A HAPTIC LANGUAGE DESIGN TO ENHANCE THE TRANSFER OF TACIT KNOWLEDGE

An exploratory case study on the development of a learning community for the 'Centre of Expertise Societal Innovation'

Context

Collaborations are often transdisciplinary, meaning people with different backgrounds need to work together. This can be a challenge, because everyone brings in their own knowledge, while not understanding the knowledge of others. This creates boundaries that need to be crossed to establish a common ground for collaboration. Crossing these boundaries and sharing knowledge is done with boundary objects. By integrating touch, people have extra dimensions to express themselves with a boundary object and to make knowledge sharing easier. Especially tacit knowledge, the knowledge that is hard to express in words, becomes easier to share.

MIMIC

Mimic is a haptic language design that is based on the sense of touch. MIMIC consists out of two sets of cubes, the basic set, and the haptic set. The basic set is made of wood with different weights. The haptic set is made of cubes with 6 different materials on each side with their own haptic perception. Besides the cubes, MIMIC comes with an instruction sheet and warming-up exercises to guide in sharing knowledge and the use of the haptic language design in general.
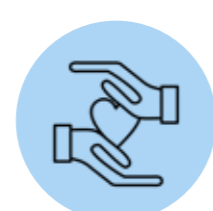
MIMIC is used to help people to translate their internal thoughts, ideas, and feelings to the external world of forms. By making their internal world tangible, others are better able to understand what someone wants to explain. This is useful in transdisciplinary learning environments, where people from different backgrounds need to work together.

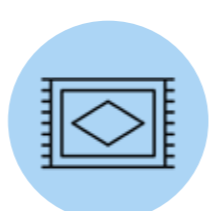## Haptic design principles for transdisciplinary learning

To design physical haptic designs for transdisciplinary learning, six principles are developed. The principles should prompt designers to think and inspire them when designing physical haptic designs.

Haptic design makes people conscious of touch

Haptic design triggers people to touch it

Haptic design enables different touch experiences

Haptic design translates and adjusts between disciplines by providing the same meaning for everyone

Haptic design evokes interaction between users

Haptic design gives people the tools to make their thoughts and ideas tangible

J.L.M. Sillekens
A haptic language design to enhance the transfer of tacit knowledge
June 4th, 2021
Strategic Product Design & Communication Design for Innovation

Committee
M.W.A. Wijntjes
M.C.A. van der Sanden
K.G. Heijne
É. Kalmár

Company   Expertisecentrum Maatschappelijk Innovatie

TUDelft

Faculty of Industrial Design Engineering

Delft University of Technology