

Inclusive Design and Practices in Education: A Pilot Study in Davutpasa Campus

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Abstract

The public sphere of the city where the social relations of the social individuals live intensely has an important role in urban development. In addition to these changing circumstances, new requirements and problems such as the inclusion of these areas arise. It is an approach to raise awareness among university students as the main campus users who will increase and improve the spatial quality in professional life by increasing the awareness of university students who will continue the development of society, communities and cities and by increasing the quality of university campuses and spreading this philosophy within the society. The problem faced by users on university campuses is defined by surveys that enable all users to access campus equipment and develop solutions that enable them to use it as they wish. The aim of this study is to see the Davutpasa Campus's inclusivity. In this context, a pilot study was conducted and the results were evaluated. At this stage of the study, the intelligibility of the questions and the adequacy of the answers were evaluated in terms of the nature of the questionnaire study.

Keywords: Inclusive design; Accessibility; University campus design; Campus climate; Inclusive university campuses.



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1. Introduction

The term "average human" does not include the end result of differences that occur due to inherent or later occurrences. Individuals with disabilities, pregnant women, infant car babies, cargo bearers, children, physically disabled after illness, individuals who suffer from very short, very tall, very obese, or age-restricted movement limitations. However, those who have a temporary disability can go to a disadvantageous situation even for a healthy person due to fatigue, insomnia and lack of attention during the day.

As a result, all users should be based on the concept of "everyone" as the target audience in the design because they may be different from each other in terms of the situation they are in.

In particular, the importance of public space is gaining in importance, and with the measures taken by the designer in the planning phase, both more economical solutions and all-encompassing solutions will emerge.

All this design concept is under the light; urban facilities, socio-cultural environment and diversity of users and university campuses in the form of small city examples are emerging as important public spaces.

Because education is perceived as a necessary commodity to increase the quality of life for students and to assure national prosperity, finding a college that the student will thrive in both socially and academically is even more important. As the cost of higher education continues to rise, students and families struggle when considering which institution of higher education provides the best education, campus life, campus amenities, and location; however, these elements must be weighed against the total cost of that institution (Archibald and Feldman, 2010; Lambert, 2014).

For students, the diversity of campus, athletic reputation, and popularity among classmates can all be factors in the admission decision (Stevens, 2009). Although

research demonstrates that the likelihood of a student attending college is related to academic achievement rather than race, gender, or socioeconomic status, differences still exist, as students of color are still less likely to attend college as compared to their academic counterparts (Hossler and Palmer, 2008; McDonough, 1997).

The concept of inclusiveness goes beyond just providing special features for various segments of the population. Rather, it emphasizes a more inclusive approach at the outset of the design process, which will ask whether a product, graphical communication, building or public space can be done both by aesthetically pleasing, functional and by the greatest number of users (Welch, 1995).

So, for example, where stairs were previously a barrier for a student using a wheelchair, there is now an alternate route involving a lift or ramp. Where exams are held in a large classroom and are considered time-sensitive, students with disabilities take their exams in another setting with appropriate technology and/or flexibility built into the time allocation. However, these modifications are retrofitted arrangements; implemented after an exclusive design has been imposed (McGuire *et al.*, 2003).

Theoretical approaches in disability studies characteristically advocate moving from a 'medical' model to a 'social' model of disability (Barnes, 2000), but practice has not always kept pace with theory. Whereas the medical

model situates the disability within the individual and sees them as the root of the problem to be cured or treated and normalised, the social model of disability positions the root of disability in society; it identifies social prejudices, inaccessible environments, discriminatory work arrangements and segregated education as disabling societal features (Oliver, 1996).

The concept of "accessibility" can be expressed as the physical control of spatial composition within a campus regulation. Physical control; "Belonging to the place in the vicinity of the person; as a point of reference, such as the location of activities, the directional elements, and the point at which they are located" (Lynch, 1988).

Bowe (2000) takes the principles of UD and applies them to the educational setting. He focuses not only on the physical environment but on instructional practices as well. He believes that UD can incorporate the majority of students from diverse backgrounds, including disabled students, leaving only a minority who will require special accommodations, thereby reducing the need for assistive technologies or at the very least making resources compatible with assistive technologies (Bowe, 2000). UD is a very attractive, marketable tool because it corresponds to a growing understanding that classrooms are becoming increasingly diverse (Burgstahler, 2008a).

Kroeger and Schuck (1993) blend the ideas of inclusion and equality of access with the social model and envision the principles of UD as a tool for achieving the ideals of the social model. This model has gradually gained influence on HE in the US (Aune, 1998).

2. Material and Method

Three conditions for successful campus design are respectively;

- Common vision: Before the master plan is identified, close dialogue should be established with the people who will be resident there in the future and with the campus neighbors to determine the common vision.
- Complementary program: Designing spaces and supplementary programs for interdisciplinary discourses in campus design is the second key factor. Campus means opening up to different target groups such as "industry partners" who can contribute to create an academic campus and produce their programs. Thus, students and society become part of an institutionalized campus.
- Integrated sustainable concept: Design sustainability, designing architectural master plan and financial strategies is a must for a successful project (Hoeger and Christiaanse, 2007).

The case of accessing and using the campus areas of all people and all users with the inclusive design approach is to be examined in the case of Yildiz Technical University Davutpasa Campus which is chosen as the study area.

In order to identify the needs of all users, to identify the problems encountered and to suggest solutions to these problems by considering the concept of container design in campus areas, firstly theoretical framework will be established together with examples by making literature search based on container design concept and similar concepts, university concept, university design concepts.

The photographing of the obtained data will include the identification of problems and possibilities through technical observation. The checklist to be drawn up during the data collection, evaluation and recommendation phase will be taken into account in the study area. The control list was searched for resources in the light of the literature study, the appropriate items were examined and a checklist for campus design was created. In order to make better observation during the study, survey staff will be applied to academic staff, administrative staff and students.

2.1. Purpose

Contemporary design philosophy as a modern design approach; to create quality spaces by enhancing the livability and quality of university campuses as a public space and to spread this philosophy throughout the whole society in professional life by ensuring that this design concept is settled on university students who are the main campus users who will provide the development of society.

Identifying the problems faced by users on university campuses, exploring the approaches and examples that will enable all users to access campus equipment and use them as they wish, and developing solutions to the problems encountered.

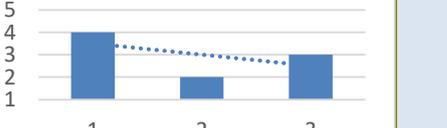
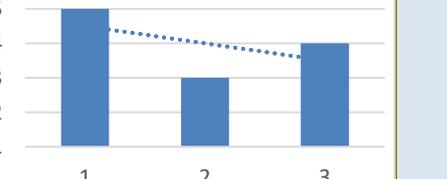
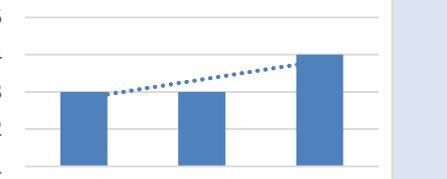
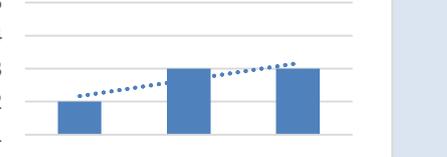
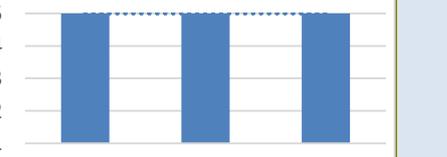
3. Results

Within the scope of the study, a checklist to be applied by the researcher was created and a questionnaire designed by the subjects was designed. According to the results of these two studies Davutpasa campus is planned to be evaluated in terms of inclusion.

Survey questionnaires A and B were answered according to the scale below and averages of responses given by 3 persons (disabled people) were taken within the scope of the pilot study.

Very Low [1], Low [2], Medium [3], Good [4], Very Good [5]

Table-1. Section A - Open spaces physical needs questions

Questions	Graphics	Results
A.1 How convenient are the campus entrances?	<p style="text-align: center;">4 - 1 - 4</p> 	<p>The eligibility of campus entrances is good (4) compared to 2 handicapped users and very low (1) compared to one user.</p>
A.5 How convenient is the pedestrian access network from the campus entrance?	<p style="text-align: center;">4 - 2 - 3</p> 	<p>When the pedestrian transportation network was evaluated from the entrance of the campus, one of the disabled users responded with good (4), one with middle (3) and the other with low (2).</p>
A.19 How convenient are the pedestrian ways for everyone to use?	<p style="text-align: center;">5 - 3 - 4</p> 	<p>When the 3 pedestrians were evaluated by 3 people with disabilities, one was very good (5), one was good (4) and the other was moderate (3).</p>
A.21 How convenient are the sidewalks for your use?	<p style="text-align: center;">3 - 3 - 4</p> 	<p>When the 3 disabled students evaluated how well the pavements were suitable for everyone's use, one responded with good (4) and the other two with moderate (3).</p>
A.25 How convenient is your campus-wide orientation organization?	<p style="text-align: center;">2 - 3 - 3</p> 	<p>One way of finding a roadblock across the campus is that it is evaluated by 3 handicapped people, one is low (2) and the other two is middle (3).</p>
A.29 How appropriate are the activity areas within the campus?	<p style="text-align: center;">5 - 5 - 5</p> 	<p>When the activity areas within the campus are evaluated, all users are very good (5).</p>

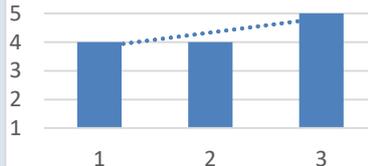
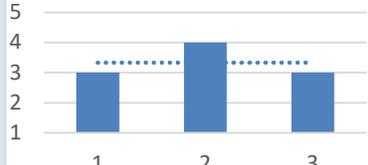
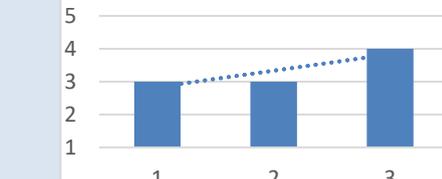
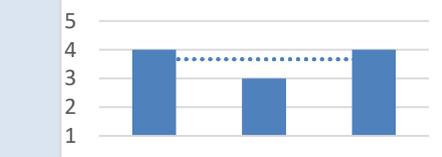
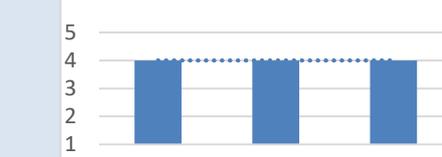
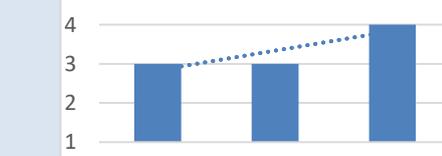
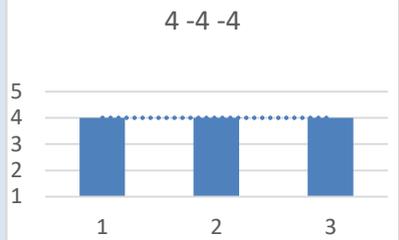
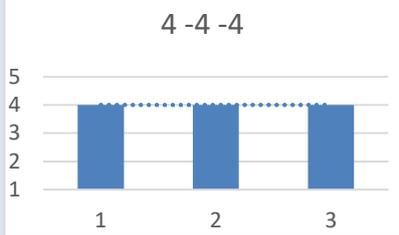
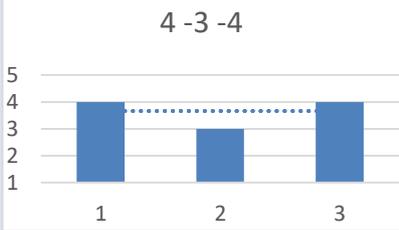
<p>A.31 How suitable are the green areas within the campus for your size?</p>	<p>4 -4 -5</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 4, 4, and 5 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the greened areas within the campus are evaluated, one user is very good (5) and the other two are good (4).</p>
<p>A.33 How convenient are the social spaces within the campus?</p>	<p>3 -4 -3</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 3, 4, and 3 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the social spaces within the campus were evaluated, two users responded with medium (3) and the other with good (4).</p>

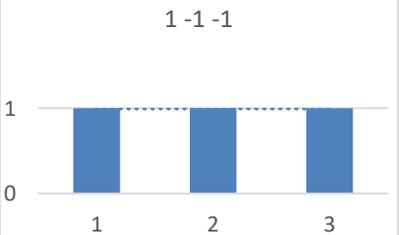
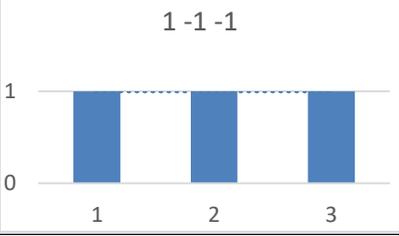
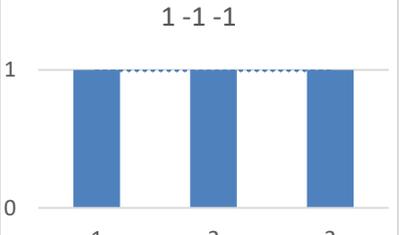
Table-2. Section B - Constructive physical needs questions

Questions	Graphics	Results
<p>B.1 How do you make the main entries in your make-up?</p>	<p>3 -3 -4</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 3, 3, and 4 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the suitability of the main entrances of the building was evaluated, two users responded with medium (3) and the other with good (4).</p>
<p>B.3 How convenient are the gates in terms of usage?</p>	<p>4 -3 -4</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 4, 3, and 4 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the suitability of the doors for use was evaluated, two users gave good (4) and the other middle (3).</p>
<p>B.5 How convenient is the road-direction finding organization in your buildings?</p>	<p>4 -4 -4</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 4, 4, and 4 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the suitability of the path finding organization within the structure was evaluated, all the users responded well (4).</p>
<p>B.7 How convenient are the information sheets in terms of construction of orientation?</p>	<p>4 -4 -4</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 4, 4, and 4 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the suitability of the information boards in the structure was evaluated, all users responded well (4).</p>
<p>B.15 How convenient are elevators for your use?</p>	<p>3 -3 -4</p>  <p>A bar chart with a vertical axis from 1 to 5. Three blue bars represent ratings of 3, 3, and 4 for categories 1, 2, and 3 respectively. A dotted line connects the tops of the bars.</p>	<p>When the suitability of the elevators in the structure was evaluated, two users responded with medium (3) and the other with good (4).</p>

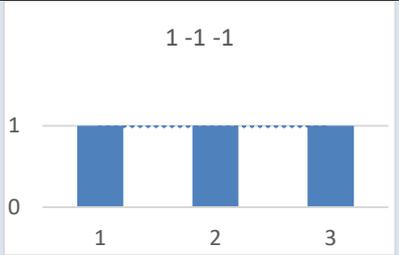
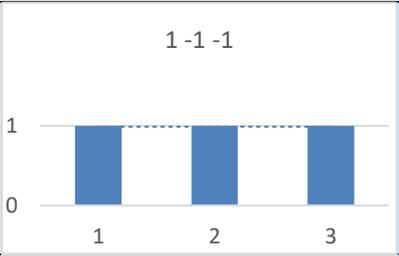
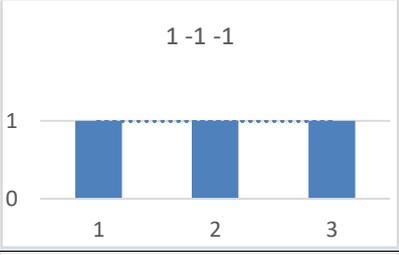
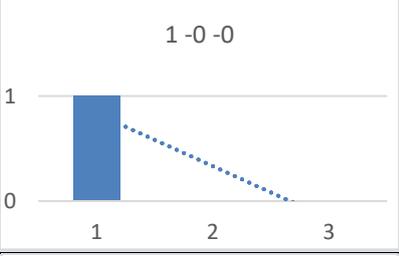
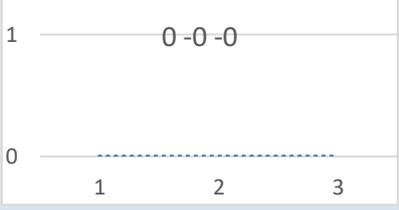
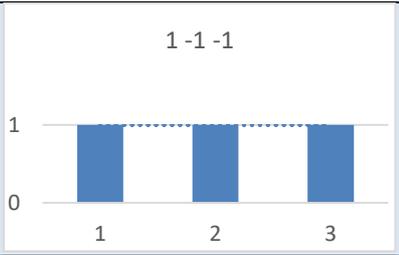
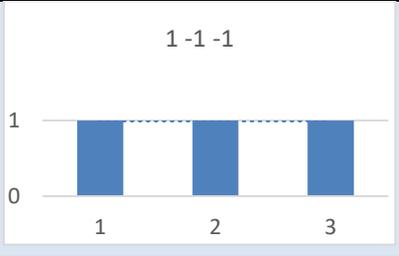
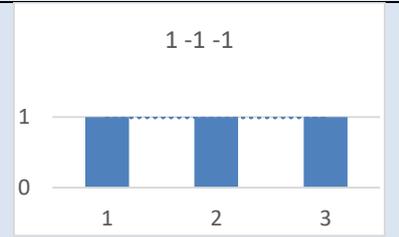
<p>B.17 How convenient are your circulation areas (corridor areas, etc.) for your use?</p>		<p>Considering the suitability of corridor areas within the structure, all users responded well (4).</p>
<p>B.19 How suitable is indoor space for your use?</p>		<p>When the appropriateness of the interior features were evaluated in the structure, all the users responded well (4).</p>
<p>B.22 How convenient are the emergency exits for your use?</p>		<p>Considering the suitability of emergency exits in the structure for everyone, two users gave good (4) and the other middle (3).</p>

The first person is studying in the Foreign Language Building, and the second and third persons are studying in the Faculty of Science and Literature.

Table-3. Section C - Psycho-social needs questions

Questions	Graphics	Results
<p>C.2 Are social spaces combined with circulation areas better adapted to maintain social interaction?</p>		<p>All users think that the areas of circulation and the social spaces are better suited to sustain social interaction.</p>
<p>C.4 Are the circulation spaces and social spaces integrated?</p>		<p>All users think that the spaces of circulation and social spaces can be integrated.</p>
<p>C.6 Is it a perceptible campus?</p>		<p>All users think it is a detectable campus.</p>

<p>C.10 Has the campus allowed for social interaction?</p>		<p>1-0-1</p>	<p>Two users thought the campus allowed for social interaction, a user said that the campus is inadequate.</p>
<p>C.11 Are spaces available to provide extracurricular activities on campus?</p>		<p>1-1-1</p>	<p>All users have said that there are spaces available on the campus to provide extracurricular activities.</p>
<p>C.12 Are club events being held?</p>		<p>1-1-1</p>	<p>All users said club activities are being done.</p>
<p>C.13 Are spaces provided for club activities that have a role in ensuring social interaction?</p>		<p>1-0-1</p>	<p>A user did not participate in them, although two users said that the necessary venues for club activities were provided in the provision of social interaction.</p>
<p>C.15 Will the built environment facilities offered by the campus affect the participation positively?</p>		<p>1-1-1</p>	<p>All users believe that the built environment opportunities offered by the campus have a positive impact on participation.</p>
<p>C.16 Do the features of the physical environment encourage the learning and development process?</p>		<p>1-1-1</p>	<p>He said that all users are encouraging the process, learning and development process of the physical environment.</p>
<p>C.20 Is the library located in an easily accessible or welcoming location?</p>		<p>0-1-1</p>	<p>Although two users said the library is located in an easily accessible or accommodating place, a user did not join them.</p>

<p>C.21 Is the library readily accessible, encouraging students to enter and use resources?</p>		<p>All users thought that the library was easily accessible, encouraging students to enter and use resources.</p>
<p>C.23 Are tea / coffee-catering machines (vending machines) accessible for the disabled?</p>		<p>All users have said that tea / coffee-food and beverage machines are accessible to people with disabilities.</p>
<p>C.26 Are there spaces to support interaction between students, staff and teachers? (restaurants, cafes, gyms, etc.)</p>		<p>It is said that there are places to support interaction between all users, students, staff and teachers (restaurants, cafes, gyms, etc.).</p>
<p>C.27 Is the interaction between different generations not affected by social space constraints?</p>		<p>One user says that the interaction between different generations is not affected by the social space constraint, while the other two are affected.</p>
<p>C.28 Do the relationships between groups with different language, religion, and sexual orientation affect students?</p>		<p>All users thought that relations between groups with different language, religion and sexual orientation did not affect students.</p>
<p>C.33 Do pedestrian and vehicle corridors (street landscaping) have positive effects on aesthetic quality?</p>		<p>All users stated that pedestrian and vehicle corridors (street landscape) had positive effects on aesthetic quality.</p>
<p>C.34 Does the attempt to increase or increase the number of green spaces on the campus have a good effect?</p>		<p>All users said that the multiplicity of green areas on the campus has a good effect.</p>
<p>C.35 Does the plant and other landscape materials used to enhance the unity and aesthetic quality of the campus have any psychological impact?</p>		<p>All users stated that plant and other landscape materials used to increase the unity and aesthetic quality of the campus have a psychological good effect.</p>

The answers to the questions in question C in the questionnaire were analyzed as Yes [1], No [0], No idea [99].

4. Discussion

The pilot questionnaire, which was prepared within the scope of the thesis, was applied primarily to 3 disabled students using the campus and the use of the Davutpasa campus in terms of inclusiveness was evaluated. The purpose of the pilot study is to first measure the intelligibility of the survey. This study will be applied to all campus users and this study aims to improve the questionnaire. The average of the answers given by the users is taken as a general judgment according to 3 people. Based on all the results, the majority of the questions that users have agreed with are mostly in the middle of the campus and they have answered the questions in the middle point. Within the scope of this study, the questionnaire was revised again and the inefficient questions were corrected.

5. Conclusion

As a result, all users should be based on the concept of "everyone" as the target audience in the design because they may be different from each other in terms of the situation they are in. In particular, the importance of public space is gaining in importance, and with the measures taken by the designer in the planning phase, both more economical solutions and all-encompassing solutions will emerge. The urban facilities, the socio-cultural environment and the diversity of the users and the university campuses in the case of small towns are emerging as important public spaces.

The problem faced by users on university campuses is identified through questionnaires, enabling all users to access campus equipment and develop solutions that will enable them to use them as they wish.

The pilot study questionnaires were revised. A description has been added to indicate the direction in which the questions should be considered, considering that they are inaccurate questions. Especially I do not know and no fiction, answered questions have been passed over again, these questions have been revised and questioned.

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