

Experience is learning: the Piazza Grace case study.

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Abstract: The experiential learning activity presented in this case study integrates embodied processes and participatory practices to enhance sensory-emotional awareness in interior design students and help them understand how to consider the design of spaces from the experience of others, in this instance by bridging the gap between their sensory world and that of elderly people with dementia. Expanding on established sensory-emotional research and theories of experiential learning, the activity is structured across four processes, exploration, participation, interpretation and realisation, each building on the previous one. The role of the teaching team, students' engagement and participants' engagement are discussed, and a presentation of outcomes is followed by a summary of findings, including feedback from students. This case study advocates the value of experiential learning in supporting future learning and practices that enable young interior designers to better integrate empathy and diversity in their design.

Keywords: *experiential learning, sensing, emotions, human-centred design, interior design.*

Situating experiential learning

This case study illustrates the value of experiential learning in enabling students to “consider design from the dual perspective of how we engage with or enact the built environment, and conversely how the built environment in turn shapes us” (Mallgrave, 2018, p. 43). It showcases how learners' ability to engage directly with real-world contexts can promote experiential knowledge conducive to the development of a human-centred mindset for design (Figure 1).



Figure 1. The experiential learning process for this study

Inspired by John Dewey, Kurt Levin and Jean Piaget, Kolb (1984) defines experiential learning as “the process whereby knowledge is created through the transformation of experience.” The student is actively involved and learning from



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experience. Gentry (1990) presents experiential learning involving the whole person as an effective way of learning because the student is actively doing to understand. The Association of Experiential Education (AEE) (2023) defines experiential education as “a teaching philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people’s capacity to contribute to their communities.” Drawing on principles outlined by the AEE, Bates (2014) explains that learning is embedded within real world contexts through a process of reflection, critical analysis and synthesis; the student is engaged, intellectually, emotionally, socially and even physically through questioning, investigating, experimenting, curiosity, problem solving, assuming responsibility, being creative and constructing meaning. Whilst experiential education is practiced today, this personal engagement through first-hand experiences brings authenticity to the learning task and its memorability supports future learning. This is not to suggest placing experiential learning above other pedagogies but to emphasise that experiential learning can expand and enrich learning opportunities in carefully selected contexts. Here, this case study illustrates how an experiential learning pedagogy can be used to enhance students’ ability to critically develop a human-centred design mindset, defined by Meyer and Norman (2020, p. 14) as “design for people and society”. This approach opens up new possibilities for learning, and subsequently, for designing by avoiding “insular perspectives” removed from real-life experiences. As Meyer and Norman argue, insular learning and teaching practices may not address the complexity of twenty-first century human challenges. In this instance, this complexity is characterised by the need to enable young interior designers to better integrate empathy and diversity in their design. This pedagogy echoes the viewpoint of the emphatic design research group (Koskinen, 2023, p. xiii) at Aalto University in Finland, that “to understand humans, we need to understand how they give meanings to things —themselves, people around them, things around them, or abstractions like “Paris” or “design.” Nevertheless, an experiential learning pedagogy also presents challenges for the learner and for the educator. For the learner because outcomes cannot be predicted. Students may need to embrace risk taking, and whilst they may experience success, they can also experience uncertainty and failure. For the educator because of the need to minimise personal biases, judgements and preconceptions that could influence students. Educators adopt a learner-centred perspective when designing the experiential learning activity to become facilitators and mediators, guiding and nurturing students through the experiential learning process. Thus, alongside students, educators also needs to embrace uncertainty and risk-taking. It follows that a relational and collaborative approach between educator and student is essential, especially if the student lacks familiarity with the topic they are required to engage with and/or experiential learning processes. The educator designs the activity in a way that is accessible for the learner, sets boundaries, supports the student, provides a safe learning environment, whilst also recognising and encouraging spontaneous opportunities for learning.

Activity

Drawing on established sensory-emotional research (Mace, 2014, 2022), the experiential learning activity presented in this case study integrates embodied processes and participatory practices to enhance sensory-emotional awareness in young interior designers and help them understand how to consider the design of spaces from the experience of others, in this instance by bridging the gap between their sensory world and that of elderly people with dementia. Although changes to the senses occur naturally through the ageing process, people with dementia can also experience acute sensory challenges, which in turn, can impact on the way they feel about their environment. As reported by the National Institutes of Health (2002), Alzheimer’s disease and related dementias significantly alter how people perceive what they see, hear, taste, feel, and smell. The severity of these modifications varies greatly from person to person, depending on neuropathological modifications, sensory loss, time of day, medication administration, and the social and physical surroundings. In the context of social and physical environments, research by Agnes Houston (2017) shows these challenges may include impaired spatial awareness through seeing, difficulties with loud noises, changes in taste, smell or temperature perception. Thus, facilitating suitable multi-sensory experiences and environments tailored to the needs of the individual is essential (Gramegna, 2021). Yet, Houston points out, very little has been written about it and this can pose challenges for young designers. Accordingly, this project investigates an important question: how can young designers gain insights into the sensory-emotional world of elderly people with dementia? Whilst it does not claim to solve this complex challenge, this five-day activity, from 13th to 17th of February 2023, introduces multisensory and participatory experiential learning processes and methods to open up possibilities for future research and design. Here, forty-four first year students from the Master’s degree course in Interior and Spatial Design in the School of Design at Politecnico di Milano (Milan, Italy) worked on the site of Piazza Grace, a Dementia Village, equipped with a day care centre for people with Alzheimer’s Disease. The aim of this residential facility is to provide specific therapies and adequate medical and cognitive support to older adults with dementia, and to provide residents with a place to receive care, to live, and to participate in social interactions. The centre is integrated into the village community of Figino on the outskirts of Milan and presents an innovative interior design approach promoting care built around the patient. The students were divided into eleven groups of four and each group had access to two

key spaces used by guests in the centre. Half the groups worked in the reception area and an adjacent enclosed garden. The other half worked in two adjoining activity rooms. Four experiential processes, exploration, participation, interpretation and representation, structured the activity. Each process remained open for students to adopt a critical authorship mediated by the teaching team. Drawing on the principles of experiential learning detailed above, the mediation incorporated process feedback to students at regular intervals to guide them through the four processes, whilst outcome feedback was also provided upon completion of the study.

Exploration and participation

An experiential learning approach placing the sensing and emotional body as the primary means of perception was deemed essential because it allowed for embodied learning as students physically and emotionally engaged with their environment. Exploration, the first of the four experiential processes defined for this study, was designed to enable students to immerse themselves in their allocated spaces as they documented sensory phenomena and corresponding emotional responses through direct experiences in the present. Although students worked in groups for the duration of the activity, they conducted this initial exploration individually since it was necessary for each student to explore site specific sensory phenomena by using their body as an experiential learning tool. The time each group could access their allocated rooms was limited to one hour, and the documentation focused on four sensory modalities: sight, touch, hearing and smell. Touch was structured across two sub-modalities defined by Malnar and Vodvarka (2004) as active touch (the perception of roughness, softness, hardness, contour, temperature and vibrations) and passive touch (the perception of temperature, humidity and air movement). Each student documented their sensory-emotional experiences across all four sensory modalities using tools provided to this effect and although this study acknowledges the cross-modality of sensory perception, sensory modalities were documented and described individually by students to allow for a deeper immersion and understanding (they were then brought back together through the interpretation process). The tools provided the foundation of a structure, a starting point for students to negotiate the exploration process. The first tool consisted of a table for students to describe phenomena and associated emotional responses. Here, the active use of the verbs representing each sensory modality, touching, seeing, hearing, and smelling, aims to encourage students to actively engage with the environment with their body, to move through the spaces, to sit, stand, lean, open draws and cupboards to look inside, to listen, to touch and smell surfaces. Whilst students were initially hesitant and favoured the more conventional approach of standing up in one place, feedback and encouragement from tutors quickly enabled them to adopt a more inquisitive form of approach behaviour towards their environment. The embodied exploration process thus enhanced students' ability to perceive and document sensory-emotional experiences "by actively participating in a discovery process of "finding out" (for themselves)" (Beard, 2023, p. 15). Drawing on Russel's (1980) circumplex model of affect, corresponding emotional responses are also recorded as either pleasant or unpleasant, calm or intense. Students were provided with a list of emotional keywords to help them identify terminologies although they could also add their own words if the term describing their emotional response was not included in the list. The intention was not to obtain a vast array of emotional responses but for students to document how the spaces resonated with their senses by categorising the pleasantness and intensity of sensory phenomena. In addition, students also used a sensory flow diagram (Mace, 2014), to bring precision to the documentation of sensory modalities and to facilitate comparative studies in sensory perceptions between the different participants in each group. This tool uses a qualitative scale to complement the description of sensory phenomena. Each sensory modality is associated with a set of characteristics, which, in the context of this study, were selected for their relevance to interior designers. Touch for instance is characterised in this study by the experience of materials, temperature, surfaces, contour and air. Students can evaluate whether the materials used in the space have connecting or disconnecting qualities, whether the temperature has qualities of warmth or coolness, whether surfaces present qualities of smoothness or roughness, and so on. Seeing is characterised in by the experience of colours, materials, forms, sight lines, detail and light. Smelling is characterised by the composition, coherence, duration, interest and strength of the smell. Hearing is characterised by the modulation, distribution, vibrancy, quality and strength of the sound. As noted above, these tools are foundational. They provided students with a starting point for their exploration and concurrently, students were also encouraged to sketch, map, photograph, film, record sounds, and add their own annotations to enrich their engagement and the memorability of the experience (Figure 2).



Figure 2. Examples of documentation and sketches from the exploration process.

Following on from this, a participatory process stage was designed as a thirty-minutes semi-structured conversation between students and guests in the centre (Figure 3). Among people with dementia attending the centre, eleven guests in total volunteered to take part in this study and each group interviewed one guest. For parity of experience, the semi-structured interviews took place in the same spaces the groups had previously documented. Being in the same spaces allowed the students to guide the conversation towards phenomena they had themselves experienced whilst at the same time providing a background of cues to elicit further responses from participants. This enabled participant to tell their story and to highlight the features in the spaces that were most significant to them. Although the participants could not realistically contribute the depth of information previously achieved by the students when documenting their own experiences, they could nonetheless contribute valuable insights into the way they felt about the spaces, objects and people. Here, the objective was for students to document experiences deemed significant to the participants across the four sensory modalities investigated in this study and assess whether these were experienced as pleasant or unpleasant. A simple table was provided to help students with their enquiry, a simplified version of the tool they had previously used. Students could also draw on their findings from the exploration process stage to develop their own documentation method. One group for instance, engaged their participant with drawing as a way to express emotions (Figure 4). The study followed a rigorous ethical process placing the wellbeing of participants at the centre of the experience. In the first instance, staff at the Piazza Grace centre, guest participants and their families were provided with detailed information about the project and about the requirements of the participation to request formal consent, including the authorisation to take photographs and audio-record the conversations. Moreover, this project was approved by the internal ethical committee of EQUA Cooperativa sociale, the organization managing the day care centre. Finally, students were briefed on ethics prior to meeting guests and tutors were always presents. It was agreed to limit the participation of each guest to twenty minutes to ensure that they would not feel overwhelmed and tired by the experience. However, the guest participants proved very keen to contribute and enjoyed sharing their experience with the students and with each other afterwards. One of the participant selected for this study became a little anxious about meeting students and chose on the day not to take part but changed her mind upon hearing from peers how much they had enjoyed the experience. Upon request from participants, the twenty minutes planned conversations were extended to thirty minutes. Nonetheless, managing the participatory process proved challenging at first for most students who had never done this before. Here, tutors contributed process feedback to help maintain the focus on the objectives of the study as the conversations unfolded. In addition, this study recognised the limitations of students working with only one participant, so it was agreed for the groups who worked in the same spaces to share the information they had gathered about their respective interviewees. This means that each group could access information about the experience of two to three guests to compare to their own experience, which proved sufficient considering the relatively short timescale of this study.



Figure 3. A group of students in conversation with Maria, one of the guests at Piazza Grace.



Figure 4. Students and guest using drawing as a way to express emotions.

Interpretation and realisation

The exploration and participation process stages were followed by interpretation and realisation, the last two processes in this experiential learning activity. Here, the students went back to their studio at Politecnico di Milano to analyse the qualitative information documented on-site with two objectives in mind. First, to synthesise their sensory-emotional experience of the spaces as a group, highlighting similarities and differences between each participant in the group. Second, to outline a comparative study between their perception of sensory phenomena as young adults and that of the elderly guests in the centre. The interpretation process, guided by the phenomenological question ‘what is it like for... to experience...’, was described as an experiential learning journey because it required direct engagement with the qualitative information in order to make sense of it, yet without a clear understanding of outcomes. This can prove challenging for student and one of them reported that “for the majority of the time, I did not know what the final output of our research would look like. This was a little stressful since we don’t usually work in this way, but it was very stimulating nonetheless”. Working in their groups, students were encouraged to use sticky notes, diagrams and maps to organise the data collected on-site (Figure 5), and although process feedback was provided by tutors, here students took on a more self-directed approach, learning for themselves as their understanding gradually emerged and unfolded through this process. For instance, the group using drawing with their guest as a way to express emotions developed a language, using the symbols to ‘code’ the perception of sensory phenomena across pleasant and unpleasant experiences. Another group discovered that the guest they interviewed enjoyed sewing and that the visual and tactile qualities of the sewing machine in one of the activity rooms of the

Piazza Grace centre brought back happy memory. They thus incorporated time in their interpretation of findings and used thread as a tool to draw with and connect phenomena on their map.

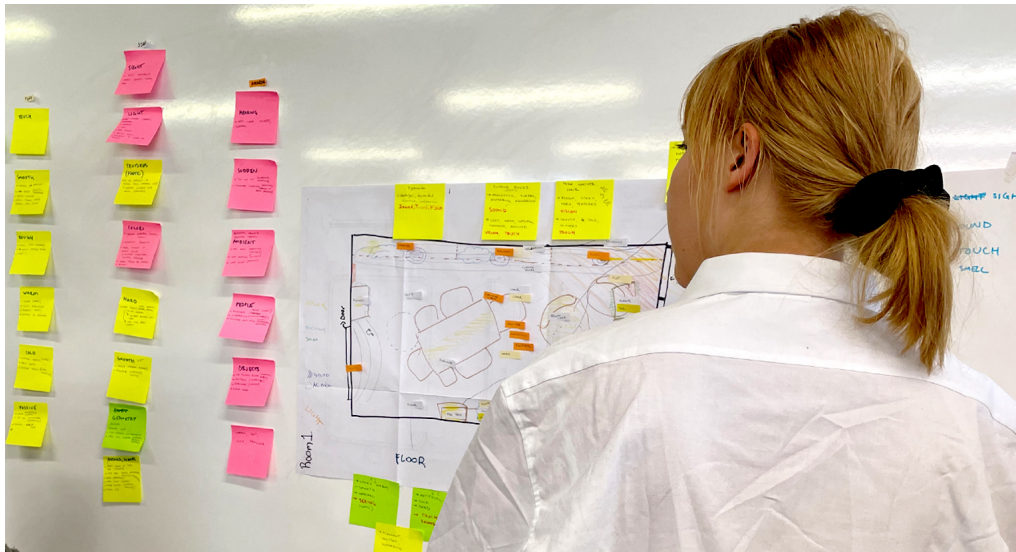


Figure 5. In the interpretation process stage students organise, evaluate and reflect on the information from the exploration and participation process stages.

Here, the experiential learning process prioritised self-authorship for students to reflect, develop and assimilate knowledge by “adopting a critical interpretation of external authority to enhance the development of internal authority” (Beard, 2023, p. 22). At the same time, visualising the information documented on-site enabled them to understand, synthesise, and conceptualise the findings at a deeper level. It also enabled them to explore ways to communicate their findings to an audience, in this instance, other academics and students in the School of Design at Politecnico di Milano and staff at Piazza Grace. Some found this process challenging. One of the students for instance commented that “the most challenging thing was to translate sensory data into diagrams and diagrams that anyone could understand”. The notion of using diagrams as a form of data visualisation to organise and structure information into a manageable format is well known, but the notion of using mapping techniques in a spatio-sensory context warrants further explanation. Mapping originates in geography, but it is used in this study as a complement to architectural floor plans to represent and synthesise sensory-emotional experiences in a spatial format. Unlike architectural floor plans, the maps generated by students are not representations of a unique space but an amalgamation of different situations that occurred over time and from which mental images have been retained, illustrating sensory-emotional connections between the individual and the environment. Here, the organisation of the content and design of the maps draws on Kaplan and Kaplan’s (1981) mental map functional properties. They propose that to be useful the construction of the map should follow specific principles identified as generality, economy, essence, connectedness, directness and unity. In the context of this study, generality means that the map brings together similarities. Simplicity means that unnecessary information is discarded. Essence means that significant information is retained. Connectedness means that the map uses symbols to identify known features and establish connections between the illustration and the reader. Directness means that experiences are structured into categories. Unity means that the information is organised and clear. In this instance, the information comes from the mental images generated through the documentation of embodied experiences and conversations with guests. Mental images can be defined as

an active, vital repository of information gathered through sensual experience – through sight, sound, smell, touch and taste. [...] [A mental image] does not include all the environmental information contained in a particular place or event experience. Instead, the mental image presents a version of experience that is most important to the individual or situation at a particular moment in time (Downing, 1994, cited in Malnar and Vodvarka, 2004, p. 22).

Finally, the realisation process required students to synthesise insights from the study to communicate to an audience, thus bringing to the fore sensory-emotional experiential perspectives that would otherwise remain hidden. To alleviate the limitations of the time constraints in this study, students were provided with an A1 poster format template but retained authorship of the design of its content. Typically, the posters incorporated images, maps and diagrams (Figures 6, 7, 8 and 9) although all eleven posters were unique, not only in their design but also in their content and narratives.

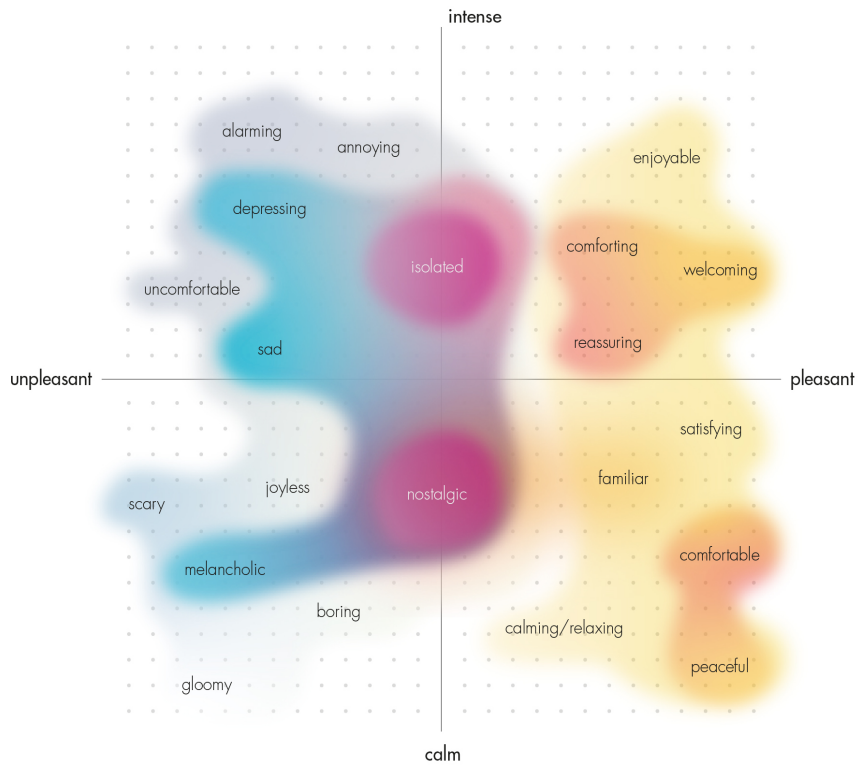


Figure 6. Example of diagram communicating emotional qualities perceived by students.

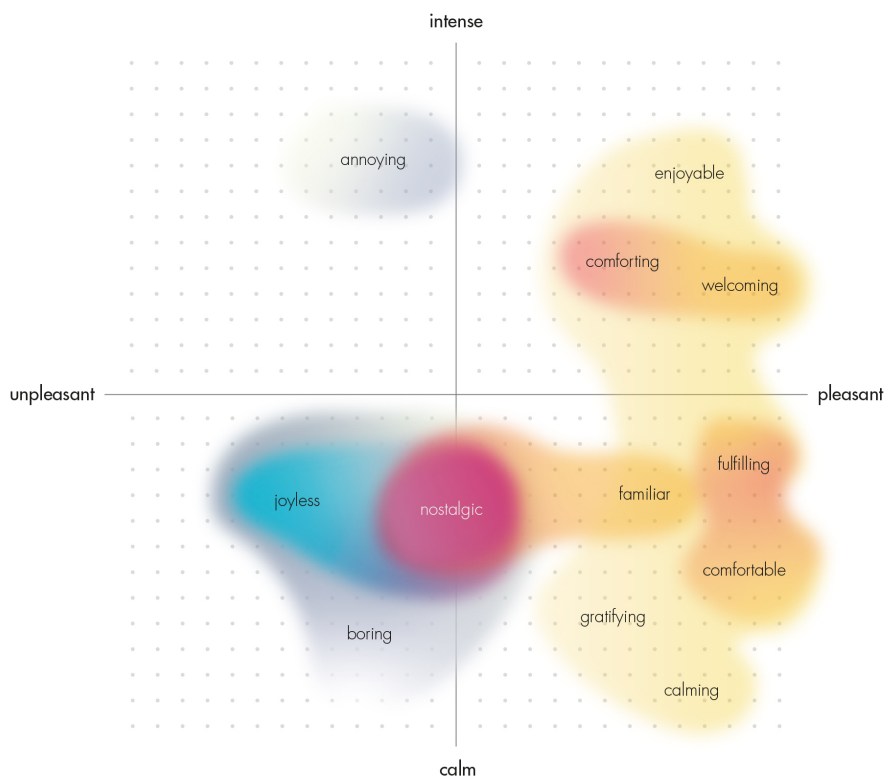


Figure 7. Example of diagram communicating emotional qualities perceived by guests at the Piazza Grace centre.

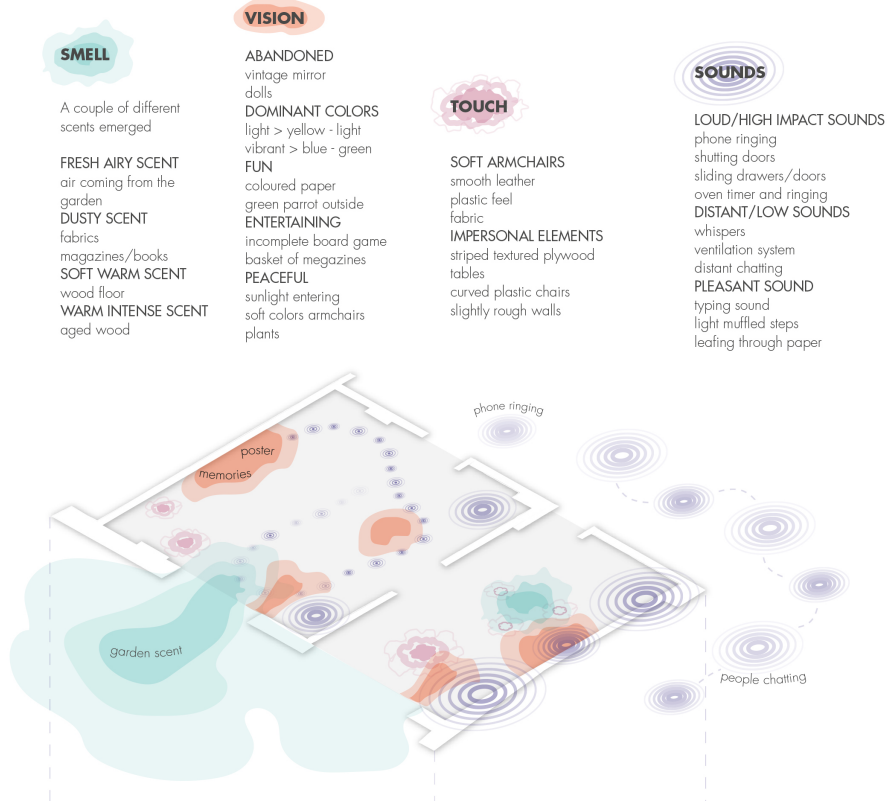


Figure 8. Example of drawing mapping the students' experience to correlate with the emotional diagram in Figure 6.

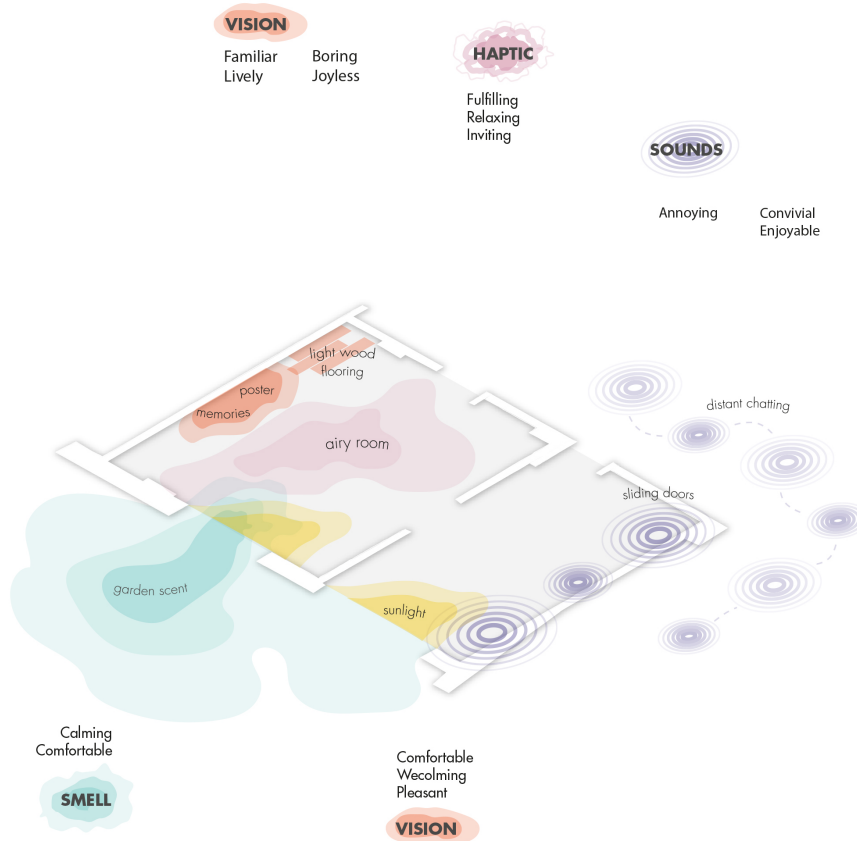


Figure 9. Example of drawing mapping the guests' experience to correlate with the emotional diagram in Figure 7.

Reflections

In this week-long activity, learners engaged directly with real-world contexts and compared their sensory-emotional experiences with those of the guests at the Piazza Grace centre. In doing so, they became better equipped to understand the crucial role of providing appropriate multisensory experiences and surroundings that are tailored to the needs of people with dementia. Insights revealed aspects of the guest experience that were not known to staff at the centre. For example, one of the activity rooms includes a sliding screen that is often used to hide one side of the room when the guests are in session. The students found out that the sound of the screen can be extremely uncomfortable for guests. As a result, it was identified that staff could complete the preparation of the room for activities before the arrival of guests so that they would not have to hear the sound of the sliding screen. This may come across as a minor adjustment but nonetheless one that can enhance the experience of the guests significantly since this distressing event occurred regularly. The data analysis also highlighted marked differences between the experience of the students and that of guests. For example, some students identified a small sunny interior space painted bright yellow adjacent to the garden as cheerful and pleasant. Conversely, some of the guests reported that they found it too bright and uncomfortable, the brightness assaulted their senses. This finding drew attention to the guests' preference for calming shaded environments and indirect lighting. These and other similar findings helped students and staff at the centre better understand the significance and impact of physical surroundings, the quantity, nature, and range of stimuli, on the wellbeing of people with dementia.

Following this activity, students were also invited to feedback on their learning experience. Some of the feedback came from discussions with the students at the end of the project, some came from a survey conducted two weeks after the project ended. First, students noted that whilst they prioritised spatio-sensory contexts when documenting the site, form, function, materials, etc, guests prioritised socio-sensory contexts, people and social interactions. This is perhaps to be expected since the students are trained in interior and spatial design and guests are not. Nonetheless, this observation was significant because students who prior to this activity would have focussed their attention on the design of the physical environment acknowledged the need to also consider the social environment when designing spaces. From this perspective, they characterised the activity as "a totally enriching experience from a human point of view". Students also emphasised the importance of designing for all the senses as a prerequisite for comfort and wellbeing. They commented about being able to account for differences in sensory-emotional experiences, that they understood the subjectivity of sensing and emotions and the need to be more aware of the feeling of others. They understood that design is not simply about aesthetics. When asked which of the four sensory modalities they would have usually worked with when designing spaces before taking part in this activity, 100% of students responded sight. When asked which of the four sensory modalities they would like to explore further when designing spaces following the activity, only 8% responded sight, 38% identified hearing and 54% touch. Interestingly, smell does not feature in their responses. This is perhaps due to a paucity of olfactive qualities at the centre (as perhaps with most places in Western culture) even though smells were documented by students in the study. When asked if they would like to learn more about sensory design, 93% responded definitely, 7% maybe, none responded negatively. From this, they highlighted the aspects of their learning they found most useful as designers. These include learning new methods, tools and mapping techniques to document sensory-emotional experiences, becoming fully immersed in a real-world environment and connecting with people, developing participatory methods to work with others, and experiencing practice-led research processes first-hand. By working with an interdisciplinary team that included professionals in caregiving and, most importantly, individuals with cognitive impairments, they were also able to confront social issues, cross disciplinary boundaries, and practise problem-solving skills, establish collaborative practises and enhance their professional competencies. Students also experienced challenges, primarily due to the novelty of engaging with real-world contexts and the uncertainty of outcomes. Some students reported that a lack of clear direction felt a little stressful at times. This was also perceived by tutors who needed to adjust their approach to mentoring to ensure students did not feel lost, overwhelmed and demotivated. Here, using drawing methods such as floor plans but using them as maps to visualise the data in its spatial contexts proved useful because although students were working with new processes, they were using familiar tools. Working in teams also helped because it provided peer-support.

Despite the challenging nature of the learning experience (or perhaps because of it), evidence from the activity and students' feedback showed that this study opened up new possibilities. Students became better equipped to bring sensory-emotional perspectives in their design. They also developed knowledge and confidence that will enable them to interact and empathise with audiences at a more critical and deeper level in future. As part of efforts to integrate vulnerable groups into society, this project offered a chance to educate aspiring designers about the sensory-emotional needs of the elderly people with dementia. This perspective aligns with the interest of the European Commission in developing social inclusion policies and new professional curricula in light of highly pertinent social issues, to integrate socially vulnerable people, and to design systems and solutions to support groups of people with

cognitive or physical impairments. The intensity and memorability of the learning experience highlighted the transformative potential of the experiential learning pedagogy. It encouraged students to not only integrate multisensory perspectives in their design but also to understand the need to consider the experience of others, the people they are designing for or with. Through embodied experiences and conversations with guests at the Piazza Grace centre, the students connected with the experience of others in ways that they could not do before and developed a human-centred mindset that will enrich their design practice in future. They became acutely aware that investigation, comprehension, planning, and a great deal of individualised care are needed to create sustaining environments. Here, experience was central to the learning process, taking centre stage as the foundation and stimulus for learning (Beard, 2023). In this context, experience is learning and promotes future learning by cultivating young interior designers' ability to better integrate empathy and diversity in their design.

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References

- Association for Experiential Education (AEE). *We believe learning through experience positively transforms people and out world*. Retrieved April 21, 2023, from: <https://www.aee.org/>
- Bates, T. (2014). *Can you do experiential learning online? Assessing design models for experiential learning*. Retrieved April 22, 2023, from: <https://www.tonybates.ca/2014/12/01/can-you-do-experiential-learning-online-assessing-design-models-for-experiential-learning/>
- Beard, C. (2023). *Experiential Learning Design. Theoretical Foundations and Effective Principles*. Routledge.
- Boydston, J. A. (ed.) (1987) *Art as Experience. The Later Works of John Dewey, 1925-1953*. Southern Illinois University Press.
- Caan, S. (2011). *Rethinking Design and Interiors – Human Beings and the Built Environment*. Laurence King.
- Entwistle, Noel. (1998). Approaches to learning and forms of understanding. In: B. Dart & G. Boulton-Lewis (Eds.) *Teaching and learning in higher education: From theory to practice*. Melbourne: Australian Council for Educational Research.
- Gentry, J. W. (1990). *What is experiential learning? Guide to business gaming and experiential learning*. Association for Business Simulation and Experiential Learning (ABSEL).
- Gramegna, S.M. (2021). *Interior design as a tool for dementia care: experiences and guidelines for the therapeutic habitat model*. FrancoAngeli.
- Houston, A. (2017) *Dementia and Sensory Challenges. Dementia can be more than memory*. Glasgow: Deal With Dementia. Retrieved December 12, 2022, from <https://www.lifechangestrust.org.uk/sites/default/files/Leaflet.pdf>.
- Ingham, M. (2019). *Pedagogical, philosophies, theories and approaches for critical and creative teaching*. University of the Arts London.
- Kaplan, S. and Kaplan, R. (1981). *Cognition and Environment: Functioning in an Uncertain World*. Ulrich's Books.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Prentice-Hall.

- Koskinen, I. (2023) *Design, Empathy, Interpretation: Toward Interpretive Design Research*. The MIT Press.
- Lave, J. & Wenger, E. (1991). *Situated Learning: legitimate peripheral participation*. Cambridge University Press.
- Le Breton, D. 2017. *Sensing the World. An Anthropology of the Senses*. Bloomsbury.
- Mace, V. (2014). Sensing the Urban Interior. *Proceeding of [in]arch conference* (pp. 183-194). Universitas Indonesia 10-12 September 2014. Depok, Jakarta, Indonesia.
- Mace, V. (2022). Sensory Ecology. Designing synergies between micro and macro-scales of experience in public Environments. *Proceedings of Back to Human Scale International Meeting. Re-thinking Living Spaces for Tomorrow*, Universidade Lusófona, Lisbon, 24-25 November 2022.
- Mallgrave, H. F. (2018). *From Object to Experience. The New Culture of Architectural Design*. Bloomsbury Visual Arts.
- Malnar, J. M. & Vodvarka, F. (2004). *Sensory design*. University of Minnesota Press.
- Meyer, M. W. & Norman, D. (2020). Changing Design Education for the 21st Century. *She Ji: The Journal of Design, Economics, and Innovation*, 6(1), 13-39.
- National Institutes of Health. (2002). Home Safety for People with Alzheimer's Disease. US Department of Health and Human Services. National Institute on Aging Alzheimer's Disease Education and Referral (ADEAR) Center. NIH Publication, (02-5179).
- Nixon, D. (2020). *The body as mediator. The phenomenology of Maurice Merleau-Ponty entwines us, via our own beating, pulsing, living bodies, in the lives of others*. Retrieved December 5, 2022, from <https://aeon.co/essays/the-phenomenology-of-merleau-ponty-and-embodiment-in-the-world>
- Pallasmaa, J. (2005). *The Eyes of the Skin. Architecture and the Senses*. John Wiley & Sons.
- Pink, S. (2015). *Doing Sensory Ethnography*. Sage Publications.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39(6), 1161–1178..

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