth path together.
- Jobshadowing and the STEAM theme conferences in all countrys where an enrichment for the teachers.
- Positive learning exchange: lots of new ideas to get started.
- a sense of connection between like-minded kindergartens in Europe.



Project: The child is a researcher and a practitioner

