

Saturday March 3. 12:00 - 12:25 Sheraton Conference Room B Lower Level

Negotiating Grasp

Negotiating meaning through embodied explorations of 3D-materials in early childhood education

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The concept *Negotiating Grasp*



Content of the study

- Empirical study of children's explorative play with materials (not their representations)
- Investigating children's individual processes of meaning negotiation
- Recognizing multimodal forms of knowing and communicating
- Taking into consideration the dynamic nature of inter-subjective construction of meaning.

Research questions

- How do children make meanings *about*, *because of*, and *through* 3D-materials?
- Which kinds of interplay take place between 3D-materials and children during their experiential play in educational contexts?
- How do materials' affordances and resistance influence children's process of meaning making?

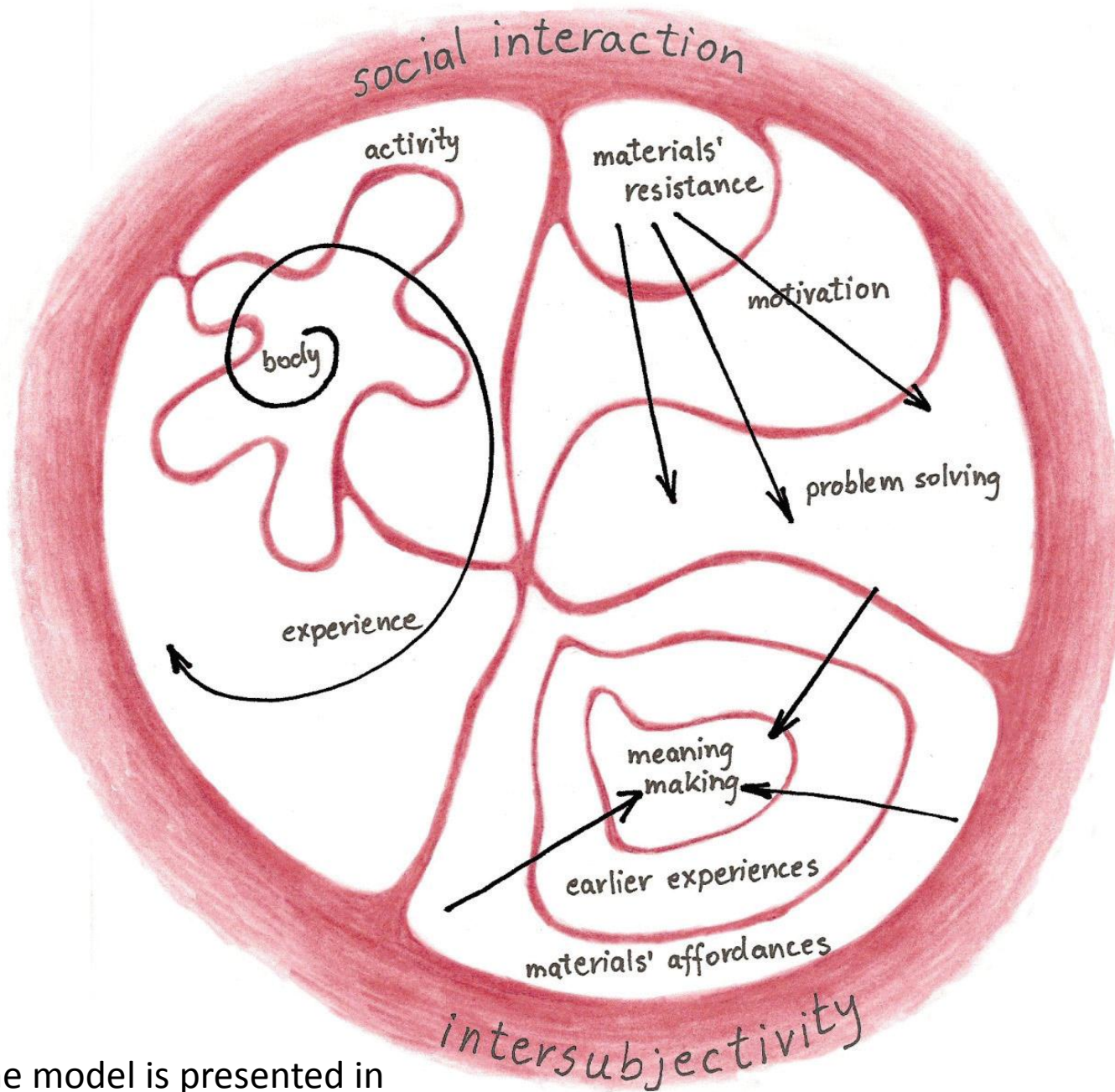
Theory and methods

- Theoretical background (Dewey, Eisner, Efland)
- Qualitative approach, Arts-based methodology (Eisner, Bresler)
- A/R/T-ography (Irwin)
- Multiple case study (Stake)
- Video analysis (across the cases and contextual) with NVivo, combined with research on lived experiences (van Manen)

Findings across the cases

- significant forms of interplay

- Using the whole body in experiencing activities.
- Materials' affordances lead to children's embodied metaphors.
- Negotiation with materials' resistance.
- Influence of inter-subjectivity on children's experiences and negotiation of meaning.



The model is presented in Fredriksen 2011a, p.174

Findings from the contextual analysis of five vignettes

- How the materials' affordances initiated the children's imaginative connections between past and new experiences – and embodied metaphors
- How the materials' resistance motivated the children's problem-solving activities
- How the process of negotiating meanings unfolds (The model of negotiating Grasp)
- How essential the teachers (my) total presence and flexibility was for making children's achievements possible

The model of Negotiating Grasp

The model of NG describes **how** children negotiate meaning when they meet resistance in physical materials.

The negotiation depends on:

1. A child's **individual** capacity (past experiences), imagination and motivation
2. Qualities of physical **materials** he/she explores (affordances and resistance)
3. Characteristics of the **social** context (intersubjective relation)

The ten-step model of NG

1. A child tries to do something with a material, but **experiences** that it does not work the way s/he intended.
2. The child's experience of the **material's resistance motivates** her/him to explore the material's possibilities by using physical force, grasping, pulling and so on.
3. The material's resistance, or some kind of social resistance, makes the child **define a problem** that needs to be solved.

4. The **material's resistance motivates** the child to invent new ways to solve the problem, but first s/he has to define the problem.

5. The process of “**incubation**” is initiated, the child's **attention to details awakes** and s/he tries to find another solution for the initiated problem.

6. **Past and present experiences merge** and the new solution comes in the form of a micro-discovery.

7. The moment of **micro-discovery** is a surprising moment when the child gets happy and expresses her/his new discovery in some way – for example through an **embodied metaphor**.

8. Such **expressions** (embodied metaphors, verbal expressions, pointing etc.) usually also express the child's **self-confidence**. The child wants others to become aware of, and to acknowledge, her/his micro-discovery.

9. The expression of micro-discovery is further **negotiated** within the social context.

10. The expression needs to be **accepted** in order for the child to experience the **social reward** and feel that her/his efforts are respected as valuable for others.

A collection of white ceramic spheres of various sizes, some with intricate patterns, arranged on a light surface. The spheres are arranged in two rows. The front row features three large spheres with complex, woven patterns. The back row consists of several smaller spheres, some plain and some with subtle textures. The lighting is soft, creating gentle shadows on the surface.

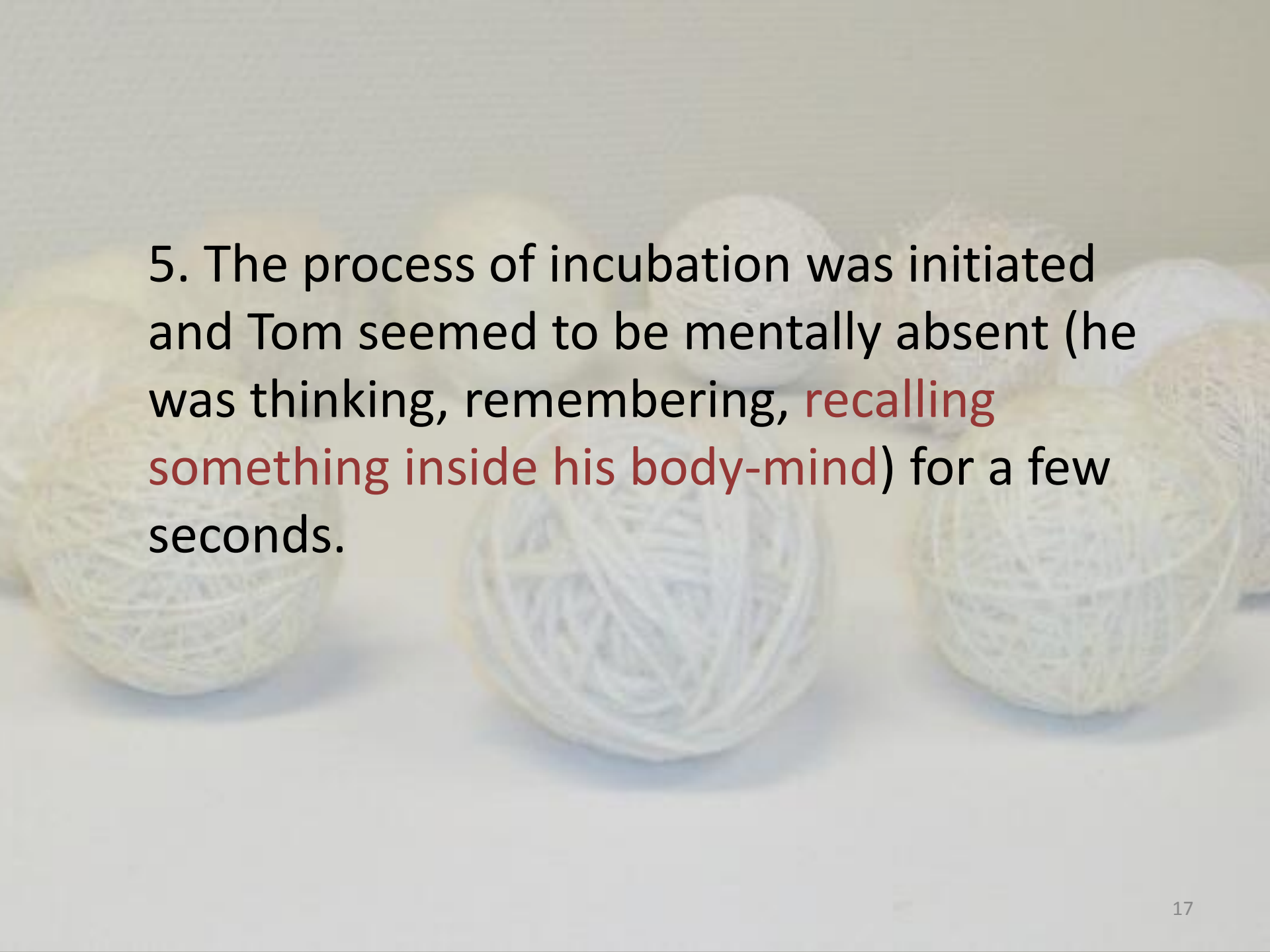
Video of Tom stamping on clay

The model of NG: Tom stamps on clay

1. Tom tried to press the clay flat, but this was **difficult** to do with bare hands and with tools like a rolling pin.
2. Tom's experience of the **clay's resistance** motivated him to think of other possible ways to make the clay flat.

3. The material's resistance made him define the problem he wanted to solve:
How to make the clay flat?

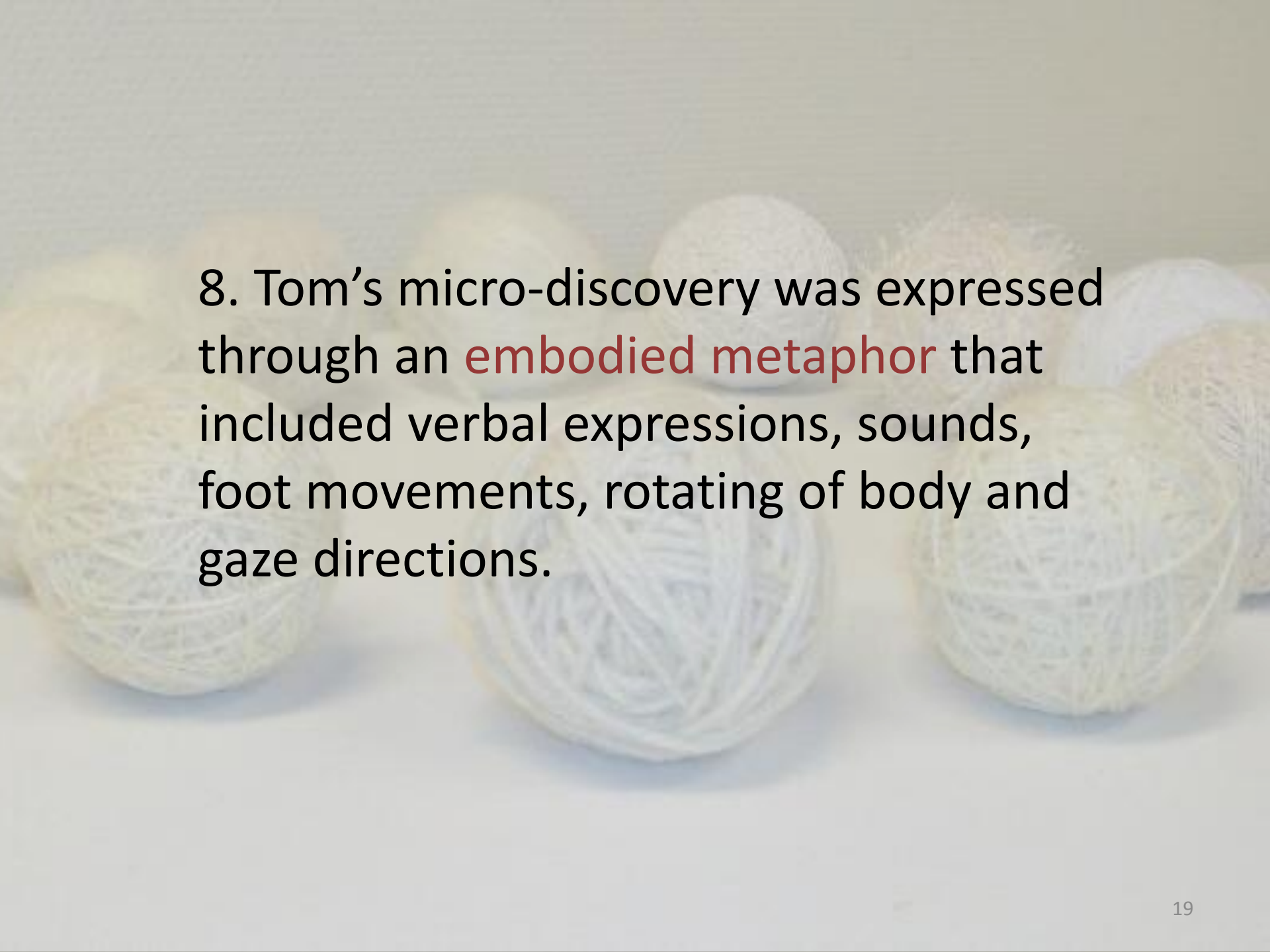
4. The material's resistance, and the feeling that he could contribute to the social context, motivated his internal, **imaginative activity** of looking for a solution.

The background of the slide features several balls of white yarn, some in sharp focus and others blurred, creating a soft, textured backdrop. The yarn balls are arranged in a loose, horizontal line across the middle of the frame.

5. The process of incubation was initiated and Tom seemed to be mentally absent (he was thinking, remembering, **recalling something inside his body-mind**) for a few seconds.

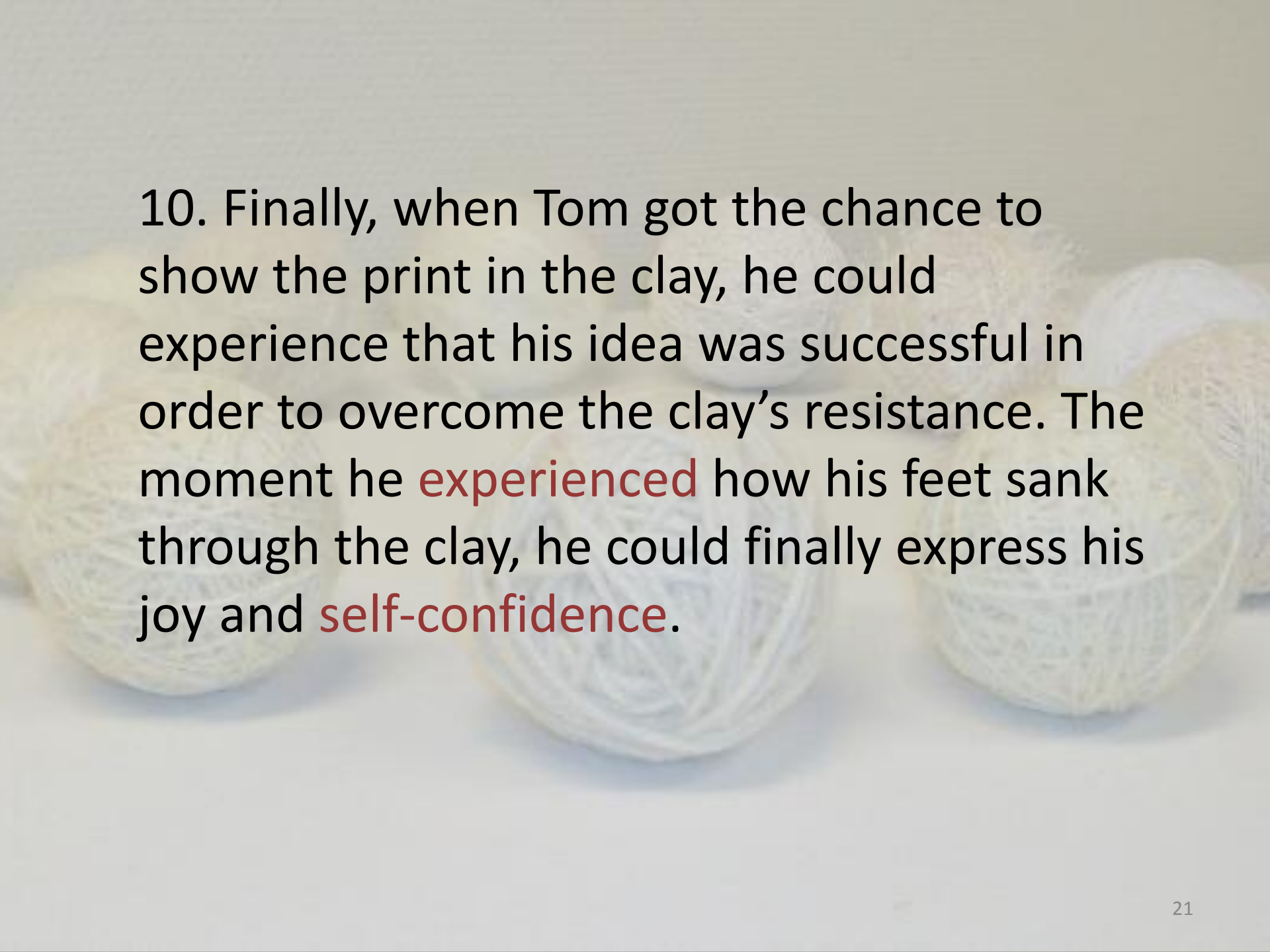
6. During his internal attention, his **past and present experiences** merged and a solution came in a form of micro-discovery.

7. Tom's moment of **micro-discovery** was the surprising moment when he realized that he could stamp on the clay. However, this process became more complicated because he now met the **social resistance**: How to explain what he wanted.



8. Tom's micro-discovery was expressed through an **embodied metaphor** that included verbal expressions, sounds, foot movements, rotating of body and gaze directions.

9. The metaphor needed to be **negotiated in the social contexts** in order to be understood by others. Tom's micro-discovery needed to be acknowledged in order for the stamping to take place. For that reason, the moment of Tom's micro-discovery got pulled out – he could not feel that he had succeeded until his suggestion was practically tested.

The background of the slide features three balls of white yarn, slightly out of focus, arranged horizontally across the middle ground. The lighting is soft and even, highlighting the texture of the yarn.

10. Finally, when Tom got the chance to show the print in the clay, he could experience that his idea was successful in order to overcome the clay's resistance. The moment he **experienced** how his feet sank through the clay, he could finally express his joy and **self-confidence**.



Uncovering complexities

Multiple forms of cognizance can only exist “beyond dualisms that divide the body from the mind, thinking from feeling, or individuals from their social world” (Efland, 2004a, p. 770).

The model shows **how** “imaginative cognition” emerges from complex relationships between physical, social, experiential, emotional and other dimensions.

Thank you for your attention!

