

Computational play in Early Childhood Education

Workshop at the 8th EAI International Conference on Design, Learning & Innovation (DLI
2023)

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Today's workshop

- **The overall goal** of the workshop is to **explore and identify opportunities and challenges** in applying computational play with mathematics.
- **We aim to provoke discussion** on how to approach computational play in early childhood education

Workshop structure:

1. Introduction (09:00-09:30)

2. Live computational play session on computational play with math(09:30-10:45)

1. Children (4-6 years of age) and their teachers from a kindergarten in Aalborg.
2. Guideline and general rule during the session with the children.

3. Group discussion and sharing (10:45-11:30)

1. Bring your coffee/tea/water to the group discussion and enjoy while discussing ☺

4. Summary and wrap-up (11:30-12:00)

1. How do we proceed from here?

Computational Play Nordic Initiative (CPNI)

2023-2025 NordForsk NOS-HS Exploratory workshop call 2022

Denmark (AAU, UCN), Norway (SU), Sweden (HU)

- Eva Brooks, Aalborg University (AAU), Denmark
- Lykke Brogaard Bertel, Aalborg University (AAU), Denmark
- Susanne Dau, University College of Northern Denmark (UCN), Denmark
- Francesca Granone, University of Stavanger (SU), Norway
- Elin Kirsti Lie Reikerås, University of Stavanger (SU), Norway
- Emma Edstrand, Halmstad University (HU), Sweden



COMPUTATIONAL PLAY

Exploratory workshops – CPNI

Purpose and goals

- To gain a deeper understanding of **children's computational play in Early Childhood and Care (ECEC)**
 - in particular how a **play-responsive approach** can **facilitate problem-solving, reasoning, and learning.**
- To **establish Nordic hub of interdisciplinary strength and unique expertise** in the scarce field of researching computational play in ECEC
 - Nordic **exchange of data and findings** in relation to computational play in ECEC **across different workshop designs and disciplinarity.**
 - a **combination of methods** and techniques and accounts of **best practice** for digital play in ECEC.



Cross-disciplinary perspectives

- Three exploratory workshops

RQ1: How do children interact and engage when they explore mathematics through computational play in ECEC?

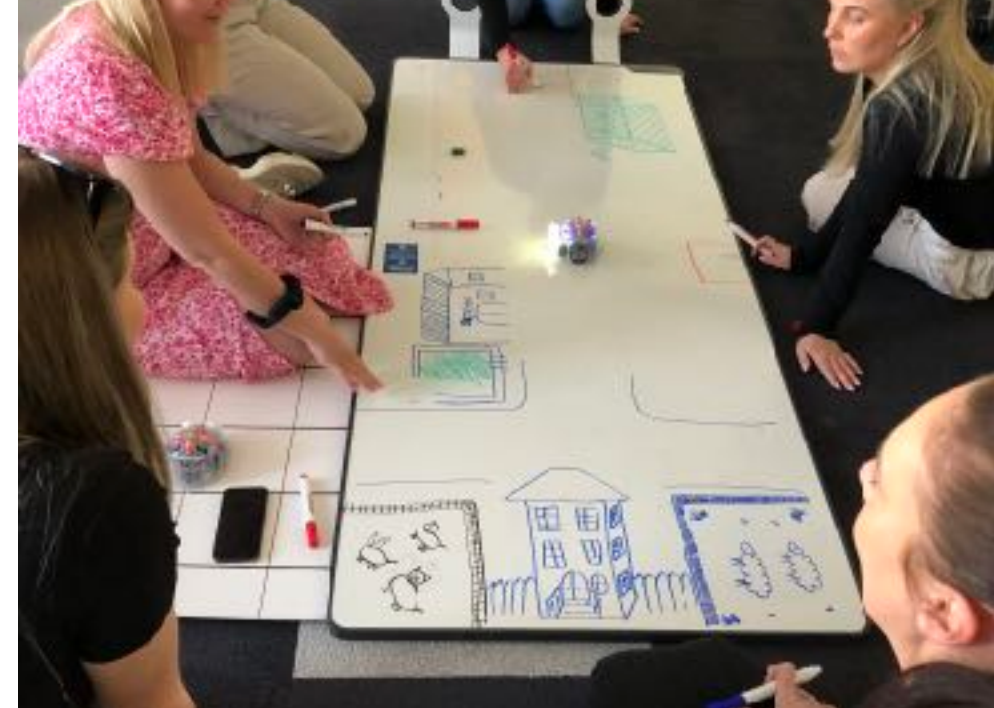
RQ2: What teaching methods develop when teachers explore digital toys within ECEC?

RQ3: How can Virtual Reality be used to support computational play and learning in programming/coding activities?

RQ4: How can a play-responsive approach to computational play promote children's conceptual understanding?

- Webinar series

- arrangement of Nordic and international webinars gathering practitioners and researchers/research groups in the field.



Towards a positioning of computational play

- Computational thinking
- Digital play
- Computational play
 - Play-responsive approach
- Computational play with mathematics



The workshop: Computational play & math

Into the Wild

- A narrative about zoo animals that want to see something outside the zoo.
- The children are guided through the story and will work in groups on small tasks.

The focus will be on:

- Unplugged activities
- Computational play
- Early mathematical thinking

