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Working with Visual Metaphors Using Physical Artefacts in Group Meetings

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Abstract. This workshop participation proposal is about our work on using visual artefacts as metaphorical tools in group meetings. The use of visual artefacts in such meetings enhances equal participation, and collaboration, and eases the recollection of meeting outcomes compared to using textual documents. The participatory work process includes individual building and joined group building to collaboratively make sense of the current work task. The results of using metaphorical artefacts are presented through storytelling that engages all participants for commitment. Our studies include the use of LEGO® pieces as well as our own designed and 3D-printed artefacts. While our existing artefacts consist of a broad metaphorical toolkit, we are currently looking for more emotional or mood-based designs, as well as looking into possibilities of therapeutical use of visual artefacts. The workshop content provoked our interest in looking into these possibilities by exploring our work in the healthcare sector of co-creation.

Introduction

Our study extends the HCI concept of visual metaphor (Blackwell, 2006) to group meeting contexts to enhance planning collaborations and business landscapes using metaphorical artefacts. Visual artefacts in meetings can facilitate participation, collaboration, harmonic work (McCusker and Swan, 2018), creative

ideas (Ylipulli et al., 2017), and improve the recollection of meeting content (Bolognesi and Aina, 2019).

We are conducting studies of using LEGO® pieces and 3D printed artefacts to better understand the use of visual metaphors in group meetings. Although our current studies focus on visual metaphors in co-located meeting contexts, our goal is to study CSCW environments of working from distributed locations. Moreover, this research development enables to combine collaborative technologies with the use of physical artefacts to create broader collaborative landscapes. We consider this development as a relevant one for co-creation in healthcare sector while we are interested in exploring the possibilities of emotional and mood-based working with visual artefacts and metaphors.

The concept of visual metaphor

The concept of metaphor is defined as seeing one thing in terms of another, and these two things are commonly referred to as the *source domain* and the *target domain* (Lakoff's and Johnson, 1980; Celentano and Dubois, 2014). We applied Jung et al.'s (2017) framework of *material*, *cognitive*, and *semantic* links between source and target domains, in group meeting contexts. The *material* link refers to tactile and temporal short-term uses of artefacts as well as assigning meanings to the artefacts, which can be reinforced with gestures (Sun et al., 2022). Physical artefacts and metaphors support bridging abstract and concrete things (Bakker et al., 2012), as well as evoke memories, sensorial experiences, and support ideation (Jung et al., 2017). Physical artefacts also reduce the likelihood of getting stuck during meetings (Huron et al., 2017). *Cognitive* link refers to thought processes about visual schemas of primary metaphors, which influence how the visual artefacts are chosen and arranged on the table (Hurtienne et al., 2015; Reed et al., 2023). Finally, the *semantic* link refers to the visual characteristics of metaphors (Heath et al., 2014), and more specifically to shapes, colours, and textures. Visual communication is made by narrating a story (Dasu et al., 2024).

Conclusions

Working with visual artefacts and metaphors provides a means for group meetings practices with equally distributed power as used artefacts did not contain original creators of visualisation such as textual documents do. In addition, visual artefacts provide haptic experiences and cognition relying on visual schemas of primary metaphors. Consequently, these tools are suitable for different kinds of users. While offering new and interesting possibilities for co-creation in healthcare, we are interested in learning about emotional and mood-based design possibilities for co-creation with visual artefacts and metaphors.

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