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).

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

While designing, which aspect of inclusive design do you as designer find the most important?
46 odpowiadzi

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

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

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 responses

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).

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

<table>
<thead>
<tr>
<th>Design Factor</th>
<th>Integrating Generations</th>
<th>Gender Equality</th>
<th>Cultural Integration</th>
<th>Visual Impairment</th>
<th>Hearing Impairment</th>
<th>Motor Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>1 (52.2%)</td>
<td>2 (30.4%)</td>
<td>3 (41.3%)</td>
<td>1 (78.3%)</td>
<td></td>
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<tr>
<td>Interactive Elements</td>
<td>2 (43.5%)</td>
<td>3 (34.8%)</td>
<td></td>
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<tr>
<td>Proposal Originality</td>
<td>3 (26.1%)</td>
<td>2 (32.6%)</td>
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<tr>
<td>Opportunity to Relax</td>
<td>3 (30.4%)</td>
<td>3 (26.1%)</td>
<td>2 (45.7%)</td>
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<td></td>
<td></td>
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<tr>
<td>Cosiness</td>
<td></td>
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<tr>
<td>Multisensory Elements</td>
<td>1 (67.4%)</td>
<td>1 (54.3%)</td>
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</tr>
<tr>
<td>Use of Colour</td>
<td>1 (39.1%)</td>
<td>3 (28.3%)</td>
<td>2 (50.0%)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Orientation Points</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Architectural Detail</td>
<td>1 (47.8%)</td>
<td></td>
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<td></td>
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<tr>
<td>Lighting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 (50.0%)</td>
<td></td>
</tr>
<tr>
<td>Linkages with Nature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activation</td>
<td>3 (26.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear Functional Zoning</td>
<td>2 (39.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 (37.0%)</td>
</tr>
<tr>
<td>Visual Linkages</td>
<td></td>
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</table>
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.

BIBLIOGRAFIA / REFERENCES


[27] Van Dyck D., Teychenne M., McNaughton S.A., De Bourdeaudhuij I., Salmon J., 2015, Relationship of the Perceived Social and Physical Environment with Mental Health-Related Quality of Life in Middle-Aged and Older Adults: Mediating Effects of Physical Activity.
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 lighten 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 PROJECTS WERE DESIGNED TO SUIT THE COMFORT OF THE FAMILY FOR EXAMPLE:

1. IT IS NICE AND CONVENIENT FOR PEOPLE WITH PEDESTRIAN TO USE A LIFT. TO AVOID ANY ACCIDENTS, THE FIRST STEP IS DIFFERENT COLOUR SO THAT IT IS EASIER TO NOTICE.

2. THE BUILDING WAS TWO-STORIES, SET IN WOODS, FOR PEOPLE IN A WHEELCHAIR TO GET TO THE FIRST FLOOR, THE ELEVATOR WAS ADDED.

3. IN THE NEIGHBOURING FLOOR, SOME OF THE PANELS ARE DARKER, AND MAKING A PITS. THIS SOLUTION IS HELPFUL IF THE FLOOR HAS A PROBLEM WITH ILLUMINATION.

4. THE RESTROOM HAS ENOUGH SPACE FOR WHEELCHAIRS TO MOVE AROUND.

5. THERE IS ADDITIONAL ROOM IN THE LIVING AND DINING AREAS FOR THE WHEELCHAIR.

6. THE KITCHEN IS ADAPTED FOR THE NEEDS OF A PERSON WITH A LIMITED MOVEMENT.

7. TO HELP PEOPLE WITH LIMITED MOVEMENT, THERE IS ELEVATOR TO IMPROVE SOUND QUALITY.

8. THE ROOMS DESIGNED PREVIOUSLY TO ACTIVITIES FOR SENIORS AND ALSO TO BEARING FOR HANDICAPS.

Wnętrze dla osoby starszej. Natalia Ptasińska
CERAMIC WORKSHOP IN GIEBUŁTÓW

FLOOR PLAN, 1:50

LEGEND
1. VESTIBULE 18,65 m²
2. CORRIDOR
3. WORKSHOP 30,81 m²
4. WORKSHOP 31,30 m²
5. RESTROOM 5,15 m²
6. STORAGE 5,30 m²
7. ROOM FOR CLAY FIRING 4,56 m²
8. KITCHEN 13,80 m²

Gravity Ventilation

Wnętrze integracji społecznej, Zuzanna Mikołajczyk
Wnętrze wspierające rozwój dziecka. Maja Ciurkot
Wnętrze wspierające rozwój dziecka. Maja Ciurkot
TEENAGER ART STUDIO

This project is an art studio in the basement of an existing house in Cuba, which was designed as a place for local children and teenagers to take art classes. The brief was to create a beautifully detailed, creative space for painting and sculpturing that would encourage and inspire creativity. Materials like concrete, metal, and glass are used to create a visually striking and functional space. The studio is designed to be a quiet and concentrated environment, ideal for focused work.

FLOOR PLAN 150

Wnętrze wspierające rozwój nastolatka. Daniya Amangeldy
Wnętrze wspierające rozwój nastolatka. Daniya Amangeldy
Integracja kultur. Moodboard Łukasz Dorynek

Projektowanie inkluzywne. Zespół mieszkaniowy z jednostką dla osoby słabowidzącej. Małgorzata Trybuła
Projektowanie inkluzywne. Zespół mieszkaniowy z jednostką dla osoby słabowidzącej. Małgorzata Trybuła

OBLIKA ŚLABOWIDZAJĄCA

1. Definicja miedzygraniczna węzła głowy

Według WHO słabowidzącą to osoby z otoczkowymi wypukłością

Definicja funkcjonalna

Według A. Adamowicz i Humme (2008) do słabowidzących należy:

DOSTOSOWANIA

PRZEDWSIĘBÓRSTWO JEDNOSTKÓW JEDNOŚCIOWYCH

1. Szerokość z kategoriami, a określenie dla osoby

2. Wypukła osadzona oznaczająca granice powszechnej

3. Kontrastowa odwrócona stopnie

A., czy to,

ODSTOSOWANIE OD UJĘCIA

1. Odwrócony a itp. do poziomu przekroju jednostek

2. Kontrastowe oznaczenie szynkowy

3. Otwierają wewnątrz niewidzialną przeszkodę

Małgorzata Trybuła GRUPA 1B 2021/22

Projektowanie inkluzywne. Zespół mieszkaniowy z jednostką dla osoby słabowidzącej. 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 Słowiak
CHILD DEVELOPMENT CENTER WITH PETS
INTERIOR DESIGN
Integracja kulturowa. Wnętrze inspirowane kulturą Japonii, Antoni Brzozowski
PROJEKT ZESPOŁU MIESZKANIOWEGO
PRADOS DE CRACOVIA

RZUT JEDNOSTKI DLA OSOBY Z NIEPEŁNOSPRAWNOŚCIĄ, 1:100

SYLWETKA MIESZKAŃCÓW

PRZEKRÓJ JEDNOSTKI DLA OSOBY Z NIEPEŁNOSPRAWNOŚCIĄ, 1:100

SCHEMATY ROZWIĄZAŃ JEDNOSTKI LA OSOBY Z NIEPEŁNOSPRAWNOŚCIĄ RUCHOWĄ

Zespół z jednostką dla osoby z niepełnosprawnością. Hanna Lechowska