SECTORAL STUDY PER AUTONOMOUS COMMUNITIES ABOUT THE ACCESSIBILITY OF THE UNIVERSITY ENVIRONMENT AND ITS PERCEPTION

University and Disability Observatory

ONCE Foundation

Universitat Politècnica de Catalunya -UPC BarcelonaTech

ENGLISH EDITION

SECTORAL STUDY PER AUTONOMOUS COMMUNITIES ABOUT THE ACCESSIBILITY OF THE UNIVERSITY ENVIRONMENT AND ITS PERCEPTION

University and Disability Observatory

ONCE Foundation

Universitat Politècnica de Catalunya -UPC BarcelonaTech

Sectoral study per autonomous communities about the accessibility of the university environment and its perception.

Edited by the University and Disability Observatory – UDO: an entity made up by ONCE Foundation and the Accessibility Chair of the Universitat Politècnica de Catalunya - BarcelonaTech. September 2010.

Co funded by the European Social Fund, within the frame of the Operative Program against Discrimination.

ISBN: 978-84-7953-900-2

PROLOGUE

The lessons we learn, leave and transfer in the university environment keep a spirit and a tradition through generations: the search for knowledge and the duty towards the society which they belong to. Similar thoughts are gathered in Plato texts more than 2 thousand years ago. The society has evolved a lot since the ancient Greek polis, still, the human being of the present days is a spectacular mirror image of that same contemporaries to the father of philosophy.

The analysis exposed in the following pages has the objective to reflect on the university environment and community. In the universities, there are invested great efforts to guarantee the teaching quality bonded to their social vocation; efforts embodied in infrastructures and attention services to the university community; efforts that must give answer to the real needs of the entire community and must be also perceived in a way to obtain from them the maximum effectiveness.

We are at your disposal to comment, widen or make clear any result, conclusion or line of reasoning brought along this study.

Dr. Jesús Hernández Galán

Universal Accessibility Director From the ONCE Foundation

Dr. Daniel Guasch Murillo

Academic Director of the UPC Accessibility Chair.

"What we call learning is only a process of recollection."

"Looking for the good of our fellows, we found ours."

"When a crowd is in authority, it is even more cruel than tyrants."

"Three faculties are in man: reason, which clarifies and dominates; courage or spirit, which acts, and senses, which obey."

Plato 427-347 B.C.

UNIVERSITY AND DISABILITY OBSERVATORY

Direction and coordination

Daniel Guasch Murillo
Accessiblity chair Director, UPC –BarcelonaTech

Jesús Hernández Galán
Accessibility Director, ONCE Foundation

Research Team

Accessibility Chair from the Universitat Politécnica de Catalunya- UPC BarcelonaTech

Responsible for the research team

Daniel Guasch Murillo
Doctor of electrical engineering and Technical engineering on Telecommunications

Responsible for the physical accessibility research team

Sandra Bestraten Castells
Teacher in the Techical School of Arquitectura UPC-BarcelonaTech. UNESCO Sustainability Chair.

Emilio Hormias Laperal
Teacher in Superior Technical school of buidling from Barcelona UPC.

Researchers

Oihana Cuesta Gómez
Arquitecta investigadora UPC

Anna Altemir Montaner
ETSAB UPC reseacher

Anna Haro Marqués
ETSAB UPC reseacher

Irene Raya Marcos
ETSAB UPC reseacher

Carles Vidal Wagner
ETSAV UPC reseacher

Bestraten Hormias Architecture SLP

Esther Martínez Navarro
Architect

Anna Manyes Castellà
Architect
Loli Villanueva Fernández
Cartographer and Topographer

Montse Asensio Fisas
Technical architect

Fundosa Accesibilidad, Vía Libre

Responsbile for the research team on the students and SAD perception

Yolanda Guasch Murillo
Technical engineering in Telecommunications

Team researcher

Itxaso Aguinaga Inza
Sociologist

Elisabet Zambrano Sánchez
Psychologist

María Hortensia Álvarez Suau
Degree in documentation, and English Philology; certified in library

Advisers

Pilar Dotras Ruscalleda
Teacher in the Psychology faculty, Blanquerna Education and sports sciences.
Universitat Ramon Llull.

Montserrat Llinares Fite
Teacher in the Psychology faculty, Blanquerna Education and sports sciences.
Universidad Ramón Llull

Editorial revision

ONCE Foundation
María José Álvarez Ilzarbe
Ergonomist

ACKNOWLEDGEMENTS

This study has been possible thanks to the collaboration of students and universities, summing more than hundred persons. We give our most sincere thanks.

We want to thank the university students with disability for investing a great part of their time and sharing their personal experience; the participant universities for opening their gates to our research team and allowing them to visit their facilities; the staff of these universities: vice-chancellorship, support centres and services for people with disability by spending time answering our questions. All of them have worthily contributed in this study. Without their collaboration this study could not have been carried out successfully.

This Project aim is to make a diagnosis of the context of disability in the University in order to obtain knowledge of the reality and improve the environment of all the university community. When it comes to removing barriers it is never too much. Therefore, the research wants to analyse the accessibility of the University by detecting the needs of students with disability and then being able to establish a higher education area based on the equality of opportunities. In order to obtain this objective, the participation and collaboration of all actors involved has been essential

For the research team, it has been very rewarding the act of carrying out this study since during the research it has been possible to know people with great capacity, tenacity and talent, and to whom we feel admiration and respect. They have transmitted hope for continuing with our job.

For all that said, we want to mention all of them:

Participating students

Secretariat for Educative and Vocational Guidance
Universidad de Almería

Vice chancellorship of Infrastructure, campus and sustainability
Universidad de Almería

Support Unit for students with disability
Universidad de Burgos

Infrastructure Area
Vice-chancellorship of Infrastructures and Sustainability
Universidad de Cádiz

Acción Social y Solidaria
Universidad de Cádiz

Support Unit for Specific needs
Vice-chancellorship of management, budget and societies
Universidad de Córdoba

Doctor of Architecture responsible for the Accessibility Guide of the Granada University

Universidad de Granada

Chancellor's delegation for the attention of people with special needs
Universidad de Granada

Support service to the community
Universidad de Huelva

Vice-chancellor of Infrastructures and Services
Universidad de Huelva

Planning and Evaluation Service
Vice-chancellorship of Strategic Planning and Quality Management
Universidad de Jaén

Support Unit for the Student with Disability
Vice-chancellorship of Students and Labour Insertion
Universidad de Jaén

Secretariat for Maintenance and Sustainability
Vice-chancellorship of Infrastructures and Sustainability
Universidad de Málaga

Support service for the Functional Diversity
Vice- Chancellorship of Social Participation – Equality and Social integration
Universidad Pablo Olavide

Vice-chancellorship of Infrastructures and Business Relationship
Universidad de Castilla-La Mancha

Support service Servicio de Apoyo al Estudiante con Discapacidad
Vicerrectorado de Estudiantes
Universidad de Castilla-La Mancha

Support Unit for Students with Disability
Universidad de Burgos

Vice-chancellorship of Infrastructures
Universidad de Burgos

Support Unit of Students with Disability
Accessibility and Social support Area
Vice-chancellorship of Students
Universidad de León

Vice-chancellorship of Economy and Management improvement
Universidad de Salamanca

Service for Social Issues
Vice-chancellorship of Students and Labour Insertion
Universidad de Salamanca

Secretariat for Social Issues
Vice-chancellorship of Students and Employment
Universidad de Valladolid

Technical Unit of Architecture
Vice-chancellorship of infrastructures
Universidad de Valladolid

Support Centre for Students
Universidad de Alicante

Vice-chancellorship of Infrastructures, Spaces and Environment
Universidad de Alicante

Education Support Unit
Vice-chancellorship of Students and Employment
Universitat Jaume I

Attention Area for Students with Disability
Students and University Extension
Universidad Miguel Hernández

Delegación para la Integración de Personas con Discapacidad
Universitat de València. General Study.

Vice-chancellorship of Campus and Infrastructures
Universidad Politécnica de Valencia

Fundación CEDAT. Attention service of students with disability
Universidad Politécnica de Valencia

Vice-chancellorship of Economic Planning
Universidad de Extremadura

Attention Unit of Students with Disability
Vice-chancellorship of Students and Employment

Universidad de Extremadura

Unit for Diversity assistance
Vice-chancellor of Academic organization and degrees
Universidade da Coruña

Vice-chancellor of Infrastructures and Environment management from UDC
Universidade da Coruña

Department for Architecture and Urbanism
Vice-chancellor of Economy, Funding and Infrastructure
Universidade de Santiago de Compostela

University Integration Area
Vice-chancellor of University Community and Social Commitment
Universidad de Santiago de Compostela

Vice-chancellor of Planning
Universidad de Vigo

Equality area
Vice-chancellor of students
Universidad de Vigo

The factory
Library of the Higher Technical School of Edification from UPC-BarcelonaTech

CONTENTS

Prologue 5
University and Disability Observatory 7
Acknowledgements 9
Contents 13
Index of tables 15
Graphs index 16
Figures index 18
Introduction to the University and Disablity Observatory 26
UDO Objectives 27
State of the Situation 28
Sphere of Action 29
Introduction to the study 48
Objetives 50
Accessibility in university centres 52
- Objectives 52
- Methodology 52
- Analysis of results 58

Perception by the university student with disability 81
- Objectives 81
- Methodology 81
- Results of the analysis 83

Treatment of the disability at university 111
- Objectives 111
- Methodology 111
- Analysis of results 112

Joint analysis of results 130
- Physical accessibility and signposting 130
- Info accessibility 131
- Teaching staff 131
- Teaching 131
- Labour insertion 132
- Relationship with mates 133
- University services 133
- Can we all study everything? 134
- Attitudes for the change 134

Conclusions 135

Reflections on the research 138
Bibliography 142
ANEX 1: Regulatory framework on accessibility 148
ANEX 2: Description of Impairment categories 153
ANEX 3: Form for evaluating the accessibility on buildings 159
ANEX 4: Questionnaire to students 168
ANEX 5: questionnaire to disability student services (DSS) 180

INDEX OF TABLES

Table 1: Comparison between the ICF and the ICIDH terminology. 35

Table 2: Classification of the types of disabilities per sex. 38

Table 3: Universities set in the peninsular six Autonomous Communities object of study. 48

Table 4: Universities studied classified per autonomous communities. 49

Table 5: Participant universities. 82

Table 6: Distribution per sex and age in %. UDO source. 83

Table 7: Need of personal assistance according the type of disability. 85

Table 8: Origen of disability according their type of disability by %. 85

Table 9: Evaluation average that University has on the self-esteem according to the type of disability. 86

Table 10: Universities studied classified by Autonomous Communities in %. 93

Table 11: Physical barriers according to the type of disability. 93

Table 12: Evaluation of the teacher's involvement per branch. 101

Table 13: Positioning in a scale in which 1 is equal regulation and 10 equal opportunities. 109

Table 14: Students. 113

Table 15: Types of disability. 114

Table 16: Quantification of students. 115

GRAPHS INDEX

Graph 1: Percentage of faculties according the existence of Accessibility Plans. 59

Graph 2: Percentage of buildings according to their construction date. 59

Graph 3: Percentage of types of accessibility in public transport. 62

Graph 4: Percentage of spaces reserved according the location of the faculties. 62

Graph 5: Percentage of degrees of accessibility in private transport. 63

Graph 6: Percentage of dropped kerbs according the location of faculties. 64

Graph 7: Percentage of pine trees according faculties' location. 64

Graph 8: Percentage of type of accessibility in intra-campus mobility. 66

Graph 9: Percentage of ramps according to the slope and the year the buildings where constructed. 67

Graph 10: Percentage of types of accessibility in access..... 69

Graph 11: Percentage of types of accessibility in ramps, vertical communication of the building. 70

Graph 12: Percentage of types of accessibility in classrooms. 74

Graph 13: Percentage of types of accessibility in signing. 79

Graph 14: Percentage of distribution per sex. 83

Graph 15: Distribution per type of disability in percentage and absolute values. 84

Graph 16: Percentage of motivation for studying in the university. 87

Graph 17: Percentage of degrees taken, classified per branches. 89

Graph 18: Number of degrees chosen. 90

Graph 19: Evaluation of the on-going studies according the type of disability, from 1 to 10. 91

Graph 20: 1 to 10 accessibility rating of different aspects regarding the type of disability. 94

Graph 21: 1 to 10 evaluation of accessibility per spaces. 98

Graph 22: Services provided by the DSS 100

Graph 23:Teaching problems for students with disability. 102

Graph 24: Percentage on the definition of the type of integration of university students with disability. 104

Graph 25: Percentage on the definition of the type of integration of university students with disability with personal assistant. 104

Graph 26: Percentage of the main requests from students with disability. 110

Graph 27: Percentage of DSS users regarding the degree they are enrolled. 115

Graph 28: Percentage of DSS users according to the studies they are enrolled..... 115

Graph 29: year of the accessibility plan drawing-up. 116

Graph 30: Percentage of accessibility in Universities main web pages TAW criterion. 117

Graph 31: Percentage of accessibility on the University intranet for students: TAW criterion. 117

Graph 32: year the DSS was created..... 118

Graph 33: Percentage of universities with information channels about disability..... 119

Graph 34: Percentage of universities that perform services on the DSS. 120

Graph 35: Percentage of universities that perform training action on disability for the teaching and administration staff. 121

Graph 36: Percentage of teaching services offered by the DSS. 122

Graph 37: Distribution criteria of support products. 123

Graph 38: Technical resources provided by the University service. 124

Graph 39: Main requests received in the DSS. 126

Graph 40: Main requests received in the DSS. 126

Graph 41: Agents whose contribution is important for equal opportunities. 126

Graph 42: Study of the inclusion of Disability and/or Accessibility in subjects. 127

Graph 43: Study of the inclusion of Disability and/or accessibility in all the curricula. 128

Graph 44: Study of the inclusion of Disability and/or accessibility in degrees. 128

Graph 45: Inclusion of Disability and/or accessibility in degrees according to branch of knowledge. 128

FIGURES INDEX

Figure 1: Diagram of interactions and components of the ICF. 36

Figure 2: Diagram about the design for all. 41

Figure 3: Map per Autonomous Communities stating the zones which differ according to the European Social Fund. 49

Figure 4: Accessibility classification criterion. 57

INTRODUCTION…

This document corresponds to the 2009 edition of the research carried out by the University and Disability Observatory. In this project collaborates the ONCE Foundation and the Accessibility Chair of the Universitat Politècnica de Cataluña BarcelonaTech. The following pages make a presentation of the Observatory, as this study must be understood as being part of a wider and longitudinal project.

After this introduction, it is presented an approach to the conceptual framework the research is set in, that is: University, disability, accessibility (included in the correspondent regulatory framework) and education.

Afterwards, it is presented in the **sectoral** study per autonomous communities about the university environment and its perception. This research is centred in knowing the situation of the student with disability in the University. This is carried out by analysing the accessibility, related to the university centres and the services the university is offering to solve the difficulties inherent to disability, and the perception of the student with disability from six different autonomous communities.

In a first block, it is analysed the accessibility of the university centres as a consequence of an extensive fieldwork carried out in each of the universities under study.

In a second block, it is explored the view and experiences of the student with disability.

In a third block, there are analysed the actions carried out by the University, in specific by the disability attention unit, in regard to the student with disability.

Finally it is analysed the overall set of indicators studied in order to draw conclusions, to which there are also added reflections derived from the research.

UNIVERSITY AND DISABILITY OBSERVATORY (UDO)...

INTRODUCTION TO THE UNIVERSITY AND DISABLITY OBSERVATORY

The ONCE Foundation, for the integration of people with disability, in its decisive labour of removing obstacles that impede the social insertion of this people, has spent twenty years making important efforts to get that the universal accessibility be a reality in our country. This effort is not only invested in taking part in projects aimed at a factual resolution of such problems but also in the analysis and theoretical research of the main difficulties a person with disability encounters in different areas of his/her life. This way, it is supported the idea of opening the research field in accordance with the concept of *Design for all.* In fact, the accessibility in the different areas of education is one of the research lines for The ONCE foundation.

Because of that, The Once Foundation together with the *Accessibility Chair: Architecture, Design and Technology for All* from the Universitat Politècnica de Catalunya – BarcelonTech support the joint creation of the University and Disability Observatory (UDO) as a tool for the continuous analysis of problems students with disability must face in the Spanish universities. For this reason, this is a long term project, with the aim of working in both transversal and longitudinal way, comprising different fields underlying the University and Disability reality and at the same time offering and evolving view as a research tool.

The UDO is a common initiative of the ONCE Foundation and the Universitat Politècnica de Catalunya- UPC BarcelonaTech (hereinafter UPC). Each one brings their knowledge and tested experience in their own fields of action: accessibility and University.

The UDO is then made up as a unique group of work co-managed by the Accessibility management of the ONCE FOUNDATION and the Accessibility Chair of the UPC BarcelonaTech. This project is co- funded by the European Social Fund, within the frame of the Operative Program against Discrimination. This project started his path of knowledge and dissemination in 2008 by the realization of its first report entitled: *sectoral study per autonomous communities on the accessibility of the university environment and its perception (Estudio sectorial por comunidades autónomas de la accesibilidad del entorno universitario y su percepción)*

UDO OBJECTIVES

The UDO is created with the aim of adding synergies in a research Project with evolving character. In this the experiences from the ONCE Foundation in accessibility and the experience of the Accessibility Chair in research on accessibility as a university agent are profited to work in depth in the analysis of this specific and yet unknown field.

The main objective is to promote the existence of an interdisciplinary team to research the reality in the University in relation to disability, taking into account multiple factors and indicators that act and influence in that reality. University, accessibility, design for all, inclusive education, disability, as a social reality and the university community are some of the aspects to research on.

In short, it is wanted to know the added difficulties a person with disability may have in a public and basic institution such as the University. This way it can be detected the reasons of the low presence of the students with disability in the university. With this information in hand there can be carried out action for removing obstacles that limit their presence and attract them to the University. Lastly, beyond the access to the university, there exist other markers such as integration, equality of opportunities and learning profit that must be taken into account.

Moreover, the university, being an educative institution and an agent for change, is a key place for research. It is a space able to provoke change to social awareness. Because of that, the fact of knowing how people with disability live and integrate in the university is very important.

STATE OF THE SITUATION

Whilst people with disability in Spain sum 8.5 % of the population, juts the 0.53% of the students enrolled in the Spanish university course 2005-2006 were students with disability (*White book about university and disability*. Peralta Morales, A. 2007). These data is aggravated by the fact that 43% of the students with disability study from home. Those students, then, do not enrol the university on the same amount as other people and do not take part in the same conditions.

Lot of young people with disability do not start a university degree and, as a consequence, they do not access to a specialized professional labour market either. The active participation in the labour market is one of the targets to achieve in order to provide independence to people with disability in our society, it is important to know why those youths do no get to the University as well as to detect the difficulties they may encounter. One of the factors that have traditionally got greater influence to the social exclusion of people with disability is the low degree of access to education and training, mainly to the higher educative system.

Following that line, and for giving more examples, there have been developed scholarship and economic aid policies for the study (having into account the free enrolment in the public universities for those students) and there have been promoted the employment guidance services and psycho-pedagogic support in schools and high schools, while continuing to gradually implementing Care Services for students with disabilities in the universities.

But those actions would be of little or no use if, when coming to reality, the issue on accessibility directly hinders, impedes or even vetoes those policies to be fruitful for university students. The social reality is much more complicated than the sphere of action of a rule or the elimination of some barriers. The reality for university students with disability is complex and the solutions are so too. The barriers are social, physical and cognitive.

SPHERE OF ACTION

Concepts

University

Starting from the definition given by the Royal Academy of the Spanish language (RAE), the University is an institution of higher education that comprises several faculties with their correspondents' academic degrees. According to different ages or countries, it can have colleges, institutes, and departments, research centres, professional colleges, etc.

But, which is the origin of the University? The University is one of the most ancient social institutions, together with the church, and was created as a need of the human being for accumulating and expanding their knowledge in different ancient civilizations. It is for that reason that the first universities date from even before Christ as it is the case of the Athena's Academy [1] founded by the Greek philosopher Plato the year 387 B.C.

On the other hand, the model for the modern University is found in the Arabic and Persian cultures, being it characterized by the rigor in the study, research and teachings (especially in medicine). The Arabians funded many European Universities, the most ancient ones, as it is the case of the Cordoba University in Spain in the VIII C[2].

In the medieval ages, the European universities were constituted as communities of teachers and students. This way, in the 13thC, Alfonso X the Wise made a definition of the University as "the City Hall of teachers and disciples with the aim of learning knowledge". During this period, the word 'University' was used for designing any corporate guild, from shoemaker to teachers and students. Eventually, the meaning of this word came to denote the centres for higher studies.

It must be sated that in this period the European universities were mainly controlled by the religious power and were based on religious and scholastic studies. The scientific and humanistic thought was developed outside the university.

---

[1] **González Urbaneja, Pedro Miguel. *Platón y la Academia de Atenas*. Nivola Libros, 2006.**

[2] **Ajo González de Rapariegos & Sainz de Zúñiga, Cándido María (1957). *Historia de las universidades hispánicas*, Ed. La Normal, pp. 20-21.**

SPHERE OF ACTION

Concepts

University

Starting from the definition given by the Royal Academy of the Spanish language (RAE), the University is an institution of higher education that comprises several faculties with their correspondents' academic degrees. According to different ages or countries, it can have colleges, institutes, and departments, research centres, professional colleges, etc.

But, which is the origin of the University? The University is one of the most ancient social institutions, together with the church, and was created as a need of the human being for accumulating and expanding their knowledge in different ancient civilizations. It is for that reason that the first universities date from even before Christ as it is the case of the Athena's Academy [1] founded by the Greek philosopher Plato the year 387 B.C.

On the other hand, the model for the modern University is found in the Arabic and Persian cultures, being it characterized by the rigor in the study, research and teachings (especially in medicine). The Arabians funded many European Universities, the most ancient ones, as it is the case of the Cordoba University in Spain in the VIII C[2].

In the medieval ages, the European universities were constituted as communities of teachers and students. This way, in the 13thC, Alfonso X the Wise made a definition of the University as "the City Hall of teachers and disciples with the aim of learning knowledge". During this period, the word 'University' was used for designing any corporate guild, from shoemaker to teachers and students. Eventually, the meaning of this word came to denote the centres for higher studies.

It must be sated that in this period the European universities were mainly controlled by the religious power and were based on religious and scholastic studies. The scientific and humanistic thought was developed outside the university.

---

[1] **González Urbaneja, Pedro Miguel. *Platón y la Academia de Atenas*. Nivola Libros, 2006.**

[2] **Ajo González de Rapariegos & Sainz de Zúñiga, Cándido María (1957). *Historia de las universidades hispánicas*, Ed. La Normal, pp. 20-21.**

Slowly in the European University there would germinate a method for the empiric thought, with scientific and cultural discoveries and developments, serving as a base for the technological society and the industrial revolution starting in the 18t^{h} century[3].

All in all, the concept of University, with a socio-political base, has constantly been under changes throughout the history, and still is subject of debate.

Ortega y Gasset, following a similar line to Alfonso X the Wise, talk about the "University of culture", where there are formed cultured people, understanding culture as a set of essential ideas all man needs to get one's bearing in the world he/she has born into.

Jaspers, on the other hands, emphasises the University as a basic scientific research, leaving aside the University's social mission pointed out by Cardinal Newman.

Having into account those three previous views: culture, science and common good; Francisco Alcantud Marin gathers them and point them as core of the teaching function of the current University, being it transmitter of knowledge and values.

The impact of globalization, new audiovisual technologies, Internet and digital libraries, virtual laboratories… New times, states Denning[4], demands new different commitments between University and Society. Tsichritzis[5], based on financial and structure problems of the University, questions himself: "do we have to accept that teaching is a business and that students are our clients?" This author talks about a model based on three elements: people, processes and technology; and also a world that unifies those elements: industrial market and University; in order to redesign the concept of University by understanding the interrelation between those elements without falling into purely mercantilist design and lose the essence of todays' University: a free spirit.

Finally, it is necessary to introduce a new concept of a socially responsible University. Although the University must be law a non-profit entity, it can be seen as an enterprise-like. Its roles are not just the commercial mandate (education) but have a strong social responsibility consisting on training professionals to generate more than the required by the market.

There existed a deep change the higher education is going through: the elite school to the centre of mass, and from this to the University/enterprise (dispenser of cognitive

---

[3] Giner de los Ríos, Francisco. *La universidad española.* 1921.

[4] Denning, Peter J. "A New Social Contract for Research" en *Communications of the ACM* 40(2), Febrero 1997, pp. 132-134.

[5] Tsichritzis, Dennis. "Reengineering the University" en *Communications of the ACM* 42(6), Junio 1999, pp. 91-100.

Slowly in the European University there would germinate a method for the empiric thought, with scientific and cultural discoveries and developments, serving as a base for the technological society and the industrial revolution starting in the 18t^{h} century[3].

All in all, the concept of University, with a socio-political base, has constantly been under changes throughout the history, and still is subject of debate.

Ortega y Gasset, following a similar line to Alfonso X the Wise, talk about the "University of culture", where there are formed cultured people, understanding culture as a set of essential ideas all man needs to get one's bearing in the world he/she has born into.

Jaspers, on the other hands, emphasises the University as a basic scientific research, leaving aside the University's social mission pointed out by Cardinal Newman.

Having into account those three previous views: culture, science and common good; Francisco Alcantud Marin gathers them and point them as core of the teaching function of the current University, being it transmitter of knowledge and values.

The impact of globalization, new audiovisual technologies, Internet and digital libraries, virtual laboratories… New times, states Denning[4], demands new different commitments between University and Society. Tsichritzis[5], based on financial and structure problems of the University, questions himself: "do we have to accept that teaching is a business and that students are our clients?" This author talks about a model based on three elements: people, processes and technology; and also a world that unifies those elements: industrial market and University; in order to redesign the concept of University by understanding the interrelation between those elements without falling into purely mercantilist design and lose the essence of todays' University: a free spirit.

Finally, it is necessary to introduce a new concept of a socially responsible University. Although the University must be law a non-profit entity, it can be seen as an enterprise-like. Its roles are not just the commercial mandate (education) but have a strong social responsibility consisting on training professionals to generate more than the required by the market.

There existed a deep change the higher education is going through: the elite school to the centre of mass, and from this to the University/enterprise (dispenser of cognitive

---

[3] Giner de los Ríos, Francisco. *La universidad española.* 1921.

[4] Denning, Peter J. "A New Social Contract for Research" en *Communications of the ACM* 40(2), Febrero 1997, pp. 132-134.

[5] Tsichritzis, Dennis. "Reengineering the University" en *Communications of the ACM* 42(6), Junio 1999, pp. 91-100.

SPHERE OF ACTION

Concepts

University

Starting from the definition given by the Royal Academy of the Spanish language (RAE), the University is an institution of higher education that comprises several faculties with their correspondents' academic degrees. According to different ages or countries, it can have colleges, institutes, and departments, research centres, professional colleges, etc.

But, which is the origin of the University? The University is one of the most ancient social institutions, together with the church, and was created as a need of the human being for accumulating and expanding their knowledge in different ancient civilizations. It is for that reason that the first universities date from even before Christ as it is the case of the Athena's Academy [1] founded by the Greek philosopher Plato the year 387 B.C.

On the other hand, the model for the modern University is found in the Arabic and Persian cultures, being it characterized by the rigor in the study, research and teachings (especially in medicine). The Arabians funded many European Universities, the most ancient ones, as it is the case of the Cordoba University in Spain in the VIII C[2].

In the medieval ages, the European universities were constituted as communities of teachers and students. This way, in the 13thC, Alfonso X the Wise made a definition of the University as "the City Hall of teachers and disciples with the aim of learning knowledge". During this period, the word 'University' was used for designing any corporate guild, from shoemaker to teachers and students. Eventually, the meaning of this word came to denote the centres for higher studies.

It must be sated that in this period the European universities were mainly controlled by the religious power and were based on religious and scholastic studies. The scientific and humanistic thought was developed outside the university.

---

[1] **González Urbaneja, Pedro Miguel. *Platón y la Academia de Atenas*. Nivola Libros, 2006.**

[2] **Ajo González de Rapariegos & Sainz de Zúñiga, Cándido María (1957). *Historia de las universidades hispánicas*, Ed. La Normal, pp. 20-21.**

Slowly in the European University there would germinate a method for the empiric thought, with scientific and cultural discoveries and developments, serving as a base for the technological society and the industrial revolution starting in the 18t^{h} century[3].

All in all, the concept of University, with a socio-political base, has constantly been under changes throughout the history, and still is subject of debate.

Ortega y Gasset, following a similar line to Alfonso X the Wise, talk about the "University of culture", where there are formed cultured people, understanding culture as a set of essential ideas all man needs to get one's bearing in the world he/she has born into.

Jaspers, on the other hands, emphasises the University as a basic scientific research, leaving aside the University's social mission pointed out by Cardinal Newman.

Having into account those three previous views: culture, science and common good; Francisco Alcantud Marin gathers them and point them as core of the teaching function of the current University, being it transmitter of knowledge and values.

The impact of globalization, new audiovisual technologies, Internet and digital libraries, virtual laboratories… New times, states Denning[4], demands new different commitments between University and Society. Tsichritzis[5], based on financial and structure problems of the University, questions himself: "do we have to accept that teaching is a business and that students are our clients?" This author talks about a model based on three elements: people, processes and technology; and also a world that unifies those elements: industrial market and University; in order to redesign the concept of University by understanding the interrelation between those elements without falling into purely mercantilist design and lose the essence of todays' University: a free spirit.

Finally, it is necessary to introduce a new concept of a socially responsible University. Although the University must be law a non-profit entity, it can be seen as an enterprise-like. Its roles are not just the commercial mandate (education) but have a strong social responsibility consisting on training professionals to generate more than the required by the market.

There existed a deep change the higher education is going through: the elite school to the centre of mass, and from this to the University/enterprise (dispenser of cognitive

---

[3] Giner de los Ríos, Francisco. *La universidad española.* 1921.

[4] Denning, Peter J. "A New Social Contract for Research" en *Communications of the ACM* 40(2), Febrero 1997, pp. 132-134.

[5] Tsichritzis, Dennis. "Reengineering the University" en *Communications of the ACM* 42(6), Junio 1999, pp. 91-100.

services)[6]. It is about replacing the concept of higher education as a right and social good, to be considered as a commodity and an investment. It is true that the huge expenses from those institutions exceed in some cases the limited budget. For this reason each university are self-financed by means of the companies and other financing bodies that are interested in the products the universities create. The challenge would be to untie the University from the market and bring it closer to those social processes of: passing from the fight for property to the free software; from the processes of self-training to the participative research; from the mass education to getting involve in the learning. Promoting this option would allow a hopeful farewell to the University of masses to work for the creation of common shared knowledge. A University that truly gives answer to the current society's needs.

In relation to the specific needs related to disability, the current legislation concerning the university education in the Spanish Universities has established a new scenario that allows a decisive progress in the inclusion of the equal opportunity principles in the University. This initiative has to promote a regulation of the presence of students with disability in the University as it plans changes in all the University spheres.

Twenty-fourth additional provision of the Organic Law 4/2007, dated April 2, which modifies the 6/2001 Law of Universities, from December 21st, gives a context to this new scenario:

> *"1. The universities have to guarantee the equal opportunities of students and other members of the university community with disability by banning any type of discrimination and establishing positive action measures to reassure full and effective participation in the university context.*
>
> *2. Students and other members of the community with disability from the university community could not be discriminated on grounds of their disability, nor by direct or indirect action in their access, admission, permanence, the pursue of the academic studies and any other type of class.*
>
> *3. The universities will promote actions to favour all the members of the university community with special needs or specific needs associated to disability by having at their disposal means, resources and support products to assure a real equality of opportunities in relation to the resting members of the university community.*
>
> *4. Buildings, facilities, and rooms as well as the virtual spaces, services, procedures and information means must be accessible to all people, in a way it do not impede any member of the university community to move, stay, communicate, get information, or other similar actions in a real and effective equal conditions.*

---

[6] Galcerán, Montserrat. Catedrática de Filosofía en la Universidad Complutense de Madrid. Artículo en *Periódico Diagonal Web*, Jueves 24 de enero de 2008. Número 70.

The university environment has to be accessible according to the conditions and terms established in the 51/2003 Law, dated December 2, of equality of opportunities, no discrimination and universal accessibility of the people with disability and also in their development provisions.

5. All the curricula proposed by universities must have into account that the training in any professional activity must be done from the respect and promotion of the Human Rights and the universal accessibility principles and design for all.

6. According to the 30th article from the 13/1982 Law, dated April 7, about the Social Integration of people with disability and their development norms, the students with disability, being those as described in the 1.2 article of the 51/2003 Law from December 2, of equality of opportunities, no discrimination, universal accessibility of people with disability, will have the right of exemption from tax and public prices of a university degree.

These requirements are also stated in the RD 1393/2007 from October 29, establishing the organization of the official university education.

In its preamble it is detailed:

"…There must be taken into account that the training in any professional activity must contribute too the awareness and development of the Human Rights, and the democratic principles, principles between women and men, solidarity, environmental protection, universal accessibility and design for all, and promotion of the culture of peace."

In relation to the creation of the curricula, it goes beyond as it specifies the following items that should be take into account:

Any professional activity has to be carried out… from the respect and promotion of the Human Rights and the universal accessibility and design for all principles according to the stated in the final tenth provision of the 51/2003 Law, from December 2, about the equality of opportunities, no discrimination and universal accessibility of people with disability. This fact has to be stated in the curricula the teachings related to those rights and principles.

In relation to the student's access to the degree, master or doctorate education, it is defined that:

"The universities will have accessible information systems and reception and guidance procedures for new students to facilitate their incorporation to the university education. These systems and procedures have to include, in the case of students with special educational needs arose from disability, the appropriate support and advice services that will evaluate the need of possible curriculum accommodations.

Finally, the university justifies:

> *"That the available material means and services (spaces; facilities; laboratories; scientific; technical or artistic equipment; library and reading rooms; new technologies, etc.) Are appropriate for assuring the development for the planned educative activities, observing the universal accessibility and design for all criteria.*

The compliance of all these requirements brings up a significant challenge to the universities and forces a change in the current educative model. This change could be favoured by the new degrees' evaluation and revision carried out by the National Agency for the Evaluation of the Quality and Accreditation (Agencia Nacional de Evaluación de la Calidad y Acreditación). However, for assuring the future normalization of the access of students with disability, it would be essential to create a new conscience of the university management. This management has to be accessible, not only of its services and facilities, but also in the students learning process.

In this sense, the university teaching should take into account the design for all in the learning. This concept comprises strategies that act on the objectives, instructional methods, resources and assessment systems so they are accessible to all students. It is about the philosophy of change attitude, based on understanding the changes have to occur in the context and not in the individual. This refers to an attitude, a different way of teaching, being it respectful and becoming a standardization of the diversity present in the university classrooms.

The design for all in the learning claims that the teaching staffs includes the following three principles:

- Multiple means of representation.

Common students present different ways of perceiving and understanding the information due to several reasons: cultural and linguistic origins; presence of learning disorders; etc.; and of course, because of different kind of disabilities. It is necessary then, to tackle the content from other perspectives and offer different means of representing the information as it is learned and processed in different ways.

- Multiple means of expressing.

The common student presents different ways of expressing his/her knowledge. Then, there must be offered different means for expressing themselves. There exists a great variety of ways for expressing the learning according to different kinds of disability, learning or language disorders, cultures, etc. As a consequence, the form of expression (abilities and skills) is different for every person. Therefore, there is not a unique optimum mean of expression valid for all students.

- Multiple means of engagement.

The common student presents different degrees of engagement to his/her learning. The diversity of motivations for learning is multiple and very personal. This diversity must be considered in order to increase the student's motivation by offering learning situations that provoke his/her responsibility in his/her own learning process. There must be offered spaces for dialogue to agree and obtain the engagement of the student before their own learning.

Disability

On May 22 2001 there was held the 54th World Health Assembly (WHO). In there, there was agreed a new version of the *International classification of Functioning, Disability and Health (ICF).* Until that moment, there was used an International Classification of Impairments, Disabilities and handicaps, ICIDH, of 1980.

The change in the ICF planning regarding to its previous version was substantial. The ICF gives a positive naming to disabilities by establishing a starting point in the existence of health and functioning and not from the standpoint of disease and dysfunction. Besides, it includes the importance of contextual factors, which denotes the influence established by the relationship between the people and their environment in the definition of health. This change in terminology makes the sample of this new scope as it is shown in the table below.

Table 1: Comparison between the ICF and the ICIDH terminology.

SCOPE	NEW DEFINITION (ICF - 2001)	OLD DEFINITION (ICIDH - 1980)
Body level	Deficit in the functioning: is the lost or abnormality of a body part or of a physiological or mental functioning.	Deficit: is the loss or abnormality of a structure of psychological, physiological or anatomical function.
Individual level	Restriction of the activity: are the difficulties that an individual may have when performing an activity.	Disability: is all restriction or absence of ability (due to a deficit) in performing an activity in the manner or within the range considered normal for a human being.
Social level	Restriction of participation: refers to the problems an individual may experience when getting involves in life situations.	Handicap: is a disadvantage for certain individuals, resulting from a deficit or a disability, which limits and impedes the fulfilment of a determined role, considered normal to his/her own situation (according to age, sex, social and cultural factors).

For giving an example to make clear the three terms, there can happen a case in which a person has spinal cord injury (deficit), has to move by using a wheelchair because he/she cannot walk (restriction of the activity) and can not access to a job because the building is not accommodated (restriction of participation). The deficit and restriction in the activity belong to the person whereas the restriction in participation is centred in the environment. The disability in a person becomes restrictive the moment the environment is not appropriate or does not offer the possibility of performing activities and functions as any other person without disability. The person set in the example is less valid for the job due to the access to its building. When the building is accommodated for the use of a wheelchair, then this person will be as valid as any other person that gets into it by foot.

Then, the ICF constitutes the source of basic information to establish any classification of disability as it gives a reference framework to structure the information related to the human functioning and the disability.

The information structure present in the ICF is organized in two parts, which also are divided into:

Part 1.Parts of functioning and disability.

a. Body functions and structures: classification of aspects of the physiological and anatomical functioning of the human body.

b. Activity and participation: classification of functioning aspect from the individual and social perspective. *Activity* is the performance/execution of a task or action by one individual and *participation* is the act of getting involved in a life situation.

Finally, the university justifies:

> *"That the available material means and services (spaces; facilities; laboratories; scientific; technical or artistic equipment; library and reading rooms; new technologies, etc.) Are appropriate for assuring the development for the planned educative activities, observing the universal accessibility and design for all criteria.*

The compliance of all these requirements brings up a significant challenge to the universities and forces a change in the current educative model. This change could be favoured by the new degrees' evaluation and revision carried out by the National Agency for the Evaluation of the Quality and Accreditation (Agencia Nacional de Evaluación de la Calidad y Acreditación). However, for assuring the future normalization of the access of students with disability, it would be essential to create a new conscience of the university management. This management has to be accessible, not only of its services and facilities, but also in the students learning process.

In this sense, the university teaching should take into account the design for all in the learning. This concept comprises strategies that act on the objectives, instructional methods, resources and assessment systems so they are accessible to all students. It is about the philosophy of change attitude, based on understanding the changes have to occur in the context and not in the individual. This refers to an attitude, a different way of teaching, being it respectful and becoming a standardization of the diversity present in the university classrooms.

The design for all in the learning claims that the teaching staffs includes the following three principles:

- Multiple means of representation.

Common students present different ways of perceiving and understanding the information due to several reasons: cultural and linguistic origins; presence of learning disorders; etc.; and of course, because of different kind of disabilities. It is necessary then, to tackle the content from other perspectives and offer different means of representing the information as it is learned and processed in different ways.

- Multiple means of expressing.

The common student presents different ways of expressing his/her knowledge. Then, there must be offered different means for expressing themselves. There exists a great variety of ways for expressing the learning according to different kinds of disability, learning or language disorders, cultures, etc. As a consequence, the form of expression (abilities and skills) is different for every person. Therefore, there is not a unique optimum mean of expression valid for all students.

- Multiple means of engagement.

The common student presents different degrees of engagement to his/her learning. The diversity of motivations for learning is multiple and very personal. This diversity must be considered in order to increase the student's motivation by offering learning situations that provoke his/her responsibility in his/her own learning process. There must be offered spaces for dialogue to agree and obtain the engagement of the student before their own learning.

Disability

On May 22 2001 there was held the 54th World Health Assembly (WHO). In there, there was agreed a new version of the *International classification of Functioning, Disability and Health (ICF).* Until that moment, there was used an International Classification of Impairments, Disabilities and handicaps, ICIDH, of 1980.

The change in the ICF planning regarding to its previous version was substantial. The ICF gives a positive naming to disabilities by establishing a starting point in the existence of health and functioning and not from the standpoint of disease and dysfunction. Besides, it includes the importance of contextual factors, which denotes the influence established by the relationship between the people and their environment in the definition of health. This change in terminology makes the sample of this new scope as it is shown in the table below.

Table 1: Comparison between the ICF and the ICIDH terminology.

SCOPE	NEW DEFINITION (ICF - 2001)	OLD DEFINITION (ICIDH - 1980)
Body level	Deficit in the functioning: is the lost or abnormality of a body part or of a physiological or mental functioning.	Deficit: is the loss or abnormality of a structure of psychological, physiological or anatomical function.
Individual level	Restriction of the activity: are the difficulties that an individual may have when performing an activity.	Disability: is all restriction or absence of ability (due to a deficit) in performing an activity in the manner or within the range considered normal for a human being.
Social level	Restriction of participation: refers to the problems an individual may experience when getting involves in life situations.	Handicap: is a disadvantage for certain individuals, resulting from a deficit or a disability, which limits and impedes the fulfilment of a determined role, considered normal to his/her own situation (according to age, sex, social and cultural factors).

For giving an example to make clear the three terms, there can happen a case in which a person has spinal cord injury (deficit), has to move by using a wheelchair because he/she cannot walk (restriction of the activity) and can not access to a job because the building is not accommodated (restriction of participation). The deficit and restriction in the activity belong to the person whereas the restriction in participation is centred in the environment. The disability in a person becomes restrictive the moment the environment is not appropriate or does not offer the possibility of performing activities and functions as any other person without disability. The person set in the example is less valid for the job due to the access to its building. When the building is accommodated for the use of a wheelchair, then this person will be as valid as any other person that gets into it by foot.

Then, the ICF constitutes the source of basic information to establish any classification of disability as it gives a reference framework to structure the information related to the human functioning and the disability.

The information structure present in the ICF is organized in two parts, which also are divided into:

Part 1.Parts of functioning and disability.

a. Body functions and structures: classification of aspects of the physiological and anatomical functioning of the human body.

b. Activity and participation: classification of functioning aspect from the individual and social perspective. *Activity* is the performance/execution of a task or action by one individual and *participation* is the act of getting involved in a life situation.

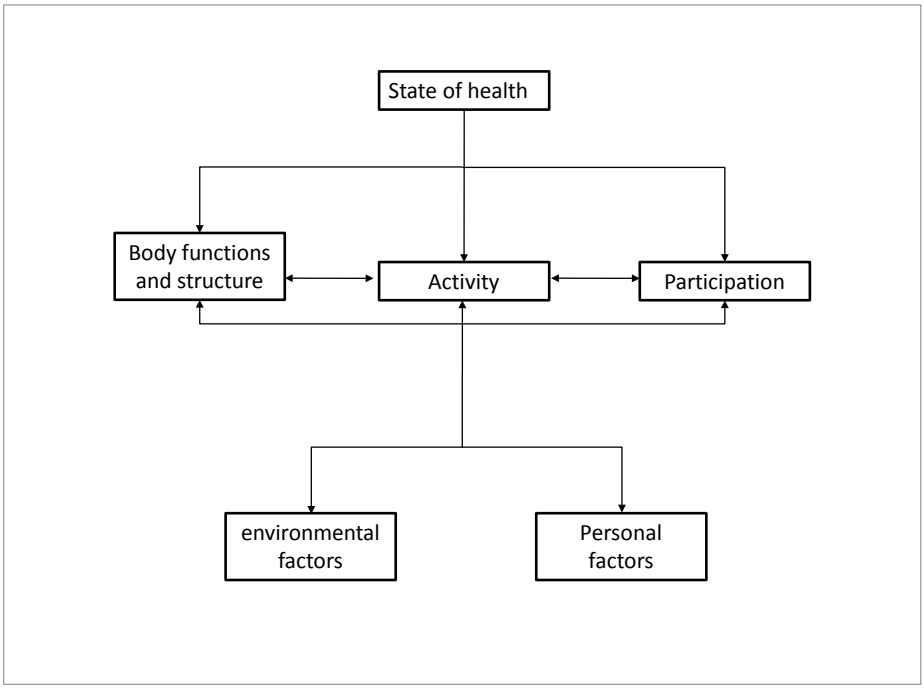
Part 2. Contextual factors.

a. Environmental factors: list of factors of external influence that can affect the functioning of the disability: the physical, social and attitudinal environment in which a person lives and conducts his life.

b. Personal factors: list of factors of internal influence on the functioning and the disability: attributes of a person.

These factors are interrelated, as shown in this diagram:

Figure 1: Diagram of interactions and components of the ICF.



There are established dynamic relationships between the different components. All of them have an influence in the definition of the global health condition of a person. Interventions in a component can modify one or more other components. Taking examples from the same classification, a person may:

- Have deficits without having limitation on the capacity (disfigurement as a result of leprosy may not affect the capacity of a person).
- Have limitations on the capacity and problems on the performance or execution without evident deficits (reduced achievement in daily activities due to several diseases).
- Have limitations in the capacity without need of assistance or problems of performance/execution (an individual with limitations in the mobility

may have alternative ways given by society to move and participate in important situations of life).

Similarly, the contextual factors interact with a person with a health condition and determine the level and extension of his/her functioning and so of his/her activity and participation.

Therefore, disability, according to the WHO, is a complex phenomenon that reflects the interaction between the human being characteristics and the characteristics of the society in which it is lived in[7].

As shown in the new ICF guide, disability has been seen in a differently according to the historical period and the type of civilization. The XX century, centred in the condition or function considered as deteriorated in the individual in regard to the general standard or reference group. However, the human rights and social models, focus de attention on the interaction between the people with disability and their environment. Society's role is to define, despise or keep the disability within society, with its attitudes and accessibility regulations.

Types of Disability

Before setting the types, it is shown the most generic data of the Survey on Disability, Personal Autonomy and Dependency Situation- *Encuesta de Discapacidad, Autonomía Personal y Situaciones de Dependencia*[8] (EDAD) 2008, to know the magnitude of each disability group in Spain.

In 2008 there are 3.85 million people living in homes that affirm to have disability or limitation (population of 6 or more years). It is shown that mobility, followed by self-care and home life are the social activities with a greater number of people with disability.

[7] World health Organization [on line]. Accessed: 23rd March 2009. Available on: http://www.who.int/es/

[8] INE. "Panorámica de la discapacidad en España: Encuesta de Discapacidad, Autonomía Personal y Situaciones de Dependencia 2008" [en línea] en *Cifras INE: Boletín informativo del Instituto Nacional de Estadística*. Madrid: INE, 2009. Accessed: 25th November 2009. Available on: <http://www.ine.es/revistas/cifraine/1009.pdf>

Table 2: Classification of the types of disabilities per sex.

IPOS DE DISCAPACIDADES[9]	TASAS POR MIL HABITANTES	
	Male	**Female**
Mobility	42.6	77.5
Home life	29.5	69.2
Self-care	31.3	55.3
Hearing	21.9	28.4
Sight	17.8	28.4
Communication	16.3	18.6
Learning, knowledge application, task development	12.7	17.1
Personal interrelations and relationships	14.0	15.4
TOTAL	72.6	106.3

The types of disability are defined according to the ICF from the establishment of social participation activities and other limitations such as: hearing, sight, learning, knowledge application, mobility, self-care, domestic life and personal interactions and relationships.

Every type of disability has associated some deficits in the functioning at a body level. These deficits are specified in annex 2 and are based on the description set in the EDAD 2008.[10]

[9] **Total population of 6 and more years.**

[10] **INE. *Clasificación déficits (personas de 6 o más años)* [en línea]. Madrid: INE, 2010. Consulta: 25 noviembre 2009. Available at: <http://www.ine.es/daco/daco42/discapa/clasifica07.htm>**

Accessibility

Definition

"Accessibility is the set of characteristics that an environment, product or service must have to be usable in a condition of comfort, security and equality of all people, in particular, by those that have some disability." (*White Book- Libro Blanco* ACCEPLAN)[11].

The concept of *Accessibility* was taken into account for the first time in 1963 in Switzerland, in the celebration of the International Congress for the Architectonic Barrier Removal, in which there was acquired the status of priority objective achieving the full integration of people with disability.

One of the basic rules on this issue is the 51/2003 Law of 2 December on equal opportunities, non-discrimination and universal accessibility of people with disability (hereinafter LIONDAU). This law includes principles such as universal accessibility and design for all, and promotes basic conditions for accessibility and non discrimination in the access and use of goods and services available to the public; in the technologies, products and services related to the information society and social communication medium; means of transport; urbanized public spaces and buildings as well as the relationships with public administrations.

The concept of universal accessibility goes further beyond the removal of architectonic barriers, extending to all kind of spaces, products and services, with the aim of guaranteeing the principle of equal opportunities and benefiting, at the same time, all the citizens. In fact, from different fields, in Spain, and in specific from the ONCE Foundation, it is intended to incorporate a new concept of accessibility, leaving behind the traditional definition based on the "removal of architectonic barriers for people with reduced mobility", since the accessibility is a key factor in the environment after being it constructed. It is proposed, then, a new approach from the view of universal accessibility, design for all and independent life, whose principle is to facilitate the use of products and services to all users, being they able to participate in the process of design and evaluation of these products and services.

The concept of design for all is developed from the idea that the human dimension can not be defined by means of some abilities, measures or standards, but must be contemplated on a wide scope in which diversity is the rule and not the exception.

In the context of University, the access of students with disability must involve a wide definition of accessibility in physical spaces, transport, communication and information and communication technologies (ICT), also in virtual spaces, and services of all kind.. For this reason, from the I National Plan of Accessibility 2004-2012 (*I Plan*

[11] **España, Ministerio de Trabajo y Asuntos Sociales. *I Plan nacional de accesibilidad 2004-2010: por un nuevo paradigma, el Diseño para Todos, hacia la plena igualdad de oportunidades,* 2003. [en línea] Accessed: 8 marzo de 2009. Available on: <http://www.sidar.org/recur/direc/legis/ipna2004_2012.pdf>**

Nacional de Accesibilidad 2004-2012) [12], passed by the Council of Ministers on 5th July 2003, there are defined a set of specific objectives and actions on University and disability:

- Promotion of design for all in education and training.
- Development of didactic materials.
- Promotion of research and presence of accessibility in the RDI processes.
- Progressive accommodation of environments, products and services comprising the design for all criteria.
- Promotion of accessibility in new technologies, communication and information, by means of applied research.

There exist, five lines of action regarding the previous objectives:

- Awareness raising and training.
- Legal and technical regulations.
- Innovation and quality.
- Innovative plans and programs.
- Promotion of participation.

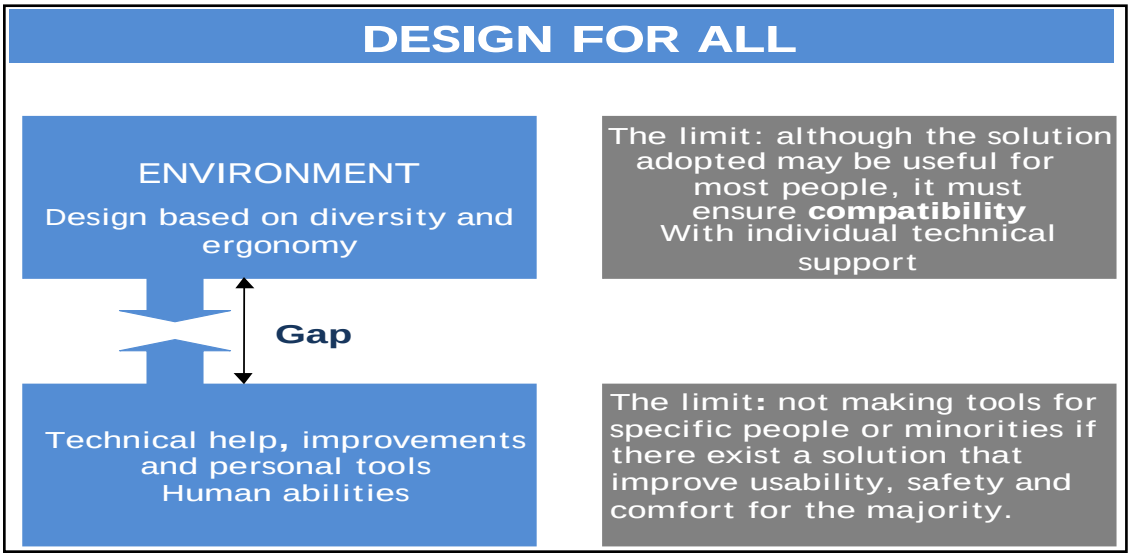
In order to achieve the welfare state all citizen demands, there must disappear barriers that impede full social integration of that group of people that needs great structure and functional changes on the accessibility in the physical environment (buildings, urban spaces, transport, etc.) as well as in the overall of the society. Fact is that current regulations, for example the 13/1982 law on Social Integration of the impaired (hereinafter LISMI), is not enforced in all cases, then that regulation is not by itself a guarantee for the integration of people with disability. It is necessary, then, to open new channels.

On February 15th 2001, the Committee of Ministers at the Council of Europe, adopts a resolution Res AP (2001) 1 about the introduction of universal design principles in the curricula of all professions that work in the construction environment; commonly

[12] **España, Ministerio de Trabajo y Asuntos Sociales. *I Plan nacional de accesibilidad 2004-2010: por un nuevo paradigma, el Diseño para Todos, hacia la plena igualdad de oportunidades*, 2003. [en línea] Consulta: 8 marzo de 2010. Available at: <http://www.sidar.org/recur/direc/legis/ipna2004_2012.pdf>**

known as the "TOMAR Resolution". This recommends to the States to start educative, training and consciousness-raising actions, divulging all basic principles on design for all" and "diversity of the person, mainly in the academic and university field. It also recommends the formulation of a concept for universal design in the national policies and the adoption of necessary measures to improve accessibility. In this sense, universal design and accessibility play a key role in promoting the human rights and the fundamental freedoms and, therefore, they should inspire in this design all the actions related to human activity. From this new conceptualization it is constituted the 'European Institute for Design and Disability' (EIDD) and, in Spain the Association Coordinadora del Diseño para Todos.

Figure 2: Diagram about the design for all.



Source: Coordinator of the Design for All People in Spain.

The European Project 'INCLUDE', inspired on the design of products and services with the aim of being used by greater number of people as possible, is another pillar in the universal design.

On March 2002 there was held the European Congress about people with disability. It led to the Madrid Declaration of "non-discrimination + positive action = integration", with the aim of achieving equal treatment, participation in social and professional life by people with disability and the achievement of an environment accessible to all.

According to the conclusion reached in that congress, accessibility has to be understood as an extra quality of the environment, being it organized so as to enable any person to cope in a more independent, safe and natural way possible. To do so, there have to be taken into account not only the requirements of people with disability, but also the different needs there may merge in a variety of personal situations (such as age, pregnancy, moving with a baby buggy, moving heavy or bulky objects, etc.) which affect to a multitude of people without having any disability.

Universal accessibility refers to the 'equalization of opportunities', in which the society's general services (education, transport, public health, etc.) become

accessible for all people, not just for those with disability but for all people with different abilities.

This way, accessibility and universal design must be hand in hand to assure the use and enjoyment of all goods and services by all people equally.

Areas where to apply accessibility

It is noteworthy to point out different fields where it is applied the universal accessibility:

Accessibility in the physical environment: it deals on the application of universal accessibility and design for all principles to architecture, building and town planning in the access, use and displacement on any public or private building, road, public spaces and facilities by all people possible.

Accessibility in ICT: it is the application of accessibility principles in the communication and information technologies so that people be able to communicate and access to any information system on equal conditions. Known also as info accessibility, it is applied to computers, Internet, telephony, television, cinema, domotics, tele-care services, ambient intelligence, etc. Usually, it is studied as a complement or part of physical environment provisions.

Accessibility in Transport: it is the application of accessibility principles in the transport field, which refers to any kind of movement, individual or collective, by land, sea, river or air. This is closely linked to accessibility in the physical environment as the use of any transport means depends on terminal buildings, stations or installations on public spaces and the equipment in all of them, machines, furniture, signs, etc. More and more it is taken in the joint study of the accessibility in the elements in which the communication and information technologies are applied.

In this area there are directly involved all disciplines of the engineering.

Support technologies: support technologies are any technology from which there can be derived support products. The support products are understood as any instrument, equipment or technical system used by a person with disability, manufactured specifically or available in the market to prevent, compensate, mitigate or neutralize the deficit, the limitation of the activity or difficulties in the social participation (UNE EN ISO 9999:2008).

In the design of a support product there can intervene different types of technologies coming from all the engineering branches. There exist support products for patient evaluation, treatment and rehabilitation; mobility and orthoprosthetic; audition; visual impairments; daily activities; and workplace.

Design for all: this concept is broken down into a series of principles that came up from the Centre for Universal Design (North Carolina State University) thanks to the joint effort of architects, designers and engineers in 1997. These principles were established as a guide for a wide range of disciplines related to the design of ICT

products and also environments. They are made up of 7 items to be applied for assess already existent designs and hence teach designers and consumers which are to be the more usable characteristics and environments.

The principles of *design for all* are[13]:

- Equitable use: the design is useful and sellable for people of diverse abilities.
  - It should provide the same ways of use for all users: as identical as possible, equivalent when not possible.
  - It should avoid segregation or stigmatization of any user.
  - Privacy, guarantee and safety characteristics should be equally available for all users.
  - The design has to be attractive for all users.
- Flexibility in use: the design accommodates a wide range of individual preferences or abilities.
  - It should offer election possibilities in the methods of use.
  - It should be accessed or used by either the right or the left hand.
  - It should facilitate the user with accuracy and precision.
  - It should adapt to the pace and rhythm of the user.
- Simple and intuitive use: the use of the design is easy to understand, taking into account the experience, knowledge, linguistic abilities or concentration degree of the person.
  - It should eliminate unnecessary complexity.
  - It should be consistent with the user's expectations and intuition.
  - It should accommodate a wide range of literacy and linguistic abilities.

[13] *Center for Universal Design* [en línea]. North Carolina: CUD, 2008. [Consulted 29 marzo 2010]. Available on: <http://www.design.ncsu.edu/cud/>

- It should give consistent information according to its importance.
- It should provide efficient warnings and response methods, during and after finishing the task.

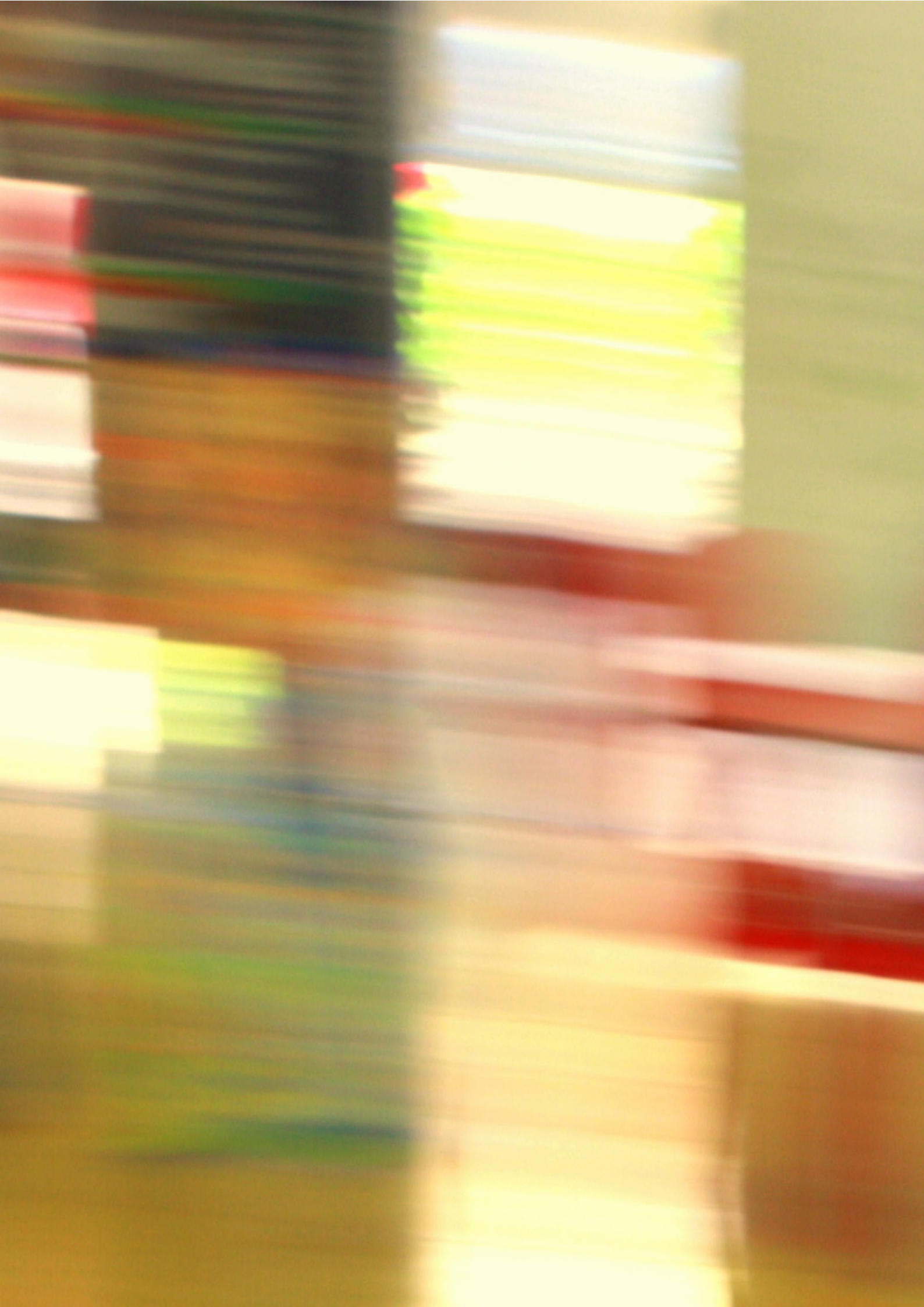
- Perceptible information: the design communicates the information to the user effectively, independently to the environmental conditions or the sensory abilities of the user.
  - It should use different ways for redundantly presenting the essential information (graphic, verbal or tactical).
  - It should provide enough contrast between the essential information and its environment.
  - It should widen the legibility of the essential information.
  - The elements should differ in forms that facilitate description (i.e. to make easier giving instructions or directions).
  - It should provide compatibility with several techniques or devices used for people with sensory limitation.
- Error tolerance: the design minimizes the risks and adverse consequences of involuntary actions or accidents.
  - It should have elements to minimize the risks and errors: elements more used, more accessible; and dangerous elements eliminated, isolated or covered.
  - It should provide warning about dangers or errors of use.
  - It must provide safety characteristics for interrupting use.
  - It must discourage unconscious acts in the tasks that require vigilance.
- Few physical effort requirements: the design can be used efficiently and comfortably with minimum fatigue.
  - It should allow the user keep neutral body position.
  - It should need a reasonably application of the necessary strengths to operate.

- It should minimise repetitive actions.
- It should minimise the continuous physical effort.

- Appropriate dimensions and spaces for use and access: the design has an appropriate size and space for the access, reach, handling and use, regarding body size, posture or user's mobility.
  - It should provide a clear view of the important elements for both the standing up and the sitting user.
  - The act of reaching any component has to be comfortable to any user that is sitting or standing up.
  - It must adapt to variations on hand size or grip.
  - It should provide necessary space for the use of support devices or personal assistance.

Accessibility in teaching or design for all in learning: accessibility and design for all can be also applied to teaching, specifically to instructive design. On pedagogical terms, it deals about designing a learning process taking into account the needs of all students, including that who presents some disability, without doing any distinction or specific accommodation.

This way, on broad terms, accessibility in higher education refers to the implementation of accessibility in the university environment at a physical, technological, human and social level.



SECTORAL STUDY PER AUTONOMOUS COMMUNITIES ABOUT THE ACCESSIBILITY OF THE UNIVERSITY ENVIRONMENT AND ITS PERCEPTION...

INTRODUCTION TO THE STUDY

The 2009 edition of the OUD research has the objective to know and unveil the current situation regarding accessibility in the university context and also its perception by students with disability from the universities set in six autonomous communities of the study.

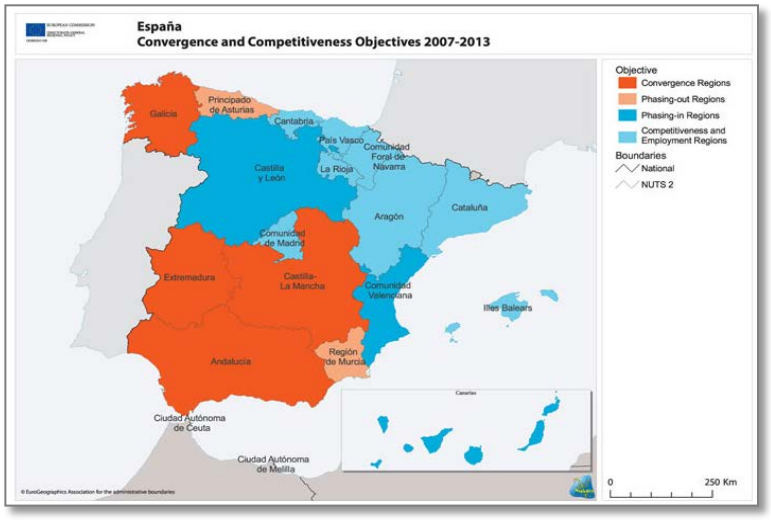
This way, the study object are the peninsular universities located in the autonomous communities classified as areas included in the Convergent objective of the ESF and included in the 'phasing-in' of the competitiveness and employment objective according to the European Social Fund.

Table 3: Universities set in the peninsular six Autonomous Communities object of study.

GROUP	DESCRIPTION	AACC
Convergence	PIB per capita < 75% of the EU-25 average	Galicia Extremadura Castilla la Mancha Andalucía
Gradual inclusion (phasing-in)	PIB per capita < 75% of the EU-15 average during the 2000-2006 period. PIB per capita > 75% of this area average during 2007-2013.	Castilla y León C. Valenciana Islas Canarias
Gradual exclusion (phasing-out)	PIB per capita > 75% of the EU-25 average. PIB per capita < 75% EU-15 average.	Asturias Ceuta Melilla Murcia
Regional competitiveness and employment	PIB per capita superior to the 75% EU-25 average and are regions to be funded in the objective.	Cataluña Aragón Madrid La Rioja Navarra País Vasco Cantabria Islas Baleares

Source: European Social Fund

Figure 3: Map per Autonomous Communities stating the zones that differ according to the European Social Fund.



Source: European Social Fund.

In the following list there is shown the universities studied, being classified per Autonomous Communities:

Table 4: Universities studied classified per autonomous communities.

AACC	University	CCAA	University
Andalucía	Universidad de Almería	**C. Valenciana**	Universitat de València. Estudi-General
Andalucía	Universidad de Cádiz	**C. Valenciana**	Universitat Jaume I
Andalucía	Universidad de Córdoba	**Castilla la Mancha**	Universidad de Castilla La Mancha
Andalucía	Universidad de Granada	**Castilla León**	Universidad de Burgos
Andalucía	Universidad de Huelva	**Castilla León**	Universidad de León
Andalucía	Universidad de Jaén	**Castilla León**	Universidad de Salamanca
Andalucía	Universidad de Málaga	**Castilla León**	Universidad de Valladolid
Andalucía	Universidad de Sevilla	**Extremadura**	Universidad de Extremadura
Andalucía	Universidad Pablo Olavide	**Galicia**	Universidad de A Coruña
C. Valenciana	Universidad de Alicante	**Galicia**	Universidad de Santiago de Compostela
C. Valenciana	Universidad Miguel Hernández	**Galicia**	Universidad de Vigo
C. Valenciana	Universidad Politécnica de Valencia		

OBJETIVES

The objective of this research is related to the accessibility in the University. There was carried out an analysis from three different views or perspectives. It is deepen into the context in which people with disability are in the Spanish university from both the areas included in the 'Convergence' objective of the ESF and the peninsular areas included in the 'phasing-in' of the competitiveness and employment objective. Therefore, it is carried out a joint analysis of the perception of the students and the situation of each university, including those aspects related to physical accessibility and communication in university centres as well as services and programs the university offers.

In other words, the objective is to know the accessibility, in the widest sense of the word, from the universities included in the EFS 'Convergence' objective and the peninsular areas included in the 'phasing-in' of the competitiveness and employment objective. This is done so by carrying out:

- An analysis of the conditions offered by universities (accessibility of their facilities and services).
- An analysis of the perception of students with disability.
- A joint analysis of both perspectives.

The specific objectives are:

- Detecting the state of the accessibility in the Spanish universities under study.
- Knowing the activities and policies carried out by the Disability Support Services (hereinafter DSS) from these universities.
- Knowing the perception of students with disability in these universities.
- Detecting different need and demands of the university student with disability according to his/her kind of disability.
- Carrying out an objective comparison of the accessibility conditions, together with the perception of accessibility by students with disability.

- Carrying out an exploratory approach to the contemplation state of the terms *Disability* and *Accessibility* in the study plans of the universities.

For that reason, the 2009 study will centre in the following fields:

- Accessibility in the university canters.
- Perception of the students with disability.
- Treatment of disability by the universities.

ACCESSIBILITY IN UNIVERSITY CENTRES

Objectives

The aim of this first part of the study is to know the level of accessibility in the universities set in the Autonomous Communities of the areas included in the ESF 'Convergence' objective and peninsular areas included in the 'phasing-in' of the competitiveness and employment according the investment classification of the European Social Fund, taking into account the analysis of accessibility conditions, ambulation, apprehension, location and communication of these universities.

Methodology

The work carried out presents a completely reliable constructed reality, in which there has been tried to cover a maximum number of buildings and campus from the universities under study.

The method has been structured the following way:

- Definition of the field of study.
- Teamwork.
- Considered regulations.
- Definition of the parameters to be analysed and data collection tools.
- Coordination of the responsible services for the accessibility of each university in the field of study.
- Data collection in the campus and facilities defined in the study field.
- Digitization of the obtained data.
- Analysis criteria.
- Results from the information analysis.

- Conclusions related to physical accessibility.

Field

There have been studied public universities coming from the Autonomous Communities. There were studied 21 universities, organized into 58 campuses, which are a total of 429 buildings.

The study includes not just the buildings but also its immediate environment, reaching this field at least to the public or private transport points, which allows the evaluation of the urban connexion degree.

It is noted that, in the realization of this first part of the study, there was not taken into account the authorization of 2 universities, being them, then, excluded from the study by the research team own decision. However, in the second part of the study, related to the students' perception, these two universities did participate.

According to established criteria, there have been omitted from the study the university campuses made up by only one centre. According to such criterion there were not visited facilities from the International University of Andalusia due to its location on 4 small size campuses in 4 different cities. Similarly, there were excluded some schools and faculties located in suburbs or isolated from the rest of the campus.

The study carried out deepens into the detailed knowledge of the factors that may influence in the accessibility of people with disability in the university. It is for that reason that, in the field work, there have been clearly prioritize those buildings that are directly related to teaching such as university schools, faculties and libraries and also all the buildings related to them. In this sense, as a general rule, there have been discarded from the study all chancellorship buildings, research centres, university lunchrooms, sports pavilion and colleges. However, the fact that those buildings were not analysed does not imply they be less important for the university environment.

Work team

The accessibility study in the university centres have been carried out by members of the Universitat Politècnica de Catalunya- BarcelonaTech, comprising teachers and master and degree researcher specialized in accessibility. University researchers who have a degree in Architecture and professional experience in the field have carried out the collection of data.

Regulations considered

In order to establish the physical accessibility parameters analysed in the study, there was considered the Building Technical Code, in specific the Basic Document of Safety in Use (BD-SU) from March 2006. This has the objective to establish rules and procedures that allow a compliance of essential demand for safety in use. That code is mandatory in all the Spanish State.

True is that the previously mentioned Basic Document does not include the regulation of accessibility conditions not related to safety in use. However, the study is complemented with the parameters established by the Autonomic regulations that govern the promotion of accessibility and the removal of architectonic, urban, transport and communication barriers.

Similarly, as the Technical Code only applies in facilities, for urban environments, there must be considered parameters from the autonomic regulations.

There must be also pointed out that, at the time of studying the ramps, there was applied an exception. The parameters for analysing them come from Autonomic regulations rather than the Technical code. This reason lies on the fact that the Technical code is more restrictive since it has come into force later and, thus, it has not been applied in any building of the study.

Therefore, there have been considered as valid the slopes of less than 8% for 10 metres length ramps and of 12% in ramps shorter than 3 metres. It is noteworthy that when collecting the data there have been detailed the percentages of the slopes in order to analyse the information according to the criteria evolution.

Regarding sensory disabilities, there is not a specific regulation to be applied. For that issue, there have been taken into account manuals and guides from different institutions.

Parameters analysed

There have been analysed parameters related to physical accessibility, both in the building and its environment, as well as accessibility parameters in communication.

The parameters used do not strictly conform the requirements of the regulation due to its dispersion, disintegration and progressive updating. In this regard, there have been made a much more exhaustive proposal that allows a record of the actual state of accessibility: there have been included parameters that, although do not reflect current regulations, specific bibliography, and overall, users, consider them as very important in order to achieve universal accessibility

The information gathered contains objective data (i.e. slopes data) so that the data could be evaluated according to the regulations from each Autonomous Community.

Physical accessibility: environment

An accessible building cannot be understood out of the accessibility of its environment. The first point to be analysed is the conditions of arrival and approach to the building. There have been taken data considering different options for arriving and the conditions of the public and private transport.

In order to know the state of the public transport there have been studied the level of accessibility of the vehicles and their stops. In the private transport there have been analysed the size of accommodated parking lots and their situation to be reached, their signposting and their connection to an accessible path.

In both cases there have been studied the accessibility conditions of the urban planning of the campus and its surrounding streets in order to guarantee that the route from any public transport to every building is accessible.

Physical accessibility: building

The analysis of accessibility in buildings is to see if it is possible for a person with any kind of disability to access and go through a building without restrictions, including also the accessibility in its use and communication.

The study has been focused according to accessibility parameters of the following elements of the analysis:

- Access: stairs, ramps, doors and mats.
- Vertical communication: stairs, ramps and elevators.
- Horizontal communication: doors, platforms and grandstands.
- Toilets. pillar
- Furniture.

Accessibility in communication

In the study of non interactive communication, it has been analysed the state of exterior signs from the façade's placards, posts and pathway indicators in the campus and inside signs states from directories and placards. The parameters considered were the right letter size according to the reading distance, colour contrast and existence of tactile elements in the sign.

At the level of interactive communication, it has been studied the installation of magnetic loops and the availability of personal sign language interpreter.

Coordination of support services for students with disability

Previously to the data collection, it has been carried out the task of contacting with the chancellors and vice-chancellors of the universities object of the analysis.

The UPC team in charge of gathering data visited the university centres completely independent and always with the expressed authorization of the student or infrastructure Vice-chancellor. Some campuses have been accompanied by a technician of the correspondent DSS or by Infrastructure Vice-chancellorship technicians of the University.

Data collection

The fieldwork consisted on visiting university facilities by architecture professionals specialized in accessibility. Their task consisted in gathering data, taking photos and filling up forms. The model of these forms is attached in annex 3 of this report.

The inspection of the buildings has been consisted in a physical visit of each of the centres under study. There have been used systematized methods for gathering the data used for assessing the accessibility. For that purpose it has been designed a specific form for that study which has let us check in the 429 centres each of the 111 parameters previously set by the research team.

Most of the parameters analysed belong to objective data consisting on volumes or slopes of the constructed elements. In order to achieve such data, the team in charge of the fieldwork has used devices such as the distometer and the tape measure for measuring distances, and the clinometer for determining the exact slope of the ramp.

Finally, the research team had a photography camera to graphically record the analysed parameters.

This working method has allowed the compilation of data from a great number of buildings and parameters, considered essential in order to obtain a global vision of the state of physical accessibility from the universities under study.

All data gathered is noted in the forms. This way, it allows a quick understanding of the specific problems each building presents and, also, permits a comparison between buildings.

Moreover, the information in the forms and the photos taken to the buildings are basic data of great value as it could be very useful to improve the accessibility of the centres when available to the universities.

Digitising

Once the fieldwork is finished, all data from the forms were digitized by creating a data based. With this tool, the data can be analysed and to obtain general results and statistics data present in this study.

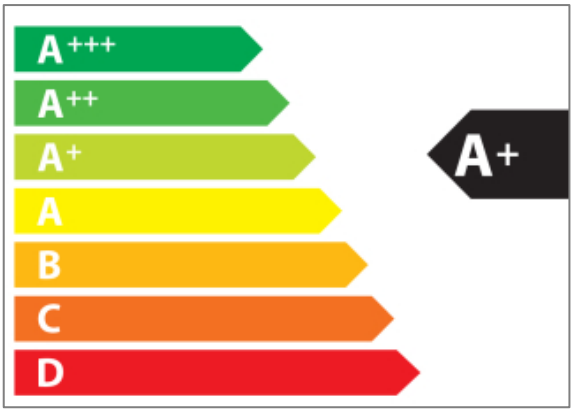
All collected and digitized data permits the development of much more powerful tools that exceed the analytic and evaluation objective of this present study.

Analysis criteria

In order to analyze the results, there has been established an accessibility criterion similar to the energy performance certificate criteria. This criterion is based on a colour gradation language similar to traffic lights. From major to minor accessibility there is A (green), B (yellow), C (orange) and D (red). The parameters assessed with this criterion are: public transport, private transport, intra-campus mobility, building access, vertical communication, horizontal communication, toilets and signs. These criteria are explained in their correspondent sections of this document.

This classification has spread in the accessibility field, being thus a valid criteria for an easy comprehension of the analyzed values and, also, and stimulus for achieving the optimum A classification. There can be also the aim of achieving the A+ quality which goes beyond the established parameters in the regulation.

Figure 4: Accessibility classification criterion.



Analysis of results

The study of the 429 buildings from the 21 universities offers a broad vision that leads to the conclusion that the university centres from the Spanish Autonomous communities included in the objective of ESF convergence and in the competitiveness and employment 'phase-in' need an important boost to be considered accessible.

Previous issues

Vice-chancellorships of Infrastructure and DSS

In the research it has been detected that, besides the physical conditions of the facilities in the university, the DSS has an important role when detecting and facing the different accessibility barriers in the centres. Anticipation and provision before incorporating a new student with disability is essential to make up for infrastructure deficits. The key lies on the close relationship between the Vice-chancellorships of infrastructure and the DSS, and their availability and quick response.

In the research it can be noticed some universities' efforts in improving their facilities, thanks to that close relationship. However, the study analyses the entire accessibility in the buildings and campuses and, despite the punctual accommodations implemented for some student, a building can be considered in need of accommodations or even inaccessible.

On the other side, it is considered essential the awareness rising of different statements of the university and key figures, such as the technical units of Vice-chancellorships of infrastructures, on the issue of physical accessibility in facilities. It is very important to master the accessibility codes and good practices guides when facing alterations, expansions or even new infrastructures.

There have been found alterations with the complete unawareness of the DSS, such as the installation of inaccessible computerized reference points; alterations of concierge desks with an incorrect height; installation of new inaccessible flooring; or the elimination of ramps in stages. This is not an advance towards global accessibility but a setback.

It is true that most universities' improvements for achieving a complete accessibility in infrastructures is out of their budget at a short term, the situation gets complicated when it is stated proved the lack of priority given to accessibility in some centres.

Accessibility plans

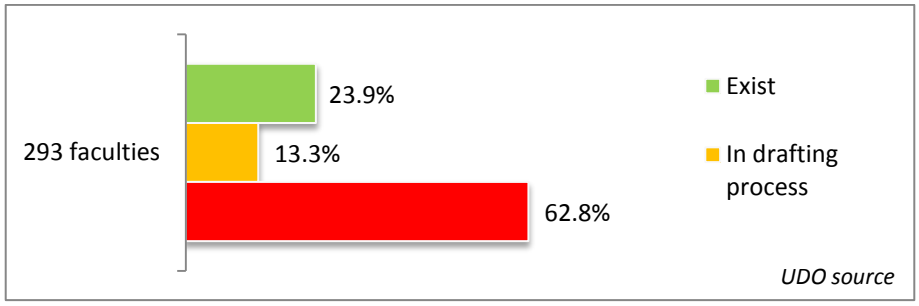
The development of an accessibility plan can be considered an essential tool for detecting deficits and planning new necessary intervention measures by establishing a timeline and budget for alterations.

Still, the analysis of the research has confirmed that the development of that plan is not a guarantee for the implementation of such measures. Similarly, the absence of such plans does not imply that improvements and accommodations in accessibility terms are not being carried out.

The model of action described in the previous section on the student-DSS-Vice-chancellorship of infrastructure relationship, at a level of small universities, has been proved more useful and economic than developed but ignored accessibility plans.

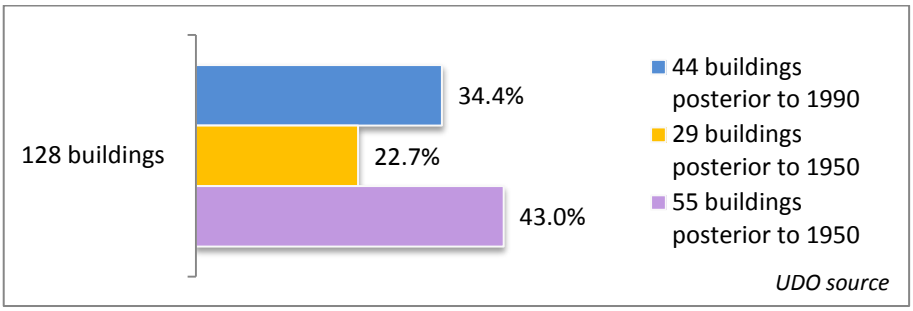
From the cases analysed from 293 centres, only 23.9 have an accessibility plan, 13.3% are in writing out process and 62.8% do not have a plan.

Graph 1: Percentage of faculties according the existence of Accessibility Plans.



There are also universities holding quality certificates despite not having implemented the needed alterations detected in their accessibility plans.

Graph 2: Percentage of buildings according to their construction date.



The visit to different facilities has confirmed that new buildings offer no guarantee of compliance with accessibility parameters analysed in this study. Although it can be stated that all buildings constructed since the 90s are accessible in their access and vertical communication, there are still systematically recurrent deficits, such as:

- 70.5% of ramps with excessive slope.
- 92% of banisters have incorrect design.
- 29% of doors have a width inferior to 0.80 meters.
- 98% of colours and textures of steps not differentiated.

- 73% of floorings inaccessible.
- 35% of toilets without minimum dimensions.
- 58.5% of signs are confusing.

A point that is essential for assessing accessibility in the university centres:

- 52.5% classrooms without accessible furniture.

In the study, there are detected buildings from the 60's and 70's that had not into account the accessibility criteria when constructing. So, apart from the deficits mentioned from the new constructed buildings, in these buildings there can be also found:

- 3% of marginal or secondary accesses accommodated.
- 26% of buildings with no minimum dimension or automatic doors.
- 24% absence of accommodated toilets.
- 2% non-accessible mezzanine without lift or stair lift.

In schools and faculties located in historical buildings there have been found two contrasting situations: on one side, a minor number of buildings that have been accommodated according to the accessibility parameters; on the other side, and in most of the cases, buildings with minimum alterations which convert some of the critical points of the buildings practicable with help, but not accessible.

However, it is worth noting the value of architectural heritage for the historic legacy and their cultural wealth. The location of most universities in heritage buildings permits new uses that give positive connotation to university teaching. However, the challenge is to make those new uses comply the accessibility criteria by looking for solutions that do not interfere with the historical essence of the building. These jobs imply a comprehensive study of the whole and not isolated projects.

Physical accessibility

Environment: public transport

The access to the university in accommodated public transport is guaranteed in 84% of the universities under study. The municipal bus fleet have already, in most Spanish cities, buses with low floor systems and spaces restricted for people with motor or visual disability, equivalent to the accommodated metro and street car, as being them recently implemented in the visited towns.

However, most of the stops near to the campuses, despite being the buses accommodated, the use of the low floor is not possible in a 9% of the cases. This is due to the fact that there is not a sidewalk and the stops are set at the level of the road when the height of the platform is 20cm. On the other side, the space permitted for the bus to approximate and park in rush hours and the inexistence of platforms lengthening the sidewalk also make difficult the access to transport at a great extent.

It is worth noting that all shelters studied meet the accessibility criteria.

The centres located in historic districts are in most cases far from streets full of traffic. For that reason they cannot have access to near public transport.

It must be highlighted that in some universities there exist collective transport that is accommodated, being this transport facilitated by some local or autonomic associations for the help of people with disability. This service picks up at the students home and lifts him or her to the faculty. This implies advantages but also supposes a case of exceptionality.

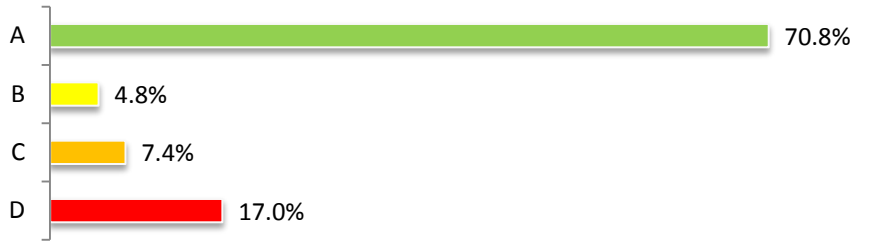
The established criterion to globally assess accessibility in the public transport of the universities under study is mainly the appropriate height of the platforms. Incorrect height of platforms invalidates the accessibility of an accommodated public transport as it impedes its access, becoming then a D class.

In the case there is a platform, it would become a C class, as it eventually permits the access to the accommodated transport, being it a private or public transport.

If the platform has the right platform height, the accommodated public transport would be assessed with a B class.

Finally, the result of the assessment would be an A class in the case that bus shelters be accommodated as the bring comfort although they are not key for the access to the transport.

Graph 3: Percentage of types of accessibility in public transport.



UDO source

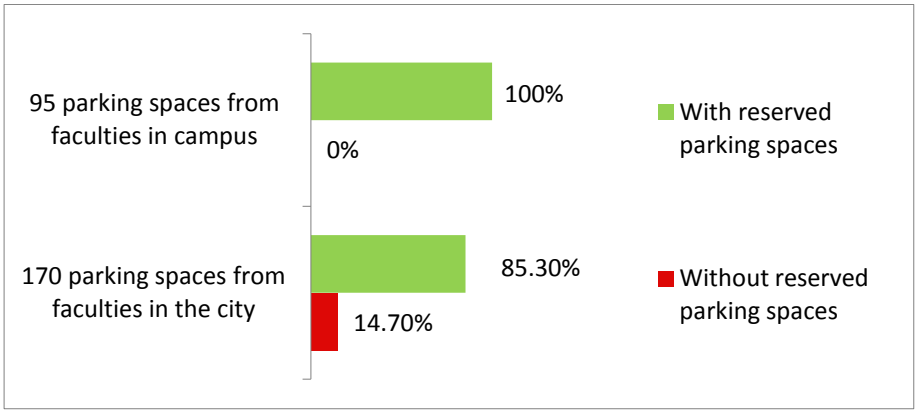
A	Accommodated transport, correct platform height and accommodated bus stop shelters.	267	70.8%
B	Accommodated transport, correct platform height, bus stop shelters not accommodated.	18	4.8%
C	Transport not accommodated, incorrect platform heights.	28	7.4%
D	Incorrect height of platforms	64	17.0%
Total centres		**377**	**100%**

Environment: private transport

There have been found accommodated parking spaces in all the university campuses that are organized as independent buildings. However, schools and faculties isolated from the city do not always have near reserved accommodated parking spaces in public parking areas.

Although there exist reserved parking spaces, in few occasions it fulfils the norm of one accommodated parking space per each other 40 current ones. Just in one case there has been found a reserved parking space with the number of the car plate.

Graph 4: Percentage of spaces reserved according the location of the faculties.



71.1% of the cases comply with the minimum dimensions of 1.5 metres side approaching. However, just 12.3% of these ones guarantee the correct communication to an accessible path making the users of the resting 58.8% walk long distances by the road until they find an entrance to the sidewalk.

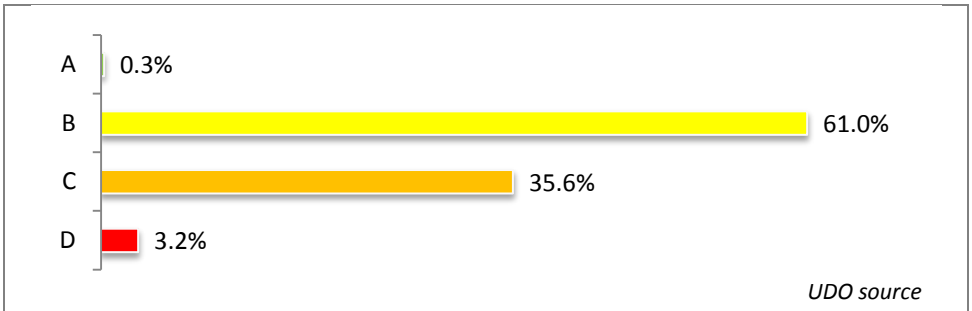
It is more frequent that the spaces have a horizontal marking (40.1%) than a vertical signs (5.3%). Half of the studied parking spaces have both types of signs (50.3%) and there are few cases with no type of sign at all (4.3%). It has to be highlighted when there are only road marks, if this one is not bright, they are difficult to locate and easily ignored by the other of users.

It is worth pointing out the lack of sensitization of society, which makes it common finding accommodated parking spaces occupied with vehicles without an accreditation card, similar to the sidewalk dropped kerbs, aimed at connecting accessible pathways, which are blocked by illegally parked cars.

The established criterion for globally assessing accessibility in private transports from universities focuses on the parking spaces available in the centres. It is measured as an important parameter to pass from D to C class that reserved accommodated parking spaces assure the maximum proximity to the centre of studies, although it is not connected to an accessible pathway.

To obtain a B class, the reserved spaces must be well communicated with an accessible pathway and must guarantee the user's safety by having an approximation area of 1.5 metres to the car, so the person can get in and out the car with comfort. Finally. To obtain the A class, it is needed the signage in the parking space and, specially the reservation of the space with a specific number of the plate.

Graph 5: Percentage of degrees of accessibility in private transport.



A	Reserved parking spaces with plate number, communicated to an accessible path and with an approximation area >1,50; area marked with a vertical and horizontal sign.	1	0.3%
B	Reservation of accommodated parking spaces, communicated to an accessible path and with an approximation area >1,50.	228	61.0%
C	Reservation of accommodated parking spaces.	126	35.6%
D	Not any reserved accommodated parking spaces.	12	3.2%
Total centres		**374**	**100%**

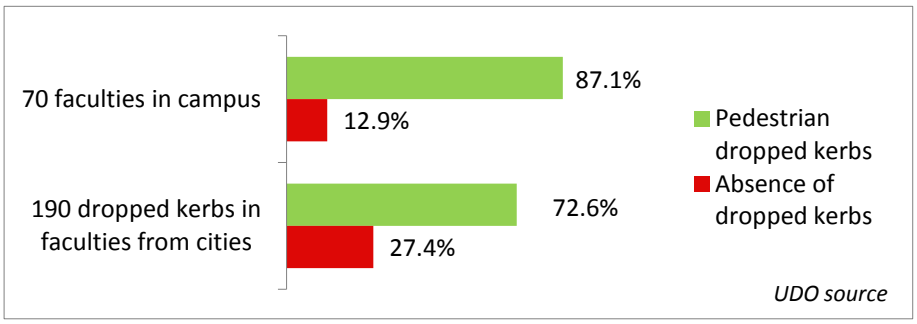
Environment: urbis

In the study of accessibility of urbanization in the university environment, it is important to distinguish between campuses conceived as an independent buildings and university centres which are integrated in the town planning.

Most independent campuses have a correct paving on hardness and anti-slippages, with podo-tactile paving, without bumps and a uniformity that gives a homogeneous image to the university environment. Truth is that pedestrian dropped kerbs are not well resolved, having pedestrian crossings with no lower entrance in their kerb. On the other hand, during the fieldwork, there were campuses that were in works for installing dropped kerbs and podo-tactile paving.

Despite it is not stated in the regulation, it is considered very important the prevision of correct drainage in streets and especially in pedestrian crossings to prevent from water accumulation or puddles by the dropped kerbs.

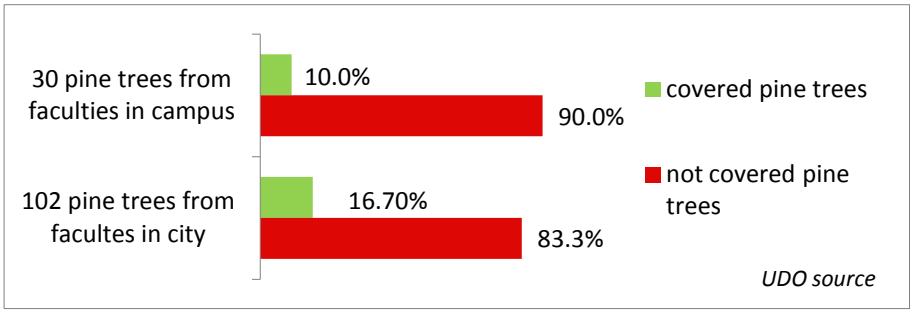
Graph 6: Percentage of dropped kerbs according the location of faculties.



Talking about the protection over the hole at the ground base of trees, 90% of the tree pits located in campuses do not have their ground base adequately covered. The detection of it by people with visual impairment o wheelchair users may create confusion and make possible to stumble or fall inside.

At a level of urban furniture, it has been repeatedly detected backless benches, while most cases, paper bins do have two legs that allow detection by people with visual impairment.

Graph 7: Percentage of pine trees according faculties' location.



There exists the case of a university that is not urbanized, next to other buildings. For getting to this university, the journey must be done across fields. Therefore, the access to this university is not just inaccessible for students or university staff with disability but is also impractical for the entire university population.

Regarding the walking between buildings, it is necessary to show the problem detected in two types of campuses, the campuses located in steep slopes and the campuses that are excessively large, resulting in the dispersion of centres and long distance walk between them.

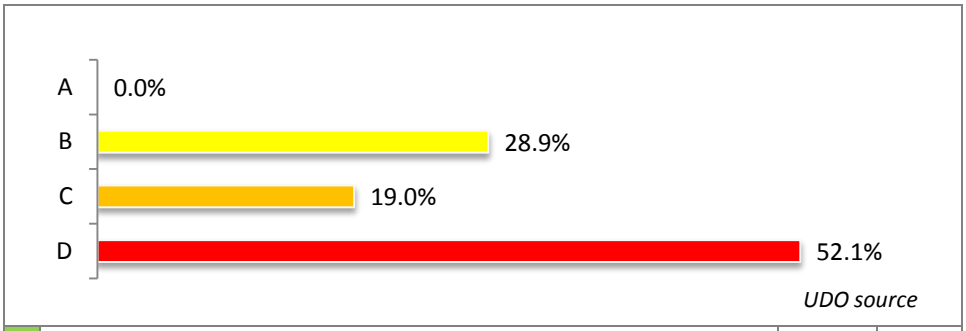
Campuses on steep slopes, make difficult for people with disability to access their buildings is guaranteed.

At the time of evaluating long distances between centres in the same campus it has to be taken into account the concept of the campus under study. When the campus holds buildings that belong to a same faculty, with its departments, classrooms, laboratories and administrative dependencies, a long distance between centres would not be a problem unless the student wants to participate in the activities developed in other centres or enrol elective subjects from other faculties. In the case of a campus whose different university activities be scattered between different buildings, there can be given the case that a student, during the same day, had to visit the classroom, the laboratory building, the department building, the central building inter-centres, the library and the café. If this student has any kind of motor or visual disability this would imply a considerable effort. Besides it, if distances between centres are long, then the campus is inaccessible.

In the case of universities set in cities, accessibility depends on the awareness and criteria of the city itself on paving, dropped kerbs, furniture and pine trees. However, in these contexts it is found the same deficits of university campuses.

In the case of campus planning, which determines the intra-campus mobility, it is established as priority being able to move safely through the campus, and then the minimum parameters for surpassing D category include: covered pine trees, correct sidewalks width, a non-slipping, continuous and hard paving. For achieving B category the planning must add comfort to the intra-campus movement, aligned furniture and podo-tactile paving. Finally, A category is obtained when other non-essential parameters are included such as appropriate furniture or traffic light with sound.

Graph 8: Percentage of type of accessibility in intra-campus mobility.



A	Covered pine trees. Correct sidewalk width with dropped kerbs, non-slipping paving, continuous, hard and podo tactile. Aligned furniture. Appropriate street furniture design and traffic lights with acoustic signal.	0	0.0%
B	Covered pine trees. Correct sidewalk width with dropped kerbs, non-slipping paving, continuous, hard and podo tactile. Aligned furniture.	134	28.9%
C	Covered pine trees. Correct sidewalk width with dropped kerbs, non-slipping paving, continuous, hard.	88	19.0%
D	Pine trees not covered. Incorrect sidewalk width. No dropped kerbs. Non-slipping paving or continuos and soft.	241	52.1%
Total centres		**463**	**100%**

Access

The optimum solution for access is that one which is done at a street level without having to add any ramp or other element to save the drop. This situation is only given in 10.5% of the studied buildings. Most buildings, even the newly constructed ones and also the historical ones, the access is solved through patios.

The main problem detected is in the secondary or marginal treatment present in 3% of the centres. When it is not possible to solve the access of the main entrance the accessible access is then in secondary doors. This way, there have been located centres whose access is by locked side doors, through the entrance for loading and unloading materials or by the basement ramp in the parking lot. In all these cases it implies a specific request for opening doors.

It must be pointed out that 29.5% of the studied centres, at the present day of this study, do not have any real accommodated access. In these cases, the only alternative for the student, teaching staff or other wheelchair users for accessing the centre is with a personal assistance. Yet, 70% out of 579 of the analysed accesses could not be considered accommodated despite the fact that there exists in the same centre some access that complies with the minimum criteria for accessibility.

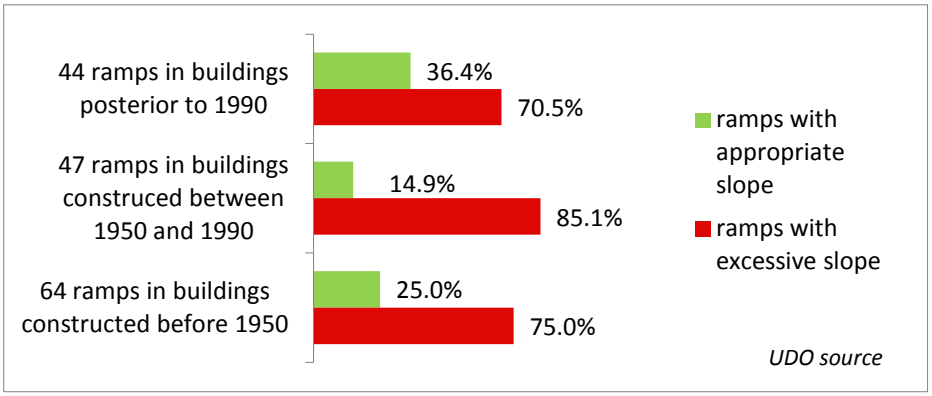
In buildings with **stairs** access, similar to the inside stairs, it is never found the podo-tactile line at the beginning or end of the stairs. True is that 79.8% stairs have non-slipping paving. However, the steps do not have colour contrast between tread and riser (10.9%), or in the same tread (11.5%) to make easy the visual identification of

steps. It is very common finding stairs with a projection in the vertex of the steps as the paving piece of the tread protrudes (torus); this could cause risk of tripping while ascending.

There have been detected a great number of exterior stairs without banister. Only 24.8% have banister, and from them, 22.5% have the banister at a medium height. It is also common the lack of banister in flight of step of more than 5 metres width, only 27.1% of them had banister.

In the area of **ramps**, there were studied ramps in the pipeline and from latter interventions. 47.3% of them exceed the maximum slope of 8% in ramps of 10 metres length. 32.5% of cases exceed the maximum slope of 12% for ramps of 3 metres length. There are cases in which the slope construction meets the requirements, but the absence of intermediate landings makes its length be inaccessible. It is needed to point out that according to current regulations, slope of 12% are considered inaccessible.

Graph 9: Percentage of ramps according to the slope and the year the buildings where constructed.



Regarding ramp inclination, evaluating both interior and exterior ramps, a great percentage of them do not meet the minimum requirements. For that reason historical and newly constructed buildings obtain similar results in their assessment. Although buildings erected after1990 obtain better results, it is striking, as there exists a mandatory regulation on it. If the CTE code would have been strictly applied (consisting on not allowed 12% slopes) the results would have been conversely different.

Although the CTE obliges the use of banister in slopes higher than 50cm, its use is important to guarantee that the itinerary is accessible from the beginning of the ramp till the end. Deficits detected in banisters from stairs are similar to the ones found in ramps. Moreover it is also found the systematic absence of socket side, which entails danger of falling.

In all cases there must be avoided the installation of stair lifting platforms since this solution, although accessible, is not conceived under the design for all criteria. This system is designed just for people with motor disability that use wheelchair. Besides, their mechanisms are activated by key, have a weight limitation and create an

uncomfortable situation to users due to its singularity and its size. Moreover, its sporadic use implies, in some occasions, the lack of maintenance and its inoperability.

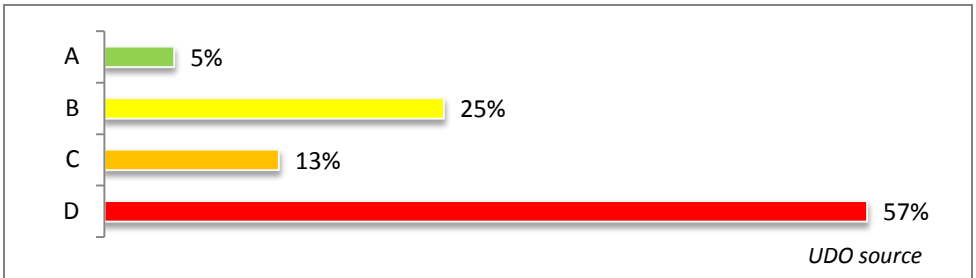
The types of doors that allow a complete accessibility are automatic doors. Only 18.5% of the buildings have them. From those buildings, 88.6% have the glass on the door marked with signs for their better perception by people with low vision. It is worth noting the effort those universities for installing automatic doors in all the accesses to the centre and removing their original doors.

The rest of exterior doors are opened manually. 64.6% of them allow comfortably hanging. However, doors with steel carpentry that weighs too much, or doors whose spring is rigid, offer strong resistance when opening. Apart from that, there have been found 43 unmarked glass doors in the accesses to centres (13,7% from the glass doors)

Doormats located behind the access door, or in the windbreak space, are no problem at a level of accessibility always that they be integrated in the design or made at the level of the floor. It is considered a nuisance when mats are loose and, in some occasions, laid over the floor, jutting out even 3 cm, and if it is not fixed it can move or bend causing stumbling or difficulty when passing over.

The criterion for global evaluation at a level of accessibility in the access to centres is established as optimum the access that has no floor drops of any kind and doors are automatic, as this is the only way to guarantee a design for all that does not highlight functional diversities. The achievement of these parameters would be classified as class A. Class B state as correct those accesses that are accommodated by means of ramps that fulfil the maximum slopes and their doors do not have any problem of using such as weighty or bad signposted doors. Class C are those accesses that have been accommodated with ramps but the slope is excessive or incorrect and the entrance door does not allow the access to the centre without the help of a personal assistant or mate. Finally, Class D refers to those accesses that because of their basic dimensions do not allow a wheel chair user to enter. It must be taken into account that although most accesses are qualified with category D, this does not mean the centre does not have another accommodated entrance.

Graph 10: Percentage of types of accessibility in access.



A	Access at the same level with automatic doors.	30	5%
B	Accommodated access by ramps with appropriate slope and a practicable door, although not automatic.	146	25%
C	Access with a ramp with excessive slope and low practicability door.	75	13%
D	Access with a ramp of incorrect measures and a door without enough space for manoeuvring.	328	57%
Total access		**579**	**100%**

Vertical communication

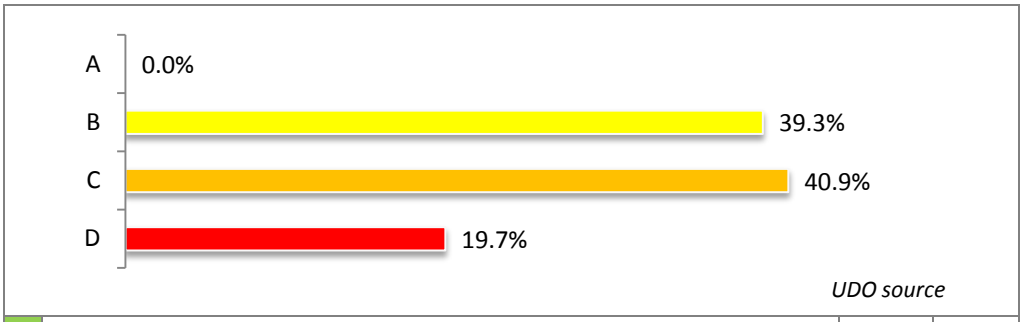
It understood as vertical communication of a building when it guarantees the access to all its floors. It is then needed an alternative to stairs such as ramps, lifts or platform lifts for stairs. .

In the case of vertical communication, the accessibility criteria are established for each type of system, ramps, stairs or lifts. Class D are the factors that because of space dimensions make the element inaccessible. Class C belong to those factors that are considered essential to a security level, or in the case of lifts when they do not reach all the building floors. Class B are those parameters considered minimal to become a really accommodated element. Finally, class A are those factors that bring independency or improvements to the user's comfort.

In the design of interior stairs, there are systematic deficits also detected in exterior stairs: the absence of podo-tactil strips (94,8%), colour contras on steps (84.9%), torus (40-6%) and number and arrangement of banisters (63.3%). Besides, there must be added that interior stairs use to have slipping floors without non-slipping strips on the tread (72,6%). It is also frequent that the design of banisters has rectangular handrails, which makes difficult to hold on (34.8%).

As a warning, freestanding stairs in distribution spaces are a high risk for people with visual impairment or any person who walks clueless. When a staircase is not protected or marked with signage, the stair stringer, with a height inferior to 2.20 metres, is impossible to be detected before hitting it. Similarly, stairs with open risers are also a risk as they can cause stumbles and falls. This is a very serious and also common error since it has been detected that 55% of the stairs are not protected or marked with signage.

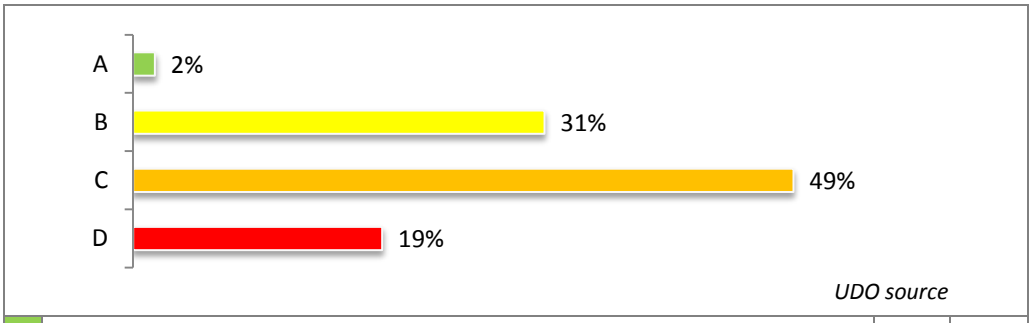
Graph 11: Percentage of types of accessibility in stairs; vertical communication of the building.



A	Stairs with a width > 1,20, number of steps < a 12, with non-slipping paving, without need of stair-lift, with appropriate banister, podo-tactile paving and color contrast between steps.	0	0,0%
B	Stairs with a width > 1,20, number of steps < a 12, with non-slipping paving, without need of stair-lift but without appropriate banister.	275	39,3%
C	Stairs with a width > 1,20, number of steps < a 12, with non-slipping and/or a stair-lift for connecting levels.	286	40,9%
D	Stairs with a width > 1,20, and/or number of steps > 12 without covered raisings.	138	19,7%
Total nº of staircases, vertical communication		**699**	**100%**

Interior ramps repeat the same deficits detected in exterior ramps: excessive slopes, absence of banisters and, similarly to stairs, there isf the slipping paving without non-slipping strips as alternative. Corridors with ramps tend to be not considered as ramps and, thus, they lack banisters.

Graph 11: Percentage of types of accessibility in ramps, vertical communication of the building.



A	Ramps with a width >1,20m, a space before and after the ramp >1,50m, non-slipping paving with non-slipping strips, appropriate banister and lateral baseboards >10cm.	4	2%
B	Ramps with a width >1,20m, a space before and after the ramp >1,50m, non-slipping paving or with non-slipping strips, without banister and or incorrect or inexistent lateral baseboard.	76	31%
C	Ramps with a width >1,20m, a space before and after the ramp >1,50m, with slipping paving and without non-slipping strips.	122	49%
D	Ramps with a width <1,20mand/or a space before and after the ramp <1,50m.	46	19%
Total ramps, vertical communication		**248**	**100%**

Lifts from the studied centres meet the accessibility parameters from this study. Most of the old buildings have modified their lifts including also horizontal slide opening of doors to meet the regulations. Despite that, there have been detected lifts without

automatic doors. Practically most centres, 74%, have lifts with a 1,10 metres minimum width, passing hollow of 0.80 metres and interior handrails. However, a 6% of cases have lifts restricted by a key, implying having to go to the concierge for demanding the key and use the lift. 65% of lifts have tactile signing. However, the acoustic signing is less common, only 14%. It is also needed to point out the effort of a university to install at least one lift per centre with acoustic signing.

Absence of lifts without other alternative solution is a deficits also detected in several cases:

- 12 buildings with inaccessible mezzanines.
- 18 buildings with an upper floor the lift does not get to, where seminaries and departments are set, becoming then inaccessible.
- 6 basements where the lift does not get to and where there are located coffee shop, copy bureau or stationery.
- 21 lifts that are not accommodated and have a capacity lower to 6 people.
- 9 buildings without lift or stair lift platform, becoming inaccessible buildings.

The values specified use to be combined. That means, non- accommodated lifts that do not either reach all floors. That is why the following graph shows different values in comparison with the previously mentioned.

Graph 13: Percentage of types of accessibility in lifts; vertical communication in the building.

A	Accommodated lifts (>6 people, door >80cm, free space before the door >1,50m), that reaches all floors, horizontal sliding doors, inside hand rail h=0,90m, signage 0,90m <h< 1,20m, touch and acoustic signage and free access.	31	8,3%
B	Accommodated lifts (>6 people, door >80cm, free space before the door >1,50m) that reach all floors. (Including lifts with key switches).	304	81,3%
C	Accommodated lifts (>6 people, door >80cm, free space before the door >1,50m) that do not reach all floors.	9	2,4%
D	Buildings without lift or not accommodated lifts (<6 people and/or door <80cm and/or free space before the door <1,50m).	30	8,0%

Total lifts, vertical communication	**374**	**100%**

Horizontal communication

There have been studied elements that provide insight into the accessibility level of walking in each of the building floors.

It should be noted first the presence of loose steps in some older buildings; group of steps that create different used to give different height in buildings from the 60's and 70's; architectonic barriers that have not been resolved or that have ramps added on without proper alterations, most with excessive slope and absence of banisters.

The result of the analysis of doors shows the existence of 29% of doors whose whole for entering is inferior to 0.81 metres, a much higher percentage than expected. The fact systematically repeats on standard doors with a leaf of 0.82 metres, due to the fact that in most cases, swiping is not greater than 90 degrees, combined with the presence of beadings and flat wooden mouldings on the second leaf make the whole for passing between 0.75 and 0.78 metres. With these last measures, a standard wheelchair of 0.70 metres can access with difficulties.

Similar happens in the case of doors whose design provides inferior width. For a wide whole for passing, the door leafs are divided into two symmetrical ones of 0.80 metres wide each, without taking into account that asymmetrical leafs would have allowed a wheelchair to pass through by one of the leafs. Despite the width of the door can be greater than 0.80 metres when the two leafs are open at the same time, the door can not be considered accessible; a wheel chair user can not manipulate the locking latches located at the top and bottom of the door, remaining outside the user's range between 0.40 and 1.40 metres high. This case is found in both historical old buildings and new constructed ones.

21% of studied doors have circular lever hander as opening mechanisms involving a wrist rotation, which makes difficult their manipulation. It has been found that exterior doors are excessively heavy conversely to interior doors, which have a suitable weight that allows handling without difficulty.

There should be paid more attention to glass doors. Exterior glass doors are marked with a sign for better perception. However, 23.8% interior doors have no sign or anagram placed between 1.40 and 1.60 metres high to see better the door glass. The latter cases generates confusion specially to people with low vision about as it can not be perceived the existence of the door or its opening state, causing undesirable impacts.

There have been detected in 1.1% of cases where a ramps has been added to an entrance, causing that the door wiping invade the ramp space without leaving enough space for enough manoeuvring that allow stopping in front of the door to handle it.

It is worth highlighting that, in 28 buildings, there are present isolated steps in corridors and distribution spaces or at exit doors to patios or other spaces as a

consequence of having superposed platforms or raised floors, making the space inaccessible.

Isolated steps violate the CTE, current enforced regulation, creating a barrier to wheelchair users or any other person that walks absentminded, provoking stumbling and falling.

Platforms in classrooms and study halls from the studied buildings have given solution to an accessible access to it. Specific interventions have been detected in some classrooms at the request of a particular teacher, but almost all of them are additions to the ramp with an excessive slope. Some other faculties state they have a mobile ramp to use when it is needed. It is noteworthy classrooms from one of the universities studied as all of them have a platform with the right access ramp.

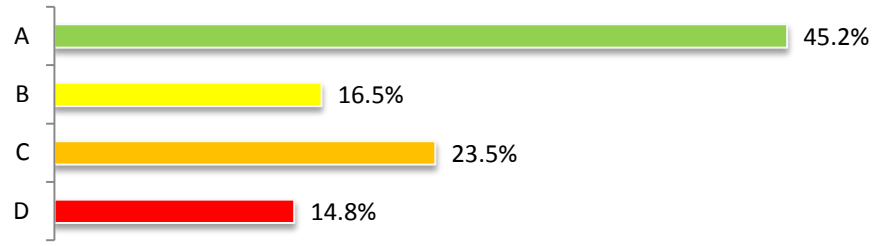
On the other hand, it is frequent to find ramps in platforms from assembly halls and lecture rooms. Although most ramps are added posterior to the platform, very few are integrated in the designed and conceived from project. It is necessary to state the existence of assembly rooms that had ramps since its construction but had to be removed in order to gain space or because of design criteria that do not include universal accessibility. However, in degree halls, maybe because of their reduced size, there are not usually ramps.

The design that ensures accessibility of walking in classrooms, degree halls, assembly halls and auditoriums are horizontal spaces. It is rare (11% of cases) to find those spaces on stands or high slopes. These cases make people with mobility impairment access just to the first or last rows of the room, depending on the entry if it is done by the lower part or the back superior part of the stand, making also the platform be completely inaccessible.

Spaces reserved for people with disability have to be horizontal. In the study have been identified spaces in which all the floor area is a ramp, forbidding a wheelchair to find a place where to be set in a horizontal plane. This makes the wheelchair unstable so the user could concentrate, take notes or follow the class or lecture with normality.

The criterion adopted for the global assessment of classrooms is set in class D those rooms whose wheelchair users can not access because the door does not meet the minimum measures to pass, or the rooms that although can be accessed, do not have accessible furniture for people with disability. Category C corresponds to those classrooms whose wheelchair users can only stay on those places reserved for them, as the rest of the furniture is not accessible; also for those rooms that are in stand, forcing the students with motor disability to stay at the back of the room. Next, category B refers to classrooms where students can choose where to sit but as there is a teacher platform, students cannot access to the board or the teacher. Finally, category A refers to rooms that meet all the accessibility parameters analysed.

Graph 12: Percentage of types of accessibility in classrooms.



UDO source

A	Door >80cm, accessible seats, no stands, no platform or accommodated platform.	483	45.2%
B	Door >80cm, accessible seats, no stands, no platform, with no accessible platform.	176	16.5%
C	Door >80cm, accessible seats.	251	23.5%
D	Door <80cm, or no accessible seat reserved ones.	158	14.8%
Total classrooms		**1068**	**100%**

Toilets

In the study of accessibility in toilets from the centres, there must be stated that there are still 24% of centres that do not have yet any accommodated toilet

It is considered as optimum distribution the integration of accommodated toilets in each of the bath modules per sex genre, a situation that is not usual in most of the buildings visited.

In the case that an accommodated toilet be independent, if it was constructed later, it uses to be far from the rest of toilets modules. This is because it has been profited some specific space located in a residual area of the building.

In all these cases there must be properly marked with signing for an easy identification and location.

Another incident detected in 15% of cases is the lock up of such toilets by key. The centres' administration justifies it stating that this way is to ensure the exclusive use by students and staff with disability. However, this violates the right for intimacy, as those users have to identify in order to access the toilets.

In the case that the latter point be justified with the fact that those users had their own toilet key, it would be also violating the right of any momentary or temporary visitor to use these toilets with autonomy and discretion.

Regarding the resting systematic analysed parameters, there have been noticed deficits in all of them:

- 32.5% of doors opening to the inside of the toiled implying that in most cases the 1.20 metres distance free of door wiping is not meet. Opening to the outside is necessary so in case of fall the user do not block the access to his/her rescue.

- 12% of door mechanisms and internal locks involve a wrist twist. Surprisingly there have been found many toilets without locks on the inside to ensure the user's intimacy.

- 32% of slipping floors. This supposes a risk of fall behind any small quantity of water dropped. Yet, as the shower is not usually used, that risk is minimized.

- 18% of baths have an interior space smaller tan 1.50 metres. Most cases these are standard toilets signposted as accessible.

- 13.4% of baths do not keep the 0.75 metres manoeuvring distance to transfer from the wheelchair to the WC. The appropriate location would be 0.75 metres at both sizes of the WC so to allow the user choose the size that is more comfortable for him/her to make the transfer.

- Absence of one grab bar (18%) or even both grabs bars of the WC. A total of 37% of toilets have deficits on this issue.

- 15% of toilets have pedestal that prevents from proper approach to use them.

- Absence of insulation for protecting heating or hot water pipes from burnings in legs. Yet, few toilets have hot water.

However, it is frequent that WCs and washbasins have the correct height (97.3% and 82% respectively). In the case of WCs, there are some that have been installed on a pedestal to reach the 0.45 metres, a height needed for people with difficulties for standing up, but not for wheelchair users as they need the WC at the same height than the wheelchair to transfer themselves. In the most comprehensive toilets, this height is achieved through the use of a special mobile piece at the disposal of users inside the toilet room.

Washbasins just exceed 0.85 metres high in isolated cases. This occurs when the washbasin is set on a labour countertop, common to all toilet cabins. The minimum distance a washbasin must have from the floor is 0.70 metres so a wheelchair can enter and get close to the water.

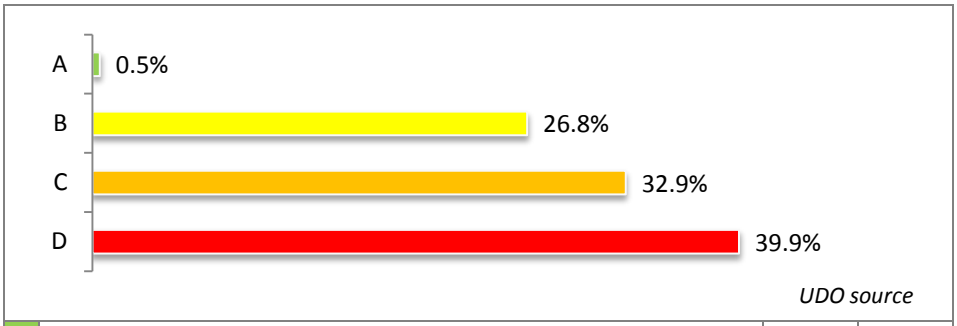
The most severe deficit is detected in 13% of toilets, which consist on the use of that space for the storage of material, cleaning products or changing room for staff. The justification for that use is the non-existence of any student with disability in the centre at this moment.

Finally, it is necessary to point out that, in all the study carried out, just 2 toilets meet all the analysed parameters.

Regarding toilets and their categorization, it is established as basic, so to pass from category C to D, the minimum measures that guarantee the necessary manoeuvring space and also that this toilet is not used for other purposes. In category B there are considered the parameters that bring comfort such as grab bars, non-slipping floor and the possibility of reaching the washbasin. This category is considered as accessible.

Finally, there are considered as optimum, category A, all toilets that meet the previous parameters and are also signposted, integrated in the common toilet modules with free access and do not highlight the person's disability.

Graph 15: percentage of types of accessibility in toilets.



A	Correct manoeuvring space, not destined to other uses, with support grab bars, non slipping floor, appropriate height of washing basin, signposted, integrated, with free access and appropriate door opening.	2	0.5%
B	Correct manoeuvring space, not destined to other uses, support grab bars, non-slipping floor, correct wash basin height.	119	26.8%
C	Correct manoeuvring space, absence of hand rails, slipping floor, space not destined to other uses.	146	32.9%
D	Incorrect bath measures or destined to other uses.	177	39.9%
Total Toilets		**444**	**100%**

Furniture

Accommodated furniture must allow all people with disability to access to centres and communicate on an integrative way and in the same conditions than other users.

The first communication point in centres is the front desk from the concierge's office. There have been found 18.4% of cases whose front desk does not have a height lower than 0.80 metres so to allow any person with motor disability to communicate with the concierge staff. In the case those front desks have the appropriate height, they are rendered useless by accumulation of some type of material on it, as it is not considered as a service point. In the case of secretary's office, there are only accessible service points when a table substitutes the front desk. However, there are no front desks on copy bureaux or stationeries that meet the accessibility parameters. Yet, there have been found some coffee bar with a part of it being accessible, but just very few.

In classrooms, the only furniture that allows a complete inclusion of the student with motor disability is independent tables and chairs. These allow that a student have the

possibility of choosing the place to sit in any part of the room as the rest of his/her mates. This kind of furniture is the most used (52.63% of cases); however, this is reserved for small rooms and seminaries. Regarding lab or draw tables, in most cases height is excessive, what impedes most of those students to communicate and manipulate what is on them.

One of the most frequent furniture is the long bench with folding chairs. In rare occasions there are reserved seats with space so that students with motor disability could approach and turn. All solutions identified are the reservation of a space in those chairs or the addition of an auxiliary table out of the bench row, both implying the identification of those students and non-integration with the rest of the group. Regarding the reservation of space it has been located different solutions:

- Posterior modification consisting on advancing the first row to give enough space for turning round. This is the one out of the three solutions that makes the student more noticeable.

- Removal of seats and part of the bench of the back row. This solution, despite limiting the student's location to a specific place, can be done in different point of the room. There have been found rooms with two or even three reserved places that are accommodated. In this case, the easiest solution is setting the last row as it only implies the removal of chairs, although it is considered a less optimum location.

- Part of the bench is foldable and rotates, allowing the student to place him/herself and then the seat returns to its starting position. This allows the reserved seat to be completely integrated in the bench row. This is considered the most appropriate application, however, this has been found in classrooms of just one university.

In order to guarantee the appropriate approach to tables, both in the use of independent tables or long benches, the inferior height must be superior to 0.70 metres, considering also the height of the under-table shelf so the wheelchair can enter. The height of the table must not be superior to 0.85 metres in order to ensure correct on table manipulation. However, most labs visited do not meet these requirements. Besides, the distances between the table's legs must be superior to 0.75 metres to allow the chair to enter between them.

Seats with foldable tablet arm are not considered accessible for students with motor disability. 77.8% of rooms where this furniture is set have also left armchairs. However, these chairs are difficult to identify and the availability does not always corresponds to the demand. Following design for all criteria a different type of solution should be considered so that the same chair could be use by both left and right hand users.

In the case of furniture from assembly hall and degree hall, just in one case has got a reserved space for a wheelchair user. This means that in the other centres, a person

with wheelchair has to stand isolated in the front or back part or even outside the rows in the corridors between chairs, most cases invading the exit way. On just one platform, it has been found an articulate lectern that allows a speaker with disability to address to the public away from the table.

Communication

Non-Interactive

In the study of accessibility in non-interactive signposting, there were considered the font size according to the distance for reading, colour contrast and presence of tactile signing.

It is necessary to use types of fonts that are easy to read and quick to recognize such as sansserif fonts like Arial, Helvetic or Verdana specially. The line writing allows distinguishing between capital letter *i*, number *one* and the low case *l*. There must be avoided characters that imitate the handwriting or too much-ornamented fonts with relief, shades or carvings

A placard has to contrast with the environment where it is set, as well as the fonts with its backside of the placard. Photos or pictures under the text and matt materials must be avoided. The right contrast is black-white and black-yellow. However, due to the fact that these contrasts were almost no used in the visited centres, the range was widened for other distinguishable placards although with no so much contrast.

The sizes of the recommended fonts, according to the reading distance, are:

- Font of 2.8 cm height for a 1m distance.
- Font of 8.4 cm height for a 3 m distance.
- Font of 14 cm height for a distance longer than 5m.

On the studied exterior signposting, most of the identification pillars from each centre have a correct size and a colour contrast that allows the correct reading. However, not all campuses have this signposting.

On the other hand, in the case of placards or letters on the façane, it is very common the use of font size that does not allow reading from the other size of the street, or even, that type of signposting is not present. There are also colour combinations that do not contrast enough, such as grey or white over stone façades, copper or black colour letters over facing brick façade.

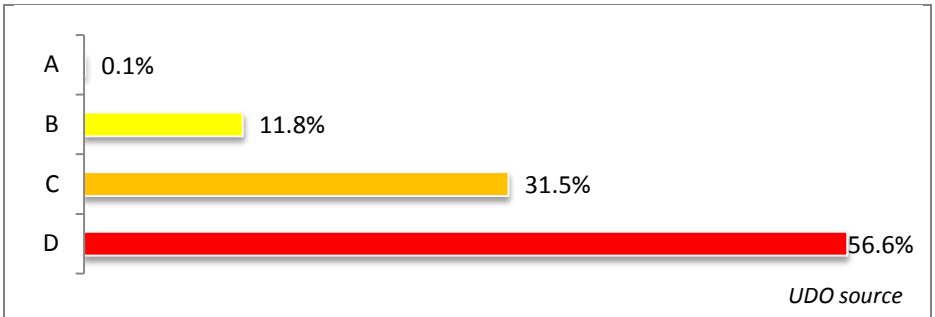
The interior signposting is similar. 23.4% of low contrasted colour. It is worth advising of the use of glass or methacrylate panels that have embossed letters as their perception depends on the colour of the wall on which they are set. Posters with too much bright, or provisionally plasticized, contain reflects that impede reading. Also, the use of difficult to read fonts on directory signage, departments and all

communications texts posted on the boards, as schedules, announcements or grading marks.

None of the visited centres have tactile signing on the exterior of the building whereas in the inside of 3 buildings there have been found tactile directory on a model and in one occasion there was found tactile signs for classroom identification.

For global assessment on signing in the studied centres, there have been established as a minimum criterion to pass from category D to C the right size and contrast of fonts that allow a correct reading. The right combination of colours white over black and black over white is considered as category B as they bring visual comfort. Finally, Category A correspond to all cases whose signing for identifying spaces presents all the parameters mentioned in these previous paragraphs with tactile elements.

Graph 13: Percentage of types of accessibility in signing.



A	Correct size and contrast; black colour over white or vice versa; tactile elements.	1	**0.1%**
B	Correct size and contrast; black colour over white or vice versa.	126	**11.8%**
C	Correct size and contrast.	337	**31.5%**
D	Incorrect size and contrast.	606	**56.6%**
Total placards		**1070**	**100%**

Interactive communication

Ignorance has been shown by the staff of the centres on the existence of magnetic loops in their facilities and the awareness of their utility. The fact that one of the universities, considered as a benchmark for the rest, be evaluating the installation of one of their library study halls leads to the conclusion of null implementation of this interactive communication system in the studied universities.

Sign language interpreters are provided by the university, local associations for helping people with disability or a combination of both. It is worth pointing out the difficulties these interpreters have met so their presence in class is accepted by the teaching staff.

Guaranteeing the communication is the main role of the university. For this reason and despite it is not object of study in this research, it remains as a future task to carry out the analysis of acoustic and visual conform in the Spanish university classrooms. It would be then be important to analyse the following parameters:

- Orientation and lightning in classrooms, contrasts and reflects detect don blackboards. Also the level of lightning in classrooms and study halls during projections in order to combine image visualization and note taking.

- Visual fields from all different work spaces in the classroom to optimize the space. Platforms installation and provision of classrooms on a slope, evaluating the most efficient solution and explanation to the cases that combine both.

- Acoustic and reverberation in the rooms. It is important the acoustic conditioning and the use of sound-absorbing materials.

- It would be also of great help the training and sensitizing of the teaching staff so their speech be directed to students and also to be aware of the proper criteria of projections design regarding font size, colour contrast, diagram simplification, being able to be mended when handed previously to the class projection.

Anecdotes

In the visits to the university centres, along with the data gathering of the conditions on physical accessibility and communication between buildings, it has been proved the great unawareness and lack of sensitivity that, in most occasions, is still present regarding disability. Here are some situations and phrases that have been heard in those centres.

Before the non-existence of an accommodated toilet, the service staff stated: *"there is already one on the front faculty"* and when there were not enough elements in the toilet to be considered accommodated: *So far no one has complained"*

In order to justify the reluctance in counting on sign language interpreter in the classroom, some teachers of Law claimed that:

"It is impossible they interpret Latin tags and the complexity of legal texts"

Before the requirement of accommodations in centres demanded by the DSS, the Vice-chancellor of studies alleged: "if not, that they study on the UNED".

PERCEPTION BY THE UNIVERSITY STUDENT WITH DISABILITY

Objectives

When it is written up the concept of University and disability, it is evident that the student with disability is the main focus of interest. First, the experience of this group provides a view of the situation of disability in the University. Second, going beyond tangible issues, there are many indicators related to this context to which can only be accessed through direct transmission of their experiences. Finally, the diagnosis derived from the study of accessibility in the selected universities may facilitate improvement actions that affect this group of people. At least, just the awareness of the results of this study may provoke social changes

Thus, the specific objectives are:

- Knowing the presence and characteristics of this group of people.
- Knowing their perception regarding the accessibility in the University.
- Collecting information that could be compared year on year so to check evolution regarding students' experiences and integration.
- Analysing which are the variables that facilitate or make difficult life in the University according to students' perception.
- Detecting inaccessibility factors in the University.
- Detecting possible fields of intervention.

Methodology

When raising this second section of the study, it is necessary to start by stating that the university students with disability is a very heterogeneous and plural group, taking into account that the handicaps to overcome and the contexts they live in are very different. Obviously, there are some common features, but the truth is that the type

and degree of disability, the family, the personality and the environment draw a specific personal reality that is difficult to be comparable.

There is another feature to have into account when starting the study of this section: the lack of a systemized counting of the number of students with disability in the centres. It does not exist a common planning on the different institutions or universities. The criteria for collecting the data on the number of students with disability are so diverse that it is very complicated to carry out a comparison and to obtain an exact number.

The contact with these students with disability has been carried out through the DSS from the analysed 23 universities. All students with disability censed by the university have received a questionnaire and an official request of collaborating in the study. Finally, the students who have accepted to participate are the ones enrolled in the following 19 universities.

Table 5: Participant universities.

Participant universities	
Universidad de A Coruña	**Universidad de Málaga**
Universidad de Alicante	**Universidad de Salamanca**
Universidad de Almería	**Universidad de Santiago de Compostela**
Universidad de Burgos	**Universidad de Valladolid**
Universidad de Cádiz	**Universidad Miguel Hernández**
Universidad de Córdoba	**Universidad Pablo Olavide**
Universidad de Extremadura	**Universidad Politécnica de Valencia**
Universidad de Jaén	**Universitat de València. Estudi-General**
Universidad de León	**Universitat Jaume**

Apart from quantifying the students' answers through a questionnaire, it is also done an analysis of their motivations by means of a deep interview.

The chosen methodology serves to the need of delving into the speech of students with disability in order to know their true motivations and the difficulties they have met in their university life. Each type of disability, each personality, each degree enrolled and each university bring a very particular reality that can only be captured by using this dual methodology.

Results of the analysis

Characteristics the collective

Sociodemographic characteristics

As explained above, there are many factors that influence the experiences of a student with disability at the university. However, sex seems to be the less important factor, whereas an age is so according to the data gathered from testimonies.

This way, there are 2 new variables in the collective: on one side, people that already have a degree and decide at some advanced stage of life to return to the university making use of their correspondent welfare benefit; on the other side, new young generation, vocationally convinced and 'tempted' by certain facilities such as the 'free tax' policy.

In short, different flows and different ages, which conclude in different attitudes and consciousness. Note that the average age is 29 years.

Graph 14: Percentage of distribution per sex.

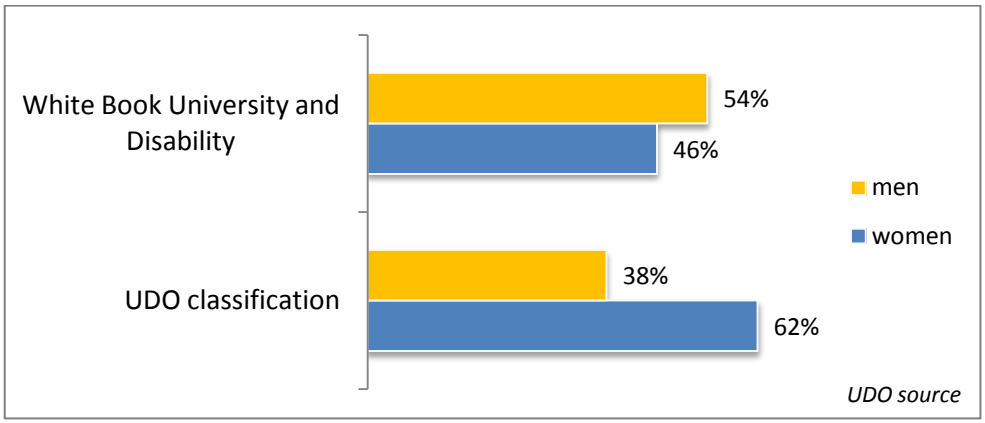


Table 6: Distribution per sex and age in %. UDO source.

	18-25 YEARS	26-35 YEARS	> 35 YEARS	TOTAL
Men	57	22	22	**100**
Women	57	16	27	**100**
Total	**57**	**18**	**25**	**100**

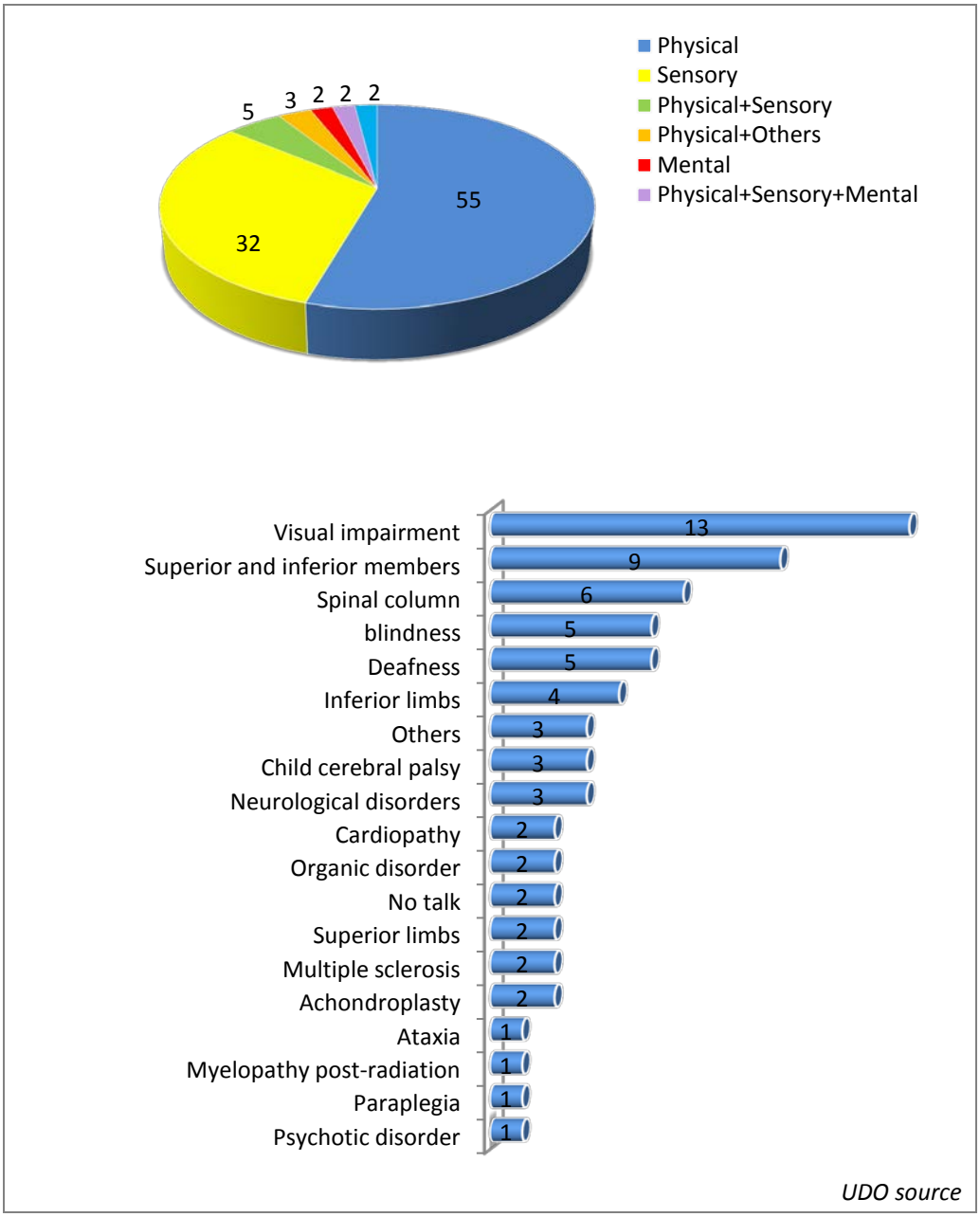
Disability

More than half of the interviewed, 55%, have just one physical disability, whereas more than a third out of them have a sensory disability.

Mental disability, focusing in this case on mental illness, sums a low percentage. However, it has to be taken into account that this sub collective are more reluctant to declare their disability. That would explain that low percentage.

On the other side, 12% of the students have several disabilities, so that 67% of the people interviewed have some sort of physical disability (summing the possibility of having another disability).

Graph 15: Distribution per type of disability in percentage and absolute values.



All the people interviewed have an official certificate that certifies their disability. 60% of them have a degree of disability superior to 66%. The resting 40% have between 33% and 66% of degree of disability, resulting in a media of 48%. Besides, a third of the people interviewed needs personal assistance to go to the University, mainly whose disability is physical.

Table 7: Need of personal assistance according the type of disability.

	PERSONAL ASSISTANCE	
	No need	**Need**
Physical	18	15
Sensory	17	2
Mental	1	0
Physical+Sensory	2	1
Physical+Sensory +Mental	0	1
Physical+Mental	0	1
Physical +Others	2	0
Total	**67%**	**33%**

Regarding the origin of disability, almost half the cases, 48%, comes from an illness; 25% comes from a congenital illness; and 8% of the cases have their origin in an accident.

Table 8: Origen of disability according their type of disability per %.

	ACCIDENT	ILLNESS	CONGENITAL	OTHERS
Physical	12%	39%	21%	27%
Sensory	5%	53%	37%	5%
Mental	0	100%	0	0
Physical + Sensory	0	67%	33%	0
Physical + Sensory + Mental	0	100%	0	0
Physical + Mental	0	0	0	100%
Physical + Others	0	100%	0	0
Total	**8%**	**48%**	**25%**	**18%**

Character

Students with disability are characterized by their maturity. The reflexive discourse and the absolute conscience of their reality is, without no doubt, a feature that defines them. They claim that the passage through the University is good for their self-esteem; in fact the average mark obtained is 7'35 on a scale of 1 to 10. They admit, however, that the artificial barriers, those imposed by the environment, are for them sometimes a cause for discouragement.

On the evaluations related to their self-esteem, according whether they need personal assistance or not, makes an evident difference. The student that does not need this service has an average mark of 6.55 whereas those who do not need it mark themselves with a 7.73 average.

On the other hand, regarding the type of disability there are not differences noticed:

Table 9: Evaluation average that University has on the self-esteem according to the type of disability(1-10).

	SELF-ESTEEM EVALUATION AVERAGE
Physical	7,9
Sensory	7,5
Mental	5,0
Physical + Sensory	7,7
Physical + Sensory + Mental	7,0
Physical + Mental	10
Physical + Others	8,5
Total	**7,4**

They admit they do not have similar abilities as other people. Despite that, they accept that reality and are aware that, after the many difficulties lived, university will not be an insurmountable space. That's why they show perseverance and tenacity, although it implies more time and effort than the rest of students.

> *"because I've got a strong character, because with less you leave the degree…; I have invested too much effort. One day I got to the university crying because I could not bear it any more"*

> *"I have no soul of a poor little thing."*

The student with disability does believe that "we all can study everything", showing their agreement to this statement by giving a 6 mark out of 10 points. In fact, most say that the ability and skill to take a study is not conditioned by a disability. In any case,

barriers are artificial and in there, there are the obstacles to carry out a degree with normality, not their disability.

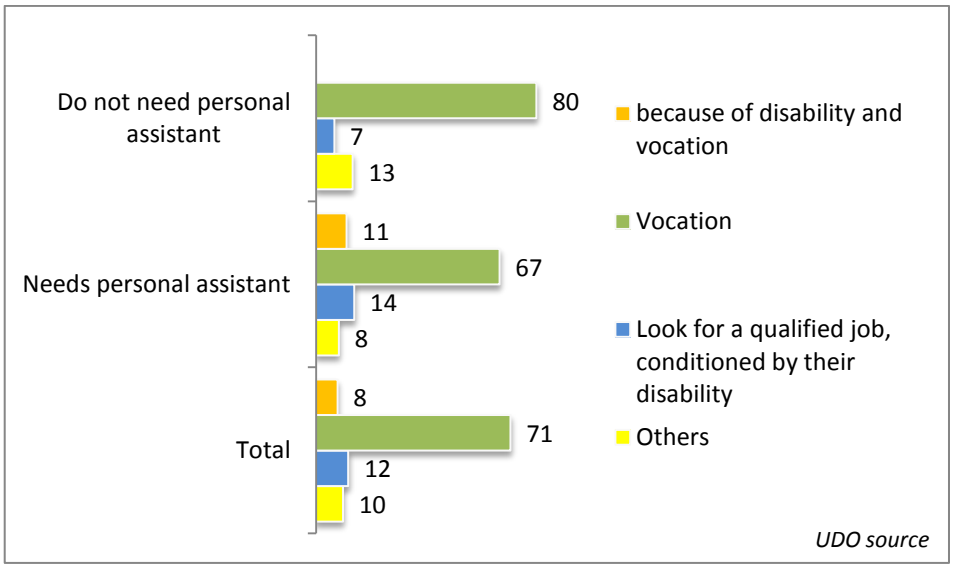
So they consider that, "we all can study everything". As an example they say think that "we all can study medicine", then the issue relies in deciding which speciality. AS they state, the inability to take the degree on medicine is not given by the disability.

> "*having the appropriate people to teach you, I can"*
>
> *"Independently to having a disability or not"*
>
> *"If you give them one extra year, it is possible. For me, I can, the rest don't. Disability is not the problem"*

Career choice

Vocation is the criterion for choosing a degree in the case of the group interviewed. They are aware that about the speciality they are studying they will not be able to access to whatever job. As they know this can happen to them in any other situation, they opt to prioritize their vocation as a choice criterion. In fact, 71% of the students state that the base of their degree choice is vocation; a subgroup from them, made up of 80%, do not need special assistance.

Graph 16: Percentage of motivation for studying in the university.



They openly show their availability before effort, and also a similar attitude to other university students when facing studies. In fact, the general difference students with disability show in comparison with common students is that the former are more aware what implies the decision taken.

> *"I worked as Registered Nurse. There, if you get by, you end up being useful for many things, and I worked as a nurse and it was something I had to do. Now, look, I can do it as I am studying and… I'll get out of here with a degree if it is the last thing I do."*

"Because I like medicine, I feel great admiration for the work of a doctor."

In fact, even those whose disability comes from an accident, they assure having had the same stance before and after the accident, without being their disability a determinant factor for deciding.

"I always wanted to study humanities and that's it. I really didn't thing it… It is what I want to do."

It is also true that this is a group that is very aware of their reality. The 20% plainly state that they did took into account their "limitations" when decided to enter the university and choose a degree:

" In order to find an alternative that could help overcome my disability."

Making reference to self-improvement:

"I always wanted to be university student, to self-improve myself. My family had never taken university courses, there must always be a first time."

True is that some students, although a minority, choose a degree because of its job prospects according to their disability.

"So that I could work seated because of my disability."

"I chose the computers branch because, besides that is inside my possibilities, I could not practise medicine!"

"As a result of the accident, I decided to study, because I can not be seated too much time, and I didn't want to be a handicapped person, and I like students."

17% claim not having chosen the higher studies they first wanted, 3% of them because didn't reach the mark demanded; other 3% discarded the studies they wanted because the university centre was completely inaccessible; and the 7% because of the non-existence of those studies on near their home or on the surroundings. In fact, just 20% of the students have moved from town to study, 10% of them whom need personal assistance.

In relation to the change of residence and choice of studies, there exist a greyer reality, since the criterion is not the natural way it should be.

Thus, there exist cases with more severe disability whose choice of studies (and place of studying) is more complicated, since before choosing a university, it must be considered the possibility of studying in that university, campus and centre. There are cases that before the no reply and/or inability of the university to offer an accessible environment on the most basic terms (access to the university centre) and the personal assistance needed, students with disability are forced to change their choice, University, city, studies.

"The institute got in contact with the university on my own province, it did not reply and as the other closes one either… then I had to go to the only one

that replied. Now I study what I wanted, but I did not know I could. Because it was August, and I did not know if it could be so. We talked and that, because I needed personal assistance, and also an accommodated house. And at the end it was so. But until the last moment I did not know if I could.

What is more, 35% of the students (65% in the case of students who need personal assistance) in order to take the decision of enrolling in a university, they informed and/or demanded the accommodations needed to really access to the university space.

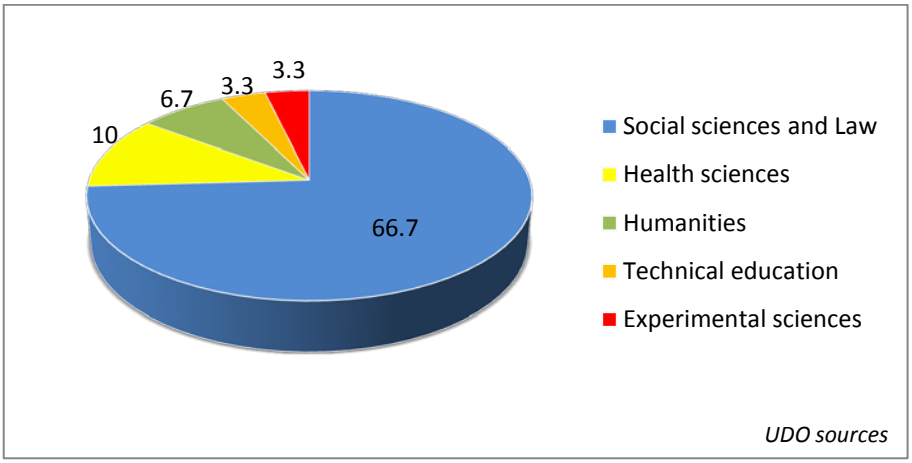
Another basic issue when talking about university access is the reserving quote for this group, established as positive discrimination. In fact, 25% of the students admit having accessed this way. In this sense, it is worth noting that not all the cases used that path so to compensate the case they do not reach the admission mark. It is just in some cases they are given that vacancy so not to fill the "standard vacancies".

Summing up, it appears that it is not so important the job prospect, and hence disability does not imply personal limitations in this regard.

Studies chosen

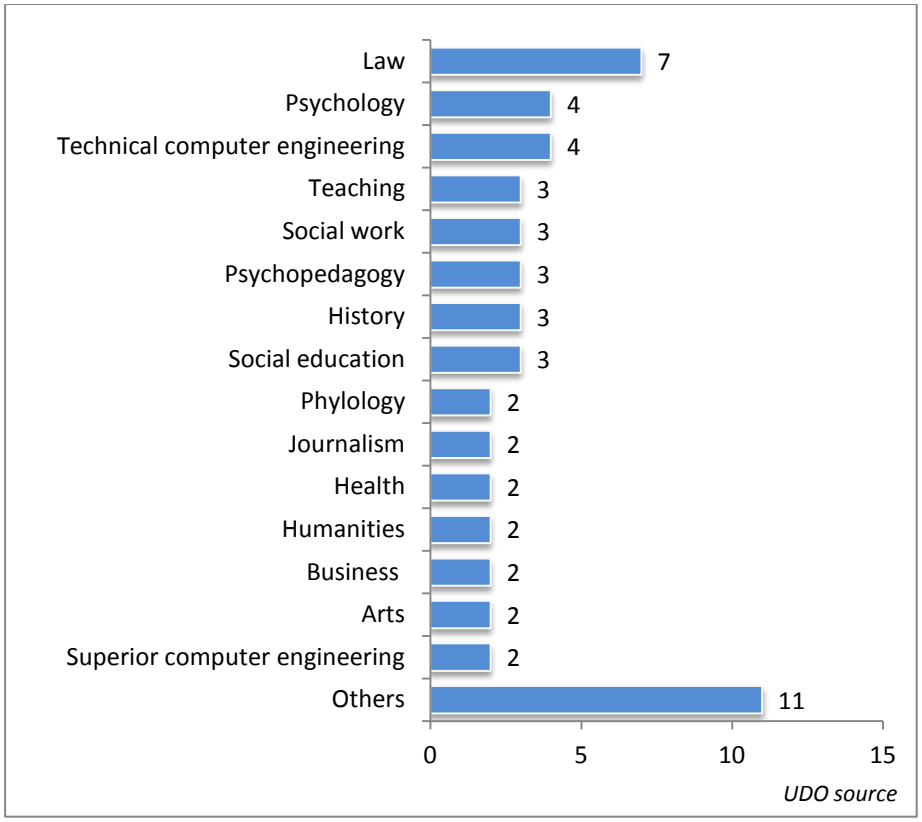
Most students, two thirds from them, have taken studies from the Social sciences and Law branch. 18% of them study Educational sciences. In fact, most of the people interviewed were students, from this and other branches, show their interest to devote to teaching.

Graph 17: Percentage of degrees taken, classified per branches.



The hegemony of studies from the Social sciences and Law branch is due to the fact that, besides education, there is the tendency of choosing law and psychology.

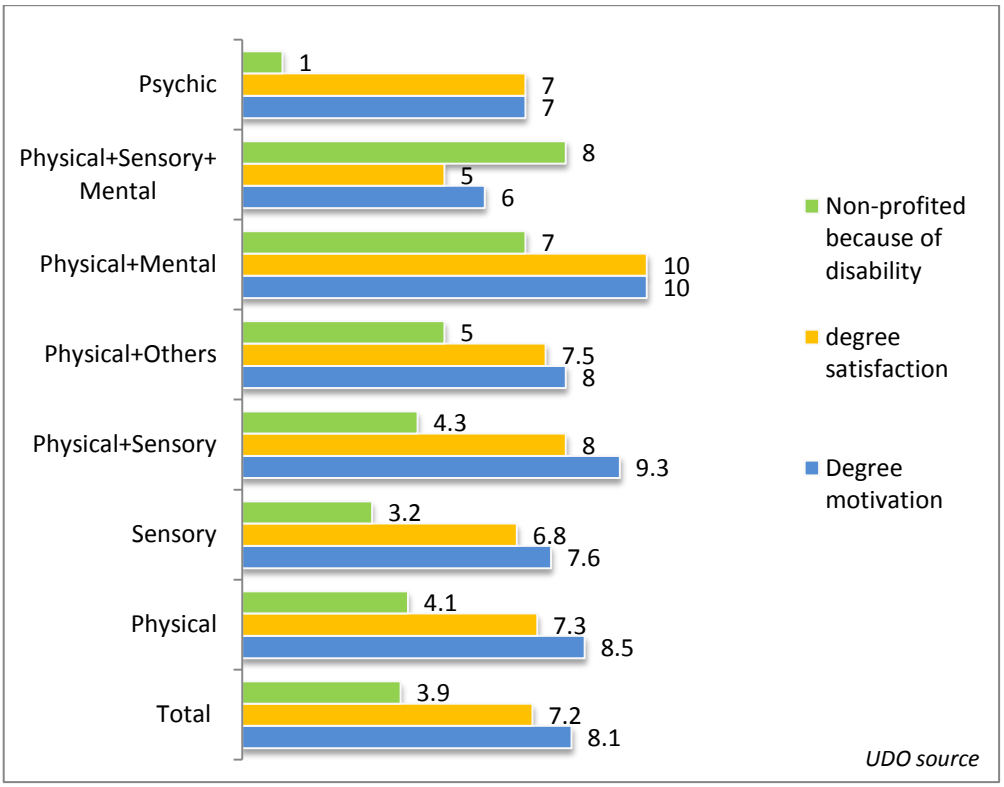
Graph 18: Number of degrees chosen.



Another issue to point out is that just 8.3% of university students with disability do postgraduate studies (master or postgraduate). True is that 23% of this group are doing a second degree, however, it is due to a series of personal circumstances and interests. Anyway, 6,7% state that their disability was a incentive factor when making that decision; because they think that doing the first degree would be incompatible with their disabilities or because it would impede finishing their first studies.

In line with the students' vocation, their motivation is very high, with an 8.1 average in a 1 to 10 scale. In fact, by grading per type of disability, the lowest rate is a 6. Moreover, the general satisfaction is 7.2, so the valuation is positive.

Graph 19: Evaluation of the on-going studies according the type of disability, from 1 to 10.



It is evident that the evaluations are positive and optimistic. There is high motivation, high satisfaction and reluctance of the idea that their disability be an obstacle for studying. Mostly, they state that their disability is not an obstacle in order to profit their studies at the same extent than their mates. What they report is the artificial barriers and the no accommodations of elements from the university what impedes them to profit their studies as their mates do.

> *"My disability does not avoid me of taking advantage of my studies. It is more involvement in how to access them and get that education.*
>
> *"Books arrive later to me."*
>
> *"Equipment is inaccessible."*
>
> *"It depends in how manage the means I've got"*
>
> *"Not disability, treatment."*

So the statement "my disability avoids me of taking advantage of my studies" in a 1 to 10 scale regarding conformity. 63% of the interviewed group offers a mark lower than 5.

The analysis of type of disability shows that people with a physical disability see their ability blocked to a greater extent in order to take advantage of their studies than the students with sensory disability. It is also evident that having several disabilities

increases a negative evaluation to the question. The severity of a disability is a great influence in the student that needs personal assistance and as thus gives a 5.9 mark, two points superior to the general average.

> *"I have left many courses on the way, and of course, I left also in the way archaeology."*
>
> *"It makes it more complicated in order to make a better work; you go on another path."*
>
> *"As hard as I want, I will never be normal, I have problems others do not have. You can not go fast."*
>
> *"I could give much more because I do not go to practicums. It was years that I have lost a whole course because I was ill."*
>
> *"It is taking me much time and effort because of my limitations."*
>
> *"You can read a book faster than me."*

Physical accessibility and signposting

88% of the student community with disability attend class regularly. The rest is whether repeating a subject or cannot attend to class because the discomfort derived from their disability. In any case, 88% that attends to class depends on someone that got him/her there. In many cases this someone are relative and in some cases they are personal assistance or volunteers, essential for them to access the university.

This assistance, combined with the students' demands regarding physical barriers, makes the 74% of students to state that they do not have difficulties to access the university. However, 22% access the centre despite the fact of having difficulties to do so. Regarding this feature, there are clear differences related to the type of disability.

Table 10: Universities studied classified by Autonomous Communities in %.

	PHYSICAL	SENSORY
I do not attend to class occasionally because of inaccessibility.	9.1	0.0
I do not have difficulties to attend to class.	69.7	89.5
Despite having difficulties, I attend to class.	21.2	10.5
Total	**100**	**100**

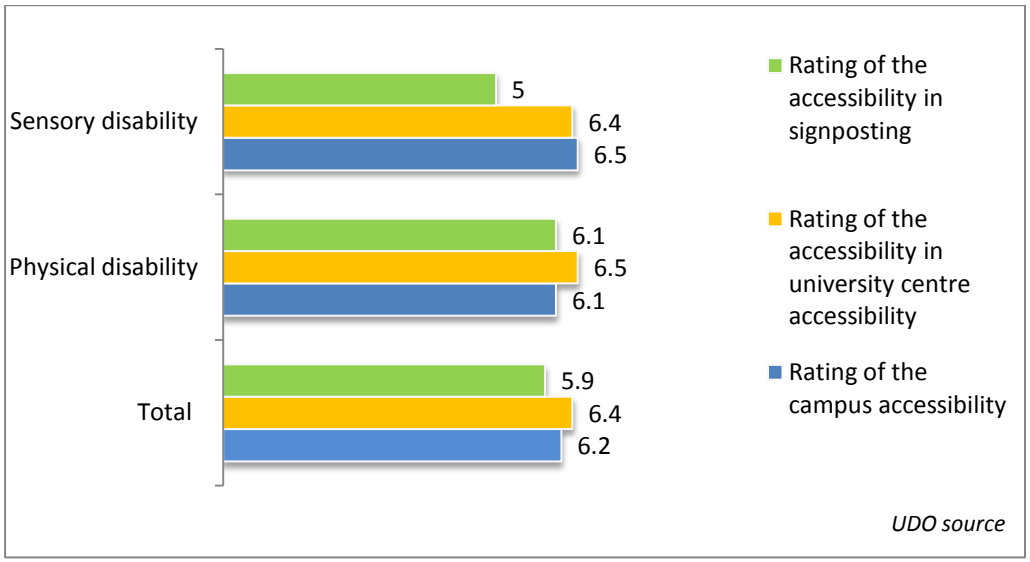
People with physical disability (motor in specific) are the people that, at a greater extent, see more their option to attend to class more limited; more than the students with sensory disability. In fact, 60% of the students claim that they have found physical barriers, increasing this way the percentage to 79% from students with disability. The truth is that students with sensory disability show a great concern on physical accessibility in campuses and centres, excepting those people that are aware or students with blindness.

Table 11: Physical barriers according to the type of disability.

	PHYSICAL	SENSORY	TOTAL
Has not found physical barriers.	21	58	**40**
Has found physical barriers.	79	42	**60**

For the student with motor disability, this question is essential. It supposes the fact of attending or not to class. The whole of this subgroup, when starting the course, has demanded personal accommodation in order to access to class.

Graph 20: 1 to 10 accessibility rating of different aspects regarding the type of disability.



Indeed, signposting is negatively evaluated aspect. Student with sensory disability evaluates it negatively, but this research shows that signposting is a feature that is criticised almost unanimously.

> *"Signposting…. Simply, it does not exist."*

> *"I felt really lost, I did not know where to go."*

Another feature is that actions carried out on removal of barriers are specific and some measures implemented are negative for integration.

> *"Of course, yes, yes, I can enter the assembly hall, but where the pot is. But this is not the way. And if it is someone more like this, more 'poor little one', but it is not valid to me. It is like the cinema, they set you there, in the worst place, and I don't like it."*

> *"If I need copies in the copy shop I ask a partner, because it is in the other building, and me better not to, because me with the walking frame…"*

The feeling is of survival, because the barriers are numerous, although some time you could surmount them. The thing is that they are still physical barriers. There are cases such as people with motor disability in inferior limbs with prosthesis (80%) and that have to go down two floors without lift every day in order to go to class. In fact, the student that uses wheelchair state that for surviving the University it is essential to be skilful with their use.

> *"When I had the accident, I was already in a chair, nobody gave me the skilful gift, but if not, you do nothing; it is like platforms, that better not using them, but if you are not skilful I see it impossible."*

Evaluation of signposting per spaces

Classrooms

Currently, there are students that do not attend to class in the University because classrooms are inaccessible: because of the access to the building, the slopes in the classroom or because the floor the class is set on has no lift.

> *"I had no table, I was set at the front… There are stairs in class, I could not be next my partners, I had to be left at the margin down… Kerbs, although they are low, I could not get to the university."*

Parking spaces

This is a concerning point. They admit there are spaces but the truth is that they are not properly used. They consider this obstacle easy to solve, by stating a more explicit regulation. However, the problem is more important in university centres set in old areas of towns, which are directly defined as "impossible".

> *"At the end I park where God lost his shoe, and of course, imagine, there, me 400 metres, raining, with the bag… hey, no. Of course, if people arrives and park at 8, then I have to be earlier. If people are up earlier at 7, then me at 5. Of course, that time people have it for studying, so me the same."*

Seminaries and Assembly halls

The assembly acts where seminaries take place are criticized spaces:

> *"They are not accommodated".*
>
> *"I can hardly access".*
>
> *"I sat where the teacher…"*
>
> *"They place me where the pots. To me it does not matter now, but they make you feel there like the pots. It should not be like that."*

Laboratories, computer rooms- vertical communication

The difficulty for going up and down different floors in the university is a general problem. Vertical communication to go to the laboratory or some classrooms is the main problem:

> *"There is a lift that just goes up, not down. There is needed a key and if the head porter is nota round I cannot use it.*
>
> *"No one can go down because there is not a lift".*

Most laboratories or computer rooms are small and full of furniture, what makes impossible the access to them and the mobility in them. Simply, in most cases, there is not space between the computer rows.

On the other side, those rooms do not have installed software for people with visual impairment.

> *"I asked them to install if in the computer room. They just ignored me and then I officially asked to the DSS. Then I was told to look for the real version and not a pirate one. Then this and that, although finally they installed the program in the teacher's computer, and since then, I am the only person that uses that computer. So, I do not use that room."*

Intra-campus mobility

It is not an important factor. Slopes in the case of students with motor disability and disorientation among students with blindness are the main deficits. Besides, there is the general issue related to bad organization and location of the campus

Café shop

In most faculties there are not lunchrooms and, anyway, these are not spaces visited by that group of students. Café shop and other lunchrooms are criticised according to their inaccessibility or the fact that they have too high bar. However, for students it is key the treatment and availability of the staff. It is worth noting the importance of that attention so to feel integrated despite the difficulties.

> *"The café is full of chairs and tables… it is a mess, and it is shaming because all people looks at you."*

Teachers' department

Teachers' departments seem to be also inaccessible for students. Apart that they are poorly signposted, in most cases it is almost impossible to access to them with a wheelchair. This makes impossible to attend to tutoring, expecting the will of the teacher to do them in a different place.

> *"Posters can not be seen."*
>
> *"It is in higher floors and I call them to make tutoring in another classroom."*
>
> *"It has no lift (…) they are badly located"*

Library

The library is a space that has a lot of difficult for the student with disability. In the case of visual impairment, they cannot access to the badges on books that allow their identification since there are no Braille books. In the case that people with motor disability, it is common libraries do not be accommodated for their access and their internal movement.

However, the assessment students have given to these spaces come mainly by the disposal of the library staff to collaborate. Usually, students opt to ask a partner for getting out a book. I most cases, the copy shop and the library are spaces their mates

or assistants go on their behalf as these spaces are in other buildings or are inaccessible.

> *"If I want a book, I ask the assistant."*
>
> *"I did not go to the library at first, it has stairs… then I wait for the security man to use the lift."*
>
> *"In the library they have to open the door, because the entrance functions with a door with spring hinge. You have to call the guard… I have asked them to keep the door open, but it seem that it can not be."*

Transport

52% of students go to the university by own car or by bus. On the other hand 14% of them uses accommodated public transport and 19% is given a lift by some other one. In this regard it must be noted that public transport is considered deficient, although in some occasions it is the town organisms' responsibility.

33% of students depend on third persons to attend to class. This is very significant and at the same time it shows us the importance of the need of an accommodated transport that in most cases it is not regulated by norms.

Almost a fifth part of the students are driven to the university by a relative. Family dependency is very high. There are even extreme cases in which the relative's car does not have enough space for an electric wheelchair, forcing the student to move throughout the campus without it. Obviously, being a big obstacle.

Entries and accesses

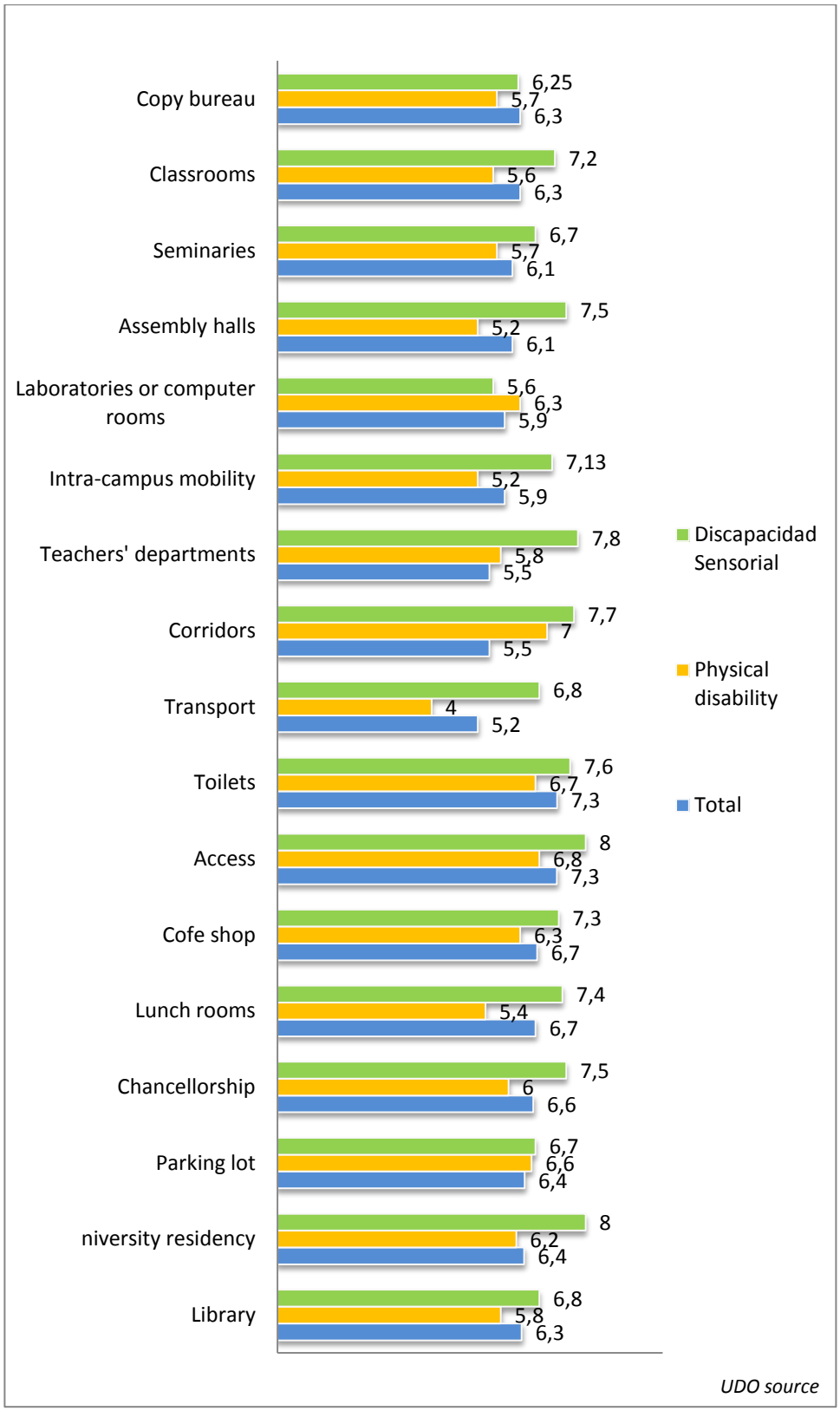
In most cases, accesses to university centres are inaccessible. In some cases because the building is considered a monument and alterations can not be made. Usually, entries are accommodated when a new student asks so, and in other cases, students with disability have to access the building through the emergency door. The strange thing is that those buildings that have ramp instead of a stare are not necessarily accessible.

> *"I need two people pushing to go up the ramp. They were beautiful with no objection."*
>
> *"I did not have electric wheelchair to go to class, it was horrible going to class, so I considered the idea of not going, but my mates helps me in turns to push me to class, this way I could."*

Toilets

Although most toilets have a good mark, there are some comments marked as deficient, as they comment them not to be accommodated. In fact, some student explains that in the 4 years he is in the university he has never been able to use the toilet in his faculty. Moreover, there is the complaint that these kinds of toilets are badly signposted.

Graph 21: 1 to 10 evaluation of accessibility per spaces.



In short, accessibility at a physical and signposting level in university is still an issue being developed under request. Accommodations on accessibility are carried out when a student with disability access the building and have to specifically request those

alteration: own parking space, fixing the lift, add a banister, put a ramps for accessing the building… or asking personal assistance in order to attend to class.

Web accessibility

The interviewed student does not give importance to that issue. Moreover, the average evaluation to the accessibility of the university main web page and the intranet is 7.2. However, the average given by students with visual impairment is 6.4.

An action the students evaluate as very positive is the publication of class notes in the virtual campus, published for students with sensory disability and also high limbs disabilities. Here relies the importance of improving accessibility in intranets.

> *"If I had sight problems I would give a 0. All the notes are uploaded but they can not be printed because their are a book image and it is not allowed."*
>
> *"Some information, no direct links, it is a bit messy."*

Disability Service for Students

Most of the students with disability (55%), at the moment of beginning the course, they contact with the Disability Service for Students (DSS). In there they mainly ask for the removal of barriers that affect them directly and make them the access to the campus or the classroom difficult. In fact, the great majority, 88%, a re users of those services.

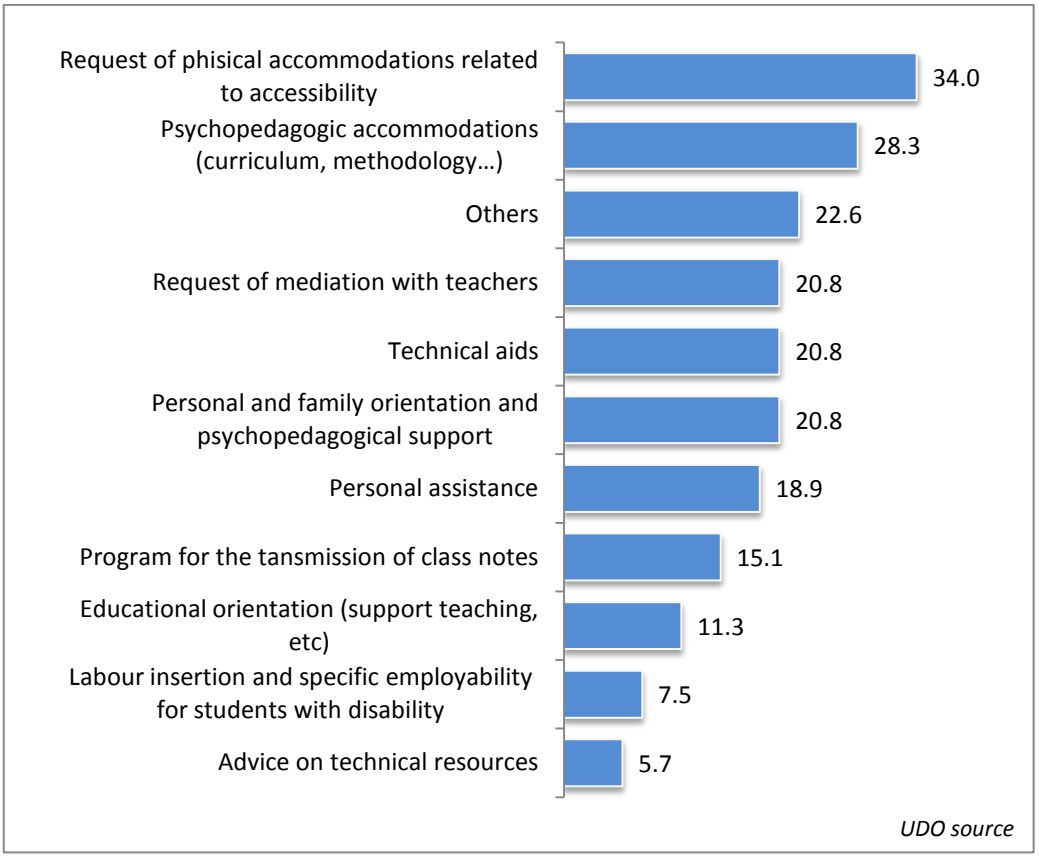
> *"I went there to ask them to install a banister, because if not I could not go, and now I can.*
>
> *"They have helped me a lot. They called me, and talking like that (…) for example, the have helped me until the Town Hall has made a parking lot without Stone pavement although I was not registered in census. So it went well"*

In the case of a student with sensory disability, the most common is to request mediation with teachers on issues related to class notes, teaching methodology and, above all, exam adaptations or access to the curriculum. In this sense, students underline the DSS support as it is a great help and brings comfort. 43% of students have requested DSS mediation with teachers from which 85% of cases have resulted positive or advantageous, although 15% of cases have not improved the teacher's readiness.

Generally, the most requested services have to do with transport, parking, mediation with the teacher (i.e. to use a Braille machine), general information about disability services (i.e. grant information); although there are also important loans such as technical resources and sign language interpreter.

In addition, services offered are very diverse and particulars; starting from the management of practices to the access to libraries, among others. In the next graph there is a breakdown of services the DSS have provided to the interviewed students.

Graph 22: Services provided by the DSS



it is also important to point out that in most cases, the technical resources these students need to study were previously used by themselves (i.e. laptop) or even obtained through external institutions such as the ONCE.

Teaching issues

70% of students claim having evidence that their teachers know their disability, whether through the DSS or by themselves. Students evaluated positively the involvement of teachers. The average mark is 6.9 out of 10. There exists a slight difference based on the type of disability: those with a sensory disability give a worse mark, 6.5, whereas those with a physical disability give an average of 7.5.

Table 12: Evaluation of the teacher's involvement per branch.

BRANCH	AVERAGE EVALUATION MARK ON THE TEACHER'S INVOLVEMENT
Social sciences and Law	7.3
Health sciences	7.0
Experimental sciences	7.0
Teaching techniques	5.2
Humanities	7.7
Total	**6.9**

However, there are negative exceptions, and those match with the opinion given by the interviewed students about older teachers from the science branch

> *"I was told that why is it that I was not born to be poor and now I have got an age and no one would like to hire me as a nurse. That I am not able; I know if I can, what has he to know! And she is a teacher I love, and very good and so, but (…) she believes that as I am on a wheelchair, I denigrate her if I get the same degree as she.*

> *"They tell me things like this when there is no other else present, but if not, they would not dare, of course, because I will get out of here with a degree, but they have not made it easy."*

> *" I've got teacher that get really involved with the issue of disability. So, not with me, but they always talk to us, because her daughter I think that also…"*

> *"They do not understand that I, that I slump in morale, because they do not understand that no, that my effort, they should take it into account for the mark (…) be more flexible."*

Practically, most answer that is advantageous that teachers know their disability and needs, and in no case have they responded they got uncomfortable for it.

What is most requested among the group of students interviewed, with their different types of disability, is to have available the class notes, being this fact as one of the most important accommodations to their disabilities. 78% state that the methodology used by teachers meets their needs. They evaluate very positively those teachers that have made the effort of adapting; 48% of students has got accommodated exams (mainly on lengthening the time), although not all demands on this issue have got positive answer.

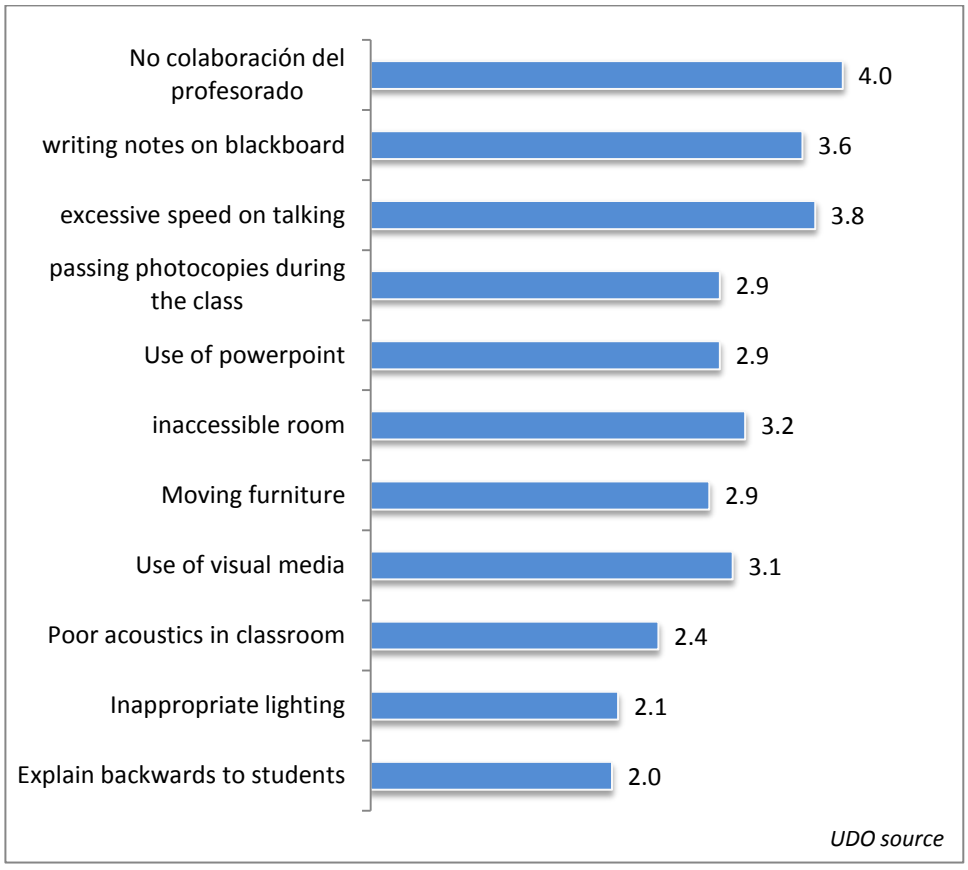
"I mediate directly with teachers and they give me the notes from class; I have got no problem. They also allow me to present the Jobs at my path and also doing it individually although it had to be per groups."

One of the students raises a problem regarding a subject of compulsory attendance in order to pass. In these cases, the teacher's inflexibility leads to despair and, normally, to the student's failure. In fact, the human factor and the knowledge to deal with people over bureaucracy, is the basic claim made to teachers.

"…It is a practical subject without exam. They do not allow missing class more than 4 times. In the case it is more, despite obligation, you have to do the exam. Often I have to go to rehabilitation, which unfortunately is in the mornings. I am changing dates because they match the day of practices, and this is since September. So I am not attending since September, It is true that I have not commented it to the teacher, and she knows nothing about my problem. But she has repeatedly commented in class that last year she had a girl who was in comma and sent her to do the exam… what happens with others that can not miss rehabilitation…it is therefore a rule worth revising."

In relation to the important that can be for the student with disability the way a teacher gives the teaching, it is curious to find that the criticisms on this issue are minimum.

Graph 23:Teaching problems for students with disability.



The following conclusions are drawn when analysing the effects according to the type of disability:

- The people whose disability affects the upper limbs use their laptop without problems or have the habit of asking their fellows the notes and show indifference to the methodology of their teacher.

- People with a visual impairment have problems with some methodologies as the use of PowerPoint or writing notes on the blackboard. But not all of them complain as they have the habit of asking their mates the class notes, in the cases they do not use laptop; even in some cases they find the methodology useful so they then can ask directly to let them the material.

- People with acoustic impairment have difficulties to make the teacher adopt basic gestures such as talking facing students. Besides, people with severe acoustic disabilities depend on a sign language interpreter. That is a problem for them as not all universities offer that service, and in any case not in all the needed hours.

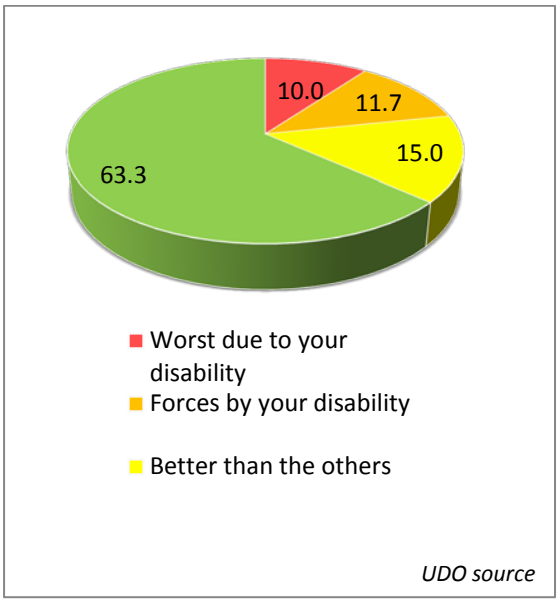
  "I've just got an interpreter 2 or 3 hours; of course, not for attending to class. But, besides, there are a lot of other things, for going to tutoring or conferences…. I do not have interpreter.

- People with Mental disability of physical disability, from other limbs than the upper ones, do not show difficulties inside the classroom.

Relationship with mates

The great majority of students, 63%, state that their integration in class and their relationship with mates is "independent to their disability". In fact, they are even upset with the questions as they see that approach as a way of discrimination. However, by analysing the subgroup that uses personal assistance, 40%, they claim that their integration is worse than the others or that is forced due to their disability.

Graph 24: Percentage on the definition of the type of integration of university students with disability.



Graph 25: Percentage on the definition of the type of integration of university students with disability with personal assistant.

Just a 12% admit having problems with their mates, mainly due to lack of cooperation or refusal to participate with them in group work.

Except for specific cases, they positively value the help provided by mates, the relationship with them, their own social integration as well as the awareness of their mates (7) and the university community (7.3). As any other student, they say they have made friends in university and state they know who can they really count on, although the will for helping is always present with no doubt. That's why they rate with 8 out of 10 their mates' willingness to help and 8.2 the kindness on their mates' relationship. However, students that consider their integration to be forced by their disability rate their partners help willingness with a 6.6.

75% of them have relationship with their mates beyond the university frontier and 70% say they have more friends as a result of having gone to University, although this percentage is lower, 60%, in students that have personal assistance.

> *"People I bring with me, 3 or 4; so, in fact I know who I count on, who worth it. But as it happens at the university also happens outside it (…) no, no, I get along with people, with that aspect I have no problem."*

> *"I get along, or you do or don't; so, I don't know, it does not matter."*

In fact, they state there is no immunity related to their disability. In other words, issues such as competence that affect common students, also affect students with disability.

> *"I study medicine and there people is very, they study a lot; they are competitive people, and so, it has happened that the teacher draw a box on the blackboard and said "it is very important", and that you have to copy it and I could not see it well. Then at the end of the class I asked a girl that sits with me, very nice that I get along and so, I asked her if she had copied it and she told me that don't. Of course! I know that he said it was very important and that she copied it, but these are things that.*
>
> *"Here we all very competitive, me the first."*
>
> *"I was awful, one day I got to class crying because I could not manage the chair, the doors, everything, it was horrible. Since then they come at my home and I am accompanied. So without them I could not be able to."*
>
> *"If I have to make copies I ask somebody because I can not enter the copy shop."*

On the other side, only 5% of students are member of a university government body and just 20% participates in university associations or leisure activities that the university organizes. The student alleges that some social activities or elective subjects that the University organizes are inaccessible. That implies a clear discrimination. In fact, they think that according to the European mind this is unacceptable. If an activity is not accessible or carried out in an inaccessible place, the criteria should be not to carry them out.

> *"Here some times they indicate, as if it were a favour, that this activity is accessible, the other don't, and so on. But I do not understand this, and then do not do this activity and that's it. I do not understand it.*
>
> *"When I did my exams on the laptop, I notices a comment: but hey! Just like that!*
>
> *"Some times I see things that maybe I would do, but I have to think if it will be accessible and though I know that they could adapt it for me, but this is not the way. It should be accessible despite if somebody with disability participates or doesn't."*

Another reason several students claim is that the reason given by the university on why it does not organize social activities is the lack of time. There are many comments pm this issue since they state that a person with disability needs much more time to carry out daily and university activities.

Personal Assistance

Based on number accounting, not many students with disability require personal assistance. However, the task and the importance of this assistance are essential for those students. Some students choose the university where to study if it offers that service. Some universities manage irregularly this service and, hence, have caused the absence of students during two years. Nowadays, it is verified that such a basic thing

as receive a personal assistance service conditions class attendance of students with disability.

> *"So I met the university to see what could they do for me, that if I could go to class and of course if I do not have personal assistance, I cannot go; that's why it is very important to me."*

> *"Disappointed with the degree… I don't know, because the degree don't, but when they took my assistant, I spent 2 years without going to class; so I missed 2 years because of that. And of course, you see things like this and you then you go on, because now I'm still studying, and because I cannot start a different degree. But I don't know, it is uncertainty, that maybe I cannot go to class."*

Labour insertion

Students with disability seem to be unconcerned about their labour future, their current worry are studies. Besides, their choice of studies is mostly based on vocational issues and not employability. That is why they postpone their labour concerns for the future in many cases.

Moreover, most of them study on centres that offer possibilities of accessing to public job posts and they know they have possibilities as there are posts reserved for people with disability. In fact, most plan their future for doing oppositions in the teaching area.

> *"Yes, I'll study for internal residence and there I have to pass the same bar than the rest, of course. But then, I do have into account and know that, when I have the post as internal then I will have the reservation (…) first, now, I have to work for earn it and I'm at the same level as the rest, but after that, the reservation is convenient for me."*

> *"At first, I think I'll have to pass the competitive exam, I don't know what for, but for teaching, or (…) maybe some school does not want someone with a wheelchair… but I think this will be what I'll do*

> *"Buff, I don't know, it's so much time in future that I do not think about it yet, I'll see."*

> *"I do not want to study any more, I have not thought how to find a job."*

It is true that there have been found difficulties in order to carry out practices. In the case of job practices, usually, this is a very positive issue for those who are looking for their first job. Therefore, obstacles present to carry them out are an important impediment. Although most of students with disability do not combine their studies with a paid work or practicum since just 15% of students work due to the time and effort those studies demand.

If practices are curricular, it is more serious they cannot be carried out. Those practices are essential in order to complete their studies. At that point is when the student with disability is being discriminated (sever disability and from the health sciences branch); a discriminations that show the mentality of some teachers.

> *"They did not want me in any hospital. I had to go to Gandia because they simply did not want me. AT all time I had the university support, and lucky that, because, until the last minute, I thought I would remain without the title. I thought they would get it, that all those that think I can not be a nurse will win letting me out without the degree."*

64% of students think they will have it complicated in order to find a job due to their disability. The rest, those that do not aspire going to a public job place, have not yet thought about their future. In principle, they understand it will be no complicated to find a job via ordinary channels, assuming that some jobs are not suitable for them. This is a limitation they have inherently in mind, but having overcome so many complications makes them optimistic.

> *"There are many possibilities of teleworking or accommodated work.*
>
> *"For accessibility issues… I think the businessman does not have to care about my disability while I do well my job. What I do not think they would like to accommodate the company, installing a lift, accommodating the place for working, etc. I think that they going for a public competition is the best in my case."*
>
> *"I think it will have and influence, but I don't know, it will be a matter of luck. There can happen two things: that I have it more easy or more difficult."*
>
> *"Depending to if I mention it or not. Generally I do not mention it if it does not mention unless it is convenient for me."*

There is a bigger issue presented in one case:

> *"Since I am a recipient of disability allowance by the IPT, some companies, as it has been the case (…), say that can not take me because according to the LISMI I am not disabled, since the rating centre does not give the 33% or even it can be less. So, I can not work in some places because I have limitations but if I say that I have a problem and that I am not 'disabled' on the eyes of the LISMI, they do not receive tax incentives. So I have it difficult."*

Regarding the job future, They emphasizes the issue of reservation of job places for people with disability, mainly towards public notice for people with disability, on which some are not very optimistic and makes comments such:

> *"The places reserved for disabled are not for disables". "The problem is after University… that the reservation of posts be real, that they be complied (referring to public administration) so the private should also comply too… by means of practices, agreements… Making easy the job starting from the University."*

Scholarships

The student with disability does not usually combine their studies with paid activities since higher studies demand extra effort. This implies a great effort by the families and those students are aware of it. The issue relies on the fact that, despite that students from some Autonomous communities receive disability allowance (85% of them), they cannot access to common scholarships because their academic requirements are too demanding for some students with disability, such as passing a number of subjects and that requires such an amount of time that not all of them can get to. In fact, just 18% of students with disability get a scholarship.

> *"The mobility Council gives me the scholarship, but for that I have to pass 80% of the subjects and then, of course I have a 9 average mark, but I know they are strong requirements."*

> *"I have a 70% disability and I do not understand how is it that I want to study and I do not receive any grant. Not even scholarships or anything similar. Because I have also asked for a University scholarship, and nothing. This is given just to 30 people. But I truly think I deserve it; because I work hard, and I don't know, I think I am doing a very complicated degree and I effort, don't know."*

> *"I had a training scholarship before, but as I did not reach the minimum credits I do not have it now."*

> *"With A training scholarship, I can not pass so many subjects. It is not fair not being able to have options. Special cases should be considered."*

For that reason it is considered the free tax policy as a positive discriminations, so to compensate many injustices lived in the University and the absence of accessibility in the university space. This way it is tried to compensate, to some extent, the extra-effort these students have to perform.

> *"Let's see, to me, I don't see it well, it would be better this was not given; but then I see myself and I say, ok, look, I deserve it."*

> *"That is it not fair? maybe, but it takes me twice, for example, getting to the University, doing staff, so another person has more time to study. So I think that as things sty the same it is the least to be done. The I hope it does not, but right now I think it is to be."*

One of the most extended helps, which one study with disability comments, is the free tax together with the social welfare benefit. There are many cases according to scholarships and grants: students get several options at the same time, others just one or none. Few students have grants for transport, technical resources or teaching materials. In some cases, it is the family from those students with disability that receive a welfare benefit but no other grant for their studies.

> *"Just those who have Money study, regarding disability this doubles."*

Looking to the future

The student with disability has it clear that the removal of physical barriers and enforcement of regulations are very important factors. But mainly, they value that the factor to influence is the change on the approach and social awareness so that integration be not a norm to be imposed to become a neutral reality, so that equal opportunities be a fact and then there is no need to do the breakdown in relation to disability. This will lead to a universal accessible place without need to accommodate on demand, so that people could access and live an educative experience regardless to whether they have or not disability.

> *"Periodically inform the university community, to know the unawareness of difficulties and possibilities. Much more about disability in the University, that we are less and more unknown. There are needed more professionals to inform."*

> *"I have needed more protection rather than the services offered, we are more vulnerable people".*

There are many complaints regarding the excessive bureaucracy and lack of flexibility in the university system. The student with disability recognizes that, at regulatory level, there are positive discriminations for the integration of people with special educational needs. However, they state that these measures seem to stay just on a regulatory level since at the time of procedures these regulations are not enforced and the grants do not arrive.

Table 13: Positioning in a scale in which 1 is equal regulation and 10 equal opportunities.

WORST DUE TO YOUR DISABILITY	FORCED TO YOUR DISABILITY	BETTER THAN OTHER PEOPLE	INDIFERENT TO MY DISABILITY	TOTAL
3,0	3,7	5,8	6,0	**5,4**

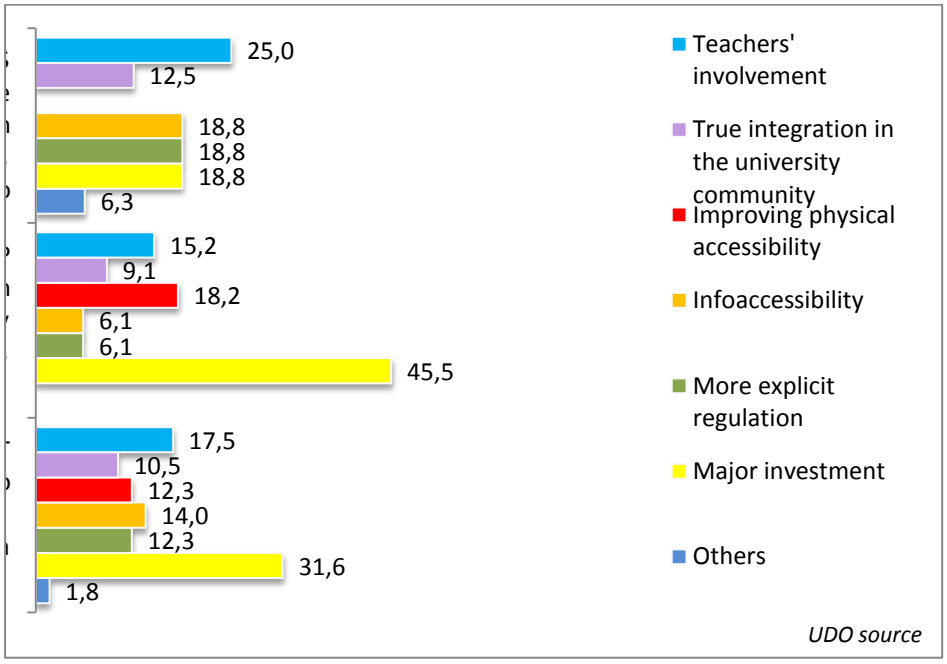
In this required change of mentality, the student understands the need for the university community to get involved. The main responsible for enforcing the regulation and the welfare benefits are teachers and the state government, so, according to the students with disability, the *"agents for the change"* are:

- Students with disabilities.
- Teaching and research staff.
- University community.
- Autonomous government.

- State government.

The, in order to improve the equality, according to the answer of students, the responsibility is from the Autonomous and State government, the University and the teaching staff, mainly. Besides, it is stated the importance of the whole society involvement and it is played down the responsibility or guilt from families of students with disability and the administration and services staff.

Graph 26: Percentage of the main requests from students with disability.



The student with disability's main demand centres on three aspects at the same amount: improving physical disability, greater economic investment and teachers' involvement. By analysing those demands per type of disability, it is seen that students with physical disability is the group that demands greater investments and barriers removal. However, the ones who have just a sensory disability their main demand is the teacher's involvement.

> *"I do not understand why is it to talk about sensitizing, if you are a person then there is no need to talk about sensitizing. Treat normally, equally and that's it, not more or less, just be a person. Because I don't know where is the people's empathy. If we all were people there is no need of anything else"*

> *"These believe that because I go on a wheelchair I have to be dumb and go with a blanket, so, hey look, you are wrong."*

> *"Ignorance… sometimes I have to ask and explain. (referring to mates)"*

TREATMENT OF THE DISABILITY AT UNIVERSITY

Objectives

To really know the reality related to University and disability, it is carried out this third part of the research. In this part it is analysed which is the treatment every University gives to disability. I other words, analysing which is the context the student with disability is when getting to their university centre:

- Which are the services every University gives, focusing on the DSS. It is carried out a comparison between University regarding that body and the services and actions they carry out: general and teaching functions, provision of resources and approaches.

- Gathering information on the accessibility that from University and mainly form the DSS. That is, related to accessibility plans (or similarly) and their implementation process or discussion stage; also the opinions and policies the University has on that field as well as the info accessibility policies.

- Exploratory approach to the inclusion of disability and accessibility in the subjects of the different curricula, specially the new degrees.

Methodology

In order to know more about approaches and treatment each university gives to disability, it is carried out a questionnaire with a DSS technician from each university. The aim is to know objective information on the students' quantification, universities policies, work procedures and services offered, as well as the view and opinion of the university in relation to disability in their centres.

Through the answers to this questionnaire it is extracted information both quantitative and qualitative. 18 out of the 23 universities answered that questionnaire.

All this information is useful to carry out a global comparison in the research, by analysing the accessibility in university centres, the students' perception and information related to the context treated in this section of the research.

Analysis of results

Quantification of students with disabilities

In Spanish universities the percentage of students with disability does not reach 1% of the total of students enrolled. This is evidenced by data from the Ministry of Education in their report: *Universidad y discapacidad. Guía de recursos del curso 2004-2005* (University and Disability. Guide of resources from 2004-2005 course), whose average is 0.53%, conversely to the UNED (University Education and Distance) data which exceeds 1%.

Nowadays, the number of students with disability in the Spanish University has increased. However, the percentage of this group of students remains around 1% and, in any case, it is still disproportionate if we have into account that the Spanish population with disability sums 8.5% of the population according to INE data from the 2009.

At the time of quantifying the number of students with disability at the university, there must be taken into account the following restrictions:

- Most universities note as students with disability those that have an official certificate of disability when enrolling (with the aim of getting the free tax, a right granted to those students that have such document). Then those students that can not, or do not want to identify themselves as having a disability are out of that register

- Moreover, most universities also ask in the enrolment that the student with disability make explicit their disabled condition in the form attached so that the University can create a census of students with disability with their consent of being part of such a database.

- Therefore, in those lists there are students with disabilities that:

    - An official certificate of disability.

    - Have managed their tax-free enrolment.

    - In the case of some universities, those who have agreed to be part of the list.

Table 14: Students.

	UNIVERSITY STUDENTS 2008/2009			UNIVERSITY STUDENTS 2009/2010		
	Students	Students with disability	%	Students	Students with disability	%
Univ-1	11.159	84	0.75	12.601	82	0.65
Univ-2	19.331	67	0.35	18.900	170	0.90
Univ-3	53.177	304	0.57	56.131	302	0.54
Univ-4	10.231	80	0.78	10.700	89	0.83
Univ-5	14.993	78	0.52	15.917	99	0.62
Univ-6	32.083	N.D	N.D.	34.891	N.D	N.D.
Univ-7	8.088	27	0.33	10.526	32	0.30
Univ-8	26.234	N.D	N.D.	26.729	N.D	N.D.
Univ-9	8.455	56	0.66	8.604	55	0.64
Univ-10	11.779	62	0.53	12.231	57	0.47
Univ-11	25.373	157	0.62	25335	185	0.73
Univ-12	24.896	114	0.46	24.964	122	0.49
Univ-13	22.512	80	0.36	24.500	110	0.45
Univ-14	19.337	8	0.04	20.309	13	0.06
Univ-15	26.224	194	0.74	30.108	157	0.52
Univ-16	19.999	N.D	N.D.	22.833	N.D	N.D.
Univ-17	25.499	158	0.62	25.990	142	0.55
Univ-18	12.091	86	0.71	13.210	117	0.89
Univ-19	10.426	N.D	N.D.	18.997	N.D	N.D.
Univ-20	31.713	257	0.81	37.093	278	0.75
Univ-21	44.736	616	1.38	46.827	683	1.46
Univ-22	15.380	32	0.21	15.500	41	0.26
Univ-23	57.230	N.D	N.D.	58.343	N.D.	N.D.
Total	**530.946**	**2.460**	**0,46**	**571.239**	**2.734**	**0,48**

According to such data, it does not seem possible to create tendencies according to the students' disability typology. First, because not all universities have such breakdown, and anyway, among those who have it marked differences are apparent. In other words, there are not clear trends to generalize according to the type of disability.

From the all data, it can be seen that 46% of students have a physical disability, 15% sensory and 32% whose disability is unknown. Physical disability is the most widespread, and following there are the visual and hearing disability. Lastly, just 3% of cases are mental disability, a very residual percentage at University.

Table 15: Types of disability.

	PHYSICAL DISABILITY %	SENSORY DISABILITY %	VISUAL DISABILITY %	HEARING DISABILITY %	MENTAL DISABILITY %	CHRONIC DISEASE %	MENTAL AND PHYSICAL DISABILITY %	OTHER NON SPECIFIED DISEASES %
Univ-1	26	10	4	6	0	0	0	64
Univ-9	59	31	14	17	10	0	0	0
Univ-14	50	33	33	0	0	0	0	17
Univ-5	29	16	10	6	5	0	0	49
Univ-18	39	11	0	0	3	29	3	15
Univ-10	49	19	0	0	4	0	0	28
Univ-20	23	25	8	17	0	0	0	52
Univ-15	67	33	11	22	0	0	0	0
Univ-21	55	13	7	7	4	0	0	28
Total	**46**	**15**	**7**	**6**	**3**	**3**	**0**	**32**

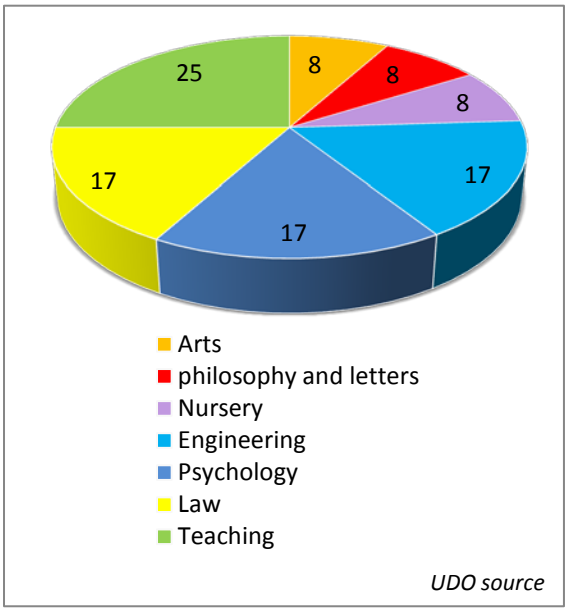
Regarding the percentage of disability, the register from university services show that most students have a disability degree superior to 65%. However, this is a percentage to be relativized since the register may be conformed by those students with high disability that have more tendency to get into contact with such service.

The genre difference is very slight: 53% of students with disability are men. However, this data varies according to each university and the type of disability.

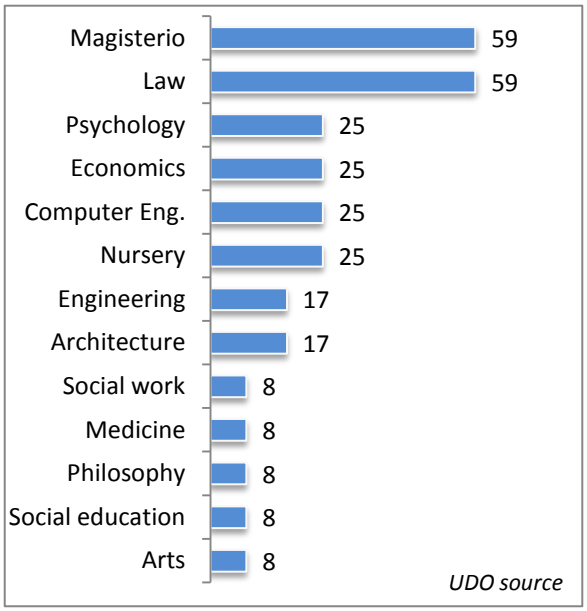
By far, teaching studies are those who have more students with disability. Following this, there are the studies of Law and psychology. In other words, the branch of Social

sciences and Education are the main choice of these students. The second option is Humanities and the third there are technical teachings.

Graph 27: Percentage of DSS users regarding the degree they are enrolled.



Graph 28: Percentage of DSS users according to the studies they are enrolled.



The data related to postgraduate studies (whose importance has increased after the Bologna Plan) are disturbing. Most universities do not have a register of students with disability that are taking those studies. It can be considered that such absence may be due to the fact that those students do not have a disability that causes them great dependency and hence, they do not have to get into contact with the university services. From those universities that have a record of students with disability that are taking postgraduate studies the percentage of those students varies between 1% and 6% out of all students with disability present at the university.

Table 16: Quantification of students.

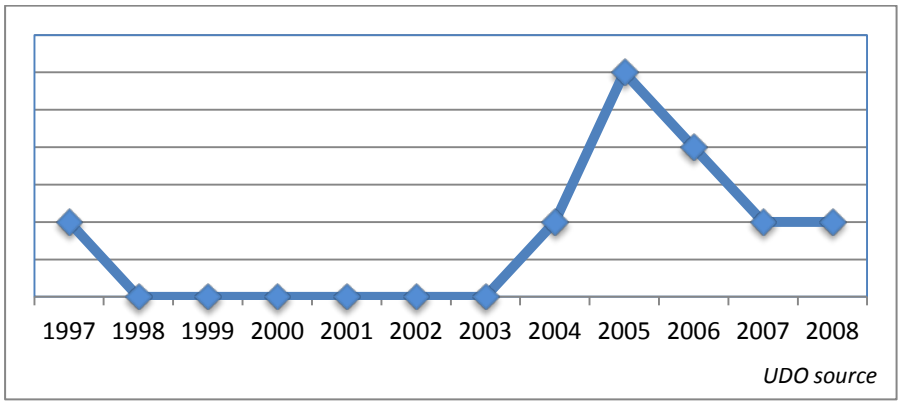
UNIVERSITY	STUDENTS AT THE UNIVERSITY	STUDENTS WITH DISABILITY	POSTGRADUATE STUDENTS WITH DISABILITY
U-5	15.917	99	5
U-9	8.604	55	1
U-10	12.231	57	3
U-11	25.335	185	12
U-14	20.309	13	0
U-15	30.108	157	1
U-20	37.093	278	10

Accessibility

Universities are aware of the accessibility problems the campuses and centres have. Deficits are evident, as well as it is evident the university's predisposition to put an end to it. That is way 75% of the universities have performed an accessibility plan. Just 8% of the universities have not yet such plans whereas the rest have carried out partial accessibility plans, systematic auditoria's or accessibility projects. However, universities usually operate on demand by removing barriers and solving specific obstacles that students find. In fact, some universities act in disregard of the accessibility plan; instead of considering it as a work plan it is considered as if it belonged to a document of diagnoses carried out in the past with no present validity.

This idea is expressed in the following plan where it can be seen that on 2004 is when most accessibility plans were carried out but there is not yet a date to finish the execution of that plan.

Graph 29: year of the accessibility plan drawing-up.



A total of 17% of universities have a quality certificate on accessibility. However, those cases have just a partial level. This is similar to the DALCO criteria (ability to walk, Awareness, Location and Communication) that are failed to fulfil by 83% of universities and the rest just fulfil them partially.

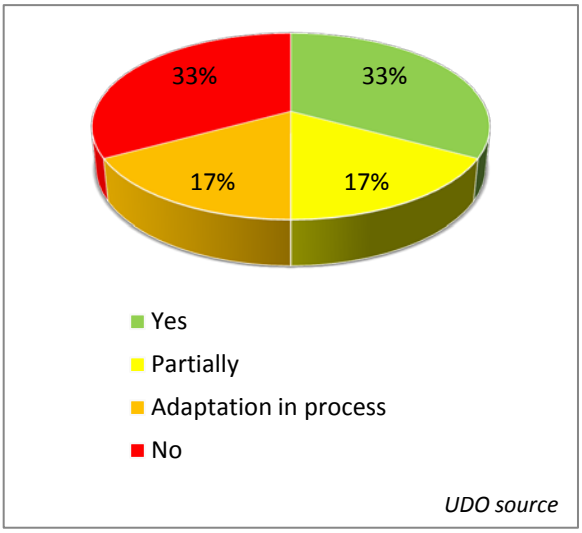
58% of universities receive public funding to improve accessibility. 71% of cases have IMSERSO and ONCE Foundation investments. 57% of cases have funding from the Autonomous Communities governments.

Regarding the staff that manages accessibility issues at the university there is to mention the Vice-chancellorship of Infrastructures (or equivalent) that usually is the responsible for the management of the Accessibility plan or the removal of barriers on its absence. In fact, 83% of universities do not have a responsible for the Design for all; and the resting 17% have the responsible for the architecture area as responsible also for the design for all, the chancellor's delegates or the people in charge of the ergonomic as responsible for disability issues.

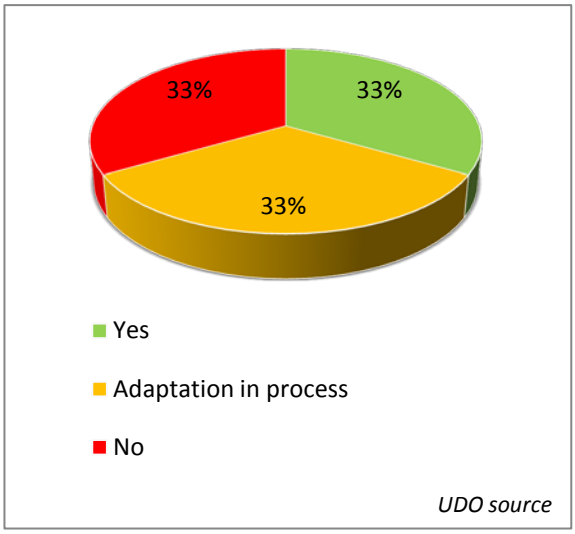
Info accessibility

Just 33% of the Universities' main web pages are accessible according to the TAW criterion (Test for Accessibility on the Web), while 50% are partially accessible or are in process for being accommodated and 17% of main webpages are not accessible at all. Besides, the Virtual Campus, a tool for students, is inaccessible in 33% of universities.

Graph 30: Percentage of accessibility in Universities main web pages TAW criterion.



Graph 31: Percentage of accessibility on the University intranet for students: TAW criterion.



On the different actions a student can perform electronically there have been detected accessibility problems in some universities: 78% of universities online enrolment or pre-registration processes are accessible; 82% of library catalogues are accessible; 67% of universities' online administrative procedures are accessible, for example, extending the load period. It is interesting finding that 64% of universities' libraries have accommodated cabins with the correspondent software.

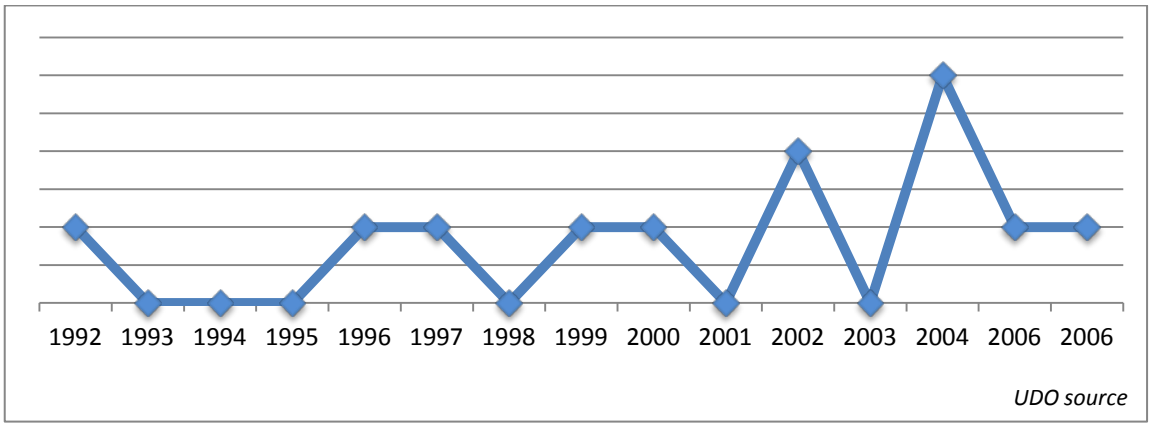
Disability service

All universities under study have a service for supporting and help the person with disability. It is usually focused to students with disability; however, there are universities that also support teaching and research staff. These services also perform actions to raise awareness to the whole university community.

These kind of services use to act transversally since they keep contact with different university bodies such as the vice-chancellor of infrastructures. But mainly, these services belong to the Vice-chancellor of studies (67%). In the rest of cases, these services belong to other Vice-chancellors (social issues, quality…) or they are a delegation of the Chancellor (8%).

Looking at the year these services were funded in each university it can be noticed, as shown in the graph below, that, despite some vanguard universities that created the service on the 90s, most universities (67%) run this service between 2000 and 2006.

Graph 32: year the DSS was created.



Regarding the service staff, it is complicated to quantify the number of people employed. It is usual that a service be integrated on a wider area, as it is the case of the student service, sharing tasks and staff. Besides, some universities use the mechanism of setting a person responsible for the coordination in each centre, a person who does not dedicate exclusively to that service but increases quantification a lot. It must be noted that there are volunteers that collaborate which in some cases they are very few, and in others, however, very numerous.

However, the staff average working in the DSS is 5 people, made up mainly by administration and services staff, followed by teaching staff. From the labour field there are the social work and psychology professionals. On 33% of services there are scholarship students. Just in one university did this service have contracted architecture, law and medicine professionals.

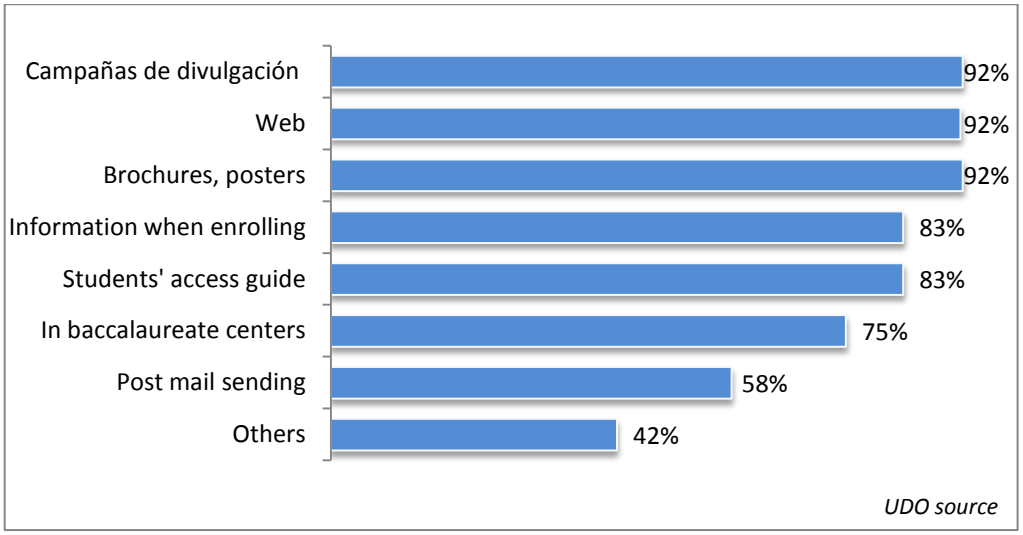
The process by which a student with disability is contacted by this service, in 59% of the universities, is the following: the enrolment form includes an option which the student with disability is to fill so to be identify as a person with disability, so to be then included in the university census and will be later 'contactable' by this service. This way, the student is also informed, when enrolling, of the existence of such service.

Parallel to this, 59% of universities contact personally with the student in which it is presented and he/she is given information about the service. 33% of these contacts are done via e-mail or post letter to the student; 17% of universities include such reference in the student's course guide. In few cases, the university contacts the student the same day of the Spanish University Access Tests in order to inform them about the services they have available at university.

On the other side, the university's disability area, apart from working for the student, has also the objective to get to all the university community. That is why the

information tasks are so important to all universities, as it is shown in the following graph.

Graph 33: Percentage of universities with information channels about disability.



Almost all universities inform about the service the university offer via their webpage and through campaigns. Although the e-mail sending about disability issues is more usual, it is not yet widespread.

It is worth noting that three out of four universities performs informative tasks on high schools. In some occasions the student is informed during the University Access Tests. In other cases, there are speeches on high schools and, in the case of smaller towns, there are performed interviews with secondary counsellors or it is contacted the secretaries of each centre so they know where to lead the student with disability

The DSS becomes a point for the student to make their complaints and requests. For example they go there to request the removal of physical barriers. There exists, though, higher bodies such as the University Vice-chancellor or defender on where to place such requests. 59% of DSS carry out follow-up interviews that lead to such requests. Besides, there are universities that are starting questionnaires via web or even Facebook.

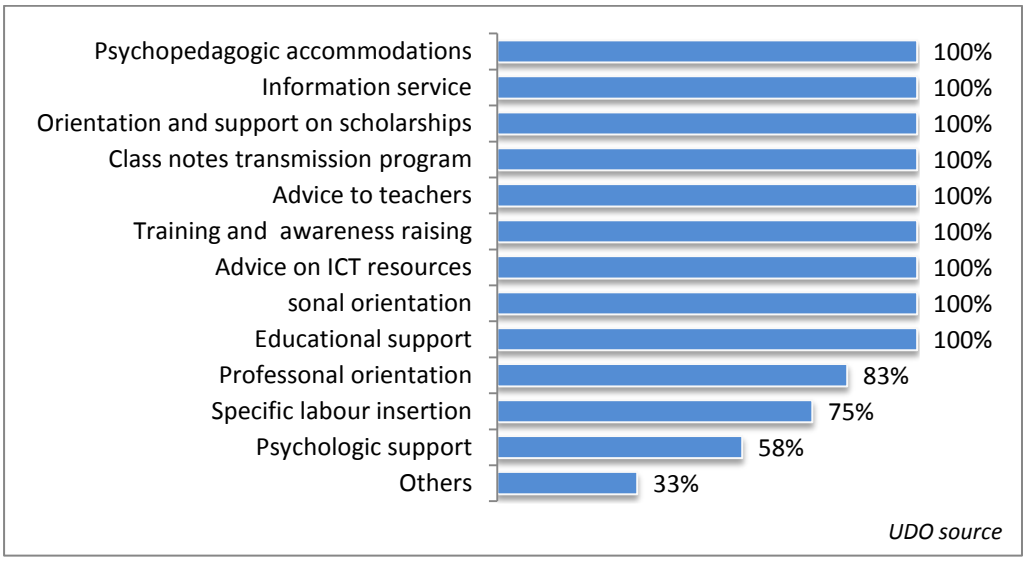
In relation to funding, 75% of cases has obtained a similar budget for this course 2009/2010, despite the present economical context. It is worth mentioning that the DSS Works in collaboration to external entities 83% of cases; 80% of them are agreements with IMSERSO and The ONCE foundation; 25% are agreements with Fundación Universia, and 8% of collaborations are with Fundación Adecco, Fundación Vodafone and other similar local ones.

Functions of the Disability Student Service

The DSS carries out very different tasks. Most of them are focused on helping the student with disability to solve their difficulties present at the University.

Therefore, most universities perform the following functions: psychopedagogical accommodations; information, guidance and support services for obtaining scholarship; program for interchange of notes; advice for teachers, training and awareness raising; advice o ICT resources, Personal guidance; teaching guidance; specific labour insertion; and psychological support.

Graph 34: Percentage of universities that perform services on the DSS.

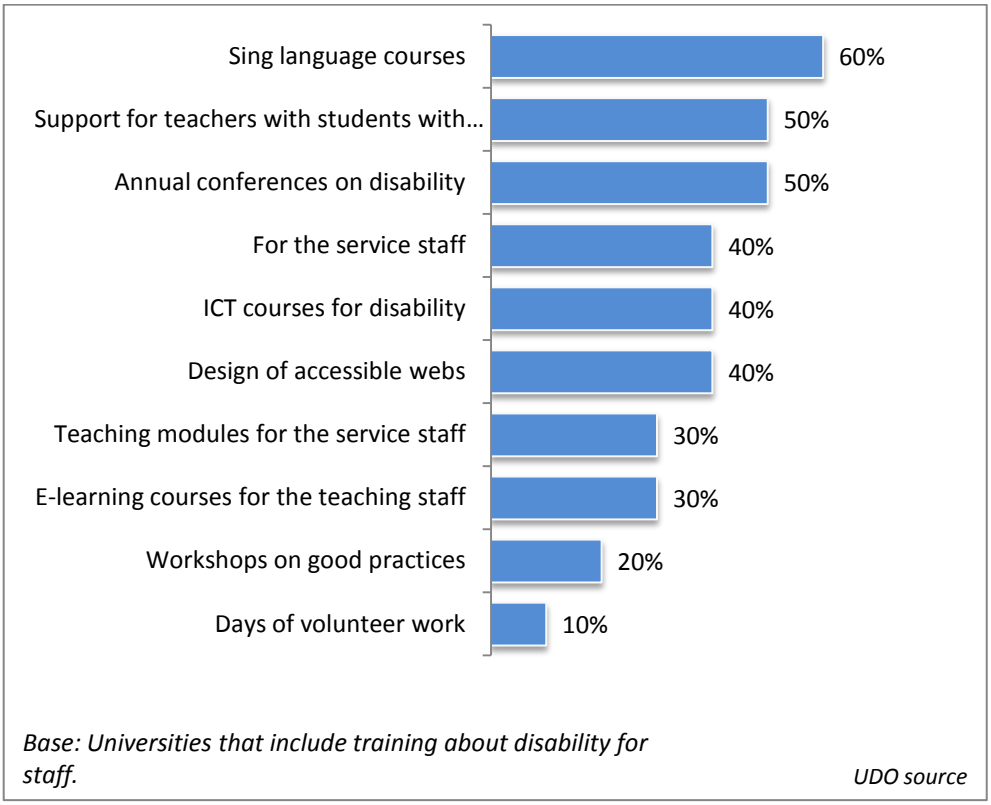


First, basic needs are satisfied, such as psychopedagogical accommodations, information giving, transmission of notes, guidance for the access to scholarships, new technologies and similar issues.

There are also performed, although at a lesser extent, tasks for labour insertion (75%) and psychological support (58%). Usually, some universities tend to derive those issues to a general service at the university that is not specific for people with disability, although general guidance is not discarded.

All universities claim that they have carried out tasks for raising awareness and advising the teaching staff. In fact, 83% of universities aim at developing specific training on disability for the University staff. However, those activities differ on each other.

Graph 35: Percentage of universities that perform training action on disability for the teaching and administration staff.



More than half universities offering training activities contain courses on sing language (70%). It is also widespread the organization of annual conferences about disability (50%) and support actions for the teacher and student with disability (50%) if requested so.

Pedagogical functions of the Disability Student Service

It is common to find several types of accommodations in the Spanish University in order to facilitate the access to education. These accommodations consist on: removal of specific barriers to allow access to the classroom and also to its use; the personal assistance to facilitate such access and the student life at the university; also, the accommodations of the teaching material in many versions needed.

In fact, the technical resources used and the acquisition of equipment for such format accommodations is very different with the aim of providing access to information. The most common accommodations, among others, are the accommodations of exams on format, time, methodology, etc.

However, content accommodation is done on specific occasions. From the 25% of universities that do perform curriculum accommodations, there are, in rare occasions, significant accommodations (content accommodation or partial removal) and non significant. These issues are not specified on the regulation, so these accommodations rely under the teacher criterion, without establishing obligations or limits to the

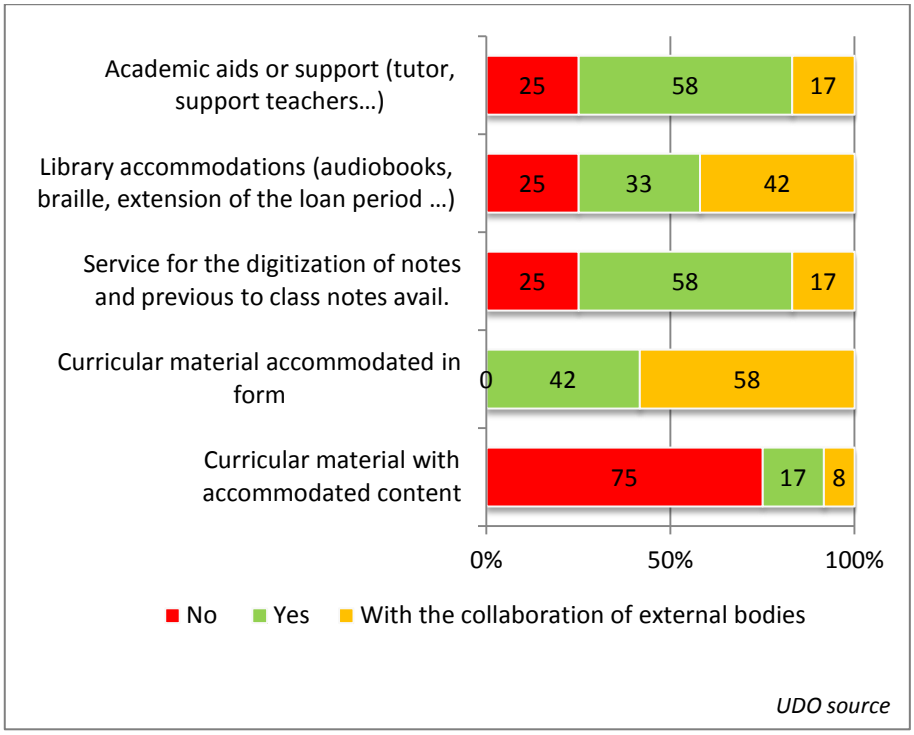
University. For this reason, learning difficulties not solved through format accommodation or curriculum access (i.e. adding time for Reading) remain unsolved:

> *"The implementation of new training systems, chance on objectives that imply change of demands not direction, new assessment systems and so on, pose a challenge to the University professionals. This challenge can be achieved just through research and development work whose beneficiary are not just students with disability (…)."*

This is one of the reasons why the technical staff from universities is dissatisfied with the statement "We all can study everything", which is rated with a 3.3 out of a 10 scale. This is due to the excessive obstacles the system has; the University's inability for giving answer to all the cited cases; and all the limits disability has by itself. However, students with disability also state that studying at the university is very positive for their self-esteem.

75% of universities have class notes available for students as norm, on paper copies or digitally, the day previous to class. However, the non- institutionalized transmission of notes works in many cases and it is also encouraged. Moreover, every time more universities (25%) have virtual campuses (intranets), a platform that is very helpful for students with disability as it provides the digital format of the mentioned class notes.

Graph 36: Percentage of teaching services offered by the DSS.



In fact, the teachers' involvement is a key factor to enable equal opportunities in the classroom. These professionals increasingly request training to know how to treat diversity in the classroom. That is why technicians from the disability area rate this implication with a 7.25 average in a 1-10 scale. Not any University gives a mark below

6, but not above 8 either. This is due to the existence of exceptions that are also a huge obstacle for the students in their closes.

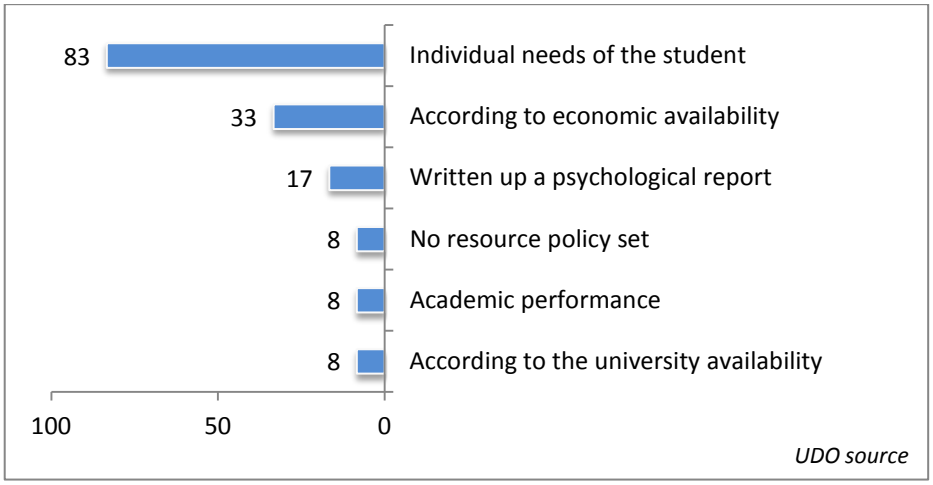
Resources and technical support

There exist homogeneity among the different services regarding their objectives and specific activities. Despite this homogeneity in criteria, there are differences on the efficiency of such services, in relation to the resources each university provides the student with disability.

The DSS acts, on many occasions, as an intermediate to provide technical resources so students can carry out their university life. These are support devices aimed to help those students overcome the obstacles in their learning.

After the student gets in contact with the service to ask for those resources, the service provides him/her as a loan or help him/he Ron his/her acquisition, always through university funding. However, there are many demands and resources are limited, making it necessary to establish priority criteria for the support products.

Graph 37: Distribution criteria of support products.

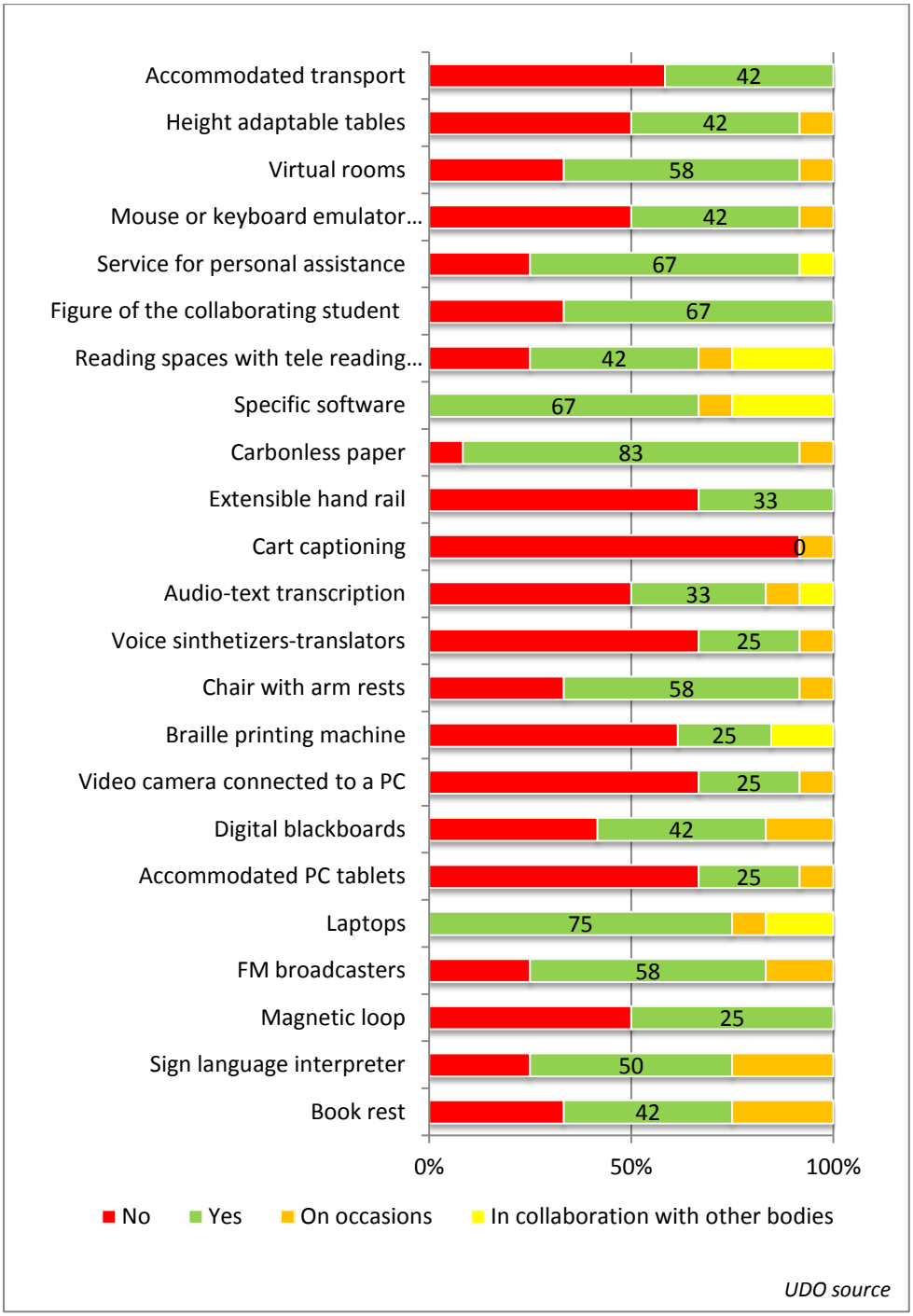


It is obvious that the need of the individual (83%) define the resource distribution, although the economic availability is a criterion that is applied to a third part of universities. It is curious that the academic achievement (8%) is undervalued.

Another issue to have into account is that universities offer resources just on request. In other words, universities do not offer a set of services on a stable basis, but just those that can be offered when requested. Similarly happens with the sign language interpreters. 75% of the universities offer or might offer those resources. However, this service cannot be offered a full-time in most cases.

Something different happens with transport. It is understood that the accommodated public transport is responsibility of the Municipal or Autonomic institutions. Just in specific cases or in cases the public transport does not get to the student's home, the University provides a transport service.

Graph 38: Technical resources provided by the University service.



In some occasions, the university offers the needed resources in collaboration to external bodies. This is the case of the personal assistance or transport service, which usually is responsibility of local bodies. On the other hand, regarding visual impairment, the ONCE (by means of their delegations) is usually the collaborating organization. In fact, in many occasions, the resources needed by these students are not usually requested to the DSS because, as they usually are members of the ONCE, they already have them. On the other hand, the 'Bank of resources' from the Fundación Universia is widely recognized by different services.

It also happens that certain support devices, such as the carbonless paper or the transcription, are less demanded since the partners help each other without the need of such support devices or intermediaries.

In relation to the personal assistance, it is precise to remember that for many students, this is an essential service for attending to class. However important is this service, it is scarce. That is why universities that offer this service (75%), use different ways such as volunteering, scholarship as well as the enforcement of the dependency law (funded by the autonomic government).

To improve

It is evident that there is still a lot to do for achieving equal opportunities on ground of disability in the Spanish University.

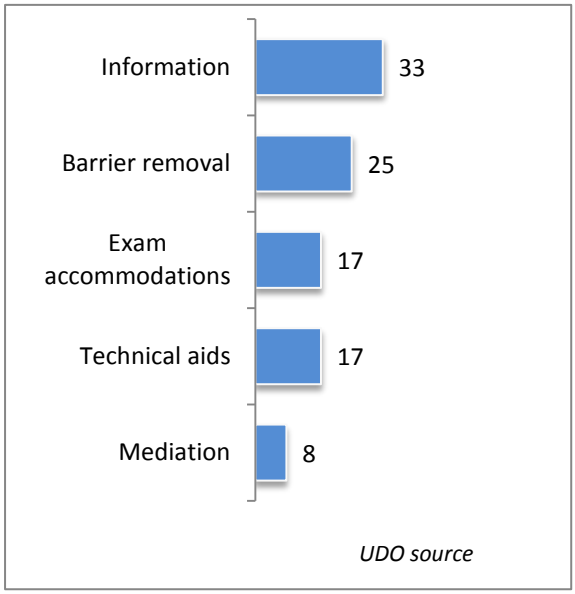
The evolution stated is clear, and so it is reflected on the data and experiences gathered from the technical staff on each university's disability area. All universities agree to pose as a key factor the social awareness and the promotion of a university community in which all people have equal opportunities independent to their circumstances.

In fact, in a scale, in which 10 represents equal opportunities and natural integration and 1 is forced integration base on regulations, the technical staff from the universities gives a 5.75 mark. That means that, at the present, the objective is far from equality.

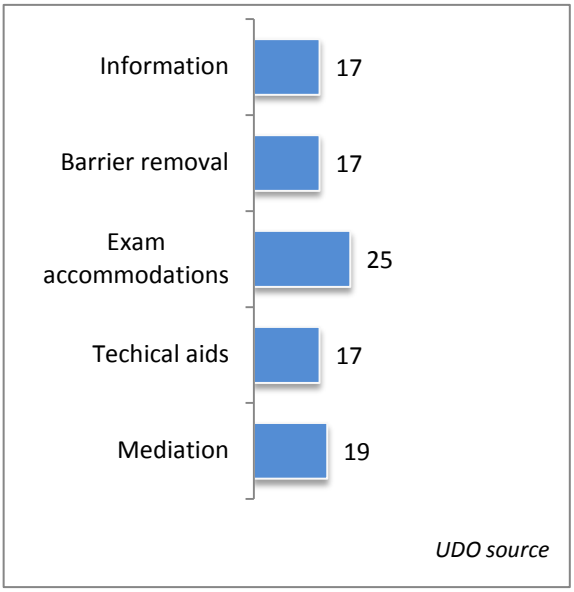
Along with this social and cultural advancement needed, universities understand that more tangible changes are needed too, such as the removal of barriers, the enforcement of the current regulations or actions for an inclusive education.

There fore, the DSS state that the priority actions that the student request are information (33%) and barrier removal (25%). However, regarding the different demands the DSS receive, exam accommodation (25%) is the most common, followed by mediation with teachers (19%), information request (17%), barrier removal (17%) and support products.

Graph 39: Main requests received in the DSS.

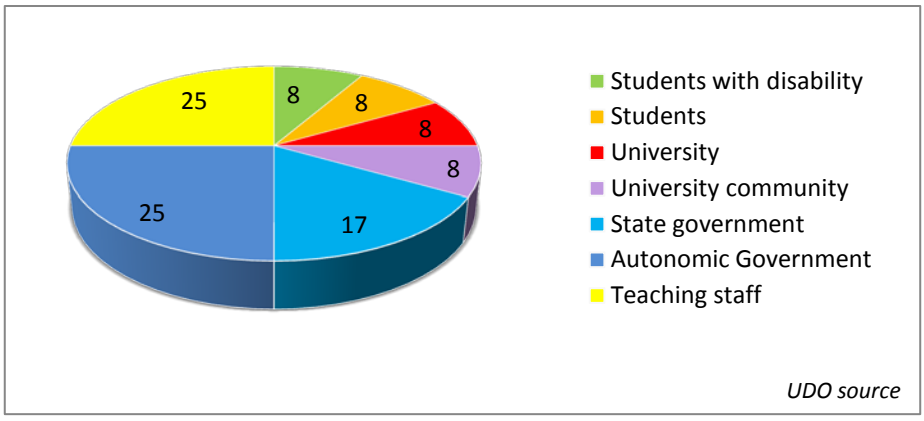


Graph 40: Main requests received in the DSS.



Whether for achieving a change on society's mind and raise them awareness, or carry out the specific actions already mentions, the technical staff from all universities agree that it is essential that all the university community (from the institutional bodies to the staff and students) and all different governments (State, Municipal and specially the Autonomous, due to its direct influence) get involved. In fact, the technical staffs see that the implication of the teaching staff 25% and the government bodies (25% and 17%) are the most necessary in order to improve the current situation.

Graph 41: Agents whose contribution is important for equal opportunities.



According to the technical staff, students with disability have just an 8% of responsibility in order to improve the situation. It is obvious then that such group makes also an important effort. However, the technical staffs also see that integration and coexistence improves the situation a lot, depending on the student. On the other side, the technical staffs admits that those students sometimes do not show a responsible perspective since they enrol in a disproportionate and unrealistic number of credits.

Following this thread, 83% of universities think that the free-tax on enrolment applied to all students with disability should demand certain economic and/or academic requirements. This was a measure applied to attract this kind of students to the university, but now they think that this objective is fulfilled and now it is needed to apply specific policies and not universal grants that play down the reality of the need. Just 27% of them agree on keep that measure so to compensate for the failure on the rights of this group on accessibility issues.

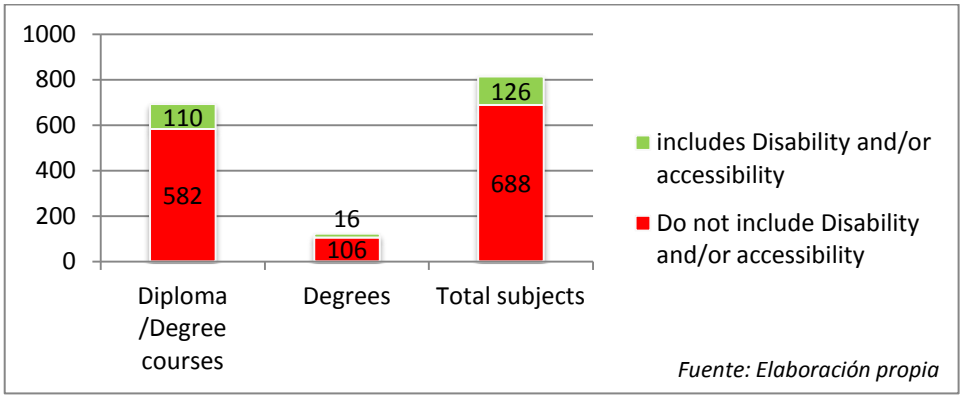
Disability and accessibility in the university curricula

At this memento the process towards European convergence, which has just started, is in process of being completely implemented in the Spanish Universities The expectation to this new plan is very positive for students with disability since the objectives of the European Higher Education Area (EHEA) provides a methodology (tutoring, monitoring, network materials, etc.) in line with the demands of students with disability.

Besides, that implementation forces the university curricula to include disability and accessibility as part of their content. Currently, all universities under study admit that they are still in process of implementation of the EHEA. In fact, by analysing the names of the subjects in the curricula (since its content is not available) it can be noticed that they not meet the EHEA demands.

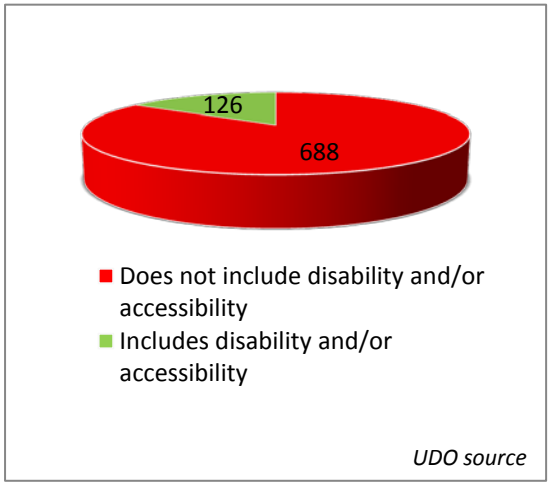
Most degrees analysed are not yet adapted to the EHEA. Just 18% of university degrees include disability and accessibility concepts.

Graph 42: Study of the inclusion of Disability and/or Accessibility in subjects.

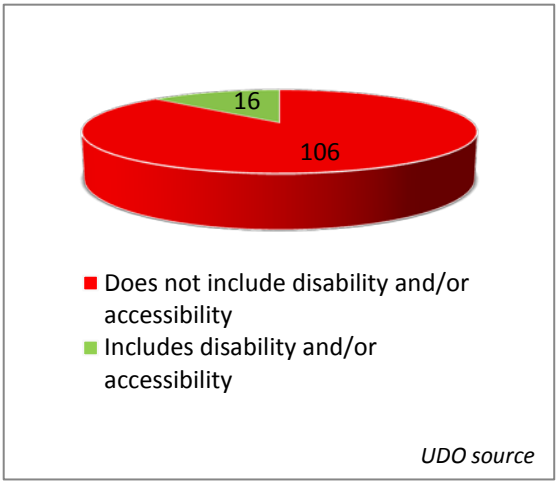


Most degrees adapted to the EHEA have not either included contents related to accessibility and disability despite EHEA demands.

Graph 43: Study of the inclusion of Disability and/or accessibility in all the curricula.



Graph 44: Study of the inclusion of Disability and/or accessibility in degrees.



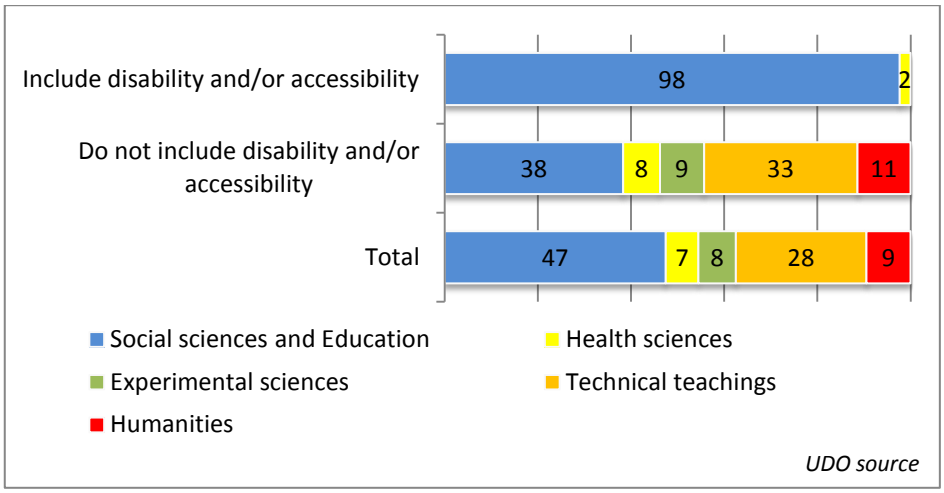
Regarding studies not yet adapted to the EHEA, most of them do not mention either accessibility or disability.

Degrees that study aspects related to the person with disability are most of them from the Education branch. In other words, 96% of the studies that include disability and accessibility in their curricula are Social and Educational sciences.

It is noticed also an important homogeneity among the mentioned degrees. They are similar in content related to disability or special education.

Besides them, there are other degrees, from the social sciences branch, which mention aspects related to disability. However, such degrees are heterogeneous. Just some Universities have greater inclusion of these issues in their contents.

Graph 45: Inclusion of Disability and/or accessibility in degrees according to branch of knowledge.



It has been counted a total of 227 subjects that include disability or accessibility. 164 out of them belong to teaching degrees (primary education, early childhood education, special education, physical education, music, foreign language education and speech and hearing sciences). The resting 63 subjects belong to social sciences studies, excepting for those few that belong to physiotherapy. The following list shows the list of degrees that include them:

- ☐ BA in Psychology.
- ☐ BA in Psychology.
- ☐ BA in Physiotherapy.
- ☐ BA in Speech.
- ☐ BA in Social work.
- ☐ BA in Physical activity and sport sciences.
- ☐ BA in Occupational Therapy.
- ☐ BA in Social Education.
- ☐ BA in Pedagogy.
- ☐ Degree in Social work.
- ☐ Degree in Physical activity and sport sciences
- ☐ Degree in Humanities
- ☐ Degree in Physiotherapy.
- ☐ Degree in Pedagogy.
- ☐ Degree in labour relations and human resource development.
- ☐ Degree in pre-school education.
- ☐ Degree in early childhood education.
- ☐ Degree in speech.
- ☐ Degree in Occupational Therapy.

JOINT ANALYSIS OF RESULTS

Physical accessibility and signposting

Accessibility in the university centres studied is insufficient.

The DSS detects an important effort for finding and removing barriers. However, the university body does not always assume as a priority the creation of a universal accessible space.

In fact, 83% of universities have written an accessibility plan, although it seems a bureaucratic process rather than an execution plan to facilitate accessibility. This is so as that document seems to be unknown and there is also a lack of awareness by the staff from the university infrastructures. It is evident that this attitude is not generalized and that some universities do show their concern regarding this issue.

A basic conclusion reached is that there is a clear breach of the current regulations regarding accessibility. This is aggravated by the fact that the University is a public institution whose aim is to facilitate people's insertion in an active society and that, besides 83% of Universities receive public funding specifically for accessibility.

Accessibility on signposting does not have a current regulation. Therefore, it is very complicated to judge it. It is evident that signposting is insufficient. There are no common criteria and most are inaccessible. In fact, the student with disability rates it negatively in all cases.

The student with motor disability has found huge deficits on accessibility in their university centres. Extreme cases have been solved on the students' request. Then, most universities are inaccessible and just specific cases or situations are solved. Hence, universal accessibility is not real and the student cannot be on equal conditions. The space is not accessible although specific alterations are carried out to facilitate that particular cases can access.

100% of students with motor disability have found physical barriers on their centres. That is why they see themselves conditioned by their ability, feeling, therefore, discriminated.

An important issue for the student with motor disability is the existence of parking spaces that meets the regulations. However, this is reported as a serious failure.

Info accessibility

The university compliance with the regulations on accessibility is limited. Just 17% of the Spanish universities have an accessible main web page. However, it has to be noted that a secondary issue the students with disability value positively is the existence of a virtual campus on where teachers upload the class notes from the following day.

Teaching staff

Both students with disability and the technical staff of the university see very positively the teachers' involvement. The DSS receive requests from the teachers to be trained on diversity-related issues. So they are interested to be trained in that sense. It is true, though, that there are exceptions to be noted since they make difficult the student's learning.

There are differences detected on teachers' attitude depending on the branch. It is more frequent to find intolerant teachers in the branch of sciences than in other disciplines. The common characteristic found is that those less collaborating teachers use to be older and, perhaps, less willing for changes in the model.

Teaching

The student with non-severe motor disability does not require any special educational services or accommodations on methodologies. However, people with sensory or severe motor disability are used to work in a certain way as having a series of limitations they have adapted to. Besides, they usually work with a series of support devices that are already familiar to them. What is key for them is to have the class notes available before class.

Another issue requested is exams accommodations. These accommodations are more of format. The technical staff is usually the person that intermediates on those accommodations. However, these sorts of accommodations lead the other students to think them as suspicious since they believe that the demands are reduce don students with disabilities.

The student with disability does no request significant accommodations on the curriculum, just format. This does not impede to become a debate at the University, since there are some disabilities that are incompatible with the system's rhythm track and methodology. However, this issue remains unregulated due to the fact that there are no criteria established to make possible accommodation of contents without incurring a reduction in the demands on students with disabilities.

Following this thread, there is a debate on the reservation quota that some universities have for students with disability. Most universities support the idea of not keeping this measure. However, students see that measure as a positive discrimination that compensates the lack of equal opportunities. In an ideal situation they would see this measure inappropriate, but currently, it proceeds. In fact, some student strongly demands that regulations be enforced so that this measure works so that it really favours people with a great level of dependency.

At a curricular level, just a minority of studies have subjects containing themes related to disability and accessibility. None even those adapted to degrees. In fact, just education studies are the only that contain those contents, followed by social sciences studies.

And it is worth noting that just the social sciences degrees (education, law, psychology) are the studies most chosen by students with disability.

Labour insertion

Vocation is the factor that influences people with disability to access to the University, related with the fact of looking a job related to their disability. However, students are not very concerned about their labour future, although their preferred option is to take advantage of the reservation quote in public competition exams.

From their vocational choice, they are aware cannot access to any job since they will be conditioned by their disabilities. They are not disappointed by this fact but assume it as part of their reality.

On the other side, most consider the option of accessing to public employments where there are more facilities for reservation quota. In the rest of cases whose labour election does not include that option, the approach is to search for employment by common paths, not through specific employment bureau for people with disability.

There are, though, universities that, from the disability area, offer professional guidance for students that require it. There are some cases that even have a specific service for labour insertion. But most universities derive their students with disabilities to the general employment bureau of the university.

Another issue to deal with are the labour or curricular practices. Many university technicians and also students have found serious difficulties. In fact, it is difficult to find specific practices for students with disability. Therefore, those studies that require curricular practices impose a huge handicap that conditions the completion of studies.

Labour practices are a factor that tends to favour Young people in finding their first job. The lack of these practices is common in the curriculum. It is true, though, that most students with disability do not look for these practices or combine their studies with a paid work due to the demands of the degree.

This implies the extension of time for students to start earning a salary, which also is due to the lengthening of the study period of students with disability. Therefore, it has to be noted that these students can afford the university thanks to the relatives involvement, which, apart from the tax-free enrolment, most do not receive economic aids. In some cases, depending on the Autonomous Community) they can receive a disability allowance, although it is usually a low pay. Accessing to common study scholarships is very complicated for those students due to the academic requirements, since for them it implies mucho more effort and time than for a common student. That is why the issue of tax-free enrolment is a commonly accepted demand.

In this line, the student with disability agrees on qualifying the tax-free enrolment a positive discrimination and that in a normal situation this would have no place. However, due to the constant inaccessibility in their university education they believe it necessary. This is opposite to the opinion of most technical staffs from the university as they think that there should demand academic and/or economical requirements.

Relationship with mates

It seems that integration of students with disabilities is successful. They value it as good or very good their relationship with mates and think that their integration does not depends on their disability. Besides, the DSS technicians state that programs for class note transmissions loose importance in front of the natural interchange of notes between students.

In fact, they feel so similar to each other that they consider it is more common the competitive attitude between mates, regardless disability. This shows that they are not immune because of their disability.

Maybe their integration is notable. However, it seems a defensive discourse since they also admit that the equalitarian mentality that does not consider people by their ‘abilities’ does not correspond to hegemony.

University services

Most students with disability affirm having contacted to the DSS with the aim of doing a request or ask a question. On the other hand, the DSS states it is their department that starts the first contact. IN short, in most universities it is the DSS that has the protocol of contacting the student, but when the student has a need, they do not wait for contacting the DSS.

The student with disability, asks the DSS for: mediation with teachers, exam accommodations and removal of those barriers that affect them.

In fact, all value very positively the treatment received by the technical staff of this service. They also see it as very efficient when their mediation was requested. Their support is considered as very comfortable and really useful.

Can we all study everything?

Curiously, on one hand, the technical staff thinks that by no means can we all study everything, whereas students state that it is possible. Beyond taking into account the no-abilities for specific issues, the student believes in effort and possibilism. After surviving to so many barriers, they do not see as an insurmountable handicap the fact of studying certain studies; above all complications there is perseverance. They consider as main obstacles the physical barriers and some teacher's disapproval, issues considered to be solvable. However, the technical staffs are more sceptical by working with people with so different disabilities and dependencies.

In principle, everyone agrees that the fact of passing by the University is very positive for the self-esteem of a student with disability. Just the impossibility to tackle insurmountable mobility barriers, the lack of provision of necessary services (such as personal assistance) and the lack of teachers' collaboration are the factors that lead students to become, in some occasions, disappointed.

Attitudes for the change

Both the student and the technical staff agree when stating that specific policies or actions are limited. Accessibility depends on the real implementation of social awareness. That means that the university experience be indifferent for the student, with or without disability, depends on a change of the community mind. It includes a change on society's view, assuring a real equality of opportunities, and the social and architectonic construction of accessible spaces independent to the individual characteristics, so to guarantee universal accessibility instead of working on specific cases to provide individual access.

In order to achieve that new mentality and new scope of spaces, economic investment is essential, according to the university's technical staff and students. In this sense, the role of the government, and specially the autonomous government, is essential also to make the current regulations be workable and really applied.

The teaching staff is another agent also considered as fundamental in order to improve the university experience for people with disability. Their work is key for the change.

CONCLUSIONS

According to the analysis carried out on Spanish public universities located in the Autonomous Communities included in the ESF 'Convergence' and the peninsular areas included in the 'phase-in' from the Competitiveness and Employment objective, the conclusion reached is that the current accessibility is, generally, insufficient:

- Despite the current regulation, the public investment and the drawing up of accessibility plans, accessibility in Spanish universities is deficient. This is also present in newly constructed buildings. It is true, though, that there are some universities whose effort in this are is evident.

- After the study of accessibility parameters, it is concluded that a great number of architectonic barriers are set on vertical communications in the building.

- The most serious difficulties in the building are on structure and distribution problems such as unevenness on the centre access or isolated upper floors due to lack of lifts. These problems are usually solved by stair-lift platform, a non-appropriate solution although it meets the regulation.

- Those universities with deficits on vertical communications should include accessible pathways that, through minimum interventions, allow a solution to a greater number of problems.

- However, the most frequent difficulties are usually a problem with an easy technical solution, although with certain economic investment. For example, the lack of banisters or non-slipping floors especially on ramps and stairs.

- The most accessible parameter found is the public transport. A parameter that does not depend on the university but on the town.

- The accessibility level in classrooms is considered a parameter that has been more successfully achieved which depends exclusively on the university. Still, the most common problem in classrooms, which can be easily solved, is the existence of platforms. As seen, the accessibility on platforms is not well resolved, so these should be removed before the use of ramps on them. However, similar to vertical communications, the existence of stands presents a problem on the distribution and structure of the building, difficult to solve although less frequent.

- One of the easiest, useful, and lower cost interventions would be the restriction of other uses to toilets than the designed and also facilitate free access to them.

- The people with mobility problems or wheelchair users are the most affected by the architectural barriers. People with hearing or visual disability may have difficulties to orient themselves and walk through the university, but with time they can learn the routes to classrooms. However, people with motor disability must overcome barriers every day, reaching the state of not having autonomy to get to, classroom or toilet.

- Regarding accessibility to communication, as there is not a specific regulation nor unified criterion deficits stand out due to the lack of research in the field of sensory disabilities, the ignorance in relation to them and the lack of social awareness.

- For these reasons, university education should include accessibility criteria in order to guarantee that the future generation provides good design and solutions for the deficits created in the past.

- Universities should include the compliance of accessibility in their buildings and teaching materials in order to obtain the academic excellence, complementing then education or research merit.

- Usually, a student with motor disability meets physical barriers in his/her centre and campus. The request for their removal use to be by means of specific alterations. Regarding accessibility, Spanish universities work on demand not because planning and initial awareness are basic for universal accessibility.

- The student with non-severe motor disability thinks that certain barriers are surmountable thanks to their skills. Besides, they think that certain solutions for the removal of barriers result disdainful.

- Poor or no signposting is a unanimous criticism from students.

- It is appreciated the DSS effort on detecting and solving deficits with the available resources. It must be noted the increase on sensitizing and technical awareness by the Vice-chancellors of Infra-structures as well as the increase of resources and periodization of design for all and universal accessibility in the university budget.

- Info accessibility is not a priority for the university or the student. However, uploading class notes on the teaching intranet results positive for the student with disability.

- The DSS use to carry out or mediate for achieving accommodations on the teaching materials. On the other hand, accommodations of contents have to be discussed. It would favour the student with great dependency and provoke a change in the educational model, becoming really inclusive.

- The student chooses the degree they wish to study on a vocational basis, without considering the potential complications, always willing to work hard if necessary.

- There is a great difference on the demands of the student depending on the type of disability. If it is a sensory disability, the demands are related to technical resources and curriculum access. If it is a motor disability the demands are related to barrier removal.

- Integration with mates is indifferent to their disability. For the thick and the thin. Similar to a student with disability, they just know who they can count on.

- It is detected an extremely positive attitude from the student. They are determined to surmount barriers related to physical accessibility always if they feel compensated by human factors.

- Most students pretend to participate on competitive examinations when accessing the labour market. They are aware that the most difficult is to be selected for a job position.

- Economic factor seriously conditions the university experience of a person with disability. Moreover, dependency on the relatives is also a key factor for students with more sever disabilities.

- Regarding labour insertion of the student with disability, generally, universities do not offer a specific service, but the student is not concerned about it. Regarding complications students with disabilities have met when doing the practicum, they see their labour integration would be more or less 'normal' for them, not more complicated than they are used to.

- The student with disability supports that the university keeps positive discrimination policies as compensation to the complications they meet. They need more time and effort than the rest, and hence, they have it more complicated to have a good academic result or to combine it with other paid activities.

- There are detected discriminations on health sciences due to the supposed distrust a person with disability may generate when performing certain functions.

REFLECTIONS ON THE RESEARCH

This research has provided the team a better awareness of the reality regarding disability in the University. It allowed a closer look to the work and reality of the university's area devoted to disability; feel the diversity of the experiences lived by students with disability; and live, in situ, the accessibility problems present in the universities. This has increased even more our interest for knowing more about that reality and, from diagnosis, work for a better future.

As researchers, it has been proved that studying the state of disability in the university involves a series of complications that are part of that same reality and part of the complex character of the context under study.

There is a great heterogeneity in the treatment of disability in the Spanish universities regarding the quantification of students and the contact with them. In fact, there are some cases that do not have a census of students with disability but a list of students that are users of the service. This makes difficult to have a reality to research and know the target group. What is more, there is not a break down by age, genre, studies or type of disability, but although it existed, the comparison between universities would be complicated since they use different parameters.

This is also due to the current data protection law that, obviously, is completely necessary and universities must comply, but which students highly defend. In fact, opposite those limitations, the research team has met professionals in the university willing to collaborate and always showing and empathic attitude.

It is undeniable that some universities have been reluctant to cooperate in this research due to a perception of prosecution, despite the fact that this research has by no means the aim of judging but rather make a realistic diagnosis in order to provide improvement actions.

Finally, it is worth noting that the research process has confirmed the existence of in process research related to the subject. This is a positive aspect as it corroborates that the university situation regarding disability requires an important analytic work.


17
18
19
20
Laplace
Luis IX

BIBLIOGRAPHY...

BIBLIOGRAPHY

Accesibilidad a los medios audiovisuales para personas con discapacidad – AMADIS 2006. Madrid: Real Patronato sobre Discapacidad, 2007.

Accesibilidad en el medio físico para personas con ceguera o deficiencia visual. Madrid: Sección de Acción Social e Integración Laboral, ONCE, 1994.

Accesibilidad para personas con ceguera y deficiencia visual. Madrid: ONCE, 2003.

Ajo González de Rapariegos y Sainz de Zúñiga, Cándido María. *Historia de las universidades hispánicas*, Ed. La Normal, 1957.

Alcantud Marín, Francisco. *"La inclusión de estudiantes con discapacidad en los estudios superiores: una reflexión después de diez años"* Universitat de Valencia Estudi General. La Declaración de Salamanca sobre Necesidades Educativas Especiales 10 años después. Valoración y prospectiva. Publicaciones de INICO, Salamanca 2004.

Badley, EM; Lee J. "Impairment, disability, and the ICIDH (International Classification of Impairments, Disabilities, and Handicaps) model. I: The relationship between impairment and disability" en *International Rehabilitation Medicine*, 1987;8(3):113-7.

Características de la rotulación para personas con discapacidad visual. Comisión Braille Española. Consulta: 23 de marzo de 2010. Available at: <http://www.once.es/serviciosSociales/index.cfm?navega=detalle&idobjeto=133&idtipo=1>

Center for Universal Design [en línea]. North Carolina: CUD, 2008. [Consulta 29 marzo 2010]. Available at: <http://www.design.ncsu.edu/cud/>

Cómo elaborar textos de fácil lectura. VV AA, Centro de Recuperación de Personas con Discapacidad Física, Albacete. Consulta: 23 de marzo de 2010.Available at: <http://www.rovira-beleta.com/biblioteca/Textos%20facil%20lectura.pdf >

Denning, Peter J. *"A New Social Contract for Research"* en *Communications of the ACM* 40 (2), Febrero 1997, pp. 132-134.

Echeita, Gerardo; Verdugo, Miguel Ángel. *La Declaración de Salamanca* sobre *Necesidades Educativas Especiales 10 años después. Valoración y prospectiva.* Publicaciones del INICO. Colección Investigación 2/2004.

Egea García, Carlos; Sarabia Sánchez, Alicia. *Clasificaciones de la OMS sobre discapacidad*, 2001 [en línea]. Consulta: 7 de marzo de 2010. Available at: <http://usuarios.discapnet.es/disweb2000/art/ClasificacionesOMSDiscapacidad.pdf>

Egea García, Carlos; Sarabia Sánchez, Alicia. *Experiencias de aplicación en España de la Clasificación Internacional de Déficits, Discapacidades y Minusvalías*. Grupo A&C Consultores de Murcia. Febrero de 2001.

Ekberg, Jan. *Un paso adelante "Diseño para todos".* Proyecto *"Include"*. Madrid: CEAPAT-IMSERSO, 2000.

España, Ministerio de Trabajo y Asuntos Sociales. *I Plan nacional de accesibilidad 2004-2010: por un nuevo paradigma, el Diseño para Todos, hacia la plena igualdad de oportunidades*, 2003. [en línea] Consulta: 8 marzo de 2010. Available at: <http://www.sidar.org/recur/direc/legis/ipna2004_2012.pdf>

España. Ley Orgánica 4/2007, de 12 de abril, por la que se modifica la Ley 6/2001, de 21 de diciembre, de Universidades en *Boletín Oficial del Estado*, núm. 89, p. 16241-16260.

España. Real Decreto 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales en *Boletín Oficial del Estado*, núm. 260, p. 44037-44048.

Fernández Iglesias, José Luis. *Guía de estilo sobre discapacidad para profesionales de los medios de comunicación.* Real Patronato sobre Discapacidad. Madrid: Editorial POLIBEA, 2006.

Galcerán, Montserrat. Catedrática de Filosofía en la Universidad Complutense de Madrid. Artículo en *Periódico Diagonal Web*, Jueves 24 de enero de 2008. Número 70.

Gardner, Howard. *Inteligencias múltiples. La teoría en la práctica*. Barcelona: Paidós, 1998.

Giner de los Ríos, Francisco. *La universidad española*. Madrid: Imprenta de Julio Cosano, 1921.

González Urbaneja, Pedro Miguel. *Platón y la Academia de Atenas*. Nivola Libros, 2006.

Guasch, Daniel (inv. princ.), [et al.]. *Guía de actividades docentes para la formación en integración e igualdad de oportunidades por razón de discapacidad en las enseñanzas técnicas: accesibilidad universal y diseño para todos.* [en línea] Estudio EA2008-0106 financiado por el Programa de Estudios y Análisis del Ministerio de Ciencia e Innovación. Consulta: 4 septiembre 2009. Available at: <http://82.223.210.121/mec/ayudas/CasaVer.asp?P=29~~330>

INE. *Clasificación déficits (personas de 6 o más años)* [en línea]. Madrid: INE, 2010. Consulta: 25 noviembre 2009. Available at: <http://www.ine.es/daco/daco42/discapa/clasifica07.htm>

INE. "Panorámica de la discapacidad en España: Encuesta de Discapacidad, Autonomía Personal y Situaciones de Dependencia 2008" [en línea] en *Cifras INE: Boletín informativo del Instituto Nacional de Estadístic*a. Madrid: INE, 2009. Consulta: 25 noviembre 2009. Available at: <http://www.ine.es/revistas/cifraine/1009.pdf>

Juncá Ubierna, JA. en II *"Buenas prácticas en planeamiento municipal. Diseño y accesibilidad"* Encuentro Urbanismo para los ciudadanos 2008 [en línea]. Consulta: 12 de marzo 2009. Available at: <http://www.fundacionsuma.org/encuentrourbanismo/cuenca/jose_antonio_junca.pdf>

Lindón Hera, Leonor. *Derechos Humanos y Discapacidad en España. Informe de situación.* Fundación ONCE, 2007.

Maraña, Juan José. *Vida Independiente, nuevos modelos organizativos*. Madrid: Servicio de Publicaciones. Obra Social Caja de Madrid. 2002.

Marcos Pérez, Daniel; Gonzáez Velasco, Diego J. *Turismo Accesible*. Mazars Turismo. Colección CERMI. 2003.

Núñez Saavedra, Carmen Elisa (Director del proyecto centro de gestión Hospitalaria); Romero, Maria Victoria (Investigadora centro de gestión hospitalaria); Sourdis de Gutiérrez, Maria Teresa (Investigadora centro de gestión hospitalaria). República de Colombia Ministerio de la Protección Social Dirección de promoción social Bogotá, marzo de 2004.

Organización Mundial de la Salud [en línea]. Consulta: 23 de marzo de 2010. Available at: <http://www.who.int/es/>

Peralta Morales, Antonio*. Libro Blanco sobre Universidad y Discapacidad*. Madrid: Real Patronato sobre Discapacidad, 2007.

Propuesta de la Comisión de Accesibilidad del CERMI-Aragón al Ayuntamiento de Zaragoza en materia de accesibilidad universal para personas con discapacidad. CERMI-Aragón, 23 Junio 2005.

Revista Española de Salud Pública, jul.-ago. 2002, vol.76, no.4, p.271-279. ISSN 1135-5727: Clasificación Internacional del Funcionamiento, de la discapacidad y de la Salud. Organización Mundial de la Salud. 2001. Ministerio de Trabajo y Asuntos Sociales. Secretaría General de Asuntos Sociales. Instituto de Migraciones y Servicios Sociales (IMSERSO).

Sanz Escudero, Mª Luz. *Universidad y discapacidad: "cuestiones actuales".* CERMI, Madrid, 15 de junio de 2005.

Tsichritzis, Dennis. "Reengineering the University" en *Communications of the ACM* 42(6), Junio 1999, pp. 91-100.

Vaz Leal, Francisco J. y Cano Carrasco, Mª Angeles. *Clasificación de las déficits, discapacidades y minusvalías.* Área de Psiquiatría. Facultad de Medicina de Badajoz. C.P. Progreso, Badajoz.

ANEX···

ANEX 1: REGULATORY FRAMEWORK ON ACCESSIBILITY

It has to be taken into account that the Spanish regulatory framework related to the object of this study is characterized by a regulatory dispersion. The most relevant aspects have been analyzed and detailed in this anex to facilitate their search.

State legislation on Physical Accessibility

Next, it is detalied the current legislation on physical accessibility:

Order of March 3, 1980, on characteristics of access, lifts and interior construction of subsidized housing for people with disability.

Law 13/1982, April 7, on the social integration of people with disability.

Royal Decree 556/1989 of May 19 that arbitrates minimum actions for accessibility on buildings.

Law 3/1990 of June, which modifies the 49/1960 law of July 21 on horizontal property, to facilitate the adoption of agreements that had the aim of a proper liveability of people with disability on their own homes building.

Law 15/1995, of May 20, about the limits on the dominion over property to remove architectonic barriers to people with disabilty.

Law 51/2003, of December 2, on equal opportunities, non discrimination and universal accessibility of people with disability.

Royal Decree 314/2006, of March 17, that passes the Technical Code of Building. Basic document of safety in use (BD-SU) that has the aim of establishing rules and procedures that allow the compliance of safety basic demands in use.

Royal Decree 505/2007, of april 20, that passes the basic conditions for accessibility and no discrimination of people with disability in the access and use of public spaces of the city and the buildings.

Autonomous legislation on physical Accessibility

Next, it is detailed the Autonomous Communities' legislation related to physical accessibility.

Andalusia

Order from 27 December 1985 on the removal of architectonic barriers in public school buildings.

Decree 72/1992, of May 5, that passes the technical regulation for accessibility and removal of architectonic, urban and transport barriers.

Decree 293/2009, of July 7, that passes the regulations that regulate accessibility norms for accessibility in infrastructures, urbanism, building and transport in Andalusia.

Aragon

Law 3/1997, of April 7, of promotion of accessibility and removal of architectonic, urban, transport and communication barriers.

Decree 19/1999 of February 5, from the Aragon Government, which regulates the promotion of accessibility and removal of architectonic, urban, transport and communication barriers.

Decree 108/2000, May 29, from the Aragon Government, which modifies the Decree 19/99 of February 9, which regulates the promotion of accessibility and removal of architectonic, urban, transport and communication barriers.

Asturias

Law 5/1995, of April 6, promotion of accessibility and barrier removal.

Balearic Islands

Law 3/1993, May 4, for the removal of accessibility and removal of architectonic barriers.

Decree 96/1994, of July 27, which passes the Regulation for improving accessibility and removing architectonic barriers.

Canary Islands

Law 8/1995 of April 6 on accessibility and removal of physical and communication barriers.

Decree 227/1997 of September 18 that passes the Regulations of the Law 8/95, of April 6, of accessibility and removal of physical and communication barriers.

Decree 148/2001, July 9, which modifies the Decree 227/97 that passes the regulation of the Law 8/95 of April 6 on accessibility and removal of physical and communication barriers.

Cantabria

Law 3/1996 of September 24 on accessibility and removal of architectonic, urban and communication barriers.

Castilla La Mancha

Decree 71/1985, of July 9, about the removal of architectonic barriers.

Decree 158/1997, of December 2, from the Accessibility Code of Castilla la Mancha.

Law 1/1994, of May 24, on the accessibility and removal of barriers in Castilla la Mancha.

Castilla y León

Law 3/1998, of June 24, on the accessibility and removal of barriers.

Decree 375/2000 of December 18, which develops the law on accessibility and removal of barriers.

Catalonia

Order of November 5 1985, on the modification of the dimension of lift cabs in itineraries used by people with disability.

Law 20/1991, of November 25, on the promotion of Accessibility and removal of Architectonic barriers.

Decree 135/1995, of March 24, on the development of the Law 20/1991, of November 25, on the promotion of accessibility and removal of architectonic barriers, and also the approval of the accessibility code.

Extremadura

Law 8/1997, of June 18 , on the promotion of accessibility in Extremadura.

Decree 153/1997, of December 22, by the Ministry of Public Works and Transport, which approves the Regulations of the Law of promotion and accessibility in Extremadura.

Galicia

Decree 286/1982, of October 8, on the accessibility and removal of architectonic barriers.

Law 8/1997, of August 20, on the accessibility and removal of architectonic barriers in the Galician Autonomous Community.

Decree 35/2000 of January 28, by the Ministry of Health and Social services, which approves the Regulations of development and execution of the Law on accessibility and removal of barriers in the Galician Autonomous Community.

Madrid

Law 8/1993 of June 22, on the promotion of accessibility and removal of architectonic barriers.

Order 440/2004, April 20, by the Ministry of Family and Social issues, which approves the annual call for grants addressed to local bodies for the promotion of accessibility and removal of architectonic barriers.

Decree 16/2004, July 30, by the President of the Madrid Community, which delegates the Minister of Environment and Spatial Planning the competence of warning the local bodies of the Commission about the violations referred in the Article 43.2 of Law 8/1993 of June 22, on the Promotion of Accessibility and removal of architectonic barriers.

Murcia

Law 5/1995, April 7, on the liveability conditions of residential buildings and the promotion of general accessibility in the Autonomous Community of Murcia.

Decree 39/1987, June 4, on the removal of architectonic barriers.

Navarre

Provincial Norm of June 16, 1981, on the removal of architectonic barriers that limit the mobility of people with physical disabilities.

Provincial Law 4/1988, of July 11, about physical and sensory barriers.

Provincial Decree 154/1989, of June 29, which approves the Regulations for the development and execution of the Provincial Law 4/1988 of July 11 on physical and sensory barriers.

Provincial Decree 57/1990, of March 15, which approves the Regulations for the removal of physical and sensory barriers in transport.

La Rioja

Decree 38/1988 of September 16, on the removal of architectonic barriers (Bulletin 29/09/88).

Decree 21/1989 of April 7, which modifies the Decree 38/88 of September 16, on the elimination of architectonic barriers.

Law 5/1994, of July 19, on the removal of architectonic barriers and promotion of accessibility.

Decree 19/2000, of April 28, by the Ministry of Public Works, Transport, Urbanism and Housing, which approves the Regulations on accessibility in relation to urban and architectonic barriers in the partial development of the Law 5/94 of July 19.

The Basque Country

Law 20/1997, of December 4, for the promotion of accessibility.

Decree 59/1981 of March 23, on the regulation for the removal of urban barriers.

Decree 68/2000 of April 11 by the department of Spatial Planning, by which the technical regulations on the accessibility conditions of the urban environments, public spaces, buildings and, information and communication systems.

Valencia community

Law 1/1998 of May 5 about accessibility and removal of architectonic, urban and communication barriers.

Decree 193/1988 of December 12, by the cabinet of the Generalitat Valenciana, which approves the regulations for accessibility and removal of architectonic barriers.

In order to complete the information on autonomous regulations it is attached an independent document which has been just digitally edited due to its length. This document is an annex titled "Comparative analysis of the regulations on accessibility in the Autonomous Communities under study". In this annex, the legislations are analysed through comparison. This way it can be checked each Autonomous Community's criteria and demanding level on accessibility in the different elements from the university context. For doing so, there are established four sections, each per every field of analysis, which, at the same time, each section is divided into different codes: U for accessibility in urbanism; E for accessibility in building; C for accessibility in communication; and T for accessibility in transport. Regulatory requirements on these fields are structured by giving a number code to each autonomous community per alphabetic order (01. Andalusia, 02. Castilla la Mancha, 03. Castilla y león, 04. Extremadura, 05. Galicia, 06. Valencia).

ANEX 2: DESCRIPTION OF IMPAIRMENT CATEGORIES

Mental impairments

- Developmental delay: it refers to children with a mental development inferior to the standards until the age of 14. There can be observed behaviour and learning problems due to their maturation level.

- Profound and severe intellectual disability: it refers to persons with an intelligence quotient between 0-34 with characteristics determined by their age in: psychomotor development areas, social and occupational skills, social and personal skills, educational and behaviour process. These persons are not able to fend for themselves in food, excretion, hygiene, dressing and they always need another person's help for assistance and protection.

- Moderate intellectual disability: it refers to persons with an IQ between 35-49. These persons can acquire social and occupational skills although they do not pass 2nd primary or GBE. They can work in sheltered workshops or under strict supervision.

- Mild intellectual disability: it refers to persons with an IQ between 50-69. Teenagers can acquire academic practice and knowledge skills until 6th of primary or GBE. However, at 2nd and 3rd level of primary they need special support. Adults with mild intellectual disability develop social and communication skills similar to their mates without disability. Most of these students are not acknowledge as having a disability outside the school or after finishing their education. They reach a minimum level of autonomy and can integrate in special centres for employment or in an ordinary job with assistance.

- Borderline intelligence: it refers to persons with an IQ between 70-85. These persons have difficulties for adapting to the demands of competitive environments. They have the same interests as the other children of the same age just until they reach adolescence; later, they have the same problems for social adaptation. Adolescents can acquire academic practice and knowledge skills until 6th of primary studies or GBE; in secondary studies they need special support. Persons with borderline intelligence are able to acquire minimum independence with their social and/or labour skills although they need support from time to time. They do not use to have a legal recognition of disability (Disability Certificate)

- Dementia: It is a progressive lost of brain function that affects memory. It can also be accompanied by alterations in behaviour, learning and communication. It refers to all type of dementia including Alzheimer and those deficits related to degenerative processes that end up causing dementia that also the age of the person influences decisively.

- Mental illness: it refers to serious mental disorders lasting more than two years. Their consequences make difficult or impede the development of functional abilities regarding basic aspects of life, affecting the family, the social and labour area. For that reason, they require psychiatric and social attention. It includes schizophrenia and other schizoid disorders, disorders of paranoid type and affective disorders (maniac, bipolar, chronic depression with or without psychotic symptoms).

- Other mental and behavioural disorders: it refers to persons with impairments in general and specific mental functions, which have their origin in: organic mental disorders (e.g. alcoholic psychosis), autism spectrum disorders, general disorders of development, phobias, obsessions, somatic disorders, hypochondriasis, mood disorders, anxiety disorders, adaptive and somatoform disorders, personality disorders…

Visual impairments

It refers to persons with functional deficits on the organ of vision and structures and functions associated including eyelids.

- Total blindness: It refers to persons without light perception in either eye.

- Poor eyesight: it refers to persons with moderate visual acuity (<0,3) or serious visual acuity (<0,12), or persons that have moderate deficits on their field of vision (diameter equal or inferior to 60º) or more serious ones (diameter of 20º or less).

Hearing impairments

It refers to persons with functional and structural deficits related to the hearing organ.

- Prelocution deafness: it refers to persons with acquired deafness previous to the language acquisitions (children). This includes deaf-muteness whose muteness is a consequence of the trilingual deafness.

- Postlocution deafness: it refers to persons with deafness acquired after the acquisition of language (adults) having a total loss of hearing and cannot benefit from hearing aids.

- Poor audition: it refers to persons with different levels of hearing loss: moderate (40-45 db.), serious (71-91 db.) and profound (>91 db.). They can help their audition with hearing aids.

- Balance disorders: it refers to persons with labyrinthine vertigo (the most frequent is the Meniere vertigo), dizziness and defects on locomotion due to vestibular disorders.

Language, speech and voice impairments

This refers to persons with deficits on language comprehension and/or language production, articulation and voice disorders.

- Muteness (not due to deafness): refers to persons whose vocal apparatus are normal but their muteness is a consequence of brain injury in the language area, mental disorders, autism in some cases…

- Difficult or incomprehensible speech: it refers to persons with serious squeal of language such as aphasia, dysphasia, dysarthria, dysphonia, dysphemia… produced by injuries on the language area of the brain, such as a stroke or CVA (cerebrovascular accident), TBI (traumatic brain injury), disorders on language related to dementia, mental retardation…

  The CVA is the generic name given to certain cerebral diseases of vascular origin. They can be cerebral haemorrhage, cerebral thrombosis and cerebral embolism.

- Aphasia: defect or loss of the ability to express oneself through speech, writing or signs, or to understand written or spoken language because of an injury or disease affecting brain centres. There are many types of aphasias. Dysarthria: imperfect articulation of speech, muscle control disorder resulting from damage to the nervous system. Dysphonia: deviance in voice intensity, tone and pitch. Dysphemia: stuttering.

Osteoarticular impairments

It refers to persons with mechanical and motor alterations in face, head, neck and limbs, as well as the absence of the latter that have their origin in damage to support elements of the body (mainly skeleton).

- Head: it refers to persons with structural defects, malformations and/or functional defects of bones and joints of the head and/or face (anomalies of mouth, teeth, cleft lip….).

- Spinal column: it refers to persons with congenital malformations (e.g. spina bifida), acquired deformities (Kyphosis: increase of normal curvature

backwards; Scoliosis: increase of lateral normal curvature; Lordisis: increase of normal curvature forward; Combinations: kyphoscoliosis, lordoescoliosisetc; alterations of vertebrae (disc herniation, spinal bone collapse caused, for example, by aosteoporosis), sequelae of trauma, infections, rheumatism (arthrosis, a type of a degenerative rheumatism degeneration due to age but without joint deformity; arthritis, a form of rheumatism consisting on inflammation of joints and articular deformation,…).

- Upper limbs: it refers to persons with congenital and/or acquired anomalies of the shoulder, arms, hands (absence thereof, defect of bone length or width), articular defects (ankylosis, function impairments, etc.)

- Lower limbs: it refers to persons with congenital or acquired anomalies on bones, defects on joints, pelvis, knees, knees (varus () or valgus X), ankles and feet (flat, hollow, varus, valgus, club, etc.)

Nervous system impairments

This refers to persons with severe anomalies in the structures and/or functions of their central and peripheral nervous systems (regardless of the cause: malformations, infections, tumours, etc.) affecting the musculoskeletal system and the articulations.

- Paralysis of an upper limb: it refers to persons with a total loss of mobility of an upper limb (monoplegia). If the paralysis is partial or incomplete, the condition is called monoparesis.

- Paralysis of a lower limb: it refers to persons with a total loss of mobility of a lower limb (monoplegia) or a partial or incomplete paralysis (monoparesis).

- Paraplegia: This refers to persons with a total loss of mobility of both lower limbs, regardless of the cause (injury, infection, degeneration, tumour, etc.). Partial or incomplete loss (paraparesis) is also considered.

- Tetraplegia: it refers to persons with a total loss of mobility of all four limbs. Partial loss (tetraparesis) is also considered.

- Motor control and/or muscular tone disorders: it refers to persons with impairments of the CNS (central nervous system), causing lack of coordination of movement, involuntary movements, tremors, tics, stereotypy (persistent repetition of acts, movements, words or phrases linked to different conditions, particularly mental illness), balance alterations, non-labyrinthine vertigo (including essential vertigo, hysterical vertigo, vertigo caused by cerebral arteriosclerosis, diseases of the central nervous system, cardiopathy) and impairments due to an increase or decrease in muscle tone.

Also included are disorders of the CNS, such as Parkinson's disease, cerebral palsy, epilepsy, multiple sclerosis, amyotrophic lateral sclerosis, etc.

- Other impairments of the nervous system: it refers to persons with muscular dystrophy (degeneration of the muscle with progressive atrophy, without observable injury of the spinal cord), partial atrophy, hemiplegia, etc.

Visceral impairments

- Respiratory system: it refers to persons with a severe impairment of their respiratory functions, with regard to their frequency, intensity, rhythm, presence of structural defects in some part of the respiratory tract, etc. It includes persons who depend on artificial devices to maintain their respiration, tracheotomised persons, etc.

- Cardiovascular system: it refers to persons with severe impairments of their cardiac functions (frequency, rhythm, cardiac output volume, etc.) as well as the functions of blood vessels (arterial system, venous system, capillary system, etc.). It also includes persons who are dependent on any device or apparatus acting on the heart or the valve system to maintain their functions, such as artificial valves, pacemakers, transplants, etc.

- Digestive system: it refers to persons with severe impairments in the functions and/or structures of the different sections of the digestive tract (mouth, tongue, aesophagus, intestine), causing difficulty in chewing, swallowing, digesting, etc. It also considers malformations, obstructions, severe disorders involving vomiting, diarrhoea, excessive weight loss, etc., in addition to severe functional and/or structural disorders of the glands attached to the digestive tract, including the gall bladder, liver and pancreas, as well as any after-effects of surgery (stomas, fistulas, etc.)

- Genitourinary system: it refers to persons with severe impairments affecting the functions of kidneys, ureters, bladder, urethra, sphincters, etc. (severe renal insufficiency, retention, urinary incontinence, etc.) and malformations of said organs, as well as the dependence on special devices such as catheters, artificial kidneys, etc. Regarding the genital system (internal, external, male or female), severe anatomical and/or functional defects are considered, including severe disorders in the fulfilment of the sexual functions, sterility, etc.

- Endocrine-metabolic system: it refers to persons with severe impairments due to disorders of the endocrine glands (dwarfism, gigantism, hyper/hypothyroidism, disorders of the adrenal glands, diabetes, obesity, etc.). Likewise, this includes severe impairments due to congenital metabolic errors (of proteins: Phenylketonuria, Tyrosinemia, etc.; of fats:

Hypercholesterolemia, Lipid storage disorders, Hypertriglicerinemia, etc.; of sugars: Galactosemia, Fructose intolerance, etc.)

- Haematopoietic system and immune system: it refers to persons with severe impairments due to disorders of the haematopoietic organs (bone marrow, spleen, ganglia, etc.) and/or of the blood components (cells, plasma), alterations of coagulation and/or haemostasis (haemophilia). Regarding the immune system, severe disorders are considered, be they congenital or acquired (repeated infections, immune-based diseases, severe allergies, etc.)

Other impairments

- Skin: it refers to persons with severe impairments due to functional/structural skin disorders (regulation, moisture, temperature, pain, pigmentation, allergic reactions, itches, regeneration defects, etc.) and severe disorders of parts attached to the skin (nails, hair, glands).

- Multiple impairments: it refers to persons with impairments that affect several organs and/or organic systems, and that are due to congenital disorders. Among the former are congenital poly-malformations due to chromosomopathies, embriopathies (rubella, toxoplasmosis), fetopathies (for example, cleft lip and palate and polydactylism), and any congenital or acquired poly-malformative syndrome.

ANEX 3: FORM FOR EVALUATING THE ACCESSIBILITY ON BUILDINGS

UNIVERSITY AND DISABILITY OBSERVATORY 2009
Sectoral study per autonomous communities about the accessibility of the university environment and its perception
Accessibility chair UPC-BarcelonaTech

1=YES 2=NO

IDENTIFICATION DATA

Data	Form	Community	University	Campus	Building
University	Campus				
Building	Address				
Contact person	Charge				

Previous issues

	Exist	In process	Does not exist		Exist	Does not exist
Accessibility Plan				Disability support service		
DALCO requirements				Person in charge of the DSS		
Quality certificate						

	Exist	In process	Does not exist
Building in urban pattern			
Building in an independent area of the university campus			
Date of building construction		Observations	
Date of rehabilitation/alteration/ expansion		Observations	

PHYSICAL ACCESSIBILITY

ENVIRONMENT		Accessible		Adaptable		Inaccessible

PRIVATE TRANSPORT	Definition					PUBLIC TRANSPORT	Definition				
Reservation of seats1 per 40						Accommodated transport					
Reservation of accommodated seats with number plate						Sidewalk height/ appropriate platforms					
Approaching area >1.50m						Accommodated bus shelters					
Communicated with an accessible path											
Horizontal signing											
Vertical signing											

TOWN PLANNING	Definition						Definition				
Sidewalk width >0.90m						Urban furniture urban correct design					
Non-slipping, continuous and hard paving						Aligned urban furniture					
Podo-tactile paving						Pine trees covered and keeps shape					
Paving without bumps h>0.02m						Traffic lights with acoustic signing					
Pedestrian dropped kerb h<0.15m pte<12% a>1.20m											

Building_ACCESS		Accessible		Adaptable		Inaccessible

STAIRS Definition					**RAMPS** Definition				
Number of steps 3<n<12					Width >1.20m				
Width >1.20m					Length (m)				
Podo-tactile strip at the beginning and end					Slope (%)				
Non-slipping paving					Slope 6% (log.>6m)				
Paving with non-slipping strips					Slope 8% (log.<6m)				
Closed riser					Slope 10% (log.<3m)				
Colour contrast tread/ riser					Free previous and posterior spaces>1.50m				
Colour contrast tread					Non-slipping paving				
Without torus					Paving with non-slipping strips				
Banister on both sides					Banister on both sides				
Banister on one side					Banister on one side				
Intermediate banister. Stair width >5m					Intermediate width of bannister >5m				
Intermediate hand rail h=0.70m					Intermediate hand rail h=0.70m				
STAIRS Definition					**RAMPS** Definition				
Circular bannister 0.03<d<0.05m					Circular handrail 0.03<d<0.05m				
Protection below the stairs h>2.20m					Baseboard >0.10m (2)				
Platform for stairs/ ramps/ lift (1)									

DOORS Definition					**ISOLATED STEPS** Definition				
Width >0.80m					Do not exist				
Automatic /fix door (3)					Marked				
Lever mechanism/without door					Alternative ramp				
Correct practicability (weight/locks)									
Marked transparent glass									
Appropriate space for manoeuvring					**MATS/CARPETS** Definition				
Without opening towards ramp					Rough				
Without saving step					Fix				
Number of foldings					Without bumping out				

Building_VERTICAL COMMUNICATION		Accessible		Convertible		Inaccessible

STAIRS Definition					**RAMPS** Definition				
Number of steps 3<n<12					Width >1.20m				
Width >1.20m					Length (m)				
Podo-tactile strip at the beginning and end					Slope (%)				
Non-slipping paving					Slope 6% (log.>6m)				
Paving with non-slipping strips					Slope 8% (log.<6m)				
Closed riser					Slope 10% (log.<3m)				

Colour contrast tread/ riser					Free previous and posterior spaces>1.50m				
Colour contrast tread					Non-slipping paving				
Without torus					Paving with non-slipping strips				
Banister on both sides					Banister on both sides				
Banister on one side					Banister on one side				
Intermediate banister. Stair width >5m					Intermediate bannister width of ramp>5m				
STAIRS Definition					**RAMPS** Definition				
Intermediate hand rail h=0.70m					Intermediate hand rail h=0.70m				
Circular handrail 0.03<d<0.05m					Circular handrail 0.03<d<0.05m				
Under stair protection h>2.20m					Baseboard >0.10m (2)				
Stair lift platform, lift or ramp (1)									

LIFTS Definition					**ISOLATED STEPS** Definition				
Exist					Do not exist				
Free access					marked				
Accommodated (>6 personas)					Alternative ramp				
Free space on front of doors >1.50m									
Door width >80cm									
Telescopic opening of doors									
Interior handrail h=0.90m									
signage 0.90<h<1.20m									
Tactile signage									
Acoustic signage									

Building_HORIZONTAL COMMUNICATION		Accessible		Adaptable		Inaccessible

DOORS Definition											
Width >0.80m											
Automatic /fix door (3)											
Lever mechanism/without lock											
Correct practicability (weight/locks)											
Marked transparent glass											

DOORS Definition											
Appropriate space for manoeuvring											
Without opening towards ramp											
Without saving step											
Number of foldings											

STAGE/PLATFORM Definition											
Without platform											
Accommodated platform											

STANDS Definition											
Without stands											
Access through the lower part											

Building_TOILETS		Accessible		Adaptable		Inaccessible

Definition					Definition				
Exist					Non-slipping paving				
signposted					Space for manoeuvring d>1.50m				
Integrated in the bathroom block					WC manoeuvring space >0.75m				

Free access					WC height h=0.45m					
Sliding door (4)					Handrail on both sides					
Door opening to the outside					Handrail on just one side					
Distribution space without swept >1.20m					Wash basin hmax=0.85m					
Lever mechanism/without lock					Wash basin without pedestal .85m					
Interior lock without a wrist twist					Space NOT for other purposes (5)					

Building_FURNITURE		Accessible		Adaptable		Inaccessible

Definition											
Front desk to assist public 0.75<h<0.80m											
Tables 0.75<h<0.80m											
Accessible seats (6)											
Reserved accessible seats (7)											
Convertible chairs for left handed (8)											
NON marginal reserved space (9)											
Foldable bookrest											

COMUNICATION

NOT-INTERACTIVE		Accessible		Adaptable		Inaccessible

EXTERNAL SIGNAGE Definition					**INTERIOR SIGNAGE** Definition				
Correct font type					Correct font type				
Correct font size					Correct font size				
Correct colour contrast					Correct colour contrast				
Tactile elements					Tactile elements				

INTERACTIVE		Accessible		Adaptable		Inaccessible

Definition					Definition				
SL interpreter					Magnetic loop				

OBSERVATIONS

(1) There is an alternative accessible path on that same stair in the case of ramps and lift platforms for stairs or near in the case of lifts……

(2) Ramps between walls are correct although there is no baseboard.

(5) It's NOT a store for material, cleaning products, changing room…

(6) Independent chairs and tables.

(7) Reserved seat in row desks with foldable chairs.

(3) If it is automatic or fix do NOT indicate the type of mechanism or use.

(4) If it is sliding, do not indicate the mechanism or the distribution space.

(8) Chairs with table arm are not accessible but note the existence of left-handed chairs.

(9) In Assembly Halls, not last row or outside apart the bulk of seats.

FOTOS		SI		NO

ANEX 4: QUESTIONNAIRE TO STUDENTS

Personal data

1 Genre

☐ Man

☐ Woman

2 Age: _____

3 What type of disability do you have?

☐ Physical disability:

Neurologic problems _
Organic disorders _
Spinal column _
Superior limbs _
Inferior limbs _
Others_____

☐ Sensory disability:

Blindness_
Visual impairment _
Deafness _
Deaf blindness _
Others_____

☐ Mental disability

☐ Others_____

4 Is your disability officially recognized? With which degree?

☐ Yes __%

☐ No

5 Which is the origin of your disability?

- ☐ Accident
- ☐ Disease
- ☐ Congenital transmission
- ☐ Others_____

6 Do you usually need a third person to help you in your daily routines?

- ☐ Yes
- ☐ No

7 Locality where you usually live in: _____

8 Do you live on the town in which you study?

- ☐ Yes
- ☐ No

9 Residence locality during the course: _____

10 Who do you live with during the course?

- ☐ In a residency with students or in a hall of residence
- ☐ Shared flat..
- ☐ Family residence.
- ☐ Alone.
- ☐ Others _____

11 Is your residence place accommodated to your needs?

- ☐ Yes
- ☐ No
- ☐ Partially

YOUR STUDIES

12 How did you accessed the University

- ☐ Common access
- ☐ By reservation of seats for people with disability

13 When accessing the university did you receive any accommodation due to your disability?

- ☐ Yes
- ☐ No (go to p.16)

14 Which? _____

15 Who provided it to you?
- ☐ Disability Student Service?
- ☐ Teaching staff.
- ☐ Another organism from your University
- ☐ ONCE Foundation
- ☐ An association

16 University in which you study: _____

17 What course are you in?_____

18 How long have you be studying in the University?

19 What type of studies are you taking?
- ☐ Diploma course
- ☐ Degree course
- ☐ Post-degree course

20 Which specific studies? _____

21 Is this the first university study?
- ☐ Yes(go to p.23)
- ☐ No

22 What made you change studies?
- ☐ You did not like.
- ☐ They were 'incompatible' with your disability.
- ☐ Others _____

23 Are you studying the degree you wanted to?
- ☐ Yes (go to p.26).
- ☐ No.

24 Why couldn't you study the degree you wanted?
- ☐ Because of the pass mark.
- ☐ Because you considered it to be too easy.
- ☐ Because the campus or centre was not accessible.

25 What reasons made you choose the University you are studying in?
- ☐ The access to a qualified job post.
- ☐ Vocation
- ☐ Others_____

26 What reasons made you choose to study the degree you are in?

_____
_____

27 Which is your motivation level in relation to the degree you are studying? (1 equals not at all motivated and 10 completely motivated)

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

28 Which is your satisfaction level in relation to the degree you are studying? (1 equals not at all satisfied and 10 completely satisfied)

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

29 Does your disability avoid you to take advantage of your studies? (1 is 'don't agree at all' and 10 'completely agree').

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

ACCESSIBILITY

30 Do you usually attend to class?
☐ Yes
☐ No

31 Your disability when accessing to the campus…:
☐ I don't go to class because the campus is inaccessible.
☐ I don't go to class because my university centre is inaccessible.
☐ Inaccessibility at the University impedes me to attend to class regularly.
☐ I do not have difficulty accessing the University.

32 Rate the accessibility in the campus you study. (1 is not at all accessible and 10 completely accessible

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

33 Rate the general accessibility of the university faculty or school you study in. (1 is not at all accessible and 10 completely accessible).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

34 Rate the accessibility of signage in the university faculty or school you study (1 is not at all accessible and 10 completely accessible).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

35 Rate the info accessibility of the University webpage, specifically the spaces that are of compulsory use, intranets, etc. (1 is not at all accessible and 10 completely accessible).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

36 Have you found physical barriers in the faculty or school you study in?

☐ Yes

☐ No

37 Rate from 1 to 10 the accessibility of the services from your university faculty or school (1 is not at all accessible and 10 completely accessible).

Parking	1	2	3	4	5	6	7	8	9	10
Classroom	1	2	3	4	5	6	7	8	9	10
Library	1	2	3	4	5	6	7	8	9	10
Café shop	1	2	3	4	5	6	7	8	9	10
Access	1	2	3	4	5	6	7	8	9	10
Toilets	1	2	3	4	5	6	7	8	9	10
Laboratories and computer rooms	1	2	3	4	5	6	7	8	9	10
Seminars	1	2	3	4	5	6	7	8	9	10
Teachers' departments	1	2	3	4	5	6	7	8	9	10
Corridors	1	2	3	4	5	6	7	8	9	10
Assembly hall										

38 How do you get to the University?

☐ Walking
☐ Own car
☐ Special transport
☐ Another person drives meBus
☐ Train
☐ Metro
☐ Others _____

39 Rate 1 to 10 the accessibility of those services in the campus you use or would like to use (1 is not at all accessible and 10 completely accessible).

Dining rooms	1	2	3	4	5	6	7	8	9	1
Copy bureau	1	2	3	4	5	6	7	8	9	1
Chancellorship and central installations.	1	2	3	4	5	6	7	8	9	1
University residency	1	2	3	4	5	6	7	8	9	1
Transport	1	2	3	4	5	6	7	8	9	1
Intra-campus mobility	1	2	3	4	5	6	7	8	9	1

DOCENCIA Y SERVICIO

40 Do you know the Disability Student Service?

☐ Yes, but only heard (go to p.43)
☐ Yes, I am a user.
☐ No (go to p.43)

41 How did you meet them?

☐ Did they contact you?
☐ Did you contact them?

42 What services have your requested?

☐ Psychopedagoical accommodations (curricular, methodological, …
☐ Teaching orientation(Teaching support etc.)
☐ Personal and relatives orientation and psychopedagogical support
☐ Labour insertion and specific employability for students with disability.
☐ Advice on ICT resources.
☐ Personal assistance.
☐ Technical aids.
☐ Program for the transition of notes.
☐ Requesting accommodations related to accessibility.
☐ Requesting mediation with teachers.
☐ Others _____

43 In class, does your teachers know your needs?

☐ Yes
☐ No (go to p.46)

44 Who informed you?

☐ Office for the assistance of people with disability.
☐ Yourself

45 Do you believe that the Disability Student Service's mediation has conditioned?

☐ Yes, It has been advantageous.
☐ Yes, is has put me out.
☐ No, the teachers' involvement has been the same
☐ Don't knows

46 The methodology used by the teachers meets your needs?

☐ Yes
☐ No

47 Which are your main difficulties regarding methodology? (1 not at all detrimental and 10 completely detrimental for each of the following aspects):

☐ Excessive speed when explaining.	1	2	3	4	5	6	7	8	9	10
☐ Volume/acoustic of classrooms.	1	2	3	4	5	6	7	8	9	10
☐ It relied too much on class notes.	1	2	3	4	5	6	7	8	9	10
☐ Work strategies not owed.	1	2	3	4	5	6	7	8	9	10
☐ Inappropriate lightning.	1	2	3	4	5	6	7	8	9	10
☐ Explanations back on the students	1	2	3	4	5	6	7	8	9	10
☐ Does not allow the use of recorders or computers.	1	2	3	4	5	6	7	8	9	10
☐ Use of inaccessible Power Points.	1	2	3	4	5	6	7	8	9	10
☐ Excessive use of visual media.	1	2	3	4	5	6	7	8	9	10
☐ Excessive use of photocopies.	1	2	3	4	5	6	7	8	9	10
☐ Change of the furniture arrangement.	1	2	3	4	5	6	7	8	9	10
☐ Access to the classrooms used.	1	2	3	4	5	6	7	8	9	10
☐ Lack of the teachers' involvement.	1	2	3	4	5	6	7	8	9	10
☐ It is impossible to follow the class without having prior class notes.	1	2	3	4	5	6	7	8	9	10
☐ Others _____	1	2	3	4	5	6	7	8	9	10

☐ Has it been needed any accommodation for the evaluation?
☐ Yes
☐ No (go to p.50)

48 Of what kind?
- ☐ Material resource
- ☐ Accommodation of criteria
- ☐ Time
- ☐ Others _____

49 Rate the teachers' involvement in relation to the attention to diversity (1 not at all involved and 10 completely involved).

● **1** ● **2** ● **3** ● **4** ● **5** ● **6** ● **7** ● **8** ● **9** ● **10**

50 Do you need any technical support in order to carry out your studies?
- ☐ Yes
- ☐ No (go to p. 54)

51 Who provides you?
- ☐ Disability Student Service
- ☐ Others _____

52 Who finances them?
- ☐ Disability Student Service
- ☐ myself
- ☐ Others _____

RELACIONES SOCIALES

53 Have you noticed any problem with your mates?
- ☐ Yes
- ☐ No (go to p.56)

54 In the case of answering affirmatively, what problems are those?
- ☐ They do not want to interact with you.
- ☐ Uncomfortable gestures.
- ☐ Do not collaborate.
- ☐ Refusal to work in team.
- ☐ Others _____

55 Rate the helping predisposition of your mates (1 is not at all helping, completely helping)

● **1** ● **2** ● **3** ● **4** ● **5** ● **6** ● **7** ● **8** ● **9** ● **10**

56 Rate the relationship with your mates (1 very bad, 10 very good)

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

57 Rate your social integration with mates (1 is very bad and 10 very good)

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

58 Rate the level of sensitization you have seen in your partners regarding disability (1 terrible or excellent).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

59 Rate the level of sensitization you have seen in the university community regarding disability (1 terrible or excellent).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

60 You would say your integration with mates is:

Worst due to your disability.

Forced by your disability.

Better than the rest of people.

Indifferent to my disability.

Worst than the rest of people.

61 Do you socialize with university mates apart from the teaching activities?

☐ Yes
☐ No

62 Would you say that thanks to going to the university you have:

☐ More friends.
☐ The same friends.
☐ Fewer friends.

63 Do you belong to any university association?

☐ Yes
☐ No

64 Are you representative of students in any body of the university?

☐ Yes
☐ No

65 Do you participate in leisure activities organized in your University or Centre?

☐ Yes
☐ No
☐ No, because they are not accessible.

☐ Are the leisure activities offered accessible?
☐ Yes
☐ No
☐ Don't know

LABOUR INSERTION

66 Do you receive any economic benefit?

☐ Yes
☐ No (go to p.70)

67 Do you receive any scholarship not just related to disability?

☐ State pension.
☐ Training grant.
☐ Training grant for students with disability.
☐ Free enrolment.
☐ Grant for transport.
☐ Grant for financing technical aids.
☐ Grant for financing teaching materials.
☐ Others_____

68 Do you combine your studies with a job?

☐ Yes
☐ No

69 Is your employment related to your studies?

☐ Yes
☐ No

70 Have you or are you doing professional practicums?

☐ Yes (go to p.74)
☐ No

71 Why have not you done professional practicums?

☐ The university does not offer such option.
☐ I was rejected due to my disability.
☐ I was not interested.

☐ I do not have time.

72 How did you find the practicums?

☐ Through the Disability Student Service.
☐ Through the practicum service in the university.
☐ Others.

73 Do you think that your disability influences or will influence when looking for a practicum or a job?

☐ I will have it more difficult.
☐ It is indifferent.
☐ I'll have it easier thanks to incentives.

74 How has it influenced your stay at the university in your self-esteem? (1 is negatively and 10 positively).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

75 Do you agree with the statement "we all can study everything"? (1 is 'don't agree at all' and 10 'completely agree')

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

76 How would you define the actual situation of University-Disability (1 is regulatory equality and 10 equal opportunities).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

77 In order to improve equal opportunities in students with disability, what bodies do you think lack involvement? Tick the three with greatest importance.

	1	2	3
☐ Students	_	_	_
☐ Students with disability	_	_	_
☐ Relatives of students with disability	_	_	_
☐ Teaching staff	_	_	_
☐ Service Staff	_	_	_
☐ University Community	_	_	_
☐ University	_	_	_
☐ Autonomic Government	_	_	_
☐ State Government	_	_	_
☐ Others_____	_	_	_

78 Which are the students' main requests? Tick the three with greatest importance.

	1	2	3
☐ Major economic investment	_	_	_
☐ Explicit regulation	_	_	_
☐ Inaccessibility	_	_	_
☐ Improving physical accessibility	_	_	_
☐ Real integration to the University Community	_	_	_
☐ Teachers' involvement	_	_	_
☐ Others_____	_	_	_

79 What aspects do you consider could be improved in order to facilitate equal opportunities?

_____
_____
_____

THANK YOU VERY MUCH FOR COLLABORATING.

ANEX 5: QUESTIONNAIRE TO DISABILITY STUDENT SERVICES (DSS)

1. University name:
2. Students at the university:

	Year 2008/2009	**Year 2009/2010**
Students enrolled		
Students with disability enrolled		
Students with disability, users of DSS		

3. Typology of students with disability (pleas indicate if data correspond just to the DSS)

Physical disability	Neurologic problems	
	Organic disorders	
	Spinal column	
	Superior limbs	
	Inferior limbs	
	Others_____	
Sensory disability	Blindness	
	Visual impairment	
	Deafness	

	Deaf blindness	
	Others_____	
Mental disability		
Others_____		

Women	
Men	

18-25 years	
25-35 years	
+ than 36 years	
AVARAGE AGE	

Degree of disability 33%-65%	
Degree of disability superior to 65%	

First cycle students	
Second cycle students	
Third cycle students	

Health sciences	
Experimental sciences	
Social sciences and Law	
Technical education	
Humanities	

4. Among the students of diploma, degree and engineering courses, which are the most chosen studies?

1	
2	
3	
4	
5	

5. Does the university have an Accessibility Plan?

☐ Yes	What year was it drawn up? _____	What year did its implementation start? _____	What year is it planned the implementation to end? _____
☐ Not exactly; it is a different type of plan.	(explanation) _____ _____		

	_____	
☐ No, it is about partial plans.	(explanation) _____ _____ _____	
☐ No, it is not being implemented currently.	(explanation) _____ _____ _____	What year is it planned to be in force? _____
☐ No, but the strategic plan considers accessibility.		
☐ No, but it is planned it draw up.	(explanation) _____ _____ _____	
☐ No.	Why? _____ _____	

6. In the case there is not an Accessibility Plan Drawn up, have there been carried out auditory on accessibility?
   - ☐ Yes, once in one occasion.
   - ☐ Yes, they are carried out systematically.
   - ☐ Yes, they take place to give answer to specific needs.
   - ☐ No

7. Is there in the university a figure responsible for the Design for All or something similar¿
   - ☐ Yes, there is the Director of the Accessibility area.
   - ☐ The chief architect or responsible for the university works considers the issues related to accessibility.
   - ☐ The university has a responsible for the Integration of people with disability, whose functions consider the 'design for all'.
   - ☐ No.

8. Does this university have a Quality Certificate in relation to features related to accessibility?
   - ☐ Yes Which? _____
   - ☐ No

9. Does the University meet the DALCO requirements (Ability to walk, Awareness, Location and Communication) of the Technical regulations UNE 170001-1: Global accessibility?
   - ☐ Yes.
   - ☐ Jus partially.
   - ☐ No.

10. Does the University's main web page have the WAI or TAW certificate?
    - ☐ Yes
    - ☐ Partially; there have been given priority to sections usually used by the student.
    - ☐ No, but the deficits are analysed and they are considered in the Info accessibility Plan.
    - ☐ No, they are working on the adaptation.
    - ☐ No.

11. Does the intranet meet the TAW and/or WAI accessibility criteria of University students?
    - ☐ Yes
    - ☐ No, deficits are analysed and they are considered in the Info accessibility Plan.
    - ☐ No, they are working on the adaptation.
    - ☐ No.

12. Does the university have any of the following services related to info accessibility?

	Yes	No	Observations (optional)
Accessible self-enrolment/or self-pre-enrolment			
Accommodated cabins in the library			
Accessible library catalogue			
Accessible online administrative management			

13. Is there a Disability Student Service or similar in the University?
    - ☐ Yes
    - ☐ No
    - ☐ Not exactly. (explain)_____

14. What organ is accountable to?
    - ☐ Vice-chancellorship of students.
    - ☐ a delegation of the chancellorship.
    - ☐ another Vice-chancellorship

15. What staff works in that service?

Staff:	Nº of people
☐ Service Staff	
☐ Psychology professionals	
☐ Pedagogy professionals	
☐ Other academics	
☐ Scholar	
☐ Volunteers	
☐ Others _____	

16. Since when is the service active? _____

17. How does the University plan the first contact with the student with disability?
    - ☐ A personal contact with students with disability to inform them about the existence of such service.
    - ☐ The student with disability is informed impersonally via e-mail or letter about the existence of the Disability Student Service.
    - ☐ Information regarding the Disability Student Service is included inside the information related to the general services students receive at the university.

The student is not informed about the existence of that specific service.

18. What programs does the DSS offers to the user with disability?

	Yes	No	Observations (optional)
Psychopedagogic accommodations (curricular, methodological…)			
Teaching orientation			
Personal orientation			
Professional orientation			
Labour insertion and specific employability for students with disability.			
Advice on ICT resources			
Training and awareness program			
Advice to teachers			
Program for the transmission of class notes			
Guidance and support for specific scholarships			
Information service			
Family counselling and psychopedagogic support			
Others _____			

19. Does the university offer the following services to the student with disability?

	Yes	Yes, with the collaboration of external bodies.	No	Observations (optional)
Curricular material with content accommodation.				
Curricular material accommodated in format.				
Service for the digitalization of data, pervious notes.				
Accommodations in libraries (audiobooks, braille books, extension of the loan period…)				
Academic and education support (tutor, support teacher…)				
Other services _____				

20. Which is the criterion when providing technical resources?
    - ☐ The evaluation together with the student on his/her needs.
    - ☐ The possibility of the student to bring them or the University availability.
    - ☐ It is issued a psychoeducational report.
    - ☐ Depending on economic availability.

It is not yet defined a policy of resources or technical aids.

21. Which are the following resources the university offers or would be in willing to offer if necessary?

	Yes	Yes , through external bodies	Yes , just in specific cases	Who bears the cost?	No	Observations (optional)
Book rest						
Sign language interpreter						
Magnetic loop						
FM broadcasters						
Laptops						
Accommodated Tablet PC						
Virtual blackboards						
Video camera connected to a PC (to access to contents of a common blackboard)						
Braille printing machine						
Chair with arm rests						
Synthetized voice translators						
Audio text transcription.						
Computerized stenotype						
Extensible assistant bar						

carbonless Paper						
Specific software						
Reading spaces with tele-reading magnifier						
Figure of a collaborating student						
Personal assistance service						
Mouse or keyboard emulator software						
Computer rooms with accessibility tools (screen readers, magnifiers, voice recognition…)						
Height-adjustable tables						
Accommodated transport						
Other resources to highlight _____						

22. Which are the information channels used by the university regarding disability, accessibility, services and programs?
    - ☐ Speeches in Baccalaureate centres.
    - ☐ The web.
    - ☐ Personalized letter to students with disability.
    - ☐ Access Guide for students.
    - ☐ Communication campaigns carried out from the Service.
    - ☐ Information in enrolments.
    - ☐ Information material: brochures, posters.
    - ☐ Others_____

23. Which are the channels for complaints, suggestions, evaluation for the satisfaction of students with disability related to their concerns?
    - ☐ Personal interviews for evaluation.
    - ☐ Disability Student Service.
    - ☐ University defender.
    - ☐ Vice-chancellorship of students.
    - ☐ Others_____
    - ☐ Do not exist.

24. Is it considered specific training on disability issues for the university staff?
    - ☐ Yes
    - ☐ No (go to p.26)

25. Number the activities related to the staff training that are carried out:
    - ☐ Making accessible web pages.
    - ☐ E-learning courses for the teaching staff.
    - ☐ Courses for the sign language.
    - ☐ Disability Annual Conferences.
    - ☐ Courses on technology for disability.
    - ☐ Specific courses for staff of the Disability Student Service.
    - ☐ Technical support for teachers with students with disability.
    - ☐ Modules for the service staff.
    - ☐ Others _____

26. Is it considered the inclusion of contents on design for all in curricula or subjects?
    - ☐ Yes
    - ☐ Yes, but just in specific cases.
    - ☐ No
    - ☐ No at the moment, but currently, work is being done for their inclusion in the new curricula (European Convergence).

27. Does the university receive any public funding to provide for accessibility?
    - ☐ Yes
    - ☐ No (go to p.29)
    - ☐ Don't know (go to p.29)

28. From who
    - ☐ IMSERSO-ONCE agreement.
    - ☐ Autonomous government.
    - ☐ Bank entities.
    - ☐ Others_____
    - ☐ Don't Know

29. Does the budget cuts have affected the budged for disability established in the university?
    - ☐ Yes, it has decreased.
    - ☐ Yes, it has increased.
    - ☐ No, it has maintained.
    - ☐ Don't know.

30. Does the university have established any Contract-Program –agreement on Accessibility on some public or private institution?
    - ☐ No
    - ☐ Yes — Which?
        - ☐ *Framework agreement IMSERSO-ONCE*
        - ☐ *Fundación Vodafone*
        - ☐ Fundación Mapfre
        - ☐ Fundació Universia
        - ☐ Fundación Once-Cermi
        - ☐ Fundación CNSE
        - ☐ Cocemfe
        - ☐ Others_____

31. Do you think that the 'free enrolment policy' is necessary?
    - ☐ Yes
    - ☐ No
    - ☐ There should be requested some academic or economic requirements.
    - ☐ Don't know

32. Rate the teachers involvement regarding their assistance to diversity (1 not involved at all and 10 completely involved).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

33. Is it positive for the self-esteem of the student with disability their university experience? (1 negative and 10 completely positive).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

34. Do you agree with the statement ' we all can study everything?' (1 is don't agree at all and 10 completely agree).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

35. How would you define the current situation University-Disability? (1 is regulatory equality and 10 equal opportunities).

● 1 ● 2 ● 3 ● 4 ● 5 ● 6 ● 7 ● 8 ● 9 ● 10

36. In order to improve equal opportunities of students with disability, what agents do you think need to get more involved? (From the one you have selected tick the three you think most important).

☐ Students			
☐ Students with disability			
☐ Relatives of students with disability			
☐ Teaching staff			
☐ Service Staff			
☐ University community			
☐ University			
☐ Autonomous government			
☐ State government			
☐ Others_____			

37. Which are the students' main requests? From the ones you have selected, tick the three you think most important.

☐ Technical aids.			
☐ Exam accommodations.			
☐ Accommodations related to accessibility.			
☐ Information.			
☐ Mediation with teachers.			
☐ Others_____			

THANKS FOR YOUR COLLABORATION

UNIVERSITY AND DISABILITY OBSERVATORY

The University and Disability Observatory presents this sectoral study per Autonomous Communities about the accessibility of the university environment and its preception by students with disability, carried out during 2009 year. The objects of study are the Public universities from some Spanish Autonomous Communities: Andalusia, Castilla y la Mancha, Castilla y león, Valencian Community, Extremadura and Galicia. The analysis has been carried out by contrasting three different perspectives: Physical accessibility, services and programs offered by the universities; considering also the students point of view from all three. Thanks to that joing analysis it is reached a scope of the situation of students with disability in the Spanish public university. With such conclusions, it is intended to provide a knowledge that allow the design of efficient actions to improve the experience and complete inclusion of the student with disability in the University.

The University and Disability Observatory is an initiative of the ONCE Foundation and the Accessibility Chair of the Universitat Politécnica de Catalunya UPC-BarcelonaTech. The ONCE Foundation, for the integration of people with disability, actively works for the inclusion and promotion of universal accessibility through the design for all. The accessibility chair, of the UPC-BarcelonaTech invest their efforts so that people could access to any environment, architectonic, technological or knowledge-related, independently to their abilities and through the different knowledge areas related to its institution: architecture, engineering and optics.

UNIÓN EUROPEA
FONDO SOCIAL EUROPEO
El Fondo Social Europeo invierte en tu futuro

Fundación ONCE

UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
Càtedra d'Accessibilitat