

Exploring the Relationship of Older Adults with the Physical Environment through Active Learning

Burçak Altay*

Department of Interior Architecture and Environmental Design, Bilkent University, Turkey

*Corresponding author: Burçak Altay, Department of Interior Architecture and Environmental Design, Bilkent University, 06800 Bilkent, Ankara, Turkey, Tel: +903122902651; E-mail: burcak@bilkent.edu.tr

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Abstract

I share the key features of student learning about older people in relation to their home environments. The application of active learning methods has encouraged the students to co-create knowledge regarding lived spatial experience, present them through visuals and narratives, and apply them in their designs.

Keywords: Active learning; Gerontology education; Design

Introduction

“He never lets anyone touch the sewing machine that takes a large space in the room and makes passage difficult, because it was what he bought my grandmother with his first salary. Also, she was the last one using the sewing machine, who passed away years ago...” This quote was added to the questionnaire by the student researcher-the granddaughter-explaining why her grandfather, aged 91, would refuse to change the location of the sewing machine table in the narrow corridor despite the physical challenges it posed. It thus revealed the deep meaning embedded into the interaction with the physical environment, which could otherwise be labeled as ‘inaccessible use of space’ according to design standards.

We have been conducting an ongoing research assignment since 2012, carried out by over 300 students enrolled in second year Human Factors/Ergonomics course in Interior Architecture and Environmental Design of Bilkent University, Ankara. The course aims at establishing the knowledge base upon which the future designers can shape their projects, with a human-centered and inclusive design approach. As such, physiological and psychological characteristics, expectations, experiences of all users, including older adults, are accounted for. In order for the learning to be effective in both cognitive and affective domains, active learning strategies based on learner-centered instruction are utilized to support theoretical lectures [1].

Exploring Older Adults' Relationship to their Homes through Active Learning

Through active learning, students experiment with their own abilities to navigate the task, become equipped with adequate resources to complete the task and contribute to the course subject [2]. Thus, the data is received by ‘real doing’ and direct experience followed by reflective thinking of the self, and/or live dialogue and conversation with others [3]. An increase of student engagement with course content leads to a deeper understanding of the subject. In addition to knowledge, it embraces values, including emotions, feelings and attitudes [4]. This is a crucial aspect for designers whose ‘subjects’ are the users that they provide quality environments for. This way, an

empathic understanding for the users are also enhanced, where students can relate to the users in different levels [5].

In many respects, the designer's role with respect to user is similar to the role of the researcher with respect to those researched in social sciences. For both situations, the feelings, needs and expectations of the people whom the service is provided is of primary importance in the decision-making processes. Drawing upon the interconnection of knowledge and attitude of caring, Gunzenhauser states: “Without going through a process of coming to know through caring and vice versa, a researcher does not know enough to care appropriately or care enough to know adequately [6]”.

For ‘the grandparent experience’, students working in pairs, visit one of the students’ grandparents, observe them in their homes, interview them, and share their findings in the class. They focus on the relationships with their living environments, adaptations made due to changing physical characteristics and favorite places in the home, as well as proposing suggestions for major problems. A comprehensive research on effective student learning are discussed elsewhere [5]. Here I would like to briefly reflect on the significant features of the learning process regarding the nature of the findings, interpretation of the findings and their application to design, which may be adapted for educational gerontology with other disciplinary focus.

Nature of the Findings: General and the Particular

The assignment allows students to co-create the knowledge regarding older adults’ relation to their environment, through direct contact and experience. This supports the objective, general, technical and numerical knowledge found in design guidelines and standard books. In data collection, usage of multiple methods such as observation, interviews, surveys, face-to-face interaction complement one another to reveal the rich, complex, subtle aspects of the findings. Touching our hearts and minds, they expose the lived spatiality peculiar to the time and space.

Within the data, the contextualized knowledge enables the students to view the experience in totality. Findings include both challenges and opportunities, both negative interactions and creative solutions, both exclusion and provision of a comfortable, safe place to be (Figure 1). Similarly, besides the cross-cultural and general, culture-specific

practices are revealed; particularly related to sleeping, cooking, bathing habits and the impact of these on space use. As supported by other research [7] a culturally-sensitive approach adopted by students provides a more comprehensive recognition of values, beliefs and practices by the elderly, in the specific local settings.



Figure 1: Findings reveal difficulties, adaptations and favorite places in the home.

With the findings, a shift between abstract conceptualization to active experimentation can be made [8]. For example, the dimensions of most convenient heights of reach as well as inaccessible ranges can be found in design resource books [9]. However, students report the actual problem of reach in many cases such as reaching kitchen cupboards and shelves, changing ceiling-light bulbs, washing and hanging the curtains on the high curtain rod. Stories also reveal adaptations of grandparents, such as waiting for the nephew to change the bulb or eliminating the ceiling lights altogether in favor of accessible table lamps. Thus, theoretical knowledge is concretized in lived situations.

Interpretation of the Findings: Visual and Narratives

While students share their findings, they apply multiple methods. Mainly, they prepare posters that contain visual and narrative data, as well as evaluation of the data with respect to ergonomic requirements. They support the poster presentation with verbal explanations in the course. Finally, all posters are displayed in the department hallways.

Researchers call for learning methodologies that have visual and narrative components in the education of medical students, encouraging to add value to their learning attitudes [10]. This is supported by our own experience, where communication through posters have been effective and long-lasting. Through the posters, students are able to interpret and bring a new 'life' to their findings. Rather than being distanced, the visuals carry the students' own relationship to those researched; their valuations, aspirations, points of significance. The photographs and narratives become mediums where the researcher and the participant are at once engaged in the knowledge construction through performance and story-telling (Figures 1 and 2). With the display of posters, we can also observe and compare the unique and common characteristics of the many cases.

Application of the Findings: Designs Embody Lived Experience

During two consecutive semesters, the students were also asked to choose one significant problem observed in the research and offer a design solution. Although this phase was eliminated later due to time restrictions, positive learning outcomes were observed. As such, it can

be rescheduled and integrated with other courses with special emphasis or design studios.

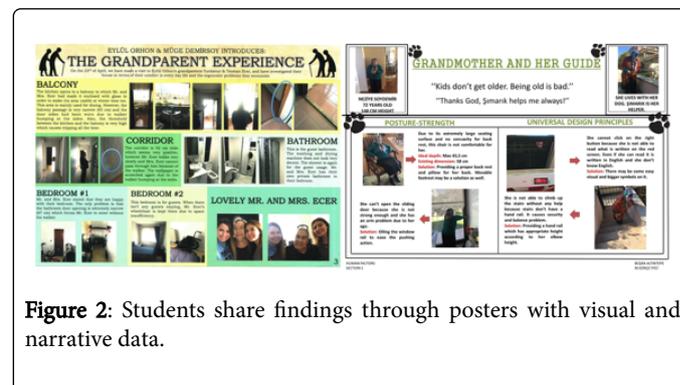


Figure 2: Students share findings through posters with visual and narrative data.

In this phase, the students reclaim the role of designer and apply the research findings to design solutions that respond to the elderly needs. This way, they are able to actively provide their own interpretations while transforming the grandparent experience into creative design solutions. Their active participation to the course thus involves spatial interventions that embody the knowledge they acquired. This also fosters their self-expression and creativity as well as enhancing their professional identity (Figure 3).

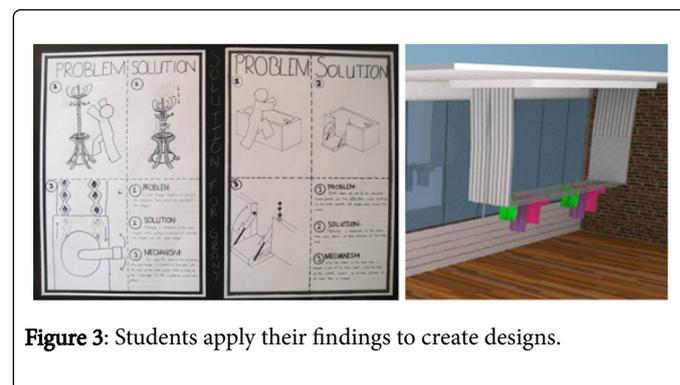


Figure 3: Students apply their findings to create designs.

One important aspect of active learning is students raised awareness and potential to affect and change the world in a positive way [2]. This is particularly critical for the designers whose major professional identity rests in the claim of expertise to shape the environment for an enriched quality of life of individuals. Active citizenship is thus interconnected with professional responsibility and sensitivity when designing spaces for elderly.

Conclusion

Integrated within the design education, active learning strategies can reveal both common aspects that older people experience regarding their physical environment, and the unique spatial stories that open up a window to their everyday lives. Going beyond technical knowledge, students can hear the voices of the older people, empathize with them, and become aware of many issues that they are not exposed to. As future professionals, they care for their elderly, and have a chance to offer designs that embody their physical and psychological needs and expectations.

Go, visit your grandmother... learn how the physical changes resulting from aging reflects on space use. And come, share this with us. Let these walls be filled with grandmothers, grandfathers and their

experiences... to be known and felt. Let us learn and understand them through their photographs showing how they cannot reach the upper shelves, or have problems while lifting the heavy couches. Or see how they have brought practical and wise solutions to their problems that we would not have thought of ourselves... Let your grandmother know that her experience is important and valuable. And that you will remember her when you design spaces tomorrow... You will remember her discomfort not being able to see through the high window lying on her bed. And you will design lower windows, and another grandmother will be happy then...

References

1. Altay B (2014) User-centered design through learner-centered instruction. *Teach High Educ* 19: 138-155.
2. Zepke N, Leach L (2010) Improving student engagement: Ten proposals for action. *Active Learning in Higher Education* 11: 167-177.
3. Fink LD (2003) A self-directed guide to designing courses for significant learning.
4. Cavanagh M (2011) Students' experiences of active engagement through cooperative learning activities in lectures. *Active Learning in Higher Education* 12: 23-33.
5. Altay B (2017) Developing empathy towards older adults in design. *Educ Gerontol* 43: 198-208.
6. Gunzenhauser MG (2006) A moral epistemology of knowing subjects: Theorizing a relational turn for qualitative research. *Qual Inq* 12: 621-647.
7. Minde G (2015) A culturally-sensitive approach to elderly Care. *J Gerontol Geriatr Res* 4: 241.
8. Kolb D (1984) *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
9. Grandjean E (1973) *Ergonomics of the Home*. London: Taylor and Francis.
10. Brand G, Carr S, Etherton-Ber C (2016) Depth of field: Teaching the art of reflection to medical students. *J Gerontol Geriatr Res* 5: 361.