

University of
Applied Sciences
Krems

Green Touch

**XR as a tool for climate competence:
bridging the gap between health,
technology and sustainability in
occupational therapy**

Christine Spevak-Grossi, MSc • Barbara Prinz-Buchberger, MSc • Rita Weber-Stallecker, MSc • WFOT Congress 2026, Bangkok



Background

Integrating Sustainability into Health Education

Climate change challenges the health sector and vulnerable groups (World Health Organization, 2023)

Necessity to integrate sustainability and the concept of planetary health into the education programs for health professions (Shaw et al., 2021)

Sustainable Occupations and Co-Benefits

Fostering environmentally sustainable ways of living (Molitor et al., 2020, Oh et al., 2020) and promote Co-Benefits - f.e. walking or cycling instead of driving (Garcia Diaz & Richardson, 2021; Leadley et al., 2023)

Austrian Situation

New professional law (Sept. 24) and will get a new training regulation - OTs to develop climate-competencies & the Austrian Federal Association of Occupational Therapy dedicated 2024 to planetary health



Methodology

Continuous reflection by the GreenTouch project team

Ethical reflection through external support

Sep. 2024 to May 2025

Requirements analysis

- Systemic literature review
- 28 expert interviews

June 2025 to May 2026

5 co-creation workshops + development XR scenarios

- iterative process

June 2026 to Feb. 2027

Evaluation of the research prototype

- diverse experts
- diverse settings

GreenTouch Advisory Board

September 2024 to February 2027

Exemplary results - 1

Literature review: Databases: Scopus, Cochrane, Pubmed, Cinahl

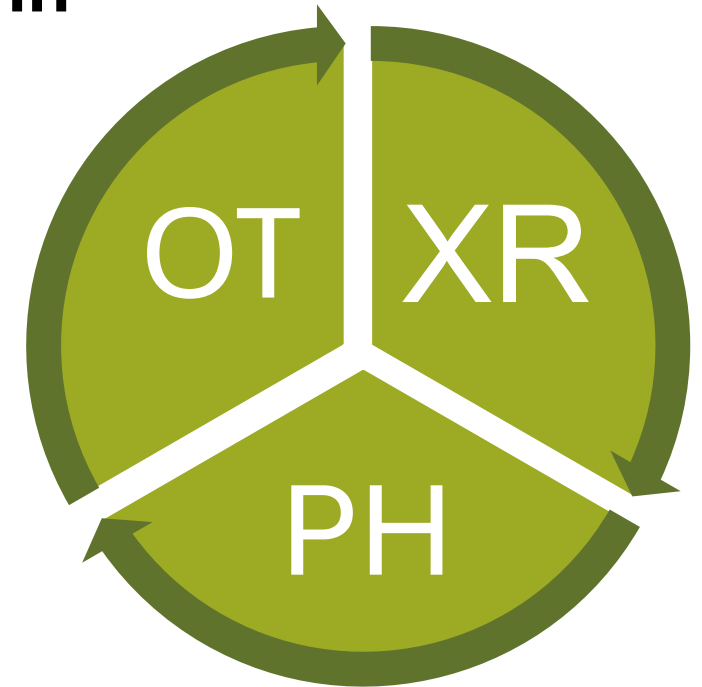
- 285 papers → Gap of knowledge - XR AND OT AND climate communication = 0
- person-centeredness vs. occupational and intergenerational justice, occupational paradox; difficulties in practice (Restall & Egan, 2021; Drolet & Lafond, 2022, 2025)
- Climate Change and OT: Urgent Need for Adaptation, Mitigation, and Resilience (Taff et al., 2025)...
- XR in OT: f.e. post-stroke, upper-limb rehabilitation, dementia, home modification, ... (Landim et al., 2024; Kiper et al., 2023; Clay et al., 2024; Bianco et al., 2016)



28 Expert Interviews

spanning diverse fields relevant to co-creation in
OT, XR & Planetary Health:

- 13 Occupational Therapists
- 5 Clients who experienced OT
- 1 OT student
- 4 XR Specialists & HCI Researchers
- 5 Sustainability & Climate Communication Experts



Exemplary results - 2

Expert interviews: 28 clients and experts

- climate change is experienced emotionally (fear, feeling overwhelmed) and physically (heat, sleep disorders, fatigue)
- Clients are interested in coping strategies
- OTs: worries about finances and time use, but see the need for implementation in praxis
- XR scenarios must be designed in such a way that they do not trigger fear, overwhelm or re-traumatization
- Co-Creation Process: Understanding the life situations of those involved, make the expectations, knowledge and attitudes of the target groups transparent

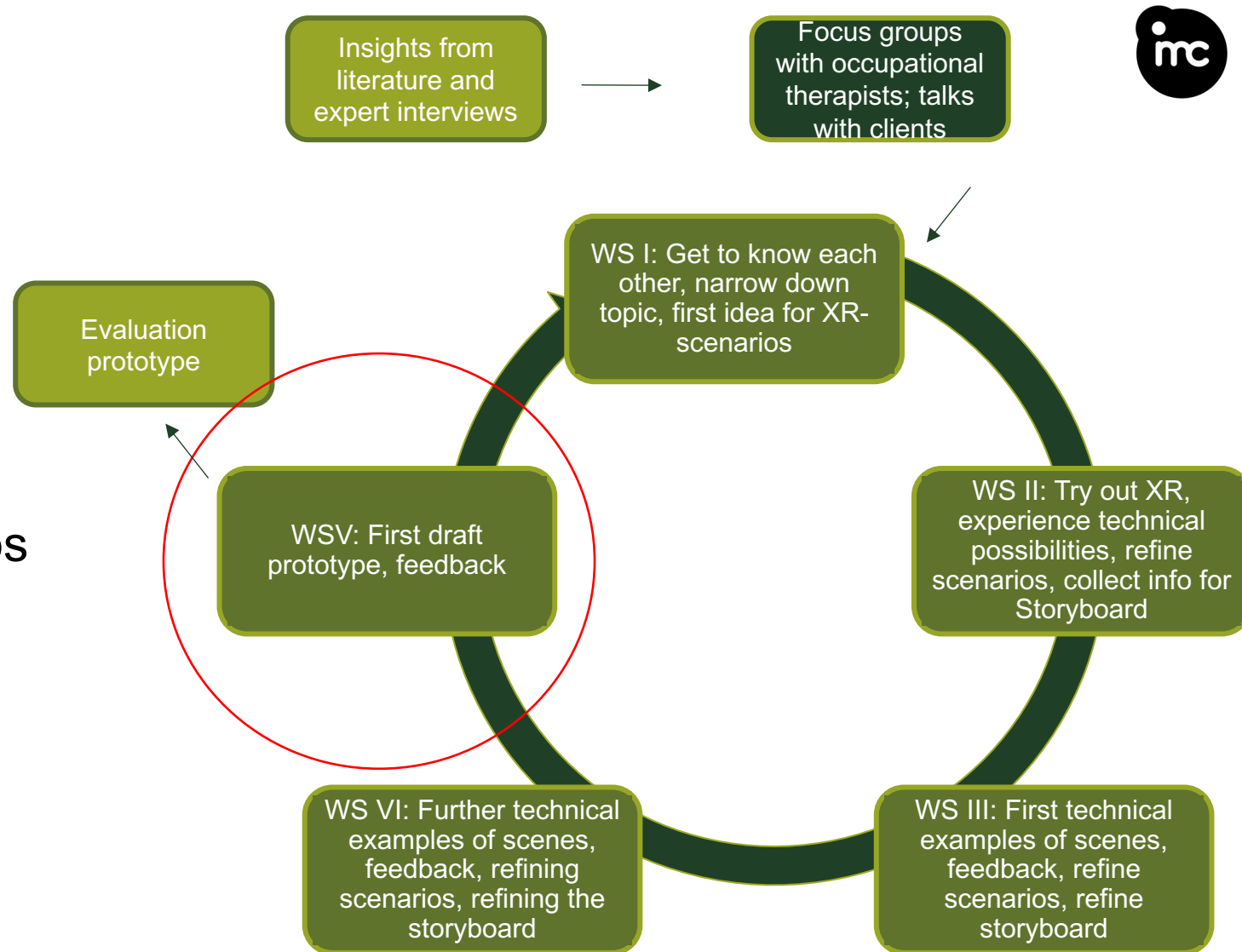


Co - Creation

Innovation through co-creation is at the core of GreenTouch

Co-creation through workshops with:

- occupational therapists
- clients
- XR developers
- dramaturg
- sociologists
- ethicists



Exemplary results - 3

Co-Creation Process: Szenario 1

Target group: Occupational Therapist, clients and students

Aims: maintaining the ability to act despite the heat, self-efficacy, knowledge transfer and co-benefits, transferability to everyday life

Content:

- playful approach
- companion
- toolbox with activities where you notice differences when you change them
- analysis of actions in relation to: energy consumption, costs, cooling effect, complexity of the activity – evidenced based approach

Development of a real card deck to facilitate further work on the topic



Exemplary results - 3

Co-Creation Process: Szenario 2

Target group: Occupational therapists, clients, health professionals, students

Aims: relationship with nature, self-efficacy, knowledge transfer, inspiration for community-based projects to increase the handprint

Content:

- creating emotional access to nature
- experience community-based projects to increase the handprint





University of
Applied Sciences



thank you very much for your attention

christine.spevak-grossi@imc.ac.at

IMC Krems University of Applied Sciences
Piaristengasse 1 . 3500 Krems . Austria . Europe

Literature



Bianco, M. L., Pedell, S., & Renda, G. (2016). *A Health Industry Perspective on Augmented Reality as a Communication Tool in Elderly Fall Prevention* ITAP 16,

Clay, F., Hunt, R., Obiefuna, N., Solly, J. E., Watson, E., Wilkinson, A., Chohan, R., Hatfield, C., Fletcher, P. C., & Underwood, B. R. (2024). The Use of Immersive Virtual Reality in Sensory Sessions on a Specialist Dementia Unit: Service Evaluation of Feasibility and Acceptability. *Occupational Therapy In Health Care*, 38(2), 317–330. <https://doi.org/https://doi.org/10.1080/07380577.2023.2270052>

Drolet, M.-J., & Lafond, V. (2022). Supporting the Values of Eco-responsibility and Intergenerational Occupational Justice in a Clinical Context: A Duty for the Occupational Therapist? *Canadian Journal of Bioethics Revue Canadienne De bioéthique*, 5(2), 26-35. <https://doi.org/https://doi.org/10.7202/1089783ar>

Drolet, M. J., & Lafond, V. (2025). Supporting Sustainability: A Philosophical Analysis of Certain Assumptions Underlying Occupational Therapy *Canadian journal of occupational therapy. Revue canadienne d'ergotherapie*. <https://doi.org/https://doi.org/10.1177/00084174251317022>

Garcia Diaz, L. V., & Richardson, J. (2021). Occupational therapy's contributions to combating climate change and lifestyle diseases. *Scandinavian Journal of Occupational Therapy*, 30(7), 992–999. <https://doi.org/https://doi.org/10.1080/11038128.2021.1989484>

Kiper, P., Godart, N., Cavalier, M., Berard, C., Cieřlik, B., Federico, S., Kiper, A., Pellicciari, L., & Meroni, R. (2023). Effects of Immersive Virtual Reality on Upper-Extremity Stroke Rehabilitation: A Systematic Review with Meta-Analysis. *Journal of Clinical Medicine*, 13(1). <https://doi.org/https://doi.org/10.3390/jcm13010146>

Landim, S. F., López, R., Caris, A., Castro, C., Castillo, R. D., Avello, D., Magnani Branco, B. H., Valdés-Badilla, P., Carmine, F., Sandoval, C., & Vásquez, E. (2024). Effectiveness of Virtual Reality in Occupational Therapy for Post-Stroke Adults: A Systematic Review. *Journal of Clinical Medicine*, 13(16). <https://doi.org/https://doi.org/10.3390/jcm13164615>

Leadley, S., Bryant, S., & McMullen, K. (2023). Environmental sustainability: A rationale in support of Occupational Therapy New Zealand-Whakaora Ngangahau Aotearoa's position statement. *New Zealand Journal of Occupational Therapy*, 70(1), 22-29.

Molitor, L. W., Kielman, K., Cooper, J., Wheat, K., & Benson, A. (2020). Promoting environmentally sustainable occupational engagement on a college campus: a case study. *World Federation of Occupational Therapists Bulletin*, 76(1), 4-6. <https://doi.org/https://doi.org/10.1080/14473828.2020.1717056>

Oh, J., Sudarshan, S., Jin, E., Nah, S., & Yu, N. (2020). How 360-Degree Video Influences Content Perceptions and Environmental Behavior: The Moderating Effect of Environmental Self-Efficacy. *Science Communication*, 42(4), 423-453. <https://doi.org/https://doi.org/10.1177/1075547020932174>

Restall, G. J., & Egan, M. Y. (2021). Collaborative Relationship-Focused Occupational Therapy: Evolving Lexicon and Practice. *Canadian journal of occupational therapy. Revue canadienne d'ergotherapie*, 88(3), 220–230. <https://doi.org/https://doi.org/10.1177/00084174211022889>

Shaw, E., Walpole, S., McLean, M., Alvarez-Nieto, C., Barna, S., Bazin, K., Behrens, G., Chase, H., Duane, B., El Omrani, O., Elf, M., Faerron Guzmán, C. A., Falceto de Barros, E., Gibbs, T. J., Groome, J., Hackett, F., Harden, J., Hothersall, E. J., Hourihane, M.,...Woollard, R. (2021). AMEE Consensus Statement: Planetary health and education for sustainable healthcare. *Med Teach*, 43(3), 272-286. <https://doi.org/10.1080/0142159x.2020.1860207>

Taff, S. D., Yoo, M. G., Carlson, K. A., & Bakhshi, P. (2025). Climate Change and Occupational Therapy: Meeting the Urgent Need for Adaptation, Mitigation, and Resilience. *Occupational Therapy In Health Care*, 39(2), 296-313. <https://doi.org/https://doi.org/10.1080/07380577.2023.2277220>

World Health Organization. (2023). *Climate Change*. <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>