

From avoidance to agency: Empowering ECEC professionals (0–3) to engage with digital media through practice-based action research.

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The challenge of meaningful digital play

Digital media are part of young children's everyday lives.

Yet their use in ECEC (0-3) remains **complex and contested**:

- ECEC professionals feel reluctance to use digital media (fear and negative perceptions of digital media)
- ECEC professionals don't feel competent or ready to use digital media

In our previous research, we developed a digital pedagogy together with ECEC professionals, but we noticed that professionals still lacked support and inspiration to really get to digital play.

→ a **new action research** was set up



Conceptual frameworks

Digital play

Real play that extends imagination and meaning-making. Children move from *epistemic* exploration to *ludic*: integration – digital and non-digital play interwoven. (Bird & Edwards, 2015; Edwards & Straker, 2025)



Pedagogical documentation

Making practice visible through observation and photo's – *living wall*. Looking closely reveals children's capabilities and professionals' own assumptions (Damjanovic & Blank, 2018; Cameron, 2026; Bjartveit et al., 2019)



Professional learning

Knowledge alone doesn't change practice. Willingness + ability + experimentation + reflection = pedagogical action (Walshe, 2025)



Research question

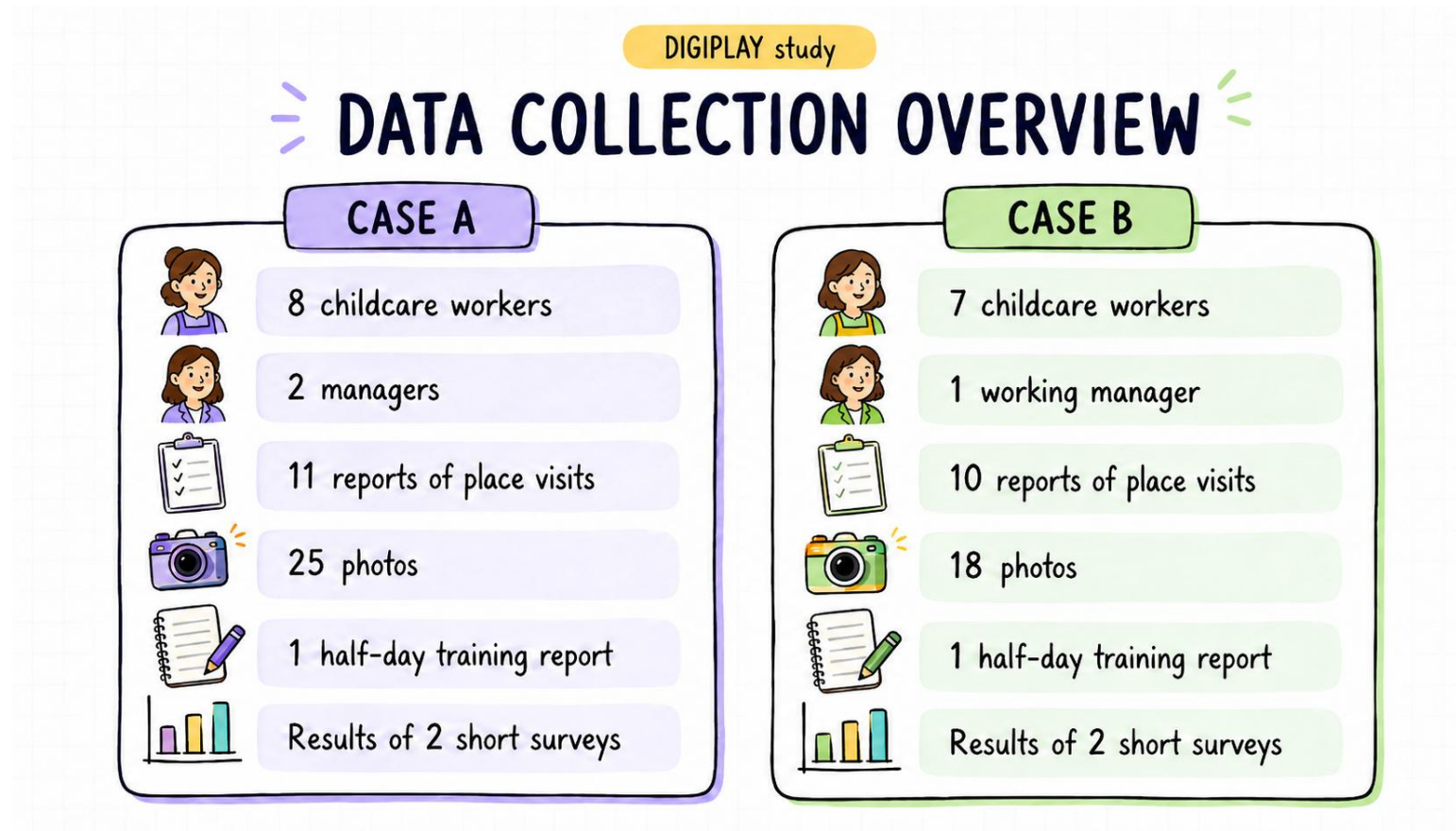
How can we strengthen ECEC professionals' repertoire and agency for integrating digital play with children aged 0–3?



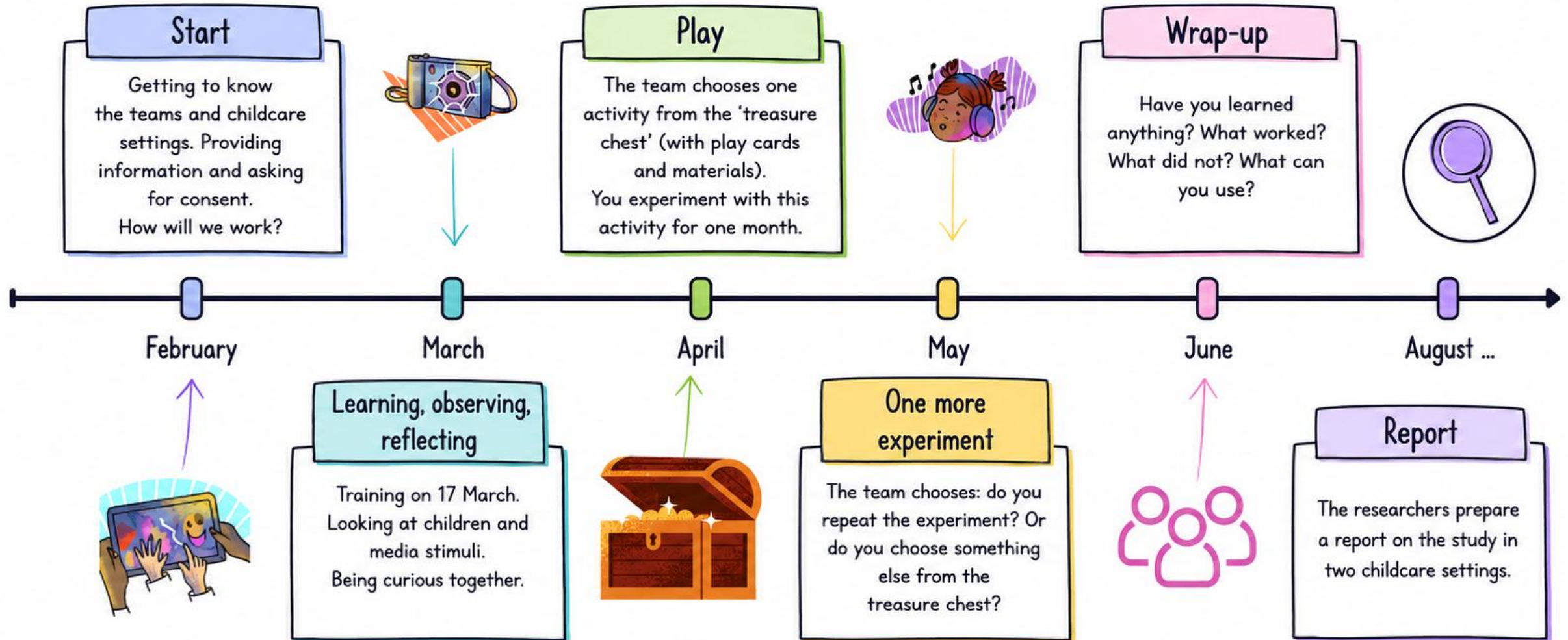
Method and data

Professionalizing action research (Hart & Bond, 1995)

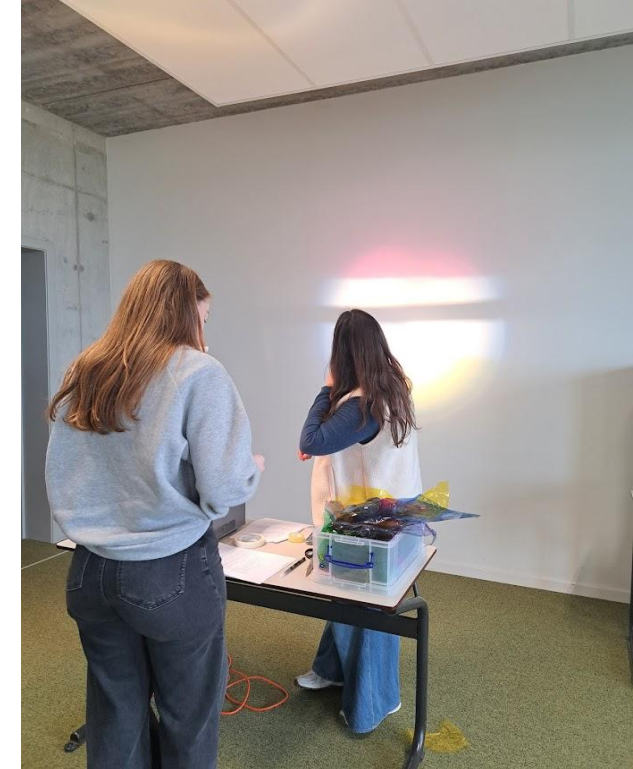
2 cases: 2 researcher + 1 researcher/ pedagogic coach



DIGIPLAY TIMELINE - 2026



The training: knowledge and inspiration





TOGETHER IN THE PICTURE



Type of activity

- ☒ Guided activity
- ☒ Transition moment



Age group

Baby (0–12 m) | Toddler (1–2 y) |
Preschooler (2–3 y)

Short description

During circle time, one child (e.g., the child of the day) takes a photo of the group. This photo is projected throughout the day on a white wall at children's eye level. The photo of the day becomes a familiar and recurring moment. There are several extension possibilities that support play, movement, imagination and interaction.



Materials

- Digital camera, tablet or smartphone
- Projector and white wall (at children's eye level)
- Dress-up materials (optional)
- Large sheets of white paper
- Drawing materials (pencils, crayons, markers)
- QR code with variations and practical examples



Age differentiation (guidelines)



Baby (0–12 m)

Looks at images, recognises faces, and reacts with facial expressions and body language.



Toddler (1–2 y)

Points to self or others, moves along, takes simple photos with support.



Preschooler (2–3 y)

Takes photos independently, makes choices (who to include), and talks and reflects about the photo.

1. OPTIONS

Option 1



We set the camera on self-timer and spread out in the room. We count down, and within 10 seconds we all get to the mat for a photo!

Option 2



We get dressed up before taking the photo.

Option 3



Instead of a group photo, the children take turns taking photos of each other. We look at the photos together, and they can also ask to take a photo with a friend. A great morning ritual!

Option 4



Hang a large sheet of white paper over the projected image. Children can draw themselves using different materials.

Focus areas



Interactive play – making choices, responding, negotiating



Fantasy play – dressing up, role play, pretend



Cognitive play – planning, counting down, recognising, reflecting



Movement – moving, reacting quickly, taking on a pose



Artistic play – looking at images, drawing, expressing



Calm play – observing, talking, focusing attention

EXTENSION OPTIONS + PREPARATION

KEY CONSIDERATIONS & MATERIALS

- Use safe and sturdy devices – e.g., a tablet with a case
- Limit the number of children using a device at once
- Make clear agreements about turn-taking
- Educator supports and verbalises what is happening

3. PLAY AREA SET-UP

- Circle time on a carpet or mat
- Projection on a white wall at children's eye level
- Enough space to move around for countdown activities

4. PREPARATION OF MATERIALS

- Prepare camera or tablet in advance
- Test the self-timer if used
- Offer dress-up materials in an organised way
- Have paper and drawing materials ready for drawing option

5. PARENT & COMMUNITY INVOLVEMENT

- Share the photo of the day via parent communication (with permission)
- Inform parents about the morning ritual
- Invite parents to think along about variations



PARENT SONG



Type of activity

- ☒ Guided activity



Age group

Baby (0–12 m) | Toddler (1–2 y) |
Preschooler (2–3 y)

Short description

Parents record a lullaby or children's song and share the audio file with the childcare centre.

During circle time, children listen to the songs together. They recognise voices, listen attentively and sing or move along.

If desired, the song can be linked to the family wall.



Materials

- Audio recordings from parents (phone, tablet, mp3 player)
- Speaker or headphones (for the group)
- Optional: simple instruments (bells, drums, shakers)
- Family wall with photos of parents
- QR code with examples and experiences from colleagues



Age differentiation (guidelines)



Baby (0–12 m)

Listens, recognises voice, is comforted, reacts with body and facial expressions.



Toddler (1–2 y)

Recognises parent, points, names, sings or moves along.



Preschooler (2–3 y)

Names whose song it is, sings along actively, links the song to the photo on the family wall.



Focus areas



Artistic play – singing, experiencing music, expressing



Interactive play – listening together, responding, singing



Calm play – attentive listening, slowing down



Cognitive play – recognising voices, making connections (parent–child)

(The activity usually starts from calm and artistic play, and triggers interaction and recognition.)

PREPARATION



KEY CONSIDERATIONS & MATERIALS

- Ask parents in advance for:
 - a short song (30–60 sec)
 - a clear recording
- Respect privacy and obtain consent
- Choose a quiet moment of the day
- The educator guides the listening and verbalises what happens
- You can do this during the intake interview and include it in the settling-in process

2. PLAY AREA SET-UP / ZONE

- Circle time on a carpet or cushions
- Children can see each other and the educator
- Speaker placed in the centre
- Family wall visible in the room

3. PREPARATION OF MATERIALS

- Listen to audio recordings in advance and prepare
- Optionally create a playlist
- Offer a limited number of instruments (not all at once)
- Display parents' photos at children's eye level

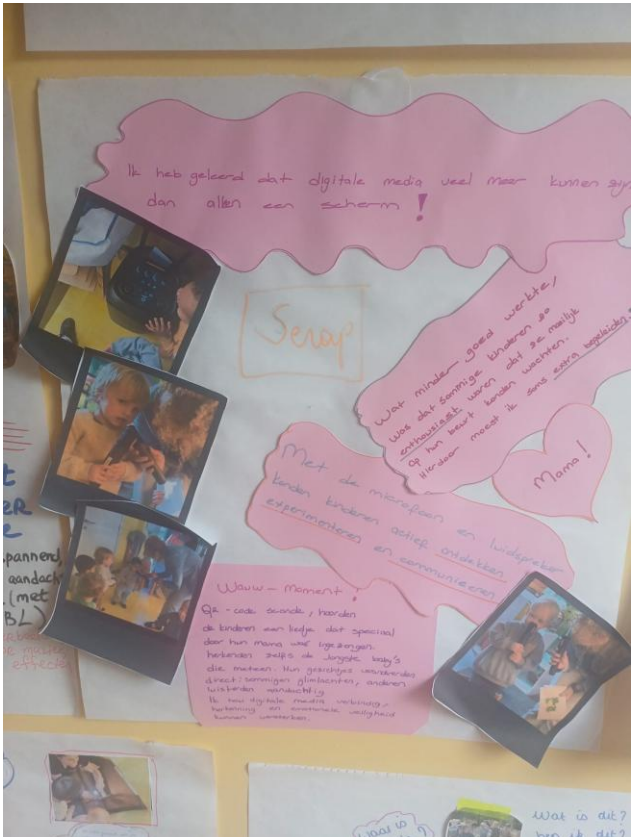
4. PARENT & COMMUNITY INVOLVEMENT

- Involve parents by inviting them to record songs
- Inform parents about when the song will be used
- Option to share songs within the group (with permission)
- Invite parents to come and sing together at the childcare centre

Treasure chest: materials



Pedagogic documentation: living wall



Two different trajectories

Same action research design, very different professional learning processes

CASE A

Good start but enthusiasm fades

Practitioners did not attend the training

Lack of a clear pedagogical vision and a rather anti-screen stance

Parents were not supportive of the research

No supervisor actively present on the floor

Result: few experiments with technological materials, little documentation, and considerable resistance or withdrawal among most practitioners.

CASE B

Experimentation takes root

All practitioners attended the training

Curiosity in the team

Supervisor present on the floor

Parents involved and enthusiastic

Result: many experiments with different materials, an 'alive' living wall, strong enthusiasm, and concrete daily activities with children.

Context conditions and team support strongly shaped what the action research could generate.

CASE A

"I felt a bit annoyed and later thought that we really need to talk about this again. About the role that the person in charge and the team leader play in this. Especially since they chose to follow the training with the different location managers. I went into the first group, the green group, where the supervisors were only reminded yesterday that I would be visiting. I felt a bit like an intruder."

CASE B

"I can also see that a ton has happened in the meantime. Again. Which is actually kind of the trend with this daycare. Every time we came, we were like, wow, they do a lot, they want to do a lot."

"M5 (one of the practitioners) doesn't look for excuses; on the contrary, she mainly seems solution-focused, looking for ways to carry out her activity. I feel the same with everyone here. Sometimes they do say it's been busy, but not as an excuse to do nothing. They all really seem eager to get into it."

Professional learning was not produced by the intervention alone – it depended on the local learning ecology

What made the difference?

1

Learning culture

Curiosity and willingness to try. A team climate where trying was safe.

2

Pedagogical leadership and a stable 'play culture'

Responsible present in practice, idea's and materials were enabled, good follow-up of agreements

3

Material and coaching

Concrete play ideas, stable access to materials, coaching close to the floor

Case B had all three working together. Case A shows what happens when one or more remain fragile.

What changed in case B?

Digital media became pedagogical materials and new 'toys' not simply screens

- Use of different materials: belly speaker, beamer, JBL-box, voice recorder, selfie-stick, iPad
- Broadening childrens' world: the orchestra, animal noises, ...
- The important role of music to influence the atmosphere
- Involvement of parents gave a boost
- Observing children differently:
 - Epistemic versus ludic play
 - Various emotions: fear, joy, ...
 - Differences between children's interest in digital media



Learning story 1 — Katalin: from affinity to pedagogical intentionality

Digital orientation 4.0 → 3.9

Pedagogical-digital competence 4.3 / 5

General digital
competence start: 7/10

Central experiment: The Orchestra

2-5 years experience

Starting point

Already open to digital media. Music was part of her identity: piano, dancing, painting and sensory play. She described music as a “universal language”.

Training

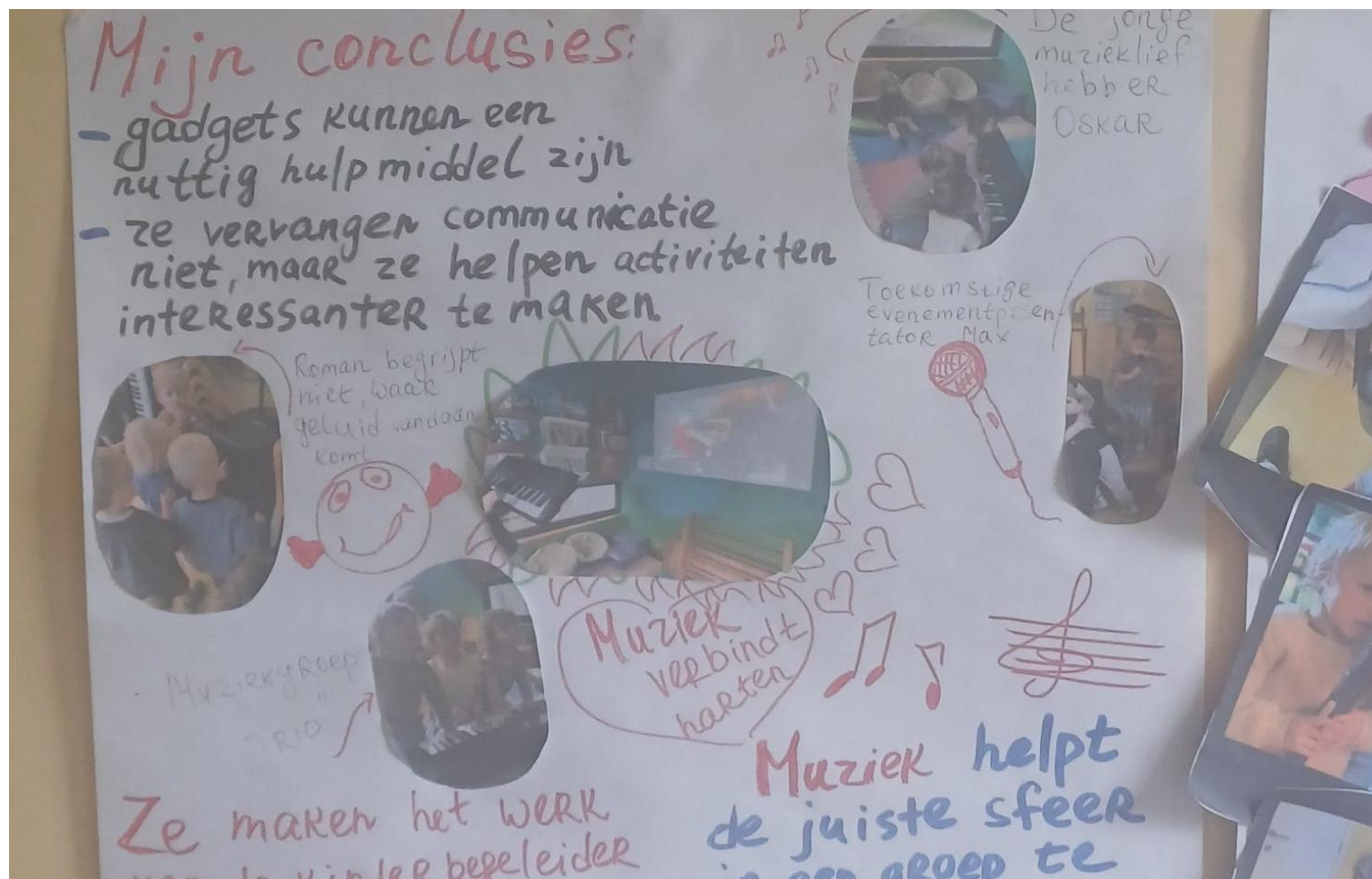
Playing and becoming a child again. During the training she realised she wanted to work with music.

Experiment

Projected musicians and close-ups of hands playing instruments, combined with real instruments, movement and a synthesizer. She also used JBL speakers, animal sounds and music in stories.

What she noticed

Children reacted differently. One child sustained attention to calm music; another shy child began taking more initiative through dance. Digital play helped her notice interests, emotions and talents.



Katalin: when a familiar tool becomes a pedagogical repertoire

“Digital media is a very good assistant for us childcare workers ... calm music calms children very quickly.”

Learning outcome: personal talent and interest became integrated in the daily activities of the organisation. Pedagogical documentation showed a close observation of differences between children.

Learning story 2: Charlotte: from technical skill to re-living everyday life

Digital orientation:
3.2 → 3.0

Pedagogical-digital
competence 2.8 / 5

General digital
competence start 10/10

Central experiment:
outside/inside

< 2 years
experience

Starting point

Technically very confident, but her first association with digital play was mainly “watching video’s”.

Training

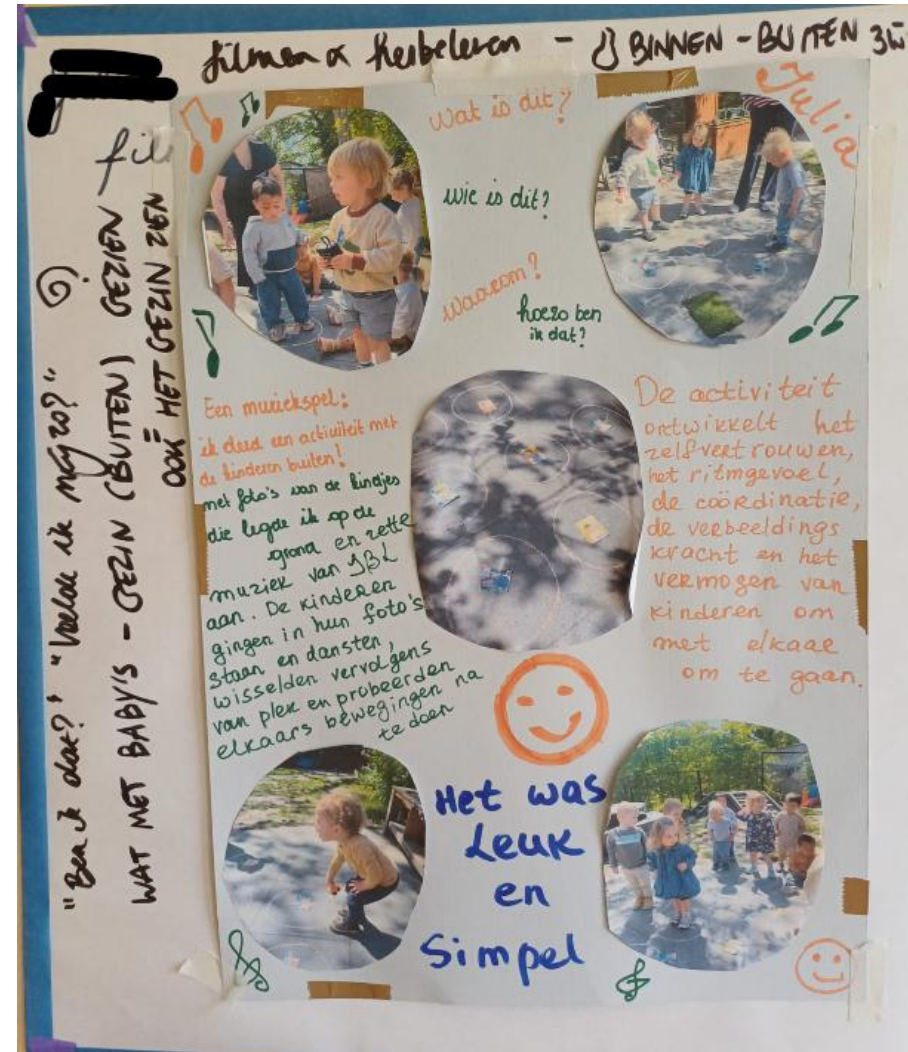
She begins to realize that digital media are more than screens.

Experiment

She asked parents for home videos and projected them in the childcare centre; rewatched videos of the children; used a smartphone on a tripod; and experimented with printed photos.

What she noticed

Recognition mattered. Children reacted intensely when home and family reappeared in the room — “My brother!” “My mama!” — and she began to see re-living as a pedagogical possibility.



Charlotte: from “it is not allowed” to “it can be meaningful”

“Before, it was: everyone says it is not allowed, so I do not do it ... now that we are working with it, it is more: “it is allowed”.

Learning outcome: she discovered a wider set of pedagogical possibilities, digital media are more than passive screen use. She had fun in experimenting with digital media.

Learning story 3 — Sofie: from digital experiment to connection

Digital orientation: 3.6 → 5.0

Pedagogical-digital competence 4.0 / 5

General digital competence start
6.5/10

Central experiment: Parent
Song

>10 years experience

Starting point

Manager and practitioner on the floor. Not especially digital competent but has a broad pedagogical experience. She already worked in a previous research project on digital media and did job shadowing where she saw examples of digital play

Training

Playful and team-building. It raised the practical question: how can we translate this to everyday ECEC practice? Sofie tried to create conditions for experimentation.

Experiment

Parents sent songs through WhatsApp. Sofie linked recordings to family photos and QR codes, and also used photos/videos so children could re-live experiences.

What she noticed

Children recognised parent voices and reacted with pride: "my mama", "my papa". Digital media could bring home into childcare and support rituals, settling-in and team learning.



From one activity → to routines, parent involvement and team learning

Sofie: learning across child, parent and team

“The project makes you pause and look at your team and at yourself. Settling-in policy. Parents are enthusiastic.”

Her learning moved from trying digital tools to understanding how they can connect children, families and practitioners.

Answering the research question

How can we strengthen ECEC professionals' repertoire and agency for integrating digital play with children aged 0–3?

Concrete material and play idea's

Something to touch and try out, materials that are working (very frustrating if technology does not work) – a coach who brings in idea's of playing with digital media

A team-based approach

Teammeetings and a joined training experience (knowledge)

Repeated practice

Time to try, fail, repeat and compare

Coaching close to practice

Questions about what children did — not whether the activity “succeeded”

Pedagogical documentation of children's reactions

Recognition, wonder, attention, conflict and differences between children

Learning culture, pedagogical leadership

Permission, follow-up, material access, a culture of 'playing' with children and someone who keeps the process moving

Case B: these conditions aligned. Case A: several remained fragile or absent.

From avoidance to (situated) agency

1 · Agency ≠ attitude

Several professionals did not become simply “more positive”. They became more selective, and more able to justify when digital media add value.

2 · Digital play needs knowledge and action

Digital play came alive in concrete playing, in using digital materials, in sending photo's and video's. The joy and wonder seen with children is the biggest motivator.

3 · Conditions matter

Willingness and ability need experimentation, reflection, leadership, learning culture and material access to become pedagogical action.

**Digital play is not a method to implement.
It is a pedagogical repertoire that needs conditions to grow.**

“The dictaphone looked like a microphone. When the voice came out, it was magical. It's actually strange that our voices can fit into a little device. Technology has something magical about it. And the children show us that again.”

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Thank you!
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