Interior: A Meeting Place for Cultures and Generations

Abstract
The contemporary housing environment in Europe is changing dynamically, influenced by factors related to the struggle against climate change and adverse demographic phenomena. The pace of change has also increased in response to the challenges posed by the pandemic, conflicts and the energy crisis. These reasons have started a process of change in the approach to the design of residential areas, directing the attention of designers towards meeting the needs linked to creating housing architecture that implements the postulates of connection to nature, inclusivity in response to cultural diversity, and sustainable design by extending the residential space to include rooms or facilities with a different use. The aim of the research presented in this paper was to diagnose the factors that influence the creation of an interior space that is conducive to intergenerational and intercultural integration. The study was carried out under the FRSE, Iceland, Liechtenstein, Norway grants programme (EOG/21/K4/W/0048W/0175). By assessing the elements of an interior’s composition, the factors that exclude as well as activate its space were examined, as were the spatial conditions that affect building its place-based identity and which influence its activation. The study’s conclusions are illustrated using projects prepared by second-year, first-cycle students at the Faculty of Architecture of the Cracow University of Technology, enrolled in Architecture and Architecture in English programmes.

Key words: inclusive design, social cohesion, interior design

1. Introduction
This research was conducted as a part of the Space for Integration project. Under the FRSE programme, Iceland, Liechtenstein, Norway Grants, Nature, Heritage, People is based on the programme’s priorities: innovation, social inclusion, combating climate change, promoting culture, civic attitudes and social justice. Implementing these postulates in architecture is important for the creation of spaces aimed at satisfying needs at one’s place of residence. A functional and accessible living space is fundamental in this respect. The functionality of one’s place of residence is a factor that determines its value (Roulac, 2007), which is reported as one of the most important in user preference studies (Kauko, 2006; Thorkild, 2006). At present, as a response to demographics, issues of accessibility and adaptability to changing needs, particularly in terms of seniors, are also increasingly being considered in the assessment of this parameter (Phillips 1999; Hwang, Cummings, Sixsmith, Sixsmith, 2011; Wiles et al. 2012; Ossokina, Arentze, van Gameren, 2020). Researchers emphasised the importance of designing functional spaces that are safe, accessible and comfortable for people of all ages and levels of ability in residential areas. Research points to the impact of the human environment on people’s physical and mental health (Evans, 2003; Chu, Thorne, Guite, 2004; Guite, Clark, Ackrill, 2006; Clark et al. 2007; Cooper et al. 2010; van Dyck et al., 2015). The pandemic has shown that one of the key factors here is contact with nature (Rice, 2020; McNeely 2021; Navaratnam et al., 2022), as well as social integration (Fossati, 2018; Sanders 2020).

2. Objective, scope, method
This research was conducted as a part of the Space for Integration project. Nature, Heritage, People aimed to identify factors that foster social inclusion in interior design. In the project’s first stage, this was performed by analysing the literature to trace changes in the perception of users’ needs in relation to interiors. In the next stage, based on the results and in situ research, factors that are currently considered significant in the evaluation of architectural interiors were identified. A survey was then conducted among a group of 46 young designers and architecture students, in which respondents were asked to rate which factors they considered most important for perceiving a space as inclusive. The survey’s conclusions have been illustrated using projects prepared by second-year, first-cycle students at the Faculty of Architecture of the Cracow University of Technology, enrolled in Architecture and Architecture in English programmes.

3. Residential interior design – evolution of needs
In the second half of the twentieth century, apartment interior designs were determined by Modernist ideas, where form was subjected to function as per Louis Sullivan’s words ‘form follows function’. Applied art objects, thanks to the emergence of new materials and
technologies, have become a form of decoration for ornament-free interiors (Pile, 2005). The open plan and the resulting flexibility of the space were a response to the differing needs of the residents. The change in social and cultural norms, most evident in the end of racial discrimination and the strengthening of the role of women in public life, has been reflected in housing design. Further spatial changes were linked to the appearance of mass culture – radio and television initiated a unification of space, through mass-distributed and copied content. At present, the concept of a functional apartment interior has evolved and methods such as Human Centred Design which use empathy-based preference research are increasingly being used alongside compositional principles and functional guidelines found in textbooks (e.g., Neufert). Demographic phenomena such as the ageing of the population and climate change have made the personalisation of interior spaces essential to meet the changing needs and lifestyles of today’s residents. Eco-friendly materials and a reduction in energy consumption are supported by increasingly technologically advanced facility automation systems, resulting in ever greater comfort while reducing negative environmental impact. In addition, priority is given to accessibility for people of all ages regardless of ability level, ensuring that architectural barriers are removed and the right amount of space or adequate lighting is provided. Finally, the contemporary housing environment is not only about residential and ancillary spaces, but also about shared spaces and amenities to promote community formation and social interaction, (Lim, Hae-Won, and Hyunsoo Lee, 2018) such as shared workspaces, gardens including rooftop or fitness rooms or estate clubs (Photos 1–6). After the pandemic, a further trend of locating additional spaces within the housing unit became apparent (Kocur-Bera, 2022). Residents chose to dedicate parts of their living spaces to ancillary functions for work or leisure. After a period of confinement, they can serve as integration spaces in response to the state of isolation enforced by regulations during the pandemic.

4. Interiors for the integration of cultures and generations: Activation spaces
Previously, the design of inclusive interiors was mainly considered in service and public buildings, in work and

↓
Ill. 3. Common spaces – integration sites, Tromso Strandkanten (author: P Haupt)

→
Ill. 4. Interior accessibility – Narvik foyer (author: P Haupt)
educational environments (Steinfeld, Maisel, 2012; Halder, Santoshi, Lori Czop Assaf, 2017). At present, due to the emergence of additional functions which integrate local communities in the housing environment, it is also an important factor of residential interior architecture. Through appropriate space design, we can create spaces that support intercultural and intergenerational cooperation in common areas. They serve to promote social attitudes such as respect and acceptance of diversity. They support the processes of promoting shared values and communication. Design for multicultural and multigenerational users requires consideration of diverse needs and preferences. The provision of space for social distancing, which is different from culture to culture, plays a key role (Ashihara, 1970). Appropriate distances can also serve to increase the functionality of the manoeuvring space for a person using mobility enhancing orthopaedic equipment or with a guide. Another essential factor is the careful use of colour, which is related not only to psychological aspects such as the effect of colour on humans (Bai, 2010), but also to the symbolism of colours in different cultures and religions. Distinctive colours and motifs can create a welcoming, inclusive environment, providing a sense of security and comfort in an interior through conscious sensations, but also subconscious perception based on references to memories, including the atmosphere of one’s family home.

Natural elements, such as plants or natural materials, can create a sense of calm and well-being and encourage residents to meet and socialise (El-Ghobashy, Mosaad, 2016; Qiu 2018). Providing contact with nature through visual linkages or extending interior spaces to include terraces or green roofs, is essential for human mental health. The legibility of space provided by appropriate design, but also by orientation points and visual information systems, can help users to navigate a space, regardless of their cultural or generational background. The development of common spaces, especially informal ones, also encourages interaction and strengthens the sense of community among residents from different cultural and generational backgrounds. In design, feedback from users obtained, e.g., in participatory activities, or the joint adaptation of interiors during use, is important. An architectural interior is a place of a person’s daily life and also where changes that occur in their life take place. Hence, the preferred feature in inclusive interior design is the flexibility of the space, the ability to adapt it as needs change. Studies on the desired behaviour of users through appropriately designed interiors indicate that actions within such spaces can be influenced by properly designing them (Niedderer, Clune, Ludden, 2017; Celadyn, 2020). This relationship can be used to create activation spaces that support the processes of development, learning, sustaining fitness or social inclusion. The key here is to create a friendly and safe atmosphere, the potential for arranging different functional layouts and lighting scenes to create zones for different activities in the interior. These processes can also be supported by the use of multimedia technologies, e.g., long-distance distance communication. The acoustics of a space can affect the ability of users to communicate effectively. It is worth considering the use of sound-absorbing materials and designing the space to minimise noise and disturbance.

5. Factors that facilitate inclusive design

Based on the literature review presented, as well as in-situ research conducted as a part of the Space for Integration. Nature, Heritage, People project under the FRSE, Iceland, Liechtenstein, Norway Grants programme, factors that influence an interior’s inclusivity were isolated. The criteria for selecting the aspects included in the study were the correlations found in the literature. The most common factors are the architectural accessibility of the building, the functional layout expressed in zoning and visual connections, compositional legibility achieved through orientation points and the originality of the overall architectural
While designing, which aspect of inclusive design do you as designer find the most important?
46 odpowiedzi

In the interiors that you visit or observe which aspect is mostly covered?
46 odpowiedzi

III. 7. Factors that affect the inclusivity of an interior’s spaces. (author: P. Haupt)

III. 8. Key factors for inclusive design (author: P. Haupt)

III. 9. Building type versus inclusive design (author: P. Haupt)
In your opinion what type of interiors are designed as most inclusive in contemporary space?
46 answers

![Diagram showing percentage of respondents for different types of interiors designed as most inclusive.](image)

**Table 1. Significance of design factors for different integration types (author: P. Haupt)**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Education</th>
<th>Retail</th>
<th>Tourism</th>
<th>Culture</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dostępność / accessibility</td>
<td>1 (52.2%)</td>
<td>2 (30.4%)</td>
<td>3 (41.3%)</td>
<td>1 (78.3%)</td>
<td></td>
</tr>
<tr>
<td>Elementy interaktywne / interactive elements</td>
<td>2 (43.5%)</td>
<td>3 (34.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oryginalność koncepcji / proposal originality</td>
<td>3 (26.1%)</td>
<td>2 (32.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Możliwość relaksu / opportunity to relax</td>
<td>3 (30.4%)</td>
<td>3 (26.1%)</td>
<td>2 (45.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Przytulność wnętrza / cosiness</td>
<td></td>
<td></td>
<td></td>
<td>3 (26.1%)</td>
<td></td>
</tr>
<tr>
<td>Elementy multisensoryczne / multisensory elements</td>
<td>1 (67.4%)</td>
<td>1 (54.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wykorzystanie koloru / use of colour</td>
<td>1 (39.1%)</td>
<td>3 (28.3%)</td>
<td>2 (50.0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punkty orientacyjne / orientation points</td>
<td>1 (47.8%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oświetlenie / lighting</td>
<td>2 (50.0%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powiązania z naturą / linkages with nature</td>
<td></td>
<td></td>
<td>2 (50.0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aktywizacja / activation</td>
<td>3 (26.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wyraźny podział na strefy funkcjonalne / clear functional zoning</td>
<td>2 (39.1%)</td>
<td></td>
<td></td>
<td>3 (37.0%)</td>
<td></td>
</tr>
<tr>
<td>Połączenia wizualne / visual linkages</td>
<td></td>
<td></td>
<td>3 (37.0%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Idea, the use of colour, detail and lighting, mood, sensory stimuli and potential for contact with nature.
A total of 46 architecture programme students and graduates took part in the survey. Of all the respondents, 87% reported coming into contact with the concept of inclusive design and considered it in their design decisions (Ill. 8). When asked what they thought was the most important type of social inclusion, more than half of the respondents stated that all types of inclusion, from intergenerational, cultural, gender and people with special needs were equally important. Almost 40% of the respondents were of the opinion that the most crucial thing for the inclusivity of a space is its universal accessibility. More than 50% of respondents felt that the most common application of inclusive design principles was in the design of cultural facilities, almost 20% felt that it was in educational buildings, and 13% felt that it was in the housing environment (Ill. 9). When asked which type of integration they had encountered in interiors, the respondents reported that one can find themselves most often in interiors designed to universal design principles and for persons with limited mobility (Ill. 10).
Afterwards, each respondent was instructed to list three factors each from those identified in the literature – the most relevant factors for integration in terms of generations, gender, cultures (Table 1). Accessibility was identified as the key functional parameter in all cases analysed, being considered most important for connecting generations by more than half of the respondents. To this end, the importance of clear functional zoning was also noted – by almost 40% of the respondents. Among compositional aspects, colour was considered the most important, and its significance for cultural integration and gender equality was recognised by 39 and 28% of respondents, respectively. When assessing non-spatial factors, respondents pointed to the possibility of relaxation and activation as parameters that influence generational bonding and a sense of social justice in the context of gender. Relevant to the discipline were the responses that an original design proposal was more important than orientation points in an interior. It can therefore be concluded that a skilfully designed space, subject to a strong overarching idea, contributes to a space’s memorability and a sense of safety and comfort. In the summary of the survey, more than 50% of respondents said that a properly arranged interior space supports social integration processes.

6. Conclusions

Designing a functional and accessible space in a place of residence involves considering the needs and preferences of residents, including those with special needs. The significance of spatial and non-spatial factors that influence the inclusivity of a housing environment lies in creating a friendly and accessible space for all of a community’s members. An inclusive housing environment fosters social cohesion, improves quality of life and promotes a sense of belonging among residents. Spatial factors such as accessibility, functional layout, lighting, colour and acoustics are key to creating a physically inclusive housing environment. These factors ensure that the housing environment is safe, comfortable and easy to navigate for all residents, regardless of their physical abilities or needs. Non-spatial parameters that combine community engagement, social contact, flexibility, sustainability and affordability are equally important in creating an inclusive housing environment. These factors promote social cohesion, prevent exclusions, promote environmental sustainability and ensure economic accessibility for different types of residents and families. An inclusive housing environment also fosters economic and social benefits for the wider community, such as reduced healthcare costs, increased civic engagement and support for mental health. Therefore, the importance of spatial and non-spatial factors that affect a housing environment’s inclusiveness is crucial in promoting an equitable and inclusive society. The results of the study showed that a well-designed interior space can support such processes.

Based on the investigated elements of inclusive design, in 2022 second-year architecture students of the Cracow University of Technology designed a residential unit in a single-family housing complex for a person with a disability in the Krakow area, while students of the Architecture in English programme were tasked with designing the interior of a room with an additional function for social integration in a suburban area. The projects served to implement the idea of inclusion in the housing environment of a city and its suburbs.

BIBLIOGRAFIKA / REFERENCES


MATERIAŁY NIEPUBLIKOWANE / UNPUBLISHED MATERIALS


Nursery is based on the idea of connection with nature. Design contains spiral structure with hiking slope and slide with ball pit, organic craters for kids to play and interact, decoration of the walls which allows kids to draw and paint on them and twigs like structures which allow kids to jump on them. Whole space is lightened by leaf lights on top of the ceiling – and one of them on the spiral structure.

Wnętrze wspierające rozwój dziecka. Artur Piwowarczyk
ADJUSTMENTS FOR THE PEOPLE WITH DISABILITIES

Due to the old age of the building, the building must be well adapted for people with any kind of disabilities. In this case, the interior provided solutions to benefit the comfort of the users, for example:

1. The first floor and ground floor are separated by a different color so that it is much easier to notice.
2. The rooms are designed to accommodate people in a wheelchair to get to the first floor, the elevator was included.
3. On the ground floor, some of the panels are darker, and marking a path, this solution is helpful if the room has a problem with light.
4. The rest room has enough space for wheelchair to move around.
5. There is additional room in the living and dining areas for the wheelchair.
6. The kitchen is allotted for the needs of a person with a restricted posture.
7. To help people with impaired hearing, there are sound panels to improve the sound quality.
8. The low chairs provide some activities for seniors and also are convenient for handicap.

Wnętrze dla osoby starszej. Natalia Ptasińska
Wnętrze wspierające rozwój dziecka. Maja Ciukot
Wnętrze wspierające rozwój dziecka. Maja Ciulkot

Wnętrze wspierające rozwój dziecka. Maja Ciulkot
TEENAGER ART STUDIO

This project is an art studio in the basement of an existing house in Cebu, which was designed as a place for local children and teenagers to take part-time art classes. The brief was to create a beautifully detailed, creative space for painting and sculpturing that would encourage and inspire creativity. The use of the concrete flooring is used on the walls and wooden material for walls and ceiling not only as a robust surface for artwork, but also to blur the transitional boundaries of floors, wall and ceiling so that it did not feel like a conventional residential space. Instead, the result is a unique sculptured space that is warm and secured, designed for indirect light, ideal for painting and sculpture.
Wnętrze wspierające rozwój nastolatka. Daniya Amangeldy
Integracja kultur. Moodboard Łukasz Dorynek

Projektowanie inkluzywne. Zespół mieszkaniowy z jednostką dla osoby słabowidzącej. Małgorzata Trybuła
Małgorzata Trybuła
Zespół mieszkaniowy z jednostką dla osoby słabowidzącej. Małgorzata Trybula
Zespół z przestrzeniami integracyjnymi. Julia Dziedzic
Zespół z jednostką dla osoby poruszającej się na wózku. Anna Stachowicz
Zespół z jednostką dla osoby z niepełnosprawnością. Aleksandra Słowik
Wnętrze wspierające rozwój dziecka. Adrian Harasiuk

CHILD DEVELOPMENT CENTER WITH PETS
INTERIOR DESIGN

Wnętrze wspierające rozwój dziecka. Dimitar Dimitrov
Integracja kulturowa. Wnętrze inspirowane kulturą Japonii, Antoni Brzozowski
PROJEKT ZESPOŁU MIESZKANIOWEGO
PRADOS DE CRACOVIA

Zespół z jednostką dla osoby z niepełnosprawnością. Hanna Lechowska