UNIVERSAL DESIGN IN HIGHER EDUCATION IN NORTH MACEDONIA: MODEL FOR IMPLEMENTATION

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Abstract

Universal design and accessibility have become essential concepts in architecture that aim to provide inclusive and equitable access to spaces and environments for all individuals, regardless of their abilities or disabilities. With a growing understanding of the benefits of accessibility in design, many architectural schools are incorporating courses and programs focused on universal design and accessibility to train the next generation of architects.

The paper analyses the study programs of the Universities in the Republic of North Macedonia, emphasizing the need to open the debate for incorporating universal design and accessibility principles into the educational program. It then develops models that can be incorporated into study programs in these institutions.

To increase awareness and a sense of responsibility in upcoming generations of architects, who are primarily responsible for determining the environment in which we live, these educational models place equal emphasis on the human aspect of universal design and accessibility as well as the predetermined regulatory and legal aspects of these topics.

As a result, universal design and accessibility are being increasingly recognized as essential elements of modern architecture, and architectural schools are reacting by providing more thorough instruction in these fields.

Keywords: Universal design, Accessibility, Study Programs, Models, University, North Macedonia.

1   Introduction

The concept of accessibility ethics involves not only making sure that people with disabilities can use and navigate various technologies and environments but also ensuring that they have equal social and political rights and opportunities to fully participate in society. This includes the right to access the same spaces and services as non-disabled individuals.

Architecture aims to create and design space toward a purpose. While composing the space we must be careful and compatible with the users. The space cannot be functional if we don't reach to fulfil the purpose and needs of the users. The architect by observing needs in the design process must take into consideration that users are people of all ages and different abilities. Universal design is a design philosophy that aims to create an inclusive, sustainable society, where every person can participate to the greatest extent possible (Preiser, Ostroff, 2001). Having this in mind the role of education in this topic is critical in the development of new generations of architects who understand their social commitment in the creation of these spaces, as well as their role in society, which will serve to improve the quality of life and create more sustainable and inclusive environments.

2 Literature review

Researchers in recent years have analysed accessibility from different points of view. A group of researchers is addressing this issue using legislation mechanisms. There are others focused on assessment tools and monitoring, while another group of researchers is looking into accessibility and all the norms and rules that architects must follow when designing public places and buildings. Finally, some researchers claim that the issue of accessibility needs to be addressed in the early stages by adapting the curriculum for architecture studies.

According to the author (SungurErgenoglu, 2015) his paper, universal design must develop during the education process, and society should be aware of this starting from the beginning of their education, especially architects. Universal design teaching in architecture education is very important because the term disability must develop equally with the process of understanding architecture and its application in design. The author claims that it is necessary to establish teaching methods for architecture schools by creating a model with six modules in total, four of which will be in undergraduate courses and two of which will be in graduate courses. (SungurErgenoglu, 2015).

Based on his work, this paper examines the inclusion of universal design into the study programs of two state and two private universities in North Macedonia, as well as developing an implementation model for the incorporation of universal design and the issue of accessibility in educational programs.

3 Examining the study programs of North Macedonian Universities

This paper focuses on the study programs of four universities in North Macedonia, the University of Tetova - Faculty of Applied Sciences, study program - Architecture, Saint Cyril and Methodius University - Faculty of Architecture, University American College Skopje, Faculty of Design and Architecture, as well as Southeast European University, Faculty of Contemporary Sciences and Technologies, Program - Architecture and Design.

The integrated five-year study of the first and second cycle at the Faculty of Architecture at the University Saint Cyril and Methodius lasts five years or ten semesters. Each semester contains nine to twelve courses, with Architectural Studio being the most important course in each semester and carrying the most credits. Students in the Architectural Structures course are introduced to vertical communication elements, learning the basic parameters for designing ramps and elevators as inclusive elements for this kind of communication. In the Ninth semester, students are presented with regulations and standards for universal design in the course Urban and building legislation, where they study the laws for urban planning in North Macedonia.

The University of Tetovo's architecture program, a comprehensive five-year study program spanning ten semesters, encompasses a total of 62 courses. While this extensive curriculum provides students with a broad foundation in architecture, design, and related subjects, it is important to note that there is a noticeable gap in the program concerning inclusive design and accessibility.

While the integration of accessibility and inclusive design principles within studios courses is essential and is elaborated, a dedicated course can further enhance the students' understanding and appreciation of these principles. It provides an opportunity for in-depth exploration, research, and critical thinking that may not be feasible in the more project-oriented environment of a design studio. Therefore, having a standalone course on accessibility is a valuable addition to any architecture program, complementing the practical experience gained in studio courses and preparing students to be more informed and socially responsible architects.

The Architecture and Design Program at the Southeast European University also includes integrated five years with first and second-cycle studies (300 ECTS - 10 semesters). Their program is mainly focused on

the notion of design in architecture, with only three classes focusing on constructive components, the structural elements for vertical communication such as ramps and elevators are taught in the fourth semester. Their subjects focused on architectural design such as studios, and include basic knowledge about the accessibility and inclusiveness of various user groups in designed spaces.

The curriculum of American College is structured in the directions of architecture, interior architecture, and design. Here too the program is focused on design and construction courses are taught in three semesters. The guidelines for creating elements that will help in the creation of a more inclusive design while taking into account societal demands without leaving out certain groups will be taught in constructive courses such as Architectural Construction 2.

Following an examination of the study programs, it was determined that students at all of these universities will have a subject dedicated to the constructive rules for the design of vertical elements, such as ramps and elevators, which are required for inclusive design.

In addition to these, at Saint Cyril and Methodius University, in the second cycle of studies, the Master's level, students are introduced to the state urban planning regulations established for the creation of public spaces that enable the creation of universal designs.

These subjects are insufficient for developing a sense of responsibility for future architects and generating awareness of their role in shaping the built environment.

The emphasis of educational subjects on legal urban planning laws, constructive rules, and standards for constructing universal spaces causes students to focus on the fulfilment of these standards and rules rather than the human requirements of the spaces' users. Also, a crucial aspect of universal design education is that the architect's approach to designing spaces will be based on the premise that every user is equivalent, with no divides based on their ability.

Architects that take this approach would not create spaces based on the needs of distinct groups, but rather on universal needs, perceiving them to be general and important. This would result in designs where the entire composition is united and the components that help create more accessible spaces are not separated from the main design but are part of it. This mindset cannot be innate in a person but must be developed through appropriate education methods.

Universal design is a design philosophy that aims to create an inclusive, sustainable society, where every person can participate to the greatest extent possible (Preiser, Ostroff, 2001). Having this in mind the role of education in this topic is critical in the development of new generations of architects who understand their social commitment in the creation of these spaces, as well as their role in society, which will serve to improve the quality of life and create more sustainable and inclusive environments.

4   The model for implementing universal design principles into education

To increase awareness and a sense of responsibility in upcoming generations of architects, who are primarily responsible for determining the environment in which we live, these educational models place equal emphasis on the human aspect of universal design and accessibility as well as the predetermined regulatory and legal aspects of these topics.

Architectural education in North Macedonian universities includes both theoretical and practical components. The theoretical component includes subjects that focus on the fundamental concepts for the designs that will be created, while the practical component focuses on the designs that must be completed during the educational period. As a result of the analyses conducted during the research of study programs in these universities, we discovered that the information regarding accessibility and universal design

focuses more on the theoretical subjects, rules, and standards that students acquire during their studies and less on the practice, where they work on architectural designs in specific subjects.

Universal design is a broad subject with numerous aspects, making it difficult to learn solely from theoretical subjects. The material can be more thorough and straightforward to learn and implement if it is included in more practical disciplines, during architectural design, or in the form of different discussions and research done by students.

In this scientific paper, a model is proposed for how universal design can be incorporated into study programs in North Macedonia. The model is composed of four modules and they are as follows:

1. A new specific subject during the educational process that will analyse the universal design in a theoretical aspect, from history, research papers and presentations, topic-related discussions, information, and knowledge about different types of disabilities, surveys, and conclusions drawn for the inclusion of all society in the built environment, as well as encouragement to take initiatives based on this knowledge.
2. Inclusion of the concept of universal design, as well as an emphasis on the aspect of accessibility, in the structure of the subjects dealing with architectural design. This should be done in the form of analyses based on the users of the spaces, focusing on creating designs that are as inclusive as possible and without dividing users into specific groups.
3. This module focuses on established state urban planning laws. Each university gives room in their study programs to the subject that will be legislative and will directly teach current regulations and standards. Furthermore, it is critical to encourage students to conduct studies on this topic, developing ideas for new guidelines that might be incorporated into urban planning laws. This would enable a deeper involvement of students in these aspects, not taking the rules for granted, but understanding the reasons behind them.
4. The last module will be the product of early education and can be set as a special subject in the final years of study or during Master's studies when students will be required to work on architectural and urban projects based on the rules and knowledge gained over the years of study. The projects will conclude with presentations in the form of discussions with citizens, who will be the primary users of these spaces.

Conclusion

The results of this research: As universal design is a particularly delicate topic in the creation of architectural works and urban planning, it is critical that every individual, in this case, the architect and urban planner, understands his/her role and responsibility in designing the environments that surround us.

Young people cannot be born with this understanding, but it can be fostered in the early stages of professional education. Universal design is a method of designing buildings, products, and environments that aims to make them accessible to all. It is a design approach that considers the needs of the broadest possible range of users and aims to remove barriers to access and use. (Northridge)

Accessibility and inclusive design are fundamental principles that should be integrated into all aspects of architecture education. In many architectural programs, these concepts are often elaborated upon within the main design studio courses, where students learn to create spaces and structures. However, there is a compelling argument for the inclusion of a dedicated course on accessibility and inclusive design.

Universities throughout North Macedonia should consider improving the study programs and include more courses related to accessibility, universal design, and usability in general. This will help students prepare better for their future projects and make sure they always take into consideration these practices.

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