Accessibility in Spanish Universities, evaluation through their policies

communications about accessibility during COVID-19

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Abstract

This research analyzes the announcements issued by Spanish universities during the COVID-19 pandemic relating to students with special needs, to offer a new vision, complementary to existing audits conducted on university websites about technical accessibility compliance. The study approaches the evaluation of accessibility from the point of view of organizational support. The identified measures are mapped onto Universal Design Learning guidelines to give them context and to analyze their coverage. The research shows a landscape with an uncoordinated and uncollaborative approach, with negative consequences in the tackling of remote emergency teaching.

Keywords

UDL, COVID-19, special needs education, higher education, Spanish universities, Accessibility

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1. Introduction

Accessibility and Universal Design are recurrent subjects in Policy Declarations relative to Education [1-2], including higher education. Moreover, public universities, which are funded by public governments, are subject to accessibility legislation [3-6].

To analyze adoption and compliance of legislation and pledges relating accessibility, several technical audits have been conductedon university websites [7-15], some of them by the authors of this article, and all of them with disappointing results showing very low compliance. In these analyses the organization aspects of accessibility were often forgotten, while they are increasingly valued as success factors [16-17]. To link accessibility with internal policies, metrics, incentives or even fines is a basic requirement for real implementation [16], and as such, policy is the focus of this article. The effective incorporation of educational strategies requires reference frameworks to implement the necessary policies and procedures, and to offer a global vision to higher education institutions, as well as the necessary resources needed to react with agility in difficult circumstances. These frameworks are useful to save time and effort, and to give consistency to the implemented solutions for every university at a national level [18-19]. In the context of the COVID-19 pandemic, where there was a gap in working effective strategies to tackle the situation and a short time to react [20], clear and consistent policy and reference frameworks were more relevant than ever.

This research analyses the announcements issued by Spanish universities during the COVID-19 pandemic relating to students with special needs. The analysis contextualizes the announcements within the Universal Design for Learning principles (UDL), developed by the Center for Applied Special Technology [21], as a key framework in this area. It is worth mentioning that none of the analyzed documents references UDL as a methodological framework, although university measures correspond to a great extent with UDL guidelines.

The goals of UDL guidelines are not only accessibility but also to foster equality, equity and educational excellence, to benefit not only students with disabilities but to cover all potential needs of every student [22]. When the teaching-learning process is designed under UDL ethos, the difficulties to adapt methodologies and teaching plans decrease and it is easier to adapt to unpredicted changes [21]. UDL is structured in three main principles, divided into three guidelines each (table 1), which guide the development of a curriculum flexible enough to minimize any barriers during the learning process.

Table 1. Guidelines and summary description.

Code	Description
Guideline 1	Provide options for perception.
Guideline 2	Provide options for language, mathematical expressions, and symbols.
Guideline 3	Provide options for comprehension.
Guideline 4	Provide options for physical action.
Guideline 5	Provide options for expression and communication.
Guideline 6	Provide options for executive functions.
Guideline 7	Provide options for recruiting interest.
Guideline 8	Provide options for sustaining effort and persistence.
Guideline 9	Provide options for self-regulation.

1.1. Principle I: Provide multiple means of representation

- Guideline 1. Provide options for perception (customizable, with alternatives to visual and audio content)
- Guideline 2. Provide options for language, mathematical expressions, and symbols. Clarify vocabulary, symbols, syntax and structure; Support decoding of text, mathematical notation, and symbols and promote understanding across languages.

- Guideline 3. Provide options for comprehension. Activate or supply background knowledge; highlight patterns, critical features, big ideas, and relationships; guide information processing, visualization, and manipulation; maximize transferand generalization

1.2 Principle II: Provide multiple means of action and expression

- Guideline 4. Provide options for physical action. Vary the methods for response and navigation; Use multiple media for communication; Use multiple tools for construction and composition; Build fluencies with graduated levels of support for practice and performance
- Guideline 5. Provide options for expression and communication. Use multiple media for communication and different tools for construction and composition. Build fluencies with graduated levels of support for practice and performance.
- Guideline 6. Provide options for executive functions. Guide appropriate goal-setting; support planning and strategy development; facilitate managing information and resources; enhance capacity for monitoring progress.

1.3 Principle III: Provide multiple means of engagement

- Guideline 7. Provide options for recruiting interest. Optimize individual choice and autonomy, relevance, value, and authenticity; Minimize threats and distractions.
- Guideline 8. Provide options for sustaining effort and persistence. Heighten salience of goals and objectives; vary demands and resources to optimize challenge; foster collaboration and community; increase mastery-oriented feedback.
- Guideline 9. Provide options for self-regulation. Promote expectations and beliefs that optimize motivation; Facilitate personal coping skills and strategies; Develop self-assessment and reflection.

2. Methodology

The methods used for this research were based on collecting evidence from universities, and on a systematic review of the texts issued by the public Spanish universities selected for the research. The authors did a thematic analysis (Grounded theory) [23] on the text and used the affinity diagram method to group the identified recommendations. Finally, the measures taken by universities were mapped onto UDL guidelines.

Starting from the list of Spanish higher studies institutions 24 public universities were identified (17th to 25th of April 2021). Among 50 researched universities (Annex A), 11 of them had announcements that matched the focus of this research publicly displayed in their websites (25th April). The rest of universities were contacted by email (26th April) through their respective services attending students with special needs (annex E) asking for policies issued on the subject of the research; after which (5th May) the same demand was made to universities with published announcements, in order to provide the universities with an identical process for which the texts were obtained. Only 6 universities answered to the demand, and among them 4 sent the required documentation. Finally (10th May), 25 documents were analyzed, issued by 15 universities (table 2). See figure 1 for a schema of this process.

Documents were selected under three criteria: to include measures relating to the context generated by the COVID-19 sanitary crisis; referring to students with special needs; dealing with online teaching-learning process.

Table 2. Abbreviation and full name of universities included in this study.

Abbreviation	Full name
EHU	Euskal Herriko Unibertsitatea
UA	Universidad de Alicante
UAB	Universitat Autònoma de Barcelona
UAM	Universitat Autónoma de Madrid
UB	Universitat de Barcelona
UDL	Universitat de Lleida

UGR	Universitat de Girona
UIB	Universitat de les Illes Balears
UM	Universidad de Murcia
UNED	Universidad Nacional de Educación a Distancia
UPC	Universitat Politècnica de Catalunya
UPV	Universitat Politècnica de València
USAL	Universidad de Salamanca
UV	Universitat de València
UVA	Universidad de Valladolid

Figure 1. Phases in the research process. Annexes can be read online: A,[1] B,[2] C,[3] D1,[4] D2,[5] D3,[6] E[7]
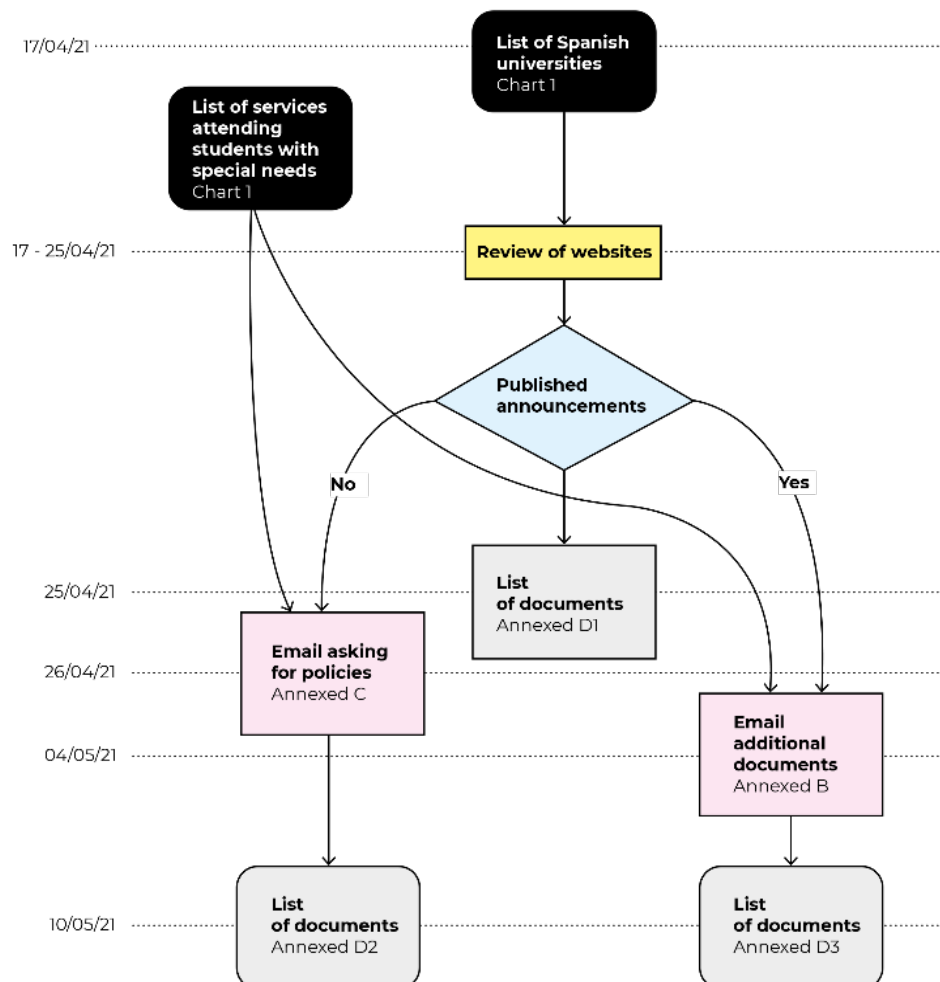
The three first authors of the article were in charge of the documentary analysis. They followed a strict protocol of independently reading and analyzing the chosen documents, marking topics arising from the text and identifying measures, and then combining the results to unify selected elements and to agree on terminology, with significant differences between universities. Later on, the measures were categorized using the method of affinity diagramming.

[1] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_A.pdf
[2] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_B.pdf
[3] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_C.pdf
[4] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_D1.pdf
[5] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_D2.pdf
[6] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_D3.pdf
[7] https://www.ub.edu/adaptabit/redice-20-especial-covid/files/anexos/anexo_E.pdf

Figure 2. Measures by university (categories A-Le).

	Accessible materials	Attention services	Emotional and social support	Evaluation	Legal aspects
EHU	1			13	1
UA	5		1	4	
UAB	7		2	12	
UAM	1		2		
UB	9	1		11	
UDL	1	1	1	1	1
UIB		1			2
UM	3			4	
UNED				1	
UPC	2			7	1
UPV	2		1	3	
USAL				1	
UV	1			3	1
UVA	5			3	

Figure 3. Measures by university (categories Lo-Z)

	Logistics / implementation of adaptations	Online teaching development	Planning	Teaching-learning methodologies	Tutoring
EHU	1			1	
UA			5	3	1
UAB		4	4		2
UAM		1			
UB	6	4	4	1	2
UDL	3	2			
UGR	2				
UIB	1				
UNED	1				
UPC	1				
UPV		4			
UV		3			
UVA	2	2	1	3	1

Finally, the first author mapped every measure onto UDL guidelines.

3. Results

99 different measures were identified, and categorized into 10 groups: planning (8 measures), online teaching development (8 measures), tutoring (4 measures), evaluation (29 measures), teaching-learning methodologies (8 measures), accessible materials (20 measures), emotional and social support (3 measures), logistics / implementation of adaptations (11 measures), legal aspects (5 measures) and attention services (2 measures) (see figures 2 and 3, and annex F).

The distribution of the number of measures by universities shows large differences between them, indicating a significant lack of consistency on topics addressed by the universities. None of the universities takes measures in all the identified categories. In particular, two of the most represented categories are Evaluation (29) and Accessible materials (20), confirming that students with special needs have traditionally struggled with assessments not planned or without alternatives for people with specific needs (more time, alternative formats, available sign language interpreters…) as well as with learning materials.

83.84% (83 out of 99) measures have been mapped onto one or more UDL guidelines (figures 4, 5 and 6). Measures not mapped deal with Legal aspects or Attention services, or some aspects of Evaluation (increasing time between different assessments, managing anxiety, and joint review with the teacher before submission, flexibility on reassessments and policies of pass rates), logistics / implementation of the adaptation (changes without altering the teaching quality, transparent changes, specific scholarships, grants to rent computer equipment) (figure 7).

Figure 4. Mapping between measures taken by each university and UDL Principle 1 guidelines. "Provide multiple means of representation".

	Provide multiple means of representation		
	Guideline 1	Guideline 2	Guideline 3
EHU	5	1	2
UA	5		
UAB	14	1	1
UAM	2		
UB	15		3
UDL	5	1	2
UGR	1	1	1
UIB	1	1	1
UM	1		3
UNED	1		
UPC	4	2	2
UPV	4		2
UV	3		2
UVA	10		2

Figure 5. Mapping between measures taken by each university and UDL Principle 2 guidelines. "Provide multiple means of action and expression"

	Provide multiple means of action and expression		
	Guideline 4	Guideline 5	Guideline 6
EHU	7	1	4
UA	5	3	5
UAB	9	6	5
UAM	2	2	
UB	12	5	7
UDL	2	2	1
UGR	1	1	1
UIB	1	1	1
UM	1		1
UNED	1		
UPC	3	4	1
UPV	4	2	
USAL	1		
UV	2	1	
UVA	5	3	3

Figure 6. Mapping between measures taken by each university and UDL Principle 3 guidelines. "Provide multiple means of engagement"

	Provide multiple means of engagement		
	Guideline 7	Guideline 8	Guideline 9
EHU	1	2	1
UA	4	4	1
UAB	1	2	
UB	3	2	1
UDL	1	1	1
UGR	1	1	1
UIB	1	1	1
UPC	1	1	1
UPV		1	
UVA	2	1	1

Figure 7. Measures taken by each university not mapped onto any UDL guideline.

	Not identified
UB	4
UIB	3
UDL	3
EHU	3
UPC	2
UV	1
UM	1
UGR	1
UAB	1

The distribution of measures by guideline also shows great differences between universities, indicating, again, inconsistent approaches. EHU, UGR, UiB, UDL and UPC took measures relative to all the UDL guidelines. On the other hand, USAL does not include any guidelines from Principle 1 (representation); UPC, UNED and UAM do not include any guideline from principle 3 (motivation), and the rest of universities have measures related to all the UDL principles, but not covering all guidelines. here are 15 measures which could not be mapped onto any UDL guidelines, the second principle (action and expression) is the most covered with a total of 54 measures, and second to it, principle 1 (representation) is included in 46 measures; the principle less covered is the third one, motivation, which is only covered in 21 measures (figure 8).

Figure 8. Number of measures by UDL guideline.

Principle	Guideline code	
Not identified	Not identified	15
Provide multiple means of representation	Guideline 1	31
	Guideline 2	2
	Guideline 3	13
Provide multiple means of action and expression	Guideline 4	21
	Guideline 5	16
	Guideline 6	17
Provide multiple means of engagement	Guideline 7	9
	Guideline 8	9
	Guideline 9	3

Results can be viewed interactively in the Tableau document "List of COVID measures for students with special needs", published by the authors.[8]

4. Discussion and Conclusions

Although this study has been unable to get documents from more universities (15 out of 50), the authors believe that the results are representative of actions taken by universities in Spain. In fact, the bias in this case is shifted to the positive end of the spectrum, as the research covers the universities most active in the area of accessibility, and it would not be unusual to identify universities with far more partial approaches than the ones included in this article.

Based on the results obtained after analyzing 25 documents from 15 universities, with public documents or documents sent after being requested, we can derive some statements: even when globally the taken measures cover a substantial number of the needs that have arisen from the COVID pandemic context, an individual analysis of each university indicates a totally different landscape, with a very partial approach to all the required actions. Accordingly, it must be emphasized, as a negative point, the fragmented, uncoordinated, and not collaborative approach to a global problem that could have been solved much more positively if the different experiences, knowledge and resources of each center had been combined, and due to the lack of collaboration the consequences have been negative in the tackling of remote emergency teaching.

The research has identified some measures, not included in the UDL guidelines, but which have become relevant on the current teaching system as part of the digital skills of staff [25]. Among them the management of rights and privacy, that has taken an increased importance in recent years due to specific legal dispositions. Also, the availability of Assistive Services within the university, as a support to teaching staff for designing, creating or adapting teaching materials, resources, for specific adaptations or even for tutoring sessions.

Although higher education in Spain encompasses universities with experience in the area of accessibility, their knowledge and resources did not become an asset during the COVID pandemic. Some examples are a public online university, UNED, which has come a long way on virtual methodologies for learning-teaching and evaluation; the Universidad de Alicante has a tradition of reaching students with disabilities and covering their needs and the Universidad de les Illes Balears holds an important number of experts in legal subjects.

Approaching the evaluation of accessibility from the point of view of organizational support and policies may be a first step to a new vision of accessibility studies in higher education institutions; results are similar to technical studies. Universities in Spain are far from complying with the acquired compromises of an accessible education, also in the organizational and policies areas, and there is a long way to go to reach an inclusive education.

Acknowledgments

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[8] https://public.tableau.com/app/profile/mrub/viz/UdlUniversitiesSpain/MeasuresbyuniversitypartiallyinSpanish

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