

DESIGN FEATURES OF THE ENVIRONMENT OF EDUCATIONAL INSTITUTIONS

CARACTERÍSTICAS DO DESENHO DO AMBIENTE DAS INSTITUIÇÕES DE EDUCAÇÃO

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ABSTRACT

The article focuses on elucidating the distinctive aspects of designing the environment within educational institutions. It identifies the typical characteristics of design found in domestic higher education institutions, encompassing architectural solutions and functional concepts, as well as principles governing the division of educational spaces and zones. The article also examines the influence of classroom design on academic performance effectiveness. Notable illustrations of contemporary design within the educational environment of Ukrainian higher education institutions are presented. Additionally, the article explores design and architectural solutions employed in educational institutions abroad. Furthermore, the article puts forth original approaches toward shaping a modern design framework for educational institutions' environments. This research aims to uncover the specific characteristics associated with the design of educational institution environments. The object of investigation is the educational institution itself, viewed as a subject for design and architectural solutions. Research methods. The research employed various methods including description, analysis and synthesis, comparison, generalization, and modeling. The article delves into the distinct features associated with the design of educational institution environments. It identifies the defining characteristics of design within Ukrainian higher education institutions, explores the rationale behind such design approaches, and examines the evolution of design in the modern era. The study establishes the key aspects related to the design of specific educational spaces such as study rooms, lecture halls, specialized discipline offices, and computer rooms within Ukrainian higher education institutions (hereinafter HEIs). Additionally, recreational areas are characterized as a unique type of educational space, providing students with an opportunity to rest during breaks and prepare for upcoming classes. The study presents an analysis of the merits and drawbacks of the design of educational environments in contemporary domestic higher education

institutions. It discerns the distinctive attributes within each category and assesses their influence on students' academic performance. Moreover, the study emphasizes the emerging trends that should be pursued in the development of modern HEIs design. The article uncovers the distinctive characteristics of designing educational institutions both in Ukraine and abroad. It emphasizes the particulars of designing lecture halls, study rooms, specialized rooms, and laboratories. Building upon the obtained results, this research develops approaches and principles for shaping the design of educational institution environments in Ukraine.

Keywords: auditorium, teacher, design, higher education institution, HEI, classroom, layout, premises, student.

RESUMO

O artigo se concentra em elucidar os aspectos distintivos de projetar o ambiente dentro das instituições de ensino. Identifica as características típicas de design encontradas nas instituições de ensino superior nacionais, englobando soluções arquitetônicas e conceitos funcionais, bem como princípios que regem a divisão de espaços e zonas educacionais. O artigo também examina a influência do design da sala de aula na eficácia do desempenho acadêmico. Ilustrações notáveis de design contemporâneo dentro do ambiente educacional de instituições de ensino superior ucranianas são apresentadas. Além disso, o artigo explora soluções de design e arquitetura empregadas em instituições de ensino no exterior. Além disso, o artigo apresenta abordagens originais para moldar uma estrutura de design moderno para ambientes de instituições educacionais. Esta pesquisa tem como objetivo descobrir as características específicas associadas ao design de ambientes de instituições de ensino. O objeto de investigação é a própria instituição de ensino, vista como objeto de projeto e soluções arquitetônicas. Métodos de pesquisa. A pesquisa empregou vários métodos, incluindo descrição, análise e síntese, comparação, generalização e modelagem. O artigo investiga as características distintas associadas ao design de ambientes de instituições de ensino. Ele identifica as características definidoras do design nas instituições de ensino superior ucranianas, explora a lógica por trás dessas abordagens de design e examina a evolução do design na era moderna. O estudo estabelece os principais aspectos relacionados ao projeto de espaços educacionais específicos, como salas de estudo, salas de aula, escritórios de disciplinas especializadas e salas de informática dentro de instituições de ensino superior ucranianas (doravante denominadas IES). Além disso, as áreas de lazer se caracterizam como um tipo único de espaço educacional, proporcionando aos alunos a oportunidade de descansar nos intervalos e se preparar para as próximas aulas. O estudo apresenta uma análise dos méritos e desvantagens do design de ambientes educacionais em instituições de ensino superior nacionais contemporâneas. Ele distingue os atributos distintivos dentro de cada categoria e avalia sua influência no desempenho acadêmico dos alunos. Além disso, o estudo enfatiza as tendências emergentes que devem ser perseguidas no desenvolvimento do design de IES modernas. O artigo revela as características distintivas de projetar instituições educacionais na Ucrânia e no exterior. Ele enfatiza as particularidades de projetar salas de aula, salas de estudo, salas especializadas e laboratórios. Com base nos resultados obtidos, esta pesquisa desenvolve abordagens e princípios para moldar o design de ambientes de instituições educacionais na Ucrânia.

Palavras-chave: auditório, professor, desenhar, instituição de ensino superior, IES.

Introduction

Currently, significant emphasis is placed on the reformation of higher education institutions. This reform encompasses diverse aspects such as the formulation of new curricula, the implementation of novel disciplines, the streamlining of the educational process, and the alignment of educational programs with contemporary demands. However, the reform initiatives also extend to the design of learning environments within higher education institutions. This is attributed to the notable influence that classroom design has been found to exert on student performance.

It is worth noting that a contemporary educational institution characterized by modern design presents an appealing and favorable image. The adoption of modern design principles serves as a testament to the institution's commitment to modernization across all educational processes, thereby fostering an environment conducive to innovative learning. Furthermore, the design of classrooms plays a pivotal role in attracting a growing number of prospective applicants, as students often prioritize the visual appeal of educational spaces when making their enrollment decisions.

Aligned with the study's purpose, the objectives are as follows:

- to elucidate the distinctive design characteristics of higher education institutions.
- to analyze the design approaches employed in higher education institutions in Ukraine and globally.
- to formulate principles and approaches for designing higher education institutions in Ukraine.

Literature Review

The issue of designing educational institution environments has been explored by several domestic researchers, including M. Bratko (Bratko, 2014), D. Kosenko (Kosenko, 2019), N. Kravchuk (Kravchuk, 2022), N. Shakhrai (Shakhrai,

2014), and N. Syrotyuk (Syrotyuk, 2022). Their respective works shed light on the strengths and weaknesses of higher education institution design in Ukraine, as well as the influence of classroom design on student motivation toward achieving successful outcomes.

In her article titled "Peculiarities of Forming the Interior of Creative Classrooms of Architectural and Artistic Higher Education Institutions," researcher N. Shakhrai underscores that a significant proportion of Ukrainian higher education institutions feature a conventional design that is characterized as simplistic and uninspiring (Shakhrai, 2014, 125). According to her analysis, the challenges faced by modern higher education institutions encompass limited spaciousness within premises, enclosed classroom structures, and the utilization of substandard artificial lighting. These factors collectively impact students' motivation to achieve higher academic performance. Consequently, Shakhrai proposes directing attention towards optimizing natural light exposure by incorporating panoramic windows, as well as fostering distinctive design approaches tailored to each educational institution.

In her work "Educational environment of a higher education institution: search for management strategies," researcher M. Bratko highlights the significance of adopting foreign approaches to designing learning environments within our country (Bratko, 2014, 138). Specifically, these approaches encompass the incorporation of panoramic windows, the provision of individual study spaces, multiple exits and entrances to classrooms, and vibrant design elements. Notably, Bratko finds the concept of a two-story lecture hall intriguing, where students can seamlessly transition to the next floor upon entering the second floor of the academic building. This arrangement proves convenient as it facilitates swift movement between classrooms, a valuable asset when time is limited for preparing for subsequent classes.

In her article titled "Development of a Design Project for the Interiors of Classrooms of a Higher Education Institution," researcher N. Kravchuk presents her approach to designing educational spaces within higher education institutions (Kravchuk, 2022, 10). Kravchuk proposes the utilization of vibrant color schemes in classroom design and emphasizes the importance of dividing each classroom into distinct functional areas. These areas may include a study area, a designated space for

the teacher, storage areas for students' belongings, and storage space for educational equipment. Additionally, the researcher advocates for the incorporation of well-appointed recreational areas within universities, preferably situated between main classrooms. These recreational areas should feature comfortable seating options such as sofas or ottomans, tables, a screen, a coffee or food vending machine, and a green space.

Hence, the examined scholarly works explore the ideal appearance of classrooms within higher education institutions, aiming to establish optimal conditions for enhancing students' learning motivation. Nevertheless, these works fail to consider the practical implications of limited funding for educational institutions and the architectural constraints associated with each room. Consequently, the treatment of this issue in scientific literature remains superficial, lacking comprehensive calculations and definitive assessments of potential benefits. Thus, a thorough investigation is warranted to address this subject matter in greater depth.

Methods

The study employed various research methods including description, analysis and synthesis, comparison, generalization, and modeling. The method of description was utilized to present a comprehensive understanding of the concept of "educational institution design." The method of analysis and synthesis was employed to review and synthesize existing scientific literature on the research topic. The method of comparison was utilized to compare the design aspects of higher education institutions in Ukraine with those of institutions worldwide. Lastly, the method of generalization was employed to summarize and consolidate the findings of the study.

The modeling method directly pertains to the study's purpose, focusing on modeling the principles and approaches for designing future Ukrainian higher education institutions. This method enables the identification of future changes and emerging trends in the development of educational institution design. By employing

this method, it becomes possible to make predictions regarding the future appearance of educational spaces in the forthcoming years.

Results

Currently, the concept of educational institution design is undergoing a gradual transformation. This shift is driven by the desire of pupils and students to acquire knowledge within spacious and aesthetically pleasing environments that facilitate rapid comprehension of educational materials. Notably, an aesthetically designed classroom positively impacts the emotional state, fostering a readiness to engage in communication with the teacher and facilitating a quick sense of calm. Moreover, the incorporation of novel and unconventional elements contributes to spiritual relaxation, particularly before important examinations (Zinkevych, 2023, 5).

It is important to note that the development of approaches to educational institution design in Ukraine has occurred relatively recently. Before this, educational institutions of various types often exhibited similar designs. Typically, these institutions were perceived as a collection of classrooms, uniform in style, with limited space, characterized by predominantly pastel and gray colors, and featuring a standardized layout. Consequently, this uniformity negatively influenced the perception of educational institutions in terms of design appeal, as there was a lack of understanding regarding the necessity of non-standard design approaches. One of the contributing factors to this approach was the belief that unconventional design could potentially detract from the educational process (Bratko, 2014, 140).

However, starting in the 2010s, a noticeable shift in the approach to designing educational institutions began to take place. Increasingly, educational institutions began to adopt diverse styles for their classrooms, incorporating vibrant colors and novel architectural solutions, while allocating ample space for each classroom. Moreover, the design of each classroom began to account for various aspects, such as dedicated spaces for pupils' and students' belongings, separate cabinets for educational literature and auxiliary equipment and stands for

backpacks and bags. The design of each classroom began to align with its intended purpose, with careful consideration given to functionality in determining all the relevant details (Zhen, 2016, 935).

However, the issue of design features within the educational institution environment in Ukraine continues to remain pertinent. This is predominantly attributed to the persistently low level of funding. The ongoing conflict has resulted in reduced budget allocations for Ukrainian educational institutions, thereby hindering the implementation of intended design solutions. Consequently, the design of educational institutions often manifests as simplistic, uniform, and rudimentary. In other words, while these premises serve the purpose of delivering knowledge, they may fall short of providing aesthetic satisfaction (Kosenko, 2019, 25).

The relevance of this issue is further compounded by the prevailing circumstances of military operations, leading many educational institutions to adopt distance or blended learning formats. Consequently, students and pupils attend educational institutions only periodically or primarily engage in remote learning from their homes, thus diminishing the immediate necessity for extensive design considerations within the physical premises of educational institutions. Furthermore, financial resources are often prioritized towards technological and computer support, which is regarded as more suitable and optimal within the contemporary educational landscape.

Moreover, design development can prove to be inefficient in light of the changing landscape of educational institutions. For instance, numerous educational institutions have faced closure or license revocations, resulting in a reduction in the overall number of institutions. Moreover, the construction of new educational institutions must now be adequately justified, aligning with real societal demands and conforming to Ukraine's existing educational policy. These factors collectively underscore why the issue of designing educational institutions has long been overlooked, only gaining prominence with the current need for educational system reforms in Ukraine (Maloney, Kim, 2020, 15).

Significant emphasis is presently placed on the design of higher education institutions, owing to the imperative that these learning environments must be both functionally efficient and capable of accommodating a considerable number of individuals simultaneously while maintaining aesthetic balance. Within Ukrainian higher education institutions, notable spatial and functional areas can be identified, including classrooms, lecture halls, specialized discipline rooms, and computer rooms (Kravchuk, 2022, 21).

Classrooms within higher education institutions (HEIs) often exhibit a compact size, typically accommodating up to 30 students or 1-2 groups. These rooms are characterized by limited floor areas, an absence of spatial zoning, and the utilization of multifunctional furniture. The predominant use of wooden furniture, often in various colors, further contributes to the overall aesthetic. Regrettably, these aspects collectively exert a negative impact on the learning process and diminish students' motivation to actively engage in learning (Nubani, 2022, 16).

Lecture halls commonly exhibit a uniform style in their design. Many lecture halls take the form of amphitheatres, featuring a distinct stage for the teacher, complete with a podium and a sizable blackboard. These spacious rooms can accommodate up to 100 students and often incorporate wooden materials or a tree-inspired aesthetic. While the narrow aisles between the seating rows facilitate a gradual movement of students during class transitions, it is important to acknowledge that these narrow aisles pose potential risks to student safety. In the event of an emergency requiring swift evacuation, such as a fire, students may encounter difficulties leaving the premises timely (Schmeliova, 2021, 45).

If the lectures are intended for 1-2 groups, the classroom can accommodate up to 75 students. In such cases, the design of the lecture hall does not incorporate elevated seating, with all seats and tables positioned at the same level. These lecture halls typically have a relatively small size, primarily serving as spaces for both students and teachers. Additionally, these classrooms often fulfill the function of hosting training sessions when other classrooms are unavailable (Report on the 2022 Transforming Education Summit, 2022, 31).

Lecture halls often consist of up to 10 rows, or even more, necessitating the arrangement of elevated seating rows to ensure visibility for both students and the teacher. These elevated rows can be implemented in the form of a smoothly raised floor or a staircase structure. However, it is crucial to acknowledge that navigating these elevated rows can pose a risk for potential accidents or injuries when ascending or descending. Furthermore, it is important to note that such classroom configurations can have a detrimental impact on students' willingness to engage in the learning process. Despite the relatively spacious area, narrow aisles and closely arranged seating rows may create psychological discomfort, particularly if students from different programs are attending group lectures, where familiarity among students may be limited (Palamar, 2022, 70).

Specialized classrooms are specifically designed to facilitate the acquisition of professional knowledge in students' respective specializations. These classrooms are typically intended for 30 individuals and feature a color scheme predominantly consisting of gray or dark tones. In such classrooms, seating and tables may be limited, as the majority of the space is allocated for educational equipment, including models, technical devices, and laboratory apparatus, all aimed at providing practical knowledge. However, due to the confined space and the abundance of equipment, students may experience difficulty in maintaining a comfortable seating position and adequate ventilation, which can adversely impact their psychological and emotional well-being. Consequently, this may lead to a decline in academic performance, as students face challenges in managing their seating arrangement while striving to acquire the necessary knowledge within the limited space (Shakhrai, 2014, 129).

Computer labs within Ukrainian higher education institutions typically adhere to a relatively standardized design. These rooms are often compact in size and feature rows of desks, each equipped with personal computers or laptops. Additionally, there may be a small elevated area for the teacher, accompanied by a table and chair. In some cases, a dedicated teaching and lecture area may also be present. However, the design of computer rooms does not consistently account for optimal utilization, as these rooms are primarily intended for a single group and may not be utilized by all students.

Consequently, the design tends to adopt a minimalist approach, often featuring light color schemes (Sydorchenko, Palii, 2015, 150).

It is advisable to evaluate the advantages and disadvantages of the design of the learning environment in contemporary domestic higher education institutions (Syrotyuk, 2022, 115). These aspects are summarized in Table 1.

Table 1 – Advantages and Disadvantages of Learning Environment Design in Modern Ukrainian HELs

Advantages	Disadvantages
High-quality natural lighting	The small area of classroom space
Selecting a zone to display students' achievements	Lack of clear division into zones
Availability of recreational areas	Primitive artistic and aesthetic design
	Using cheap materials to design educational institutions
	Enclosed structure of classrooms
	Use of electric lighting

Thus, it can be concluded that contemporary environmental design in Ukrainian higher education institutions possesses both advantages and disadvantages. The notable advantages encompass the presence of high-quality natural light, dedicated recreational areas, and zones for showcasing student achievements. For instance, many higher education institutions prioritize the inclusion of large windows within their classrooms, with some even incorporating panoramic windows in corridors and recreational spaces. This deliberate design choice facilitates the penetration of natural light into the classrooms, serving to preserve students' visual health and reducing the need for excessive artificial lighting, thereby leading to potential cost savings (Xu, 2020, 12).

The provision of a dedicated space for displaying students' achievements serves as a significant motivational factor for learning. Typically, this area takes the form of a separate stand located either in the educational institution's lobby, a classroom, or an office. It commonly features photographs showcasing the

accomplishments of outstanding students, notable alumni, and exemplary student works, often encased in glass for preservation. Moreover, this zone is frequently adorned in a non-standard manner, such as a distinct corner or in the form of an interactive installation, enhancing its visual appeal and engagement potential.

Recreational areas within educational institutions are designated spaces that offer opportunities for relaxation. These areas typically consist of separate zones furnished with comfortable sofas, ottomans, and armchairs. Adjacent tables and stands may be provided for personal belongings. These areas are often enhanced with potted plants or flowers, board games, and screens displaying institution-related news. Additionally, nearby coffee machines or automated food dispensers are frequently available. Recreational areas are now commonly found in nearly all higher education institutions, enabling students to prepare for their studies and unwind before classes. This provision is especially beneficial for students who have limited time to relax or seek out a university café, particularly when they are required to travel between different buildings for classes (Gad, 2022, 5).

Nevertheless, there are notable drawbacks that warrant attention. One significant limitation pertains to the small size of classrooms within higher education institutions. The majority of these classrooms are designed to accommodate a single academic group. Consequently, accommodating two groups for a lecture or class can pose challenges in terms of space constraints. This not only adversely affects students' psychological and emotional well-being but also restricts the scope for developing professional skills and fostering a creative problem-solving approach. Specifically, spacious rooms offer the opportunity for theatrical performances and interactive training sessions, aspects that are compromised due to the limitations imposed by smaller classroom sizes.

Another disadvantage lies in the absence of a clear spatial division into zones. In many higher education institutions, spaces are interconnected without distinct boundaries, resulting in overcrowding within a single room. Furthermore, the lack of clear separation between different zones hampers the educational process. For instance, study and recreational areas may be insufficiently delineated, with only an arch or no distinct demarcation separating them at all. This lack of clear distinction

compromises the intended functionality and purpose of each specific area within the educational institution.

An additional disadvantage is the presence of primitive artistic and aesthetic design within higher education institutions. Frequently, the design of these institutions tends to be simplistic and lacking in diversity. The walls predominantly feature monochromatic colors such as white, yellow, and blue, while the floors are commonly tiled in hallways and adorned with parquet in classrooms. Consequently, the overall design lacks intricate and thoughtful solutions that would contribute to a more aesthetically pleasing and engaging environment.

The utilization of inexpensive materials for designing educational institutions exerts a detrimental impact on their overall appearance. This aspect can further diminish the perception of the institution and undermine its image, as it signifies a limited level of funding. Moreover, the use of such materials can pose risks to the safety and well-being of students.

Many Ukrainian higher education institutions adopt a closed structure for their classrooms. Once students enter a classroom, they are restricted to that particular room and unable to move to other areas. This limitation creates a sense of discomfort, as students are unable to leave the room when needed or transition to another classroom. However, in certain higher education institutions, it is observed that some classrooms are interconnected with specialized discipline rooms. This arrangement proves to be convenient, as students can access necessary equipment from neighboring rooms without the need to relocate (Alyahyan, Düs,tegör, 2020, 10).

The utilization of artificial lighting represents a notable drawback within educational institutions. Classrooms often rely heavily on artificial lighting sources, typically comprising numerous lamps that emit bright light. This is particularly evident in lecture halls, which tend to be expansive and lack the financial or technical feasibility to incorporate windows. Consequently, such classrooms may either lack windows entirely or possess small windows. Furthermore, artificial lighting becomes the sole means of illumination in cases where classrooms or

lecture halls are situated between other rooms, precluding access to natural light sources.

However, an additional issue arises as universities often lack lighting systems that offer adjustable brightness levels. Consequently, this situation negatively impacts students' visual health and can impede optimal classroom experiences. For instance, if a teacher intends to present educational material on a multimedia board or projection screen, the information may be rendered unreadable due to excessive brightness caused by inadequate lighting control (Alawad, 2021, 530).

It is noteworthy that some higher education institutions in Ukraine have already embraced a vibrant design and implemented captivating architectural solutions. For instance, the Kyiv National University of Culture and Arts has successfully designed its facilities to cater to the needs of its students. The classrooms within this institution are characterized by spaciousness and abundant natural light, facilitated by large or panoramic windows. The overall aesthetic incorporates light and beige color palettes, with predominantly white or gray (light shade) walls, harmonizing with furniture adorned in corresponding hues. As a result, these classrooms exude a modern ambiance that fosters an environment conducive to learning, while also promoting a sense of tranquility among students. Furthermore, lecture rooms exhibit a similar design language, albeit on a larger scale, accommodating up to 100 individuals, offering ample space, and featuring expansive windows.

The computer labs at the Kyiv National University of Culture and Arts exemplify spaciousness, providing ample room for students to navigate freely between the rows. Additionally, these labs feature a dedicated stage area for the teacher, which includes a generously sized platform to facilitate student presentations. Alongside computers, these classrooms are equipped with multimedia boards, televisions, and projectors, enabling a multifaceted learning experience. With a capacity to accommodate up to 30 individuals, the computer labs can accommodate additional seating arrangements as needed. These spaces are aesthetically adorned with a color scheme predominantly consisting of green and

yellow tones, which serve to invigorate the learning atmosphere and ignite creative ideas.

The creative laboratories and specialized rooms at the Kyiv National University of Culture and Arts feature vibrant and lively decor. They are predominantly adorned with bright green, red, or yellow colors. These spaces are characterized by spaciousness and are equipped with computer equipment or large screens to facilitate specialized activities. In many instances, a large table is situated in the center of the room, promoting effective communication among students. Similarly, the recreational areas within the university exhibit the same vibrant aesthetic. These areas comprise comfortable sofas, and long tables, and incorporate potted flowers to create a pleasant ambiance. Additionally, a small screen is mounted on the wall, offering opportunities for visual content. The overall design scheme in these areas is marked by the prominent use of red, green, and yellow colors. This intentional design fosters an environment where students can take a break from their studies, unwind, and relax.

At O. O. Bogomolets National Medical University, an innovative approach to lecture hall design is implemented. Each lecture hall is meticulously designed to correspond with the overall architectural theme of the educational building, of which there are 8 in total. For instance, the lecture hall within the dental building is adorned in shades of blue, complemented by yellow furniture. This lecture hall features two entrances and exits, a prominent artificial lighting system, and a lectern for the teacher, complete with a table and a small stage. The seating arrangement consists of six rows, further divided into three sectors, with two aisles to facilitate movement. The seats are arranged in a semicircular fashion, ensuring that all students have a clear view of the teacher during lectures. This unique approach showcases the commitment of the university to creating distinctive and purposeful learning environments.

A remarkable design approach is observed in the lecture hall located at Mechnikova Street, 5 in Kyiv. The interior features a tasteful combination of beige tones for the walls and floor, harmoniously complemented by brown-colored furniture and seats with an oak tone. The seating arrangement is thoughtfully

divided into three sectors, strategically incorporating two aisles that form a semicircular configuration.

Moreover, the lecture hall in question boasts a two-story design. Consequently, students can access the lecture hall from the first floor of the academic building through two separate entrances. Upon entering, they have the option to ascend to the seating area using two stairwells. Additionally, students have the flexibility to proceed to the second floor via stairs, where they will find a spacious platform capable of accommodating additional seating arrangements. On the second floor, two exits provide convenient access to the adjacent classrooms on the same floor of the academic building. This thoughtful layout facilitates seamless movement and enables students to transition effortlessly between different learning spaces within the university premises (O. O. Bogomolets National Medical University).

The design of computer rooms at Lesya Ukrainka Volyn National University serves as an exemplary model. These rooms are adorned with a color scheme predominantly consisting of beige and yellow or gray and yellow tones. Each computer and desk are thoughtfully arranged individually, ensuring the convenience of students, with ample space provided between the workstations. Additionally, a dedicated area is allocated for the teacher, featuring seating, a table, a podium, and a raised platform for enhanced visibility. Notably, the computer rooms incorporate a large screen on the wall, facilitating the demonstration of the teacher's actions on the computer. Natural light fills the classrooms, owing to the presence of panoramic windows that lend a spacious and well-illuminated ambiance to the learning environment (Lesya Ukrainka Volyn National University).

Ukraine can draw valuable insights from the design practices implemented in foreign educational institutions. Notably, the University of Social Sciences and Humanities in Poland exemplifies an innovative approach. In their lecture halls, the absence of elevations contributes to a more open and spacious atmosphere. These lecture halls are adorned in soothing pastel colors and can accommodate up to 100 students. The seating arrangement is thoughtfully organized into three sectors, comprising seven rows with two aisles for ease of movement. Natural light streams

through two panoramic windows located on each wall. A dedicated area is reserved for the teacher, which includes a multimedia board for enhanced instructional delivery. Furthermore, each classroom is equipped with storage spaces to accommodate students' belongings and a separate area for the demonstration of educational equipment (SWPS University).

In universities in England and the UK, a prevailing trend is observed where lecture halls are designed with two floors. These lecture halls boast spacious interiors, accommodating elevations capable of accommodating 10-20 rows, thus facilitating a seating capacity of up to 300 students. The color schemes employed often incorporate light and beige tones, occasionally complemented by shades of purple or red. Classrooms are typically partitioned into 2-3 sectors, each equipped with 2-3 aisles on each floor. A staircase provides access to the second floor, featuring a platform that allows students the option to sit or stand while observing the lecture. Furthermore, the second floor of the lecture hall is equipped with 2-3 exits, providing direct passage to the adjacent corridor on the subsequent floor of the academic building (University in the UK).

Classrooms and laboratories at the Academy of Fine Arts in Prague (Czech Republic) feature a design aesthetic characterized by light and beige colors. Rather than traditional windows, these spaces are equipped with glass walls and ceilings, allowing for ample natural lighting. Additionally, lighting fixtures are strategically placed along the walls closer to the classroom corridors. Notably, in creative laboratories, each seat is individual and separated by partitions, fostering an environment conducive to focused artistic exploration (AVU).

Classrooms in French universities exhibit a distinctive design characterized by a color scheme predominantly consisting of yellow or brown tones complemented by gray or beige accents. The seating arrangements in these classrooms typically consist of individual seats organized in 3-4 rows, with generous spacing between them. With a capacity to accommodate up to 50 students, these classrooms are further enhanced by the presence of panoramic windows, typically numbering 3-4. This design choice emphasizes the utilization of natural light, while also accounting for the incorporation of artificial lighting. Notably, all classrooms

boast two exits and interconnected pathways with neighboring classrooms. Moreover, a notable feature is the provision of ample space that allows for the addition of extra seating when necessary, ensuring flexibility and adaptability within the learning environment (Bachelor's degrees in France).

To shape the design of a modern educational institution, several principles can be proposed. These include the consideration of the psychology of space perception, integration of cutting-edge technologies in the formation of the learning environment, fostering social and pedagogical interaction among participants, and promoting democratization and humanization of the educational process, among others. By creatively reevaluating and implementing these principles within the architectural framework of new educational buildings, laboratories, and work areas, architects can offer innovative perspectives on the design of HEIs (Alamry, 2022, 12).

We can propose the following approaches to the design of modern Ukrainian HEIs:

- Incorporating large areas of glazing to maximize natural light penetration.
- Implementing high-quality artificial general and local lighting systems, utilizing state-of-the-art technologies.
- Providing comfortable and modern designer furniture, specifically designed for each type of classroom.
- Implementing open space concepts that foster collaboration and flexibility.
- Allocating ample space within classrooms to accommodate various activities.
- Ensuring high-quality technical support to facilitate seamless teaching and learning experiences.
- Equipping self-study areas to promote independent learning.
- Implementing well-thought-out infrastructure and functional zoning solutions.

- Designing exhibition areas that effectively showcase student work and achievements.
- Paying careful attention to the design of communication and recreational spaces.
- Incorporating unique architectural and interior solutions using contemporary materials. (Koinova-Zoellner, 2016, 6005).

These measures in the design of higher education institutions aim to establish an innovative and conducive learning environment for aspiring architects and designers. Analysis of the design experience in higher education institutions indicates that the current standards followed in the design and construction of both existing and future higher education institutions in Ukraine do not align with the latest global trends in similar facility design. Therefore, it is essential to update the design standards to ensure alignment with contemporary design practices and international benchmarks (Górkiewicz, 2016, 40).

The analysis conducted revealed several key features that are essential for creating effective interior spaces in classrooms. Among these features, the following aspects are particularly noteworthy:

1. Flexibility.
2. Transformability and multi-scenario learning space.
3. Alignment with teaching disciplines.
4. Incorporation of modern educational trends.

Discussion

The findings of the study revealed notable variations in the approaches to designing higher education institutions in Ukraine. Several researchers characterize the design of Ukrainian institutions as uninspiring and failing to meet the educational requirements of students. In contrast, when examining the design of similar institutions worldwide, these researchers perceive the solutions as engaging and functionally effective for students. Conversely, other researchers hold contrasting perspectives, defining the design of the learning environment in

Ukrainian higher education institutions as vibrant and forward-thinking. Therefore, conflicting viewpoints on the design of the educational environment can be observed. It is worth mentioning that the majority of research conducted by both national and international scholars focuses on the design of learning environments in higher education institutions in Ukraine. However, it is important to note that the issue of designing educational institutions at the preschool, secondary, and vocational levels remains relevant. Considering that students represent the largest demographic group in terms of education in Ukraine, their classroom design also warrants attention. For instance, many schools provide students with classrooms that are simplistic and lacking in visual appeal, which, due to their uniformity, fail to inspire students' motivation to learn. Furthermore, the design of secondary schools has not received comprehensive coverage and necessitates further in-depth investigation.

Conclusion

The present article focuses on examining the characteristics of designing learning environments in educational institutions. The significance of this study stems from the recent transformations in higher education, particularly the increasing prominence of blended and distance learning approaches within the current educational landscape. Additionally, the article explores various HEIs in Ukraine, enabling a comprehensive understanding of the research problem at hand. By considering a range of HEIs, the study aims to provide a holistic overview of the subject matter.

The present research article examines the design characteristics of higher education institutions. The findings of the study indicate that a majority of Ukrainian higher education institutions exhibit similar design approaches. These commonly include simplistic design elements, multifunctional furniture, light or gray color palettes, a single entrance and exit, and reliance on artificial lighting. These design features have been found to harm students' motivation to study and their ability to psychologically relax. Several factors contribute to the prevalence

of such monotonous design, including limited funding, the shift towards distance or blended learning formats during military operations, and the potential ineffectiveness of design development efforts.

The study analyzed the design features of higher education institutions in Ukraine and abroad. Among the prominent higher education institutions in Ukraine, the author examined the classrooms of institutions such as Kyiv National University of Culture and Arts, Bogomolets National Medical University, and Lesya Ukrainka Volyn National University. The findings revealed that these institutions possess spacious classrooms, ample natural light, multiple entrances and exits to the classrooms, and vibrant color schemes in their premises. In contrast, foreign universities often do not incorporate elevated seating arrangements in their lecture halls, and larger lecture halls are designed with two floors. These classrooms are characterized by spaciousness and ample natural lighting through the use of panoramic windows. Laboratories and specialized classrooms feature glass windows and ceilings, while individual seats are separated by partitions.

Principles and approaches for designing higher education institutions in Ukraine have been formulated. The proposed principles include maximizing natural light through the incorporation of glass walls and panoramic windows, ensuring high-quality artificial lighting, utilizing modern and well-crafted furniture, implementing functional zoning, and providing recreational and exhibition areas. The implementation of these principles is expected to enhance students' academic performance, elevate the prestige of Ukrainian higher education institutions, promote contemporary and vibrant designs, and introduce innovative architectural solutions.

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