PARTICIPATORY PLANNING OF STUDENT CAMPUSES. CASE STUDIES: POLAND AND UKRAINE

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Purpose: This article analyzes participatory planning as a tool for optimizing resources and increasing users' social capital by studying the opinions of architecture students about their learning environment.

Design/methodology/approach: The authors present and analyze two participatory planning processes of student campuses in Warsaw (Poland) and Poltava (Ukraine).

Findings: The proposals of space users (in this example, students), which stem from a preliminary analysis of their needs, include specific, simple, and environmentally friendly solutions and also suggest the inclusion of space users in maintenance and care.

Research limitations/implications: The learning environment should also be a place for youth integration, recreation, and various learning activities between standard educational classes. Further research should test whether creating the above conditions in the learning environment will increase social capital and students' achievement as a particular social group.

Practical implications: Understanding the needs of young people in specific elements of the learning environment will help increase the comfort and social cohesion of students, thereby enhancing their participation in university life, which will, in turn, increase the institution's status and attractiveness to applicants.

Social implications: Practicing participatory planning skills will enhance architecture students' social awareness and increase their sense of responsibility to society. Consequently, projects created by socially conscientious architects will be of greater value to society and better address its needs.

Originality/value: Combining social theories with student-driven design practice highlights how user involvement contributes to creating inclusive and socially meaningful academic spaces. The paper provides valuable insights for researchers, educators, and campus planners.

Keywords: participatory planning, social capital, learning spaces, students.

Category of the paper: Research paper, case study.

1. Introduction

This article describes a specific, concrete case study involving students in participatory planning (a first-hand reported account). The comparison between students' perspectives and professional architects' approaches is a subjective observation, likely stemming from the author's analysis, and thus constitutes an original insight (Figure 1).
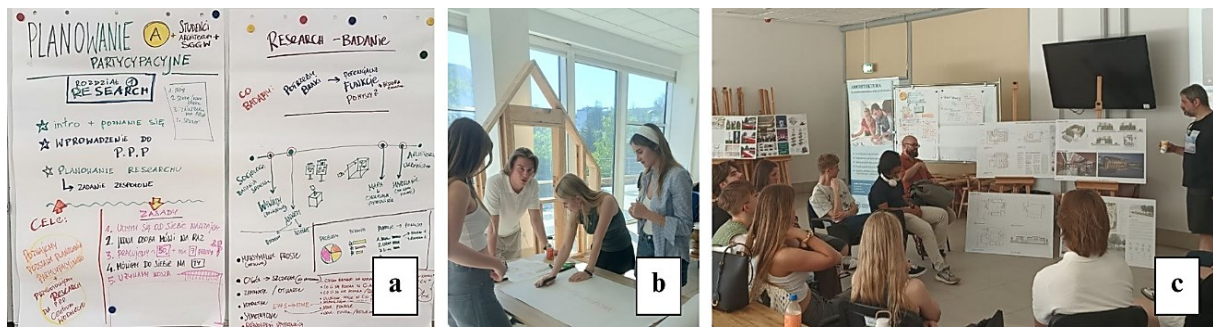

Figure 1. The participatory planning process in SGGW (Poland): a) description of the event, 9.11.2024 (author: Witold Hebanowski); b) the working group is analyzing architectural concepts, 1.07.2025; c) discussion between participants and one of the architects behind the winning concept (Karol Lange) on taking into account the results of participatory planning and the expectations of the space's users, 1.07.2025 (photos: Polina Vietrova).

Source: documentation of the Academy of Young Architects, The Other Space Foundation project; coordinator: Polina Vietrova (Department of Architecture, Institute of Civil Engineering, SGGW, Poland).

Modern practices of planning new and improving existing public spaces increasingly include participatory planning with existing and potential users of the space to maximize the adaptation of the project proposal to users' needs. At the same time, young people are rarely involved in this process (Costa et al., 2023; Rexhepi et al., 2018). However, as the example of this study shows, young people are quite good at identifying the problems and needs of the analyzed space and proposing simple, sustainable, and environmentally friendly solutions, unlike professional architects, who think more globally at the level of the whole object, focusing on standards and calculations, students at the user level notice every important detail to them.

This research topic exemplifies the practices used by the authors within their teaching activities. In 2017, Polina Vietrova, the Head of the Architecture Department at the Trostianets City Council in the Sumy Region, invited a group of National University of Poltava Polytechnic (NUPP) students, led by their teacher Pavlo Vasyliev, to carry out a student practicum in Trostianets city (Sumy Region). The students showed great enthusiasm and created several concepts for city facilities proposed by the mayor. In 2018, the next step was to cooperate in implementing the project in Ukraine with the support of Polish Aid (Vietrova, 2019). Architecture students assisted in the participatory planning of public spaces in the Poltava and Sumy regions. To prepare for working with residents, the students attended a three-day training program.

The training program covered key aspects of mediation, project proposal preparation, and participatory planning process management. One of the test sites was the university's yard, where students proposed interesting and innovative solutions to improve the quality of this public space based on analysis, surveys, and an open workshop. The architecture students noted the importance of interacting with space users, something they had never done before when developing educational projects.

This experience convinced the organizers and participants that involving architecture students in participatory planning practices has many advantages. It establishes social connections and helps create more meaningful architectural projects that better meet users' needs (Table 1).

Table 1.

Student involvement in the transformation of learning spaces is practiced in both universities

	Type of Involvement	NUPP*	SGGW**
1	Direct involvement - active young people take part in various activities aimed at improving public spaces.	Municipal Architectural Practice in Trostianets (2016)	Participation in the city program "Droga na szóstkę" in Warsaw (2025).
2	Architectural competitions - involvement in conceptual design to find the most interesting, innovative, and creative ideas for the spatial development of the campus or its components.	- Rethinking the NUPP library space (2019). - Transformation of non-residential premises of the university into an invincibility center and student hub (2021).	- Concept for the revitalization of the SGGW Water Center (2024). - Design and model of the Innovative Pavilion "MAKIETERRA" (2025).

Note.
* NUPP – National University Poltava Polytechnic (Ukraine),
** SGGW – Warsaw University of Life Sciences (Poland).

At the same time, the authors' experience with participatory planning shows that in the process of co-creation, participants strengthen their social contacts and actively cooperate on future activities. To verify how social capital has grown, the results of the planning workshops were evaluated by distributing a short questionnaire among workshop participants with questions about their feelings and observations regarding indicators of social capital growth: changes in the level of mutual trust within the team cohesion, team competence, synergy in work, and mutual support.

The present study set out to examine the level of social capital as an incidental outcome of participatory spatial planning — a dimension often underexplored.

2. The theory of social capital

The article engages with several theoretical frameworks originating from the field of social sciences. The first framework discussed is the theory of social capital. It is a complex concept that draws on several academic disciplines, including sociology, economics, and political

science. The development of this concept has been most significantly influenced by the academic work of Pierre Bourdieu, James Coleman, and Robert Putnam, whose key publications appeared during the 1980s and 1990s. (Leenders, 2014, p. 1762). The earliest articles referring to social capital already addressed issues related to the functioning of educational institutions. Lyda J. Hanifan, regarded by Robert Putnam as the first author to define the concept of social capital (Farr, 2004, p. 7), served as a superintendent of schools in West Virginia. In his concept, he combined the issues of civic engagement, carried out especially around rural schools, with the quality of social life, emphasizing that social ties play a key role in building well-functioning local communities (Hanifan, 1916). James Coleman's work also demonstrates a strong link between educational research and the development of the theory of social capital. The starting point for James Coleman's later findings was his research on educational inequalities in the United States, which resulted in the Equality of Educational Opportunity report. Drawing on the collected data, Coleman argued that it was not school resources but rather social influences – particularly the stability of the family background and the surrounding social environment – that played the most crucial role in shaping students' academic achievement (Gamoran, Long, 2007, pp. 24-25). The idea of the importance of social capital was further developed by Coleman in the article "Social Capital in the Creation of Human Capital" (Coleman, 1988). Coleman emphasized, in particular, that "the social capital of the family is the relations between children and parents (and, when families include other members, relationships with them as well). That is, if the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child's educational growth that the parent has a great deal, or a small amount, of human capital" (Coleman, 1988, p. 110).

Contemporary articles on social capital and education also focus primarily on its impact on the learning process. The examined issues include the influence of social capital on educational attainment, progression through the education system, and students' engagement with institutional structures. In this context, researchers emphasize that social capital, manifested through emerging networks of relationships, community engagement, and support from family and peers, can significantly influence students' motivation, access to resources, and ability to achieve success within the educational system (Gentry et al., 2025; Soria, Stebleton, 2013; Oyefuga, Shakeshaft, 2023). The discussed topic also included the impact of students' participation in volunteer activities on the development of social capital. A study conducted by Soria (2023) on a sample of 8,964 students from 69 colleges and universities indicates the existence of a positive and statistically significant correlation between students' participation in community service and the development of their social capital. However, the strength and significance of the correlation vary depending on students' ethnic background and socio-economic status. A qualitative meta-synthesis conducted by Boat et al. (2024) based on 33 scientific articles highlights that participation in organized activities, such as extracurricular programs and youth development initiatives, positively supports the social capital development

of high school and college students. However, the extent and effectiveness of this support vary depending on organizational features, as well as the social groups to which the students belonged.

While the theory of social capital emphasizes the importance of social networks for educational achievement and highlights the benefits of building social relationships for civic engagement, in the context of the proposed study, a complementary perspective can be found in the spatial dimension of these interactions — particularly through Henri Lefebvre's concept of the production of space. The central premise of Lefebvre's theory is the conviction that space is (re)produced and represented and that power relations and social inequalities are embedded in spatial configurations and expressed through them. Henri Lefebvre explains the concept of the production of space by referring to a conceptual triad of space: perceived, conceived, and lived. The mutual relations between these dimensions mean that each coexists with the others, influences them, and co-creates the dynamic process of the social production of space (Hammond, 2019, p. 31) (Table 2).

Table 2.
Theoretical frameworks - comparisons and meanings

Theory	Key Contribution	Reference to the Study of Student Participation
Henri Lefebvre – Production of Space	Space is not neutral – it is socially produced through practices, representations, and experiences (triad: perceived, conceived, lived).	Students co-create the campus space through actions, projects, and symbolic meanings – they co-produce the space.
Social Capital (Putnam, Coleman)	Community, trust, norms of cooperation, and engagement are elements that enable collective action and the effective functioning of institutions.	Thanks to mutual trust and cooperation, students are able to act for the common good (e.g., green campuses).
Olson – Collective Action	People do not always engage in collective action unless there are incentives, social norms, or a shared identity.	Student participation is an example of how, despite potential barriers, individuals engage because they feel empowered and part of a group.
Ostrom/Trumbull	Cooperation is possible without coercion as long as social norms, trust, and moral legitimacy of actions are present.	Students act not only out of self-interest but because they feel their actions are right and necessary (e.g., inclusive spaces for all).

In the context of participatory campus co-design, which is the subject of this article, student initiatives not only constitute an adaptation to the existing space but actively co-produce it through three interrelated dimensions:

1. Perceived space – everyday practices of use, such as movement, rest, or social interaction.
2. Conceived space – formal designs and concepts developed during workshops and architectural competitions.
3. Lived space – symbolic, emotional, and identity-related meanings associated, for example, with the idea of a free library or a relaxation zone with a water feature.

The interaction of these three dimensions reinforces social cohesion and a sense of spatial identity, integrating Lefebvre's theory with the concepts of social capital developed by Coleman and Putnam.

Student participation in campus co-design processes can be interpreted as a form of collective action in the sense developed by Mancur Olson (1965), in which individuals cooperate even though traditional cost-benefit logic does not always support such engagement. In this context, the role of social capital – including trust, shared norms, and a sense of belonging (Coleman, Putnam) – is crucial in fostering motivation to act for the common good. At the same time, in Lefebvre's (1991) terms, such engagement represents a form of spatial co-production, in which practical use (perceived space), formal design (conceived space), and emotional-symbolic meaning (lived space) intersect. As Czech (2016, pp. 77-79) argues, contemporary reinterpretations of Olson's theory emphasize the importance of social embeddedness, cultural context, and shared moral legitimacy in enabling collective action— dimensions that are clearly visible in student-led campus initiatives.

3. Methods

The article analyzes the three stages of participatory planning that were conducted in both case studies:

- questionnaire (survey of students and other users of the space - staff, teachers),
- analysis of the existing area (advantages and disadvantages) in the format of a workshop,
- working on ideas and presentation of results (workshop).

The project used qualitative and action research methods, including open-ended surveys, design workshops with students, observation, and photographic documentation. Data focused on participants' needs, emotions, and proposals, analyzed through Inductive Thematic Analysis and a comparative study of Poland and Ukraine. The interpretation was further grounded in theoretical perspectives from Lefebvre, Putnam, Ostrom, and Olson (Table 3).

Table 3.
Methodology

	Description
Study type	Qualitative research with elements of action research
Research techniques	- Open-ended questions on the survey (n = 60 – Poltava, about 50 – SGGW) - Design workshops with architecture students - Participatory observation, photographic documentation
Data type	- Open-ended questions only - Qualitative data: needs, emotions, proposals – frequency analysis of selected topics
Analytical approach	- Inductive Thematic Analysis (Braun, Clarke, 2019) - Comparative Study (PL/UA) - Theory Reference: Lefebvre, Putnam, Ostrom, Olson

3.1. Participatory planning of the Territory of National University «Yuri Kondratyuk Poltava Polytechnic» (NUPP, Ukraine)

Based on the previous findings (Vietrova, 2019; Vietrova et al., 2022), the design concept was developed for the gradual transformation of a mono-space (recreation and transit areas) into a multifunctional environment that would facilitate the efficient use of the area by students and staff, technical staff, and university guests. It's become the starting point for larger-scale changes.

Essential achievements include the launch of a tradition of dendrological renovation of the territory, creating green areas, organizing open-air lectures, and integrating environmental initiatives. An open-space event was the arrangement of open-space classrooms in 2023, implemented with the support of the Japanese government. It was equipped with furniture made according to the principles of recycling and eco-design.

Fundraising activities are underway to create a space where students will feel so comfortable that they will not want to leave the university in their free time.

Given the significant experience of involving young people in university and city initiatives, the master's educational program for urban planning was updated in 2023. Particular attention was paid to improving the discipline "Heuristic Methods of Urban Planning Design", which added meaningful modules on public engagement processes, competitive design, and the organization of open discussions (Borodych et al., 2022).

The practical basis of the discipline was the development of concepts for the spatial development of individual university territories. The key requirements for the work are teamwork, analytical research (surveys, SWOT analysis), the use of informal design methods, and modeling of the user engagement process (Vasyliev, 2022).

3.2. Survey of NUPP case (Ukraine)

The study area covers a part of the university's inner courtyard. Its distinctive feature is the conditional division into three functional zones: transit, educational–recreational, and sports. During on-site observation, students identified the sports zone as the most underutilized. This zone was formed as a result of the revitalization of a former parking area, yet a portion of it currently remains unused, presenting the potential for further development and functional enhancement.

The next stage involved conducting a SWOT analysis of the area, followed by a brainstorming session focused on ideas for optimizing the space. An essential part of the concept development was incorporating the perspectives of the direct users of the space — students, faculty, and technical staff of the university.

The user survey was anonymous, which ensured the comfort of respondents and allowed them to express their opinions more openly. A total of 60 people completed the survey within 3 days. Master's students majoring in Architecture and Urban Planning proposed questions with

multiple-choice answers based on a preliminary analysis of the space (for example, "What do you use this space for?" and "What areas would you like to see in this space?"). At the same time, participants had the opportunity to add their ideas if they thought something had been missed (for example, "What would make you come here and stay?" or "What do you currently dislike about this space?").

Figure 2. The participatory planning process in NUPP (Ukraine): survey, workshop (photo: Diana Semenets), and students' proposals.

Source: Archive of discipline "Heuristic Methods of Urban Planning Design", coordinator: Pavlo Vasyliev (Educational and Research Institute of Architecture, Civil Engineering and Land Management, NUPP, Ukraine).

The study's main objective was to identify the functions that university users consider most relevant, as well as to find out their needs and expectations about how they plan to use this space in the future.

3.3. Working on ideas and presentation of results, NUPP case (Ukraine)

The next step was to hold a workshop based on the collected data. The event involved students of different specialties who were randomly divided into three teams. The participants were assigned two main tasks: dividing the common area into functional zones, which made it possible to confirm the survey results, and dividing the desired space elements (places for recreation, mini-games, food zones) into separate areas.

The limited time for each task (5-10 minutes) encouraged participants to generate innovative ideas using heuristic methods quickly. The proposals presented were highly diverse and often differed significantly from the study results and initial analysis (Figure 2). It allowed us to gain a deeper understanding of the vision of the needs of different categories of university users to make final decisions and further develop the concept based on the results.

3.4. Participatory planning of the Water Center at Warsaw University of Life Sciences (SGGW, Poland)

At the Warsaw University of Life Sciences, workshops were held with Architecture program students directly in the Water Center space. The SGGW Water Center was built in 2010 by Piotr Fornalczyk and Marcin Pisarski as a laboratory subordinated to the Faculty of

Civil and Environmental Engineering. The building now supports the research activities of the Institute of Civil Engineering and the Institute of Environmental Engineering. In 2024, classes for Architecture students began to be held here, and the issue of modernizing the Center to meet new needs arose.

The participatory planning was conducted with the Other Space Foundation and consisted of a questionnaire, workshops, and an exhibition (Figure 3).

Figure 3. The participatory planning process in SGGW (Poland): survey, workshop (photo: Polina Vietrova), and concepts, 2024.

Source: documentation of the Academy of Young Architects, The Other Space Foundation project; coordinator: Polina Vietrova (Department of Architecture, Institute of Civil Engineering, SGGW, Poland).

Three teams of teachers and students majoring in Architecture and Landscape Architecture worked on the project proposals in a closed architectural competition format. All three proposals took into account the results of participatory planning.

3.5. Survey of SGGW case (Poland)

The questionnaire was intended to include those space users who did not participate in the workshops and duplicated questions that were important input for generating ideas: The results of the survey were presented during workshops with space users – 1st year architecture students and potential applicants – members of the Academy of Young Architects, which 30 people attended.

The questionnaire included an assessment of the space's quality and open-ended questions about the problems and needs of the building's users.

Since the questions in the questionnaires were mostly open-ended and specific, Manifest Coding was used to analyze the responses. The more often a certain word or phrase was mentioned, the higher priority was given to this result in the summary of results. For example, out of 38 answers, "What do you like/appreciate most about the Water Center? How important is it?" The word 'space' was mentioned 22 times in the meanings of 'a lot of space' and 'open space.' From this, we conclude that students appreciate the large, spacious atrium. It is worth preserving it. Along with space, 'the lake' was most often mentioned (8 times - the element that students value most in the space around the building), and 'light' in the context of large windows in classrooms and the atrium (7 times).

In the question "What don't you like and what would you like to change at the Water Center?" the word 'the fountain' was leading (out of 39 answers, 11 participants noted it as unnecessary or requiring rethinking and integration of water in another form into the space of the Water Center). When describing the negative aspects of the place, students often used different wording, so Latent Coding was used in the analysis of the answers. The answers were sorted according to the themes of 'Fullness of space' (where the keywords were 'atmosphere', 'climate of the place', 'more life', 'comfort', which were described in terms of their negative perception or lack of), 'Convenience of stay' (this included access to food, convenience of the workplace and places for recreation).

When asked, "What do you think is missing from the Water Center? What is not enough? Where could the features you suggested be added?" a 'cafeteria' (or canteen) was mentioned 18 times, 6 times an alternative was suggested - a microwave and 'someplace to eat'. "A place to sit in the corridor", 'ottomans,' and 'sofas' were mentioned 14 times in the survey; 3 more people specified the need for seating in the corridors as places for integration and adapted places for individual work, including a laptop, were mentioned 2 times.

When comparing the answers of male and female respondents, no significant differences were noticed. Users mostly noticed similar things and proposed similar solutions in terms of space. The exception was the issue of food - among men, the word 'cafeteria' was mentioned only once and in the general sense of its absence. In contrast, female respondents mentioned the Water Center's inadequacy in meeting their nutritional needs 9 times (lack of a cafeteria, small selection of food in the vending machine).

The survey results were presented at the beginning of the participatory planning workshops at the Water Center and influenced the selection of priority topics for planning.

3.6.   Working on ideas and presentation of results (SGGW, Poland)

During the second workshop, 1st-year students of Architecture and AMAiA members, based on the results of the questionnaire and the answers on the flipcharts, developed specific proposals for changing the space of the Water Center. They generally referred to soft changes that did not interfere with the load-bearing structures but complemented the space with various functions. The workshop participants were divided into thematic groups: 'Greening', 'Education/Science', 'Water in Center', 'Events/exhibitions', and 'Chillout'. Each group considered a specific function as a priority and offered their ideas for its development. The flipcharts prepared by the groups were also placed in the exhibition, and videos of the groups' presentations were distributed among the teams that participated in the closed competition for the Water Center space revitalization project (Figure 4).
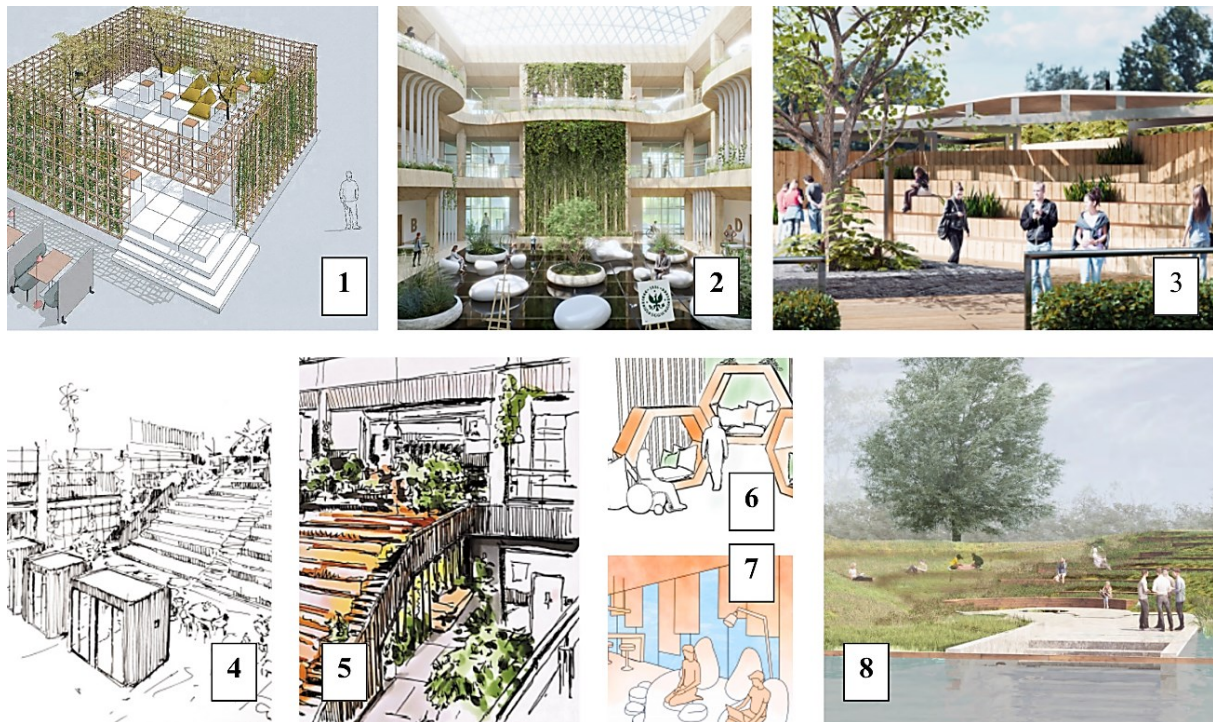
1, 8 – I prize, team leader: Langie, K.; 2, 3, 6, 7 – II prize, ex aequo, team leader: Golański, M.; 4, 5 – II prize, ex aequo, team leader: Stefańska, A.

Figure 4. Excerpts from competition entries for the competition "Concept for the modernization of the Water Center building and its surroundings" (SGGW, Poland, 2025).

Source: Official Website of the Institute of Civil Engineering SGGW (Department of Architecture, Institute of Civil Engineering, SGGW, Poland).

The 'Water in Center' group proposed replacing the inactive fountain with a space that would serve the Center's guests during various events – a presentation space with a small water installation as a relaxation element and a symbol of the place. The Education/Science group suggested adding a free library – a place where books can be freely exchanged and read directly in the space. This book space also allows quiet independent work or a small group meeting. It was emphasized that some subjects, such as descriptive geometry, require the teacher to use a traditional blackboard, and it is still worth having such a place in the learning space, despite modern technology allowing everything to be demonstrated on screens.

4. Results and discussion

The data collected from case studies at Poltava Polytechnic (Ukraine) and the Water Center at the Warsaw University of Life Sciences (Poland) show that, despite apparent differences in infrastructure and aesthetics, students in both locations share strikingly similar expectations toward learning environments. They consistently express a need for spaces that go beyond formal instruction – spaces where they can meet, unwind, work independently or in groups, and spend time between or after classes (Table 4).

Table 4.
The emotional and symbolic meaning of space

Location	Aspect	Quotation
NUPP (Ukraine)	Need for appropriating the space (identity building)	"It's not just a square - it should be our place, with our character"
NUPP (Ukraine)	Space of community and creativity (student activities, experiments)	"The spirit is missing, but we can create it"
SGGW (Poland)	A symbol of wasted potential (fountain - aesthetics vs function)	"Beautiful but lifeless - it's a bit like a metaphor for this place"
SGGW (Poland)	Experienced regeneration space (pond - a place for rest)	"Here you can reset, have a moment with nature"
SGGW (Poland)	Lack of identification with the space (coolness and formality of interiors)	"It's like it's not for us, it's just for show"
Both locations	A space experienced, not just designed	"We want a space where you can feel that you belong"

Source: own study based on the survey's results.

Students' suggestions reflect more than just practical concerns. Their input reveals that they see the campus not only as a functional site for education but also as a social and symbolic environment that helps shape relationships, identity, and a sense of belonging.

This aligns with Lefebvre's (1991) notion of space as socially produced and co-created rather than passively consumed. The emotional and symbolic value students assign to campus spaces confirms that space is experienced as a lived reality — essential for identity-building and collective meaning-making.

To better understand the patterns in these responses, the data were analyzed using inductive thematic analysis (Braun, Clarke, 2019). This approach focused entirely on the perspectives of participants rather than testing any predefined hypotheses. A comparative summary of key findings is presented in the Table 5.

Table 5.
Main student observations regarding campus spaces – a comparative overview

Category	Poltava Polytechnic (UA)	Water Center, Warsaw University of Life Sciences (PL)
Assessment of aesthetics and overall impression	Harsh, visually underdeveloped space lacking atmosphere: "A lot of emptiness, no atmosphere, everything kind of gray"	Aesthetic, but "cold" and not suited to everyday life: "It's nice, but cold and uncomfortable"
What students value	Open space, potential for transformation, experimental activities: "This place has potential - you can do something really our here"	Natural light, spaciousness, pond, unique character of the building: "I like the space and the light, but something doesn't feel right here, I don't feel comfortable"
Functional problems	Lack of shade, uncomfortable benches, minimal functional diversity: "There is nowhere to sit in the shade, everything is hard and uncomfortable"	No cafeteria, cold temperature, uncomfortable seating, underused space: "There's nowhere to eat, there's no microwave, and it's cold inside like a basement"
Needs and suggested changes	Chill zone, food zone, relaxation, and event areas, pavilions: "Let's make a chill zone with poufs, tea, and board games"	Cafeteria, bean bags, spaces for integration and creative work: "Just add some poufs, heat, and a buffet, and you immediately want to stay"
Identity and emotions	Low identification, need to appropriate the space	Desire to "domesticate" the space, to give it character and a sense of life

Source: own study based on the survey's results.

Despite differing aesthetic and functional contexts, students at both campuses express similar needs: they seek comfortable spaces that support everyday presence (Table 6).

Table 6.
Empirical findings and interpretation

Empirical finding (with examples from the study)	Interpretation in light of theory	Theoretical source
Students engaged in the design process without formal incentives or rewards. In Poltava, they organized workshops without the involvement of teachers, while in Warsaw, they participated in two planning stages (survey and workshops) as well as an architectural competition	Contrary to the logic of individual self-interest, collective action is made possible through intrinsic motivation, social norms, and group identity	Olson (1965); Ostrom/ Trumbull
Students proposed concrete, low-budget, and functional solutions: 3x3 m recycled pavilions, hammock chillout zone, food zone, and space with a microwave	These proposals reflect a high level of spatial responsibility and the development of social capital – actions for the common good	Putnam, Coleman
Students assigned emotional and symbolic meaning to space. In Warsaw, the fountain became a symbol of lost potential, while the pond area served as a space for calm and "energy recharging"	Space is not merely a physical structure, but something lived and experienced – a lived and co-created space	Lefebvre (1991)
Workshop activities led to the formation of integrated teams of students from different fields. In Poltava, thematic groups worked together on 'Greening,' 'Events,' and 'Education' zones	Such activities strengthen social ties within academic micro-communities, support integration, and increase engagement	Coleman, Soria (2023)
Students emphasized that space should support not only learning, but also rest, social interaction, and inspiration. Space should "recharge energy", "encourage group work", and "create atmosphere"	The university as a space of relationships - a place of social and cultural learning. This fosters civic attitudes and a sense of responsibility	Hanifan (1916), Hammond (2019), Czech (2016)

Source: own study based on the survey's results.

This reinforces Hanifan's (1916) and Hammond's (2019) argument that social infrastructure is as vital to educational environments as physical infrastructure. The students' emphasis on 'energy recharging' and informal gathering spaces reflects the role of everyday social interaction in fostering social capital.

The findings demonstrate that student participation in campus planning operates on functional, emotional, social, and symbolic levels. In both cities, these activities reflect key aspects of classical social theory, particularly the importance of co-creating space to foster identity, engagement, and collective responsibility.

Architecture students, in particular, envision learning spaces rich in sensory and spatial diversity — combining natural elements, access to books, zones for both individual and group work, and informal settings with localized lighting and comfortable furnishings. Such environments not only support academic productivity but also enhance well-being and creative collaboration.

Despite the differences in campus architecture, students from Poltava and Warsaw formulate very similar expectations of academic space.

They expect a space that supports daily functioning at the university, not limited to lecture halls.
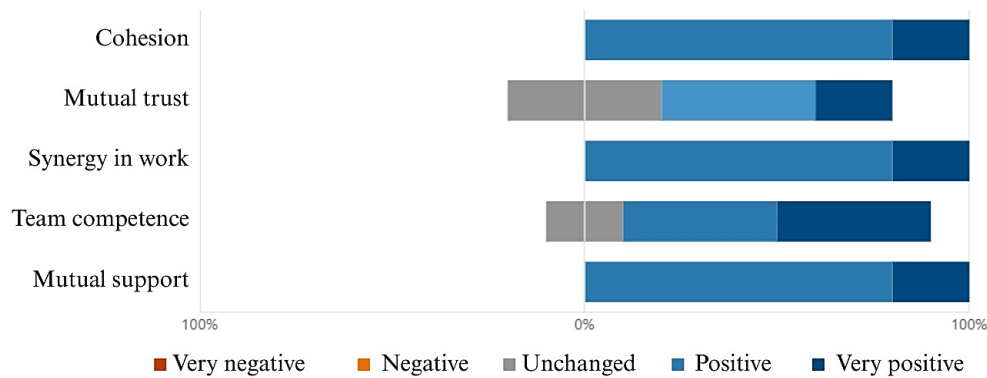
The space should allow for rest and regeneration ('energy recharging'), social meetings and integration, informal conversations with lecturers and students of other majors, creative and teamwork, a quiet place for individual work, and spending time outside of classes (e.g., waiting between classes). For students, campus space is not just a teaching infrastructure but a place of social life – it shapes their relationships, sense of belonging, and academic identity. Often, there is a need to "domesticate" the space – to give it warmth, coziness, and everyday functions (e.g. sofas, bookcases, buffet, microwave, plants) (Figure 5).

Figure 5. The Participatory Planning Process in SGGW (Poland): concepts (photos: Polina Vietrova).

Source: documentation of the Academy of Young Architects, The Other Space Foundation project; coordinator: Polina Vietrova (Department of Architecture, Institute of Civil Engineering, SGGW, Poland).

Considering the results of the groups' work, which aimed to describe elements of a space for relaxation and effective learning, we see that the participants' expectations combine elements of a standard educational space with other types of leisure and individual learning. These elements include a space for reading books and comfortable poufs for relaxing and informal communication in small groups.

When assessing the impact of participatory planning on its participants, significant progress in some areas was noted in social capital indicators. One participant noted that the most positive impact was seen in the assessment of increased cohesion and mutual support at the Poltava workshop. Mutual trust, synergy, and team competence also showed positive results. Conversely, workshop participants in Warsaw reported the greatest growth in team competence and the least change in team trust. The authors assume that mutual trust within the teams was well-established before because the participants were students who had previously taken classes together (Figure 6).

Figure 6. The Participatory Planning Process in SGGW (Poland): Post-evaluation. Changes in social capital indicators after workshops, according to participants' perceptions.

Table 7 summarizes the main indicators used for evaluation, associated coding categories, and representative quotes that illustrate each dimension of social capital expressed by participants during or after the workshops.

Table 7.
Indicators of Social Capital and Representative Participant Quotes

Indicator of Social Capital	Description / Code	Representative Quote from Participant
Mutual trust	Expression of increased interpersonal or institutional trust	"I felt like my ideas were really heard for the first time"
Cohesion	Sense of unity, shared goals, or solidarity	"We quickly became a team, even though we didn't know each other before"
Team competence	Recognition of team's growing ability to solve problems together	"Together we came up with better solutions than I expected"
Synergy in work	Value emerging from collaboration greater than sum of parts	"Someone would suggest an idea, and others would improve it — like puzzle pieces"
Mutual support	Willingness to help, empathize, or rely on each other	"Whenever someone got stuck, others jumped in to help"

These findings correspond with previous studies that emphasize the role of participatory planning in fostering social capital and inclusive environments. For instance, Putnam (2000) highlights that collaborative civic activities strengthen trust and mutual engagement within communities. Similarly, Hou (2010) and Manzini (2015) argue that co-creation in urban settings enhances social cohesion and empowers citizens. The observed increase in trust and team synergy among workshop participants aligns with Dovey's (2016) concept of emergent place-making through collective spatial practices. Our study reaffirms these claims and adds empirical evidence from the Ukrainian and Polish contexts, where participatory methods are still emerging in academic planning practices.

An overview of other examples of participatory planning of student campuses in different countries worldwide reveals that students also strive to diversify the existing space of the learning environment. We see a natural need for flexibility in solutions and the ability to change spaces for specific needs or functions. For example, lecture halls should be able to accommodate students in smaller groups for discussions or practical tasks in teams, combining teaching methods for better assimilation of the material. At the same time, large spaces

themselves are problematic in that they generate significantly more noise and distract students, while also allowing for greater flexibility in work and the possibility of interaction with different groups. When designing a prototype learning space with no restrictions on the existing form, participants often illustrate their ideas using rounded shapes and avoid right angles (Casanova et al., 2023).

The outdoor spaces of universities should combine the functions of rest and recreation, providing a complete reset between lectures, including the need for some solitude (a break from constantly being with peers), as well as the ability to create flexible spaces for different needs and groups of visitors during mass events.

In the discussion "Re-designing Universities: Social Learning Space" (Oxford Brookes, 2006), such forms of the learning environment, which include a combination of educational and social functions, are defined as "Social Learning Space". These places should meet the basic needs of students without distracting them from the learning process and provide them with a level of comfort that can compete with what they can get in other social and catering establishments. Such spaces are designed to keep students in the academic environment, promoting the expansion of academic contacts and interactions.

In all the examples proposed by participants in participatory planning, it is suggested that spaces be created to facilitate the implementation of different scenarios tailored to the needs of a specific user or group. All this involves diverse interaction and socialization and, at the same time, the availability of minimal personal space, which, according to some student comments, is too small in lecture rooms (Table 8).

Table 8.
An overview with insights into the processes of participatory planning of university spaces

Place of event	Place of planning/ event/ organizer	The driving question	Phases	Instruments and methods	Insights
Kingston University London (Casanova et al., 2023)	The learning space prototype (cube) / Department of Education and Distance Teaching, CIDTFF and LEAD, Universidade Aberta	What are the insights into the perceptions of students and teachers regarding the learning space and their role in it?	Workshop: Introduction, discussion, redesigning of the prototype.	Sandpits - design-driven focus groups (teachers and students separately).	Students appeared to be more focused on the functional aspects of the space, while teachers were more concerned with the conceptual perspectives. Students want more space on the desks than is allocated in lecture rooms - for a notebook, tablet, calculator; more distance between students for a comfortable perception of the lecturer.
Peking University, Beijing, China (Co-created Campus, 2020)	The outdoor area adjacent to the dormitory / the landscape architecture department	-	Participation in three rounds of design review.	voting to support the project: following the consideration of students' comments, the project garnered a greater degree of support.	Post-maintenance: some flaws not previously considered are compensated for by students spontaneously during use.

Cont. table 8.

Seoul Eunro Elementary School, Republic of Korea (Baek, 2023)	Redesigning of school building / the User Participation School Design Promotion Plan / Seoul Metropolitan Office of Education.	-	Planning: Announcing plans, SEES renovation decision, KEBID Workshop. Design: Expert selection, Expert discussion.	1st workshop with students, teachers, and parents to search for priorities (nature, safety, and comfort), 2nd workshop with teachers and parents (zoning plan), 3rd workshop with teachers: the detailed plan.	In the user collaboration design process, it is necessary to divide the roles of experts into planning, generalization, and design realization. Since participants cannot discuss and decide on the design like experts, the presence of experts to educate participants, create a forum for discussion, and select different creative opinions is paramount.
Royal Institute of Technology, Stockholm, Sweden (Pannone et al., 2019)	The campus yard / Placemaking Week / Master of Urbanism Studies program.	How can we create a space that encourages people to discuss the future of public space on campus?	Immersing, Planning, Designing, Executing.	Tactical urbanism event, using 160 buckets, provided visitors with seating, enclosure, and fun. Permanent installation: board for writing proposals.	Clear communication and collaboration are key between the private, public sectors, and the local population. Designers, architects, and urban planners often overlook aspects that impact the execution and longevity of the space, focusing too much on the physical environment.
Department of Music of the University of Jyväskylä, Finland (Lundström et al., 2016)	Former dining room space for a shared thematic student open space / A participatory workshop charrette method / Department	How does the final product meet the users' needs that were conceptualized during the charrette?	Visioning and concept design, technical design, construction, premises in use.	Coded data of the survey produced three main categories of user needs: infrastructural, practical, and emotional.	The framework highlights the user needs that are relevant to the users yet widely neglected in the current practices of construction projects. Collaboration provides a positive impact on the resulting premises, even though every single part of the project may not be successful.
Oxford Brookes University, England (2006)	Learning spaces / Discussion / The Reinvention Centre, University of Warwick and Oxford Brookes University's	How can we change existing spaces? How can we make these new spaces work?	Introduction, Discussion Focus Groups, Plenary.	Discussions in thematic working groups.	"Students in the discussion favored small, enclosed spaces (contrary to what we have learnt from other spaces) and wanted bookable spaces." "Students were very happy with self-policing - if it's your mess you clean it up."

Joint planning increases responsibility for and a sense of belonging to the space, which improves comfort and is vital for young people who are often outside their permanent place of residence for the first time and far from their parents and friends.

However, the observed formation of micro-communities, along with the development of mutual trust, synergy, and collaborative competence, suggests that these effects are not incidental but rather intrinsic to participatory spatial practices. In line with Putnam (2000) and Coleman (1988), such dynamics point to a virtuous cycle: participatory design fosters social capital, which in turn strengthens engagement and enhances the long-term sustainability of the spatial outcomes.

Future research should analyze the impact of such a space on increasing learning efficiency and improving students' cognitive skills.

5. Conclusions

The activities carried out in this study demonstrate that student participation in campus spatial planning is not only feasible but essential if the aim is to create environments that support both education and social relationships. Students are competent spatial users – they are capable of diagnosing weaknesses and proposing realistic, functional, and sustainable solutions. Their perspectives offer an often-overlooked yet valuable source of design knowledge. Educational space plays a critical role in shaping a university's social capital: areas for integration, relaxation, activity, and symbolic expression support the development of academic communities and promote civic values. Participatory spatial planning aligns with the broader theoretical frameworks of the social production of space (Lefebvre) and the collective action potential of empowered communities (Olson, Ostrom).

However, the study is not without its limitations. The sample size was modest and focused on two specific institutional contexts, which may limit the generalizability of the findings. Furthermore, the qualitative nature of the data lacks the statistical depth that might be expected for more policy-oriented recommendations. These limitations point to the need for further research using mixed methods and broader comparative frameworks across different types of campuses and cultural contexts.

Despite these limitations, the study offers several important insights. It highlights the capacity of students to act as co-designers of their environments and demonstrates how participatory processes foster social capital and emotional investment in academic space. One key lesson is that students need spaces more attuned to their everyday needs than traditional standards currently accommodate. The cross-case comparison reveals a striking similarity in spatial expectations across different national settings, suggesting that the demand for integrative, comfortable, and identity-affirming educational spaces is widespread and translatable.

The findings contribute new knowledge to the fields of campus planning, educational design, and participatory urbanism by showcasing how bottom-up input can lead to more responsive and inclusive environments. Practically, the results may inform future participatory processes in both the design of new academic spaces and the retrofitting of existing ones. More broadly, they advocate for a shift in design culture: from designing *for* students to designing with them. This paradigm shift has the potential to produce not only more adaptive and functional learning environments but also to foster agency, responsibility, and long-term engagement within academic communities.

Acknowledgments

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