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Access and Mobility for the Disabled to the 'Prefabricated Buildings' of the Democritus University of Thrace Engineering School

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Key words: Accessibility for the Disabled, University Premises, "Prefabricated Buildings" at the Engineering School of Xanthe

Abstract

This paper is part of a broader academic research conducted (2006-2007) on the 'Prefabricated Buildings (*prokat*)' of the Democritus University of Thrace, in the centre of Xanthe, which for three decades (year of construction 1979-80) have housed all educational activities of the Engineering School, now being gradually transferred to permanent buildings on the university campus outside the city.

The paper attempts to record the problems of access and mobility for disabled students and employees (specifically those with mobility problems) on the campus and in certain characteristic buildings (central secretariat-administration, amphitheatre, library, computer centre) or typical building units (classrooms of the Civil Engineering Department as well as laboratories and offices of the Electrical Engineering Department) of a university building complex. For the sake of brevity, this paper deals only with the campus, the library building and the offices of the Electrical Engineering Department, as well as with the conclusions from the whole sample data set.

As parameters for investigation of viable functioning for the disabled we took ten (10) individual activities, such as access, registration and issuing of certification, dealings with academic and administrative services, attending lectures, participation in workshops and lab exercises, access to rest rooms, collecting books and notes, meetings with professors, socializing and leisure activities or participation in everyday student life. Safe and effective completion of these functions was evaluated on the one hand in terms of actual implementation, and on the other hand in accordance with the contemporary Greek Regulatory Framework governing the design of educational buildings (*General Construction Code, Building Code, Study Guide by the School Building Organization, Guidelines on Designing for Independent Movement and Life for the Disabled*).

The purpose of the paper is to identify the most critical problems in serving the needs of the disabled (in terms of failings in design and implementation), such as ensuring parking space for vehicles carrying wheelchairs, safe access to buildings, convenient placing of doors at sharp turns in corridors, door and lift openings, ongoing supervision of operation of double-leafed doors, special rest rooms for the disabled, as well as the characteristic failure of the

pre-existing public buildings to adapt to contemporary requirements some twenty years after the relevant legislation came into force.

ΠΡΟΣΠΕΛΑΣΙΜΟΤΗΤΑ ΚΑΙ ΚΙΝΗΣΗ ΤΩΝ ΑΜΕΑ ΣΤΑ «ΚΤΙΡΙΑ ΠΡΟΚΑΤ» ΤΗΣ ΠΟΛΥΤΕΧΝΙΚΗΣ ΣΧΟΛΗΣ ΤΟΥ Δ.Π.Θ.

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Περίληψη

Η προτεινόμενη ανακοίνωση αποτελεί τμήμα μιας ευρύτερης πανεπιστημιακής έρευνας που πραγματοποιήθηκε (2006-7) στα «Κτίρια Προκάτ» του Δημοκρίτειου Πανεπιστημίου Θράκης, στο κέντρο της Ξάνθης, όπου εξυπηρετείται επί 3 δεκαετίες (έτος κατασκευής 1979-80) το σύνολο των εκπαιδευτικών δραστηριοτήτων της Πολυτεχνικής Σχολής, η οποία πλέον σταδιακά μεταφέρεται στις μόνιμες εγκαταστάσεις της πανεπιστημιούπολης, εκτός πόλης.

Η έρευνα επιχειρεί να καταγράψει τα προβλήματα προσπέλασης - κίνησης των σπουδαστών / εργαζομένων ΑΜΕΑ στο campus και σε χαρακτηριστικά κτίρια ή τυπικές κτιριακές μονάδες ενός κτιριακού συγκροτήματος της τριτοβάθμιας εκπαίδευσης. Για την οικονομία της ανακοίνωσης, η παρούσα διαπραγμάτευση περιλαμβάνει το camps, το κτίριο της Βιβλιοθήκης και τα Γραφεία Ηλεκτρολόγων Μηχανικών, καθώς επίσης και τα συμπεράσματα από το σύνολο των δεδομένων του δείγματος. Ως παράμετροι διερεύνησης της βιώσιμης λειτουργίας των ΑΜΕΑ τέθηκαν δέκα (10) επιμέρους δραστηριότητες, η αποδοτική και ασφαλής διεκπεραίωση των οποίων αξιολογήθηκε αφενός με όρους πραγματικής υλοποίησης και αφετέρου σύμφωνα με το σύγχρονο Κανονιστικό Πλαίσιο που διέπει το σχεδιασμό των κτιρίων εκπαίδευσης.

Στόχος της εισήγησης είναι να εντοπιστούν τα κρισιμότερα προβλήματα εξυπηρέτησης των ΑΜΕΑ (σε επίπεδο αστοχίας σχεδιασμού και εφαρμογών), καθώς επίσης και η χαρακτηριστική αδυναμία των προϋφιστάμενων δημοσίων κτιρίων να εναρμονιστούν με τις σύγχρονες απαιτήσεις, είκοσι περίπου χρόνια μετά την έναρξη εφαρμογής της ισχύουσας νομοθεσίας.

1. Introduction

Disabled persons comprise 9.3% of the total population of the country [Ministry of the Interior webpage: westerngreece.gr/amea.doc]. Numerous forms of disability and, by extension, numerous problems the disabled face in regard to independent movement and living make these persons a non-homogeneous group. The disabled are defined as people with permanent or temporary lesions, inabilities, feebleness or disabilities (or combinations thereof) due to physical, psychological or mental deficiency (Ministry for the Environment, Physical Planning and Public Works, 1990 : 1st Directive) [1]. People with mobility problems move at a slower pace and use means to help them move (wheelchairs, crutches, canes, etc.). Mobility is also a problem for people with feeble or paralysed limbs, people with some degree of stiffness in or lack of a limb (or all limbs) of their bodies, the elderly, mothers with prams or pushchairs, people suffering from cardio-respiratory problems and those temporarily injured (Ministry for the Environment, Regional Planning and Public Works website: www.minenv.gr) .

It goes without saying that the disabled wish to partake in all human activities; they aim at their personal de-marginalisation and the minimization of their dependence on others/escorts and they wish to participate on equal terms, productively and independently in all social activities. However, the physical presence and participation of disabled persons in educational processes (at all levels) is synonymous with a constant, daily threat of social exclusion for them, namely for users of wheelchairs (website: www.disabled.gr), since they have to deal with situations that are completely unknown to those who need no such devices. Exclusion of a category of citizens from social activities is, first of all, an institutional problem attributed to insufficient safeguarding of parity and equal opportunities. In public buildings, i.e. during public transactions, such problems are exacerbated thus dealing the final blow to the everyday life of disabled persons that is already brimming with adversities.

The design of buildings and urban spaces is a crucial field in entrenching or overcoming such difficulties in daily life. A crucial issue concerning access and independent use of the constructed environment by people with mobility problems is safety, at the level of both design and construction. The technical field of accessibility is defined by a set of parameters that implement the will and capacity for action and communication (Athanassopoulos, 2000) [2], (webpage www.disabled.gr) :

- horizontal and vertical access to all buildings, at all levels;

- inclination of ramps connecting non-level surfaces;

- slippery floors, as well as the texture of the flooring material and the relief of the motion surface;

- avoiding or eliminating all points where a wheelchair (or other mobility aid) may tip over, as well as obstacles / points of impact when one is trying to avoid said tipping points;

- elimination of floor joints the size and direction of which may cause jolting / tipping / entrapment during the movement of people with mobility problems;

- the harmonization of dimensions in entry – exist points or transport zones or within specific route radii of independent movement with the size of mobility aids used by disabled persons.

This paper focuses on issues of independent movement and living conditions of disabled persons in educational premises (safety of movement, unimpeded access). In order to implement research related to this paper, the "Prefabricated Buildings" (*prokat*) and the

campus of the Engineering School of Xanthe were selected at Democritus University of Thrace. The term "accessibility" refers to the independent movement and participation of the disabled in all educational functions.

The legislative framework that governs the specifications of educational buildings includes:

a. The General Construction Code

Specifically in regard to serving the needs of the disabled, there are requirements for horizontal and vertical access, minimum corridor width limits, specific gradients, openings for doors and lifts, specially converted rest rooms, parking spaces for wheelchairs or vehicles for the disabled (GCK, 2000: Article 28, par. 1-5, 8) [3].

b. The Building Code

The extracts related to facilitating – serving the needs of the disabled are: provision of ramps, handrails, pavements and access areas (BC, 1989: Article 14, paragraphs 1, 2, 4, 5, 7 and Article 24, paragraphs 1, 3.2) [4].

c. Study Guide by the School Building Organization

This is a set of design specifications and basic principles for the movement of people with mobility problems in buildings of all educational levels, where the minimum limits are set specifically for door openings, ramp inclinations, railings and baseboards, parking spaces, movement and maneuvering of wheelchairs, lifts and restrooms (SG, 2006: Section A) [5].

d. Guidelines on Designing for Independent Movement and Life for the Disabled

These are ten (10) guidelines in total that have been prepared to date; they cover a wide range of technical data that specify in detail the construction of outdoor areas for the movement of pedestrians (2nd Guideline), ramps for people and wheelchairs (3rd Guideline), mechanical means for 'bridging' height differences (5th Guideline), placing of signs (6th Guideline), adaptation of entrances (7th Guideline), public restrooms (8th Guideline) and public buildings (9th Guideline) (Ministry for the Environment, Regional Planning and Public Works, 1990) [1].

2. Paper Methodology

This paper is part of a broader research process (9/2007 – 3/2008) within the framework of the "Introduction to Research" Course of the Department of Architectural Engineering of Xanthe, regarding the collection of data and evaluation of accessibility for the disabled at the University Campus and the "Prefabricated Buildings" of the Engineering School of Democritus University of Thrace (Antoniou & Zikidis, 2008) [6].

It should be noted that during the construction of this building complex (1979-80), none of the aforementioned regulatory provisions were in force. In this sense, the typical evaluation of the existing situation under the current institutional framework seems unfair. However, it is interesting, on the one hand, to compare the real data of access – safety of the disabled under the current specifications, but, also, on the other, to ascertain the trends of harmonization of a tertiary educational complex (which has been scheduled to gradually move to new premises) with modern requirements and concepts, eighteen years after the issuance of the first regulatory provisions.

Apart from the outdoor area and access to the University Campus, the paper focuses on a sample of eight (8) buildings, which include all single-type buildings on campus (Administration, Cafeteria, Library, Computer Centre, Amphitheatre), as well as typical

building units (Laboratories and Faculty Offices of the Electrical Engineering Department, Teaching Rooms of the Civil Engineering Department), which, in total, cover the entire spectrum of the building facilities of the Engineering School of Xanthe.

Initially, the study of relevant literature concerning Regulations and Instructions allowed us to compile a Comparative Table of Minimum Established Limits (Table 1), which recorded the technical specifications of an indicative set of eleven (11) Planning Parameters: parking facilities (dimensions, ratio of the total), inclines, ramps (gradient – width), door openings (external, internal), corridors (width), lifts (width of opening, cabin dimensions), restrooms (dimensions, ratio of the total).

The paper then focused on compiling a Catalogue of Services, against which corresponding applications at the University Campus and sample Building Complex were explored and evaluated. From the wide range of services provided and the total number of (the most common or probable) activities, the following ten (10) functions were selected:

- access;
- processing of papers and issuance of certificates;
- transactions with academic and administrative services;
- attendance at university lectures;
- participation in workshops and laboratory practice;
- access to restrooms;
- collection of books and notes;
- meeting with professors;
- socializing & recreational activities (food, coffee, etc.);
- participation in community life (Associations, Assemblies).

Door openings		inclines, ramps		Lifts		Restrooms for the Disabled		Corridors	Parking Lots	
Internal	External	Gradient	Width	Width opening	Cabin dimensions	Door	%	Width	Dimensions	%
General Construction Code										
not given		5%	130	85	110 * 140	not given	5%	not given		5%
Building Code										
not given			80	not given						
Study Guide of the School Building Organization										
180	110	5%	130	110	190 * 195	110	1	not given	350 * 500	5%
Designing Guidelines of the Ministry for Public Works										
120	90	5%	130	85	150 * 150	90	1	150	350 * 500	5%

Table 1. Comparative Table of Minimum Established Limits (in cm) in existing Regulations and Instructions

During the research, simple measuring instruments were used (measuring tape, inclinometer), along with detailed photographs of locations selected, on-site measurements

with tactile walking and indicative movement with a wheelchair. The measurements of each datum concerned free openings. For example, in single doors the net width (from frame to frame), in double doors the net free opening (double or single, depending on the case), in corridors the actual width (including the baseboard and interfering struts), in lifts the free opening of doors (taking into account any construction protuberances) and the effective interior dimensions of the chamber (taking into account any safety doors and protective boards or handles), in ramps the actual movement width in combination with the height of baseboards and railings.

During the analysis process, the evaluation of findings was based on the Study Guide of the School Building Organisation (SG, 2006) [5] in combination with the specifications of the Designing Guidelines of the Ministry for the Environment, Regional Planning & Public Works (1990)[1], as the initial regulatory framework gave designers and constructors more time to familiarize themselves with issues of accessibility and set more flexible limits (less favourable provisions in regard to safety).

3. The Field of Research

3.1. Access and Paths at the University Campus

The University campus has two (2) discrete gates, the north (central) entrance on Vassilissis Sofias Street and the south (back) entrance from Emboriou Square. A crucial issue is direct access at these entrance points for wheelchairs used by disabled persons (from the two adjacent parking lots) and, subsequently, access to the various buildings on campus. The two parking lots (eastern and western) are located on the perimeter of the campus and connect the two aforementioned gates (and the northeastern pedestrian entrance) to the two basic campus paths. There are no specific, clearly marked parking places for the disabled in the parking lots; during rush hours this results in lack of space even for temporary stopping and loading/unloading a wheelchair.

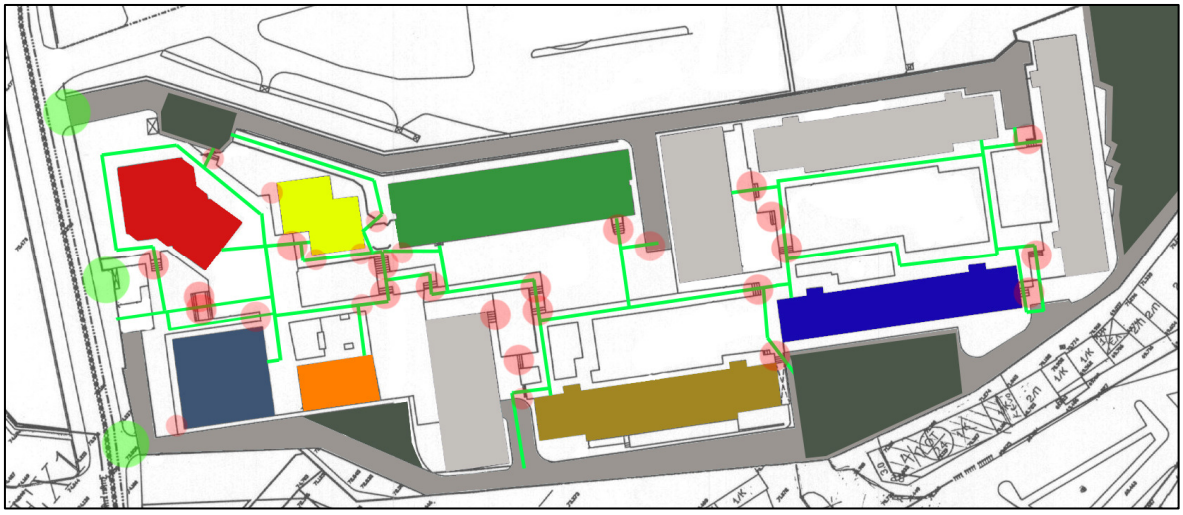
	Amphitheatre		Library		Secretariat		Computer Centre		Cafeteria		Laboratories		Classrooms		Faculty Offices	
Paths	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Northern Entrance	X s	v r	X s	v r	X s	X s	X s	v r	X s	X s	X s	X s	X s	X s	X s	X s
Southern Entrance	X s	-	X s	-	X s	-	X s	-	X s	-	X s	-	X s	-	X s	X s
Eastern Parking	X s	-	X s	-	X s	-	X s	-	X s	X s	X s	-	X s	-	X s	X s
Western Parking	-	X s	-	X s	-	X s	-	X s	-	X s	-	X s	-	X s	X s	X s

Table 2. Concise Table of Routes
from access points to the University Campus to the buildings under consideration
KEY: X The route is deemed inaccessible - v The route is deemed accessible - (s) interfering steps (inaccessible route) - (r) interfering ramp (not complying with typical specifications) – The paths concern movement to the entrance of each building

The northern entrance does not have appropriate joints at the two ends of the height difference (pavement – road). Across the central entrance, there is a ramp of suitable inclination (approximately 5%, without a landing) for a wheelchair, alongside eight outdoor (8) steps. However, along the ramp, there are usually motorcycles and bicycles parked, while a metal grill for rainwater run-off has been placed at the end of the ramp; the grid grooves are parallel to the direction of the course of movement (obstacles). The ramp provides direct access to three (3) campus buildings (Library, Computer Centre and Amphitheatre). On the

contrary, along the paths towards the remaining buildings (Secretariat, Cafeteria, Offices, Laboratories, Classrooms), there are numerous isolated steps. Apparently, each alternative path is interrupted by steps at every possible campus entrance to the rest of the sample buildings (Table 2, Picture 1).

For the sake of brevity, the following analysis describes research data for only two buildings (Library, Electrical Engineering Faculty Offices), as well as the overall evaluation of the sample.



Picture 1. Topographic sketch of the University Campus (no scale) with commentary symbols
KEY: Amphitheatre (red area), Library (light Blue), Secretariat (yellow), Computer Centre (orange), Laboratories (green), Classrooms' building (brown), Faculty offices (dark blue), Other buildings (light grey), roads (dark grey), parking lots (olive area), gradients (pink bullets), entrances (green bullets), paths (green lines)

3.2. Library Building

The Library is directly connected to the main route of the University Campus. However, access to the interior of the building is impeded by the door frame and this is restrictive for wheelchairs (the double door at the entrance has the appropriate transparency, but one panel is permanently shut, which means that its actual opening is too small).

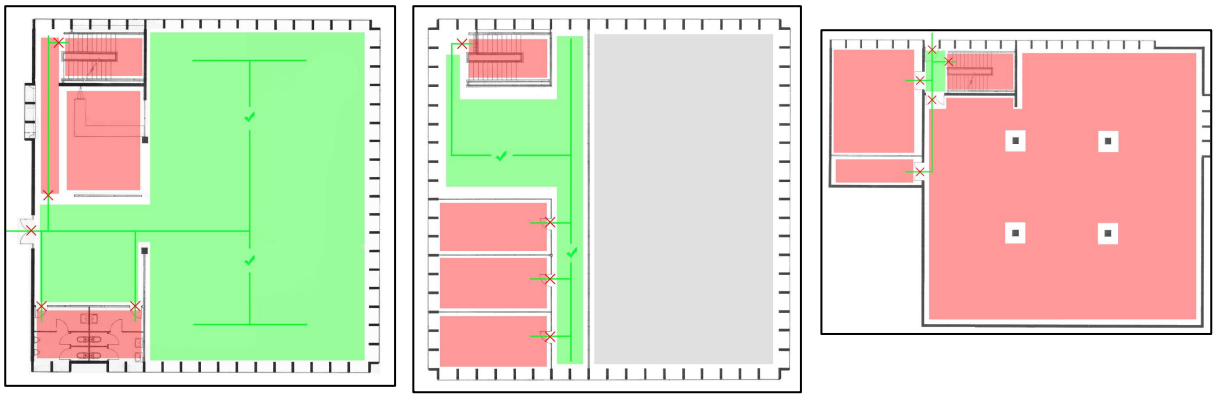
The main functions at the building under consideration include borrowing books, studying in the reading room, registration and issuance of certificates at the Secretariat of the Department of Environmental Engineering, use of restrooms and socializing.

The foyer at the entrance level features two (2) restrooms that are inaccessible due to the small opening of their doors, while there is no special restroom for the disabled. Although access to the Reading Room, located next to the foyer, is easy (co-planar level with no interfering barriers), movement to the other levels of the building (basement and first floor) takes place exclusively through the staircase, i.e. it is impossible for users of wheelchairs (Picture 2).

At the basement level, the movement corridor is of satisfactory width, but movement is impeded by intermediate doors that are too narrow, while access to individual offices is achieved through double doors that have one panel permanently shut. At the same time, alternative access to the Bookstand from the western parking lot takes place through a

narrow entrance that is elevated with a landing. Finally, within the Bookstand area, the layout of bookcases does not allow movement of wheelchairs, making selecting books to borrow absolutely impossible. At the first floor level, the movement corridor is of equally satisfactory width, but, once again, the office doors are too narrow.

Generally speaking, access to and circulation within the Library are impossible. It should also be noted that the entire building does not have any special or even accessible restroom for the disabled (Table 3).



Picture 2. The Library building: Plan of the ground floor (left), first floor (centre), basement (right) and commentary symbols
KEY: inaccessible areas (red squares), accessible areas (green squares), inaccessible features (red symbols), accessible elements (green symbols)

Library	Access from the Entrance of the Building	Accessibility	Possible functions
Movement corridors	0/3	3/3	0/3
Classrooms' doors	0/6	1/6	0/6
Classrooms	1/7	3/7	1/7
Restrooms for the Disabled	0/0	0/0	0/0
		Total	**1/16**

Table 3. Concise table recording and evaluating research data from the Library building
KEY : The first number of the fraction gives the number of data shown in the row that meet the specifications of each column; the second number of the fraction gives the total number of row data; data are recorded provided entrance into the building is safe.

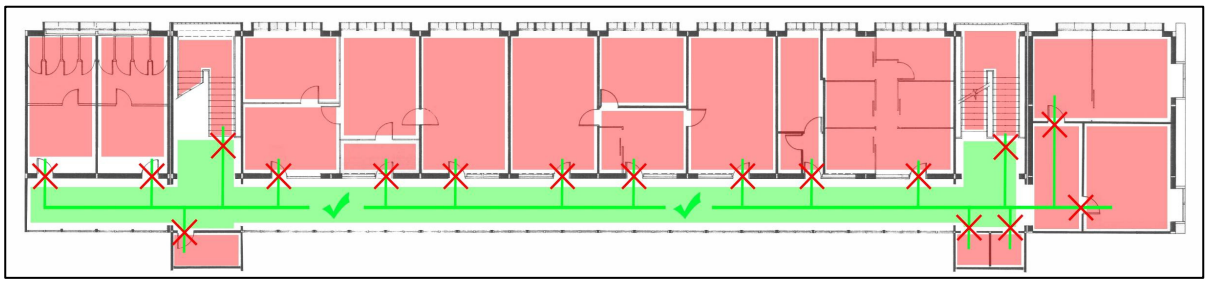
3.3. Office Building of the Electrical Engineering Department

Access from the central level of the campus is interrupted by 'plateaus' and steps (34 steps in total). Overall, all alternative paths from all possible campus entrances to the Offices of the Department Staff are inaccessible to wheelchair users.

The main functions of the building under consideration are the permanent work of the teaching staff, cooperation between teachers and students, laboratory classes and use of restrooms.

The central entrance of the building has the necessary transparent surface and double door. However, one of the door panels is permanently shut and the entrance is elevated within a door frame. Inside the building, there are two storage rooms with narrow doors opposite the central entrance. Interior corridors of horizontal movement are adequate in width, but the lift providing vertical movement has doors that are too narrow for wheelchairs.

Every typical floor (ground floor, 1st, 2nd and 3rd floors) features personnel offices or laboratories and two (2) restrooms: all doors are too narrow. Furthermore, for safety reasons, double doors have been placed at certain locations of the interior corridors, with one panel permanently shut, thus leaving too narrow an opening for wheelchair access (Picture 3).



Picture 3. The Office building of the Electrical Engineering Department; plan of a typical floor and commentary symbols according to the key of picture 2

Generally speaking, unimpeded direct access to the laboratories or faculty offices is not provided at any level of the building. Furthermore, there are no special restrooms for the disabled (Table 4).

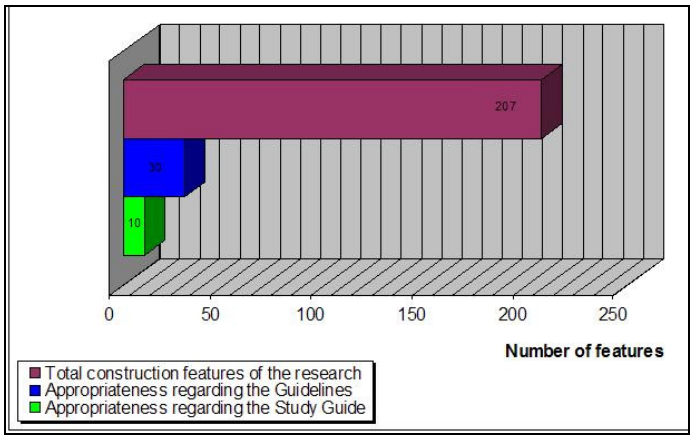
Faculty offices	Access from the Entrance of the Building	Accessibility	Possible Functions
Movement corridors	1/4	4/4	1/4
Lifts	2/2	0/2	0/2
Offices' doors	8/36	2/36	0/36
Restrooms for the Disabled	0/0	0/0	0/0
		Total	**1/42**

Table 4. Concise Table recording and evaluating research data from the Office Building of the Electrical Engineering Department according to the key of table 3

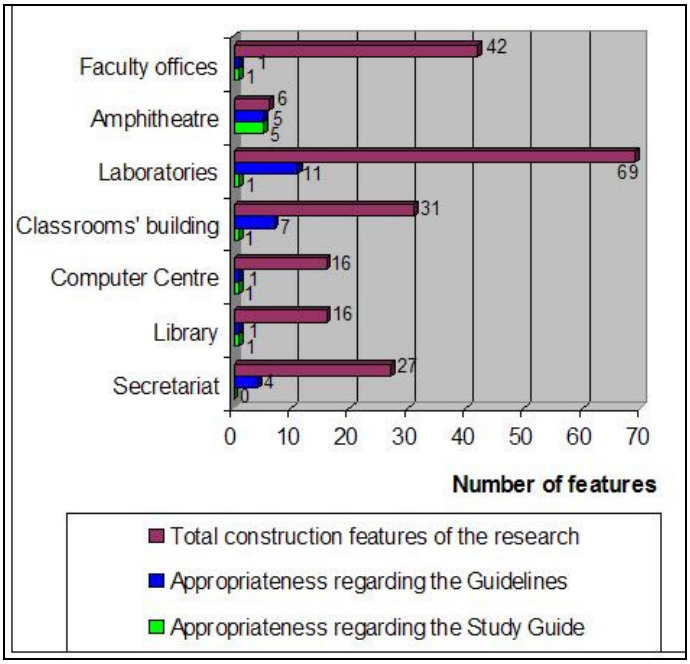
4. Overall evaluation

From the processing of all research data from the campus and sample buildings, it emerges that the premises of the "Prefabricated Buildings" (*"prokat"*) of the Engineering School of

Xanthe do not meet the specifications of current regulatory provisions regarding the movement, access and safety of wheelchair users. During the evaluation, certain architectural and construction features were identified (5 to 15%, depending on the evaluation regulation, within a total number of 207 data items collected) that meet the existing specifications; these, however, are trapped (and are, thus, ultimately useless and ineffective) within an 'ocean' of obstacles and adversities (Pictures 4 & 5).

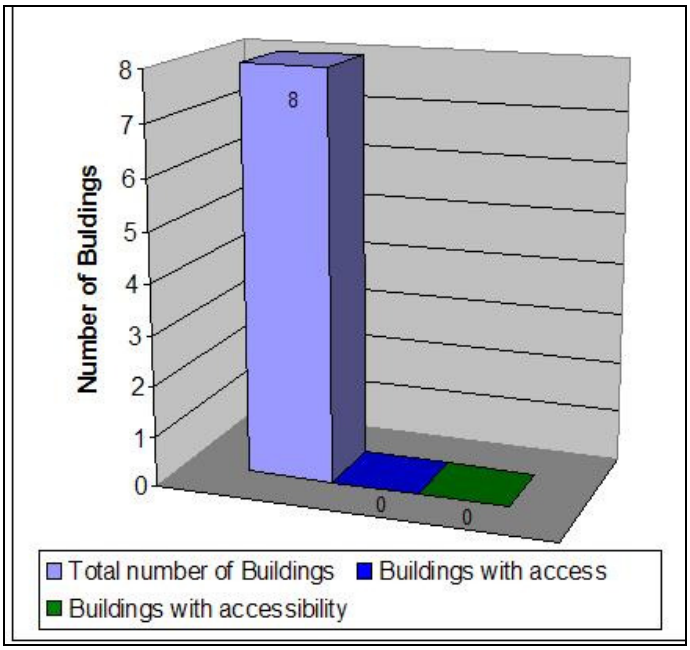


Picture 4. Concise presentation of sample evaluation data



Picture 5. Detailed presentation of sample evaluation data according to the Guidelines by the Ministry for the Environment, Regional Planning & Public Works and the Study Guide by the School Building Organization

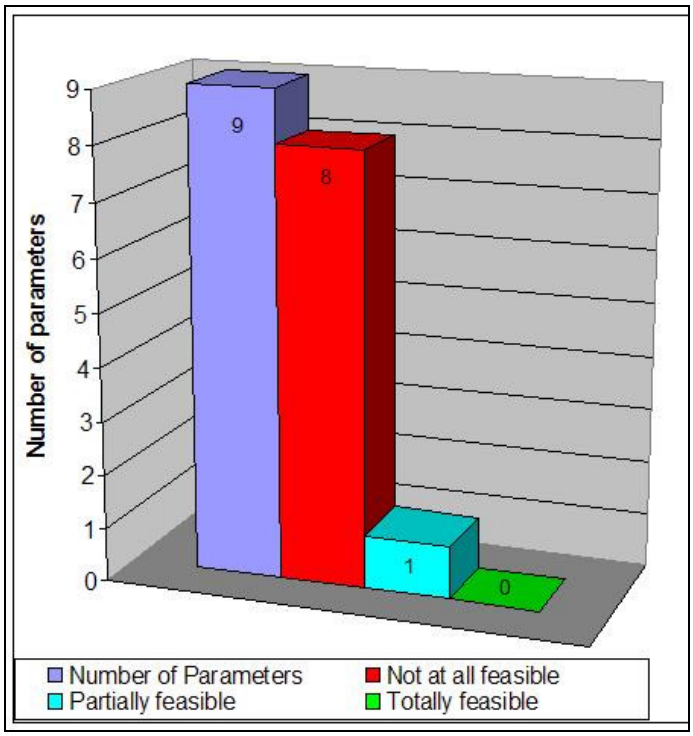
Of the eight (8) sample buildings, during the research period (9/2007 – 1/ 2008), none was accessible from any entrance or campus parking lot (Pictures 6 & 7, Table 5). Typical examples of unfortunate alternatives within an educational institute that are noteworthy are:



Picture 6. Concise evaluation of accessibility from campus entrances

- the Classrooms of the Civil Engineering Department provide no access, despite the fact that the parking lot is located less than three (3) meters away from the entrance;

- the only restroom specially equipped for the disabled is located in the Amphitheatre building, but it was permanently locked during the research period (besides the door being too narrow);



Picture 7. Concise presentation of campus evaluation parameters

- towards the entrance to the only Cafeteria in the complex, there are three paths with steps and 'plateaus' (with twelve (12) or twenty seven (27) or ten (10) steps), while the only access through the basement of the Secretariat Building is impossible for wheelchairs due to the narrow opening of the lift door;

- all basic services of the Computer Centre are located on a floor without a lift;

- at all Department Secretariats within the complex, the height of the counter does not allow serving persons in wheelchairs.

Access / Accessibility	N. Entrance	S. Entrance	E. Parking	W. Parking
Secretariat	X	X	X	X
Library	√ / X	X	X	X
Computer centre	√ / X	X	X	X
Classrooms' building	X	X	X	X
Laboratories	X	X	X	X
Amphitheatre	√	X	X	X
Offices' building	X	X	X	X
Cafeteria	X	X	X	X

Table 5. Concise table of evaluation of access to sample buildings from campus entrances and parking lots

Parameters (efficiency)	Not at all	Partially	Fully
Accessibility	–	√	–
Processing of papers	√	–	–
Transactions with Academic Services	√	–	–
Lectures' attendance	√	–	–
Laboratory practice	√	–	–
Collection of books and notes	√	–	–
Meeting with professors	√	–	–
Socializing & recreational activities	√	–	–
Participation in community life	–	√	–
Restrooms	–	√	–

Table 6. Concise table of serving research parameters at sample buildings
KEY: fully executable is the case of serving wheelchair users in all sample buildings – partially executable is the case of serving them in some buildings – not at all executable is the case of inability to serve them in all sample buildings

Out of the total of ten (10) research evaluation criteria (Table 6):

- seven (7) activities cannot be served;

- the remaining three (3) (access, restroom facilities and participation in community life) are served partially and under certain conditions (Amphitheatre building);

During a first approach, the excuse that could be given for the unacceptable present level of functionality could be the age of building facilities (before all regulatory provisions came into effect). However, no lack of harmonization can be justified after eighteen (18) years have elapsed.

5. Conclusion

Having completed our research in the "Prefabricated Buildings" (*"prokat"*) of the Engineering School of Xanthe, we ascertained that the degree of adaptation and response of specifications of established regulations (even in the most lenient sense of checking – against safety) firmly remains at extremely low levels (<15% of sample data, Pictures 4 & 5). During the evaluation of the building complex, the main problems identified were:

- safeguarding parking spaces for vehicles carrying wheelchairs;

- safe access to buildings;

- interfering doors at blind corners along corridors (in cases of modifications and later arrangements of layout);

- door and lift openings, as well as constant supervision of the operation of double doors;

- special restrooms for the disabled.

As shown, a large part of the responsibility for the lack of accessibility falls, among others, on competent agencies, engineers of various specializations who worked at all project production stages, as well as all of us, users of public spaces (illegal parking, interference due to temporary obstacles, blocking of passage ways). It is obvious that under the conditions prevailing during the period of our research, it would be impossible for a disabled person, a wheelchair user, to autonomously use (either as a student, as an employee or as a visitor) these University premises.

It seems that, despite the efforts being made at the institutional, collective or personal level, the problems that disabled persons face remain unresolved and insurmountable. A fundamental issue for reaching broader conclusions is the fact that the data concern an existing building complex of an Engineering School where we live and act. We believe that this example cannot be considered as unique or unusual, but should be deemed indicative of the level of accessibility to building facilities of tertiary education. Therefore, generalizing, we may assume that at all educational levels, where the number of existing buildings is much higher, the situation is potentially far worse. These are the elements that create discrimination and exclusion of a group of our fellow citizens from the processes of education and social inclusion.

It should be noted that in this specific example, the responsibility falls upon technical personnel (designers, constructors, inspectors, building managers, or even simply apathetic users). Therefore, it is necessary to re-examine and re-define all arbitrary choices and 'automatic' responses while practicing a technical profession. As shown during the research, properly designed premises for serving the disabled ensure easier living for all other citizens, too.

6. References

[1] Ministry for the Environment, Regional Planning & Public Works (Bureau of Studies for the Disabled), *Guidelines on Designing for Independent Movement and Life for the Disabled,* 1990.

[2] Athanassopoulos, Ch. G. *Building Construction, Synthesis and Technology,* 5th edition, Athens, March 2000.

[3] GCC (Ministry for the Environment, Regional Planning & Public Works), *General Construction Code*, Law No 1577/1985, as amended by Law No 2831/2000.

[4] BC (Ministry for the Environment, Regional Planning & Public Works), *Building Code*, Decision No 3064/304/1988, Government Gazette Issue 59 D, 1989

[5] SG (School Building Organization - Directorate for Studies of Contractual Projects), *Study Guide*, 2006.

[6] Antoniou, St., M. Zikidis. *Examination of the Movement and Accessibility of the Disabled at Educational Premises of Democritus University of Thrace*, Department of Architectural Engineering, Democritus University of Thrace, Xanthe, 2007.