

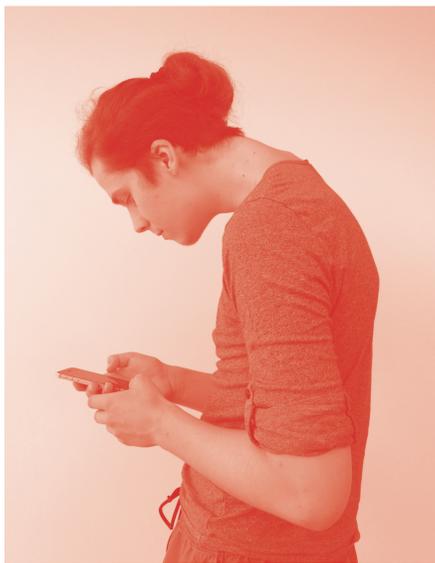


# PORTO PEDAGOGICAL INNOVATION CONFERENCE

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## Movement-based somatic training for design.

The Userfeel method, based on somatic learning through movement, offers a primary research approach for designers and engineers to understand users and enhance empathy in product design and engineering pedagogy. By connecting cognition, sensation, emotion, and motricity, students gain a deep understanding of user-product interaction, leading to improved decision-making and product conceptualization based on individual perceptions and subjective well-being.



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### INTRODUCTION

#### First-person experience is irreplaceable

In recent years, the concept of Body Centred Design has emerged as a novel approach to product design, positioning the user's body and its interaction with the product as a crucial factor in evaluating the quality of a product's functionality [1]. This research emphasises the importance of first-order understanding for designers to grasp second-order understanding better [2]. Current teaching and literature often address the human-focused aspect of design informally, employing euphemisms and lacking concrete strategies that designers can easily apply to the product development process [3]. The UserFeel method teaches novice product designers how to leverage their first-person experiences to create a product that resonates with third-person users. The focus is on movement because it is an inevitable factor within human-product or human-process interactions. Since users experience artefacts through movement, product designers must understand how movement connects with sensing, emotion, and thinking [4].



### RESEARCH PREMISE

#### What is the UserFeel method?

Soma refers to the body as perceived from within, emphasising the union of body and mind. Somatic learning engages the whole body in action, differing from objective third-person observation. The Feldenkrais method integrates knowledge across disciplines, including physics, biology, and psychology. It focuses on developing awareness of movement, self, and others to enhance empathy and creativity. This research project aims to develop an interdisciplinary pedagogy called UserFeel for product design students by integrating somatic theory and design methods theory. UserFeel connects designers' cognition and emotions with users' cognition and emotions to facilitate empathetic product design. It brings together somatic learning, design education, and the design process. It is built on the Feldenkrais method which uses movement to teach awareness and improve function. The UserFeel method aims to build designers' empathy for diverse users and appreciate how contact with their designs may affect others. This research demonstrates interdisciplinary education merging design and somatic learning for product design teaching. UserFeel adapts the Feldenkrais approach, combining somatic learning and design techniques to teach holistic, creative thinking. This pedagogy is novel in teaching creativity through movement.

**Research question 1:** What benefits does introducing somatic awareness to product design students provide? (first-person experience and empathy)

**Research question 2:** What could be an effective teaching strategy for combining somatic learning with product design theory? (interdisciplinary design method)

UserFeel is relevant for product design because:

- 1) Interacting with products involves movement, impacting user experience.
- 2) Users experience products through movement, sensing, and emotion.
- 3) Designers must understand diverse users.
- 4) Designers must detect subtle details, understand senses and emotions, and observe behaviours.



### RESEARCH METHOD

#### How to blend first-person experience into design education?

The authors conducted a 5-week workshop with 6 product design students to teach empathy through somatic awareness. Data on sensations and emotions were collected through:

- 1) **Structured observation:** As a Feldenkrais practitioner, the author observed students' movements and responses.
- 2) **Body mapping:** Students marked or drew on body outlines to show sensations and feelings. This visual approach communicates experiences that are hard to articulate verbally. Body maps provided anonymity and captured immediate responses.
- 3) **Unstructured interviews:** Three interviews with each student assessing experiences before, after, and six months after the workshop. These captured personal insights and reflection on learning.

The workshop consisted of five 90-minute sessions, exploring:

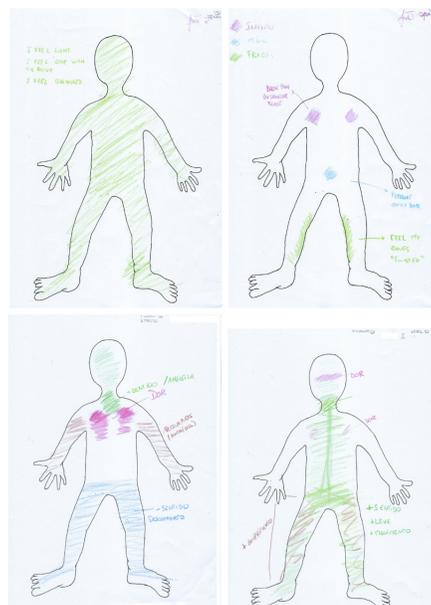
- 1) Type of movement: flexion, extension, rotation; relation to gravity; amplitude and pace.
- 2) Complexity: From tilting the head to rotating the upper body.
- 3) Orientation: Lying down, sitting, standing, walking.
- 4) Interaction: Exercises on sitting and standing related to students' design work.

Each session began with the students identifying their present feelings and sensations on body maps. The students are verbally guided through structured movement explorations. Targeted questions helped them identify subtle sensations, feelings, and impacts. Focusing on how individuals uniquely mobilise their bodies. The authors noted that students were puzzled by the "right" way to move. Restressing individual uniqueness urged students to observe themselves and others.

### RESEARCH OUTPUT

#### Building Awareness for one's own functioning

Body maps:



Quotes from the interviews after the workshop and six months later:

Se permitir explorar  
A resposta à pergunta "porque" é de SENTIR  
You don't understand immediately...  
you get conscious of it  
Ganhar sensibilidade por todos os sentidos  
Gratificante, extremamente positivo, pessoalmente muito fixe. Sinto primeiro em mim - para perceber NAS OUTRAS PESSOAS

I was observing a colleague who was following the same instructions as me, but I was doing something different from him. I was wondering what he was doing and what he must have been feeling

The designer is sitting on an uncomfortable chair and he is not noticing it

The workshop is a powerful tool for us:  
Using myself to try out me design  
Designing with the functions of my body

The workshop was really helpful to understand connections

No corpo há ligação: move tudo junto e não individualmente; Difícil exprimir em palavras

Understand mechanisms of the Body  
Considerar experiências sensoriais [...] aumenta a sensibilidade pelo objeto de estudo

Unless you do it - you don't understand.

### DISCUSSION

#### Learning through feeling, sensing, and moving

The workshop enhanced the student's sensitivity and emphasised the value of their own first-hand experience. During the sessions, the students became aware of the significance of comfort and discomfort in design. Training in sensory acuity enhanced their product design process as they discovered the impact of movement on comfort, mood, and thinking. The focus on awareness, experience, and sensitivity demonstrates the importance of incorporating students' own experiences in education. Ultimately, this approach fostered learning and encouraged diverse thinking.



### CONCLUSION

#### UserFeel Workshops in Design Education

The UserFeel workshop gives unique insights into human functional movements not typically covered in conventional product design education. By emphasising the use of their bodies and somatic senses as a toolkit for the design process, students gained valuable skills applicable to their work and personal growth.

The workshop addressed a significant gap in traditional design education: the need for a concrete, personal, trainable, and transferable approach to understanding humans. By observing and evaluating products from the perspective of human interaction, students gained a deeper understanding of users' experiences, improving their design thinking and empathy. This approach enhances students' ability to create user-centred designs.

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