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ABSTRACT

The main topic of this article is architectural barriers and infrastructures as identified by university students with disabilities. The data presented is part of a much wider research project, sponsored by Spain's Ministry of Economy and Competition. A biographical-narrative methodology was used for this study. The results presented have been classified based on one of five barrier types: urban (barriers that are outside the actual university campus), transport (public transportation and personal vehicles), building (obstacles inside university buildings), environmental (those elements within the classroom, including furniture, excessive noise or inadequate temperatures) and communication (these are divided into signposting and barriers when accessing information). Lastly, a variety of questions are considered in the conclusions which indicate that universities still need a certain degree of adaptation and readjustment to really be accessible and inclusive, in keeping with the principles of universal design.

Introduction

The right to higher education dates back to 1948 (the Universal Declaration of Human Rights, art. 26.1, United Nations [UN] 1948). This Convention was followed by other international agreements establishing the need to guarantee that people with disabilities have discrimination-free access to higher education. Among these, several are noteworthy, including the 2006 Convention for the Rights of Persons with Disabilities or the Disability Discrimination Acts in such countries as Australia (1992), the US (1990) and the UK (1995, 2010).

In Spain, this right has also been recognised by legislation. An example is Royal Decree 1/2013 covering the rights of people with disabilities and their social inclusion. When it comes to university, Constitutional Law 4/2007 for universities specifically mentions the inclusion of people with disabilities, establishing guaranteed equal opportunity and no discrimination.

Nevertheless, the figures drawn from the report by the National Disability Observatory (2010), based on a survey regarding disability, personal autonomy and situations of dependency, revealed that only 5.4% of people with disabilities, aged 25 or over, have university qualifications or equivalent. Among those without disabilities the proportion reaches 18.7%.

In Spain, during the 2013–2014 academic year, 21,942 students with some type of disability were enrolled at university (out of a total of 1,400,000 students enrolled). Year after year, this number increases (for instance, during the 2011–2012 academic year there were 18,418 students with some

type of disability). It is a reality occurring at universities in Spain, as is the case in many other countries (Hadjikakou and Hartas 2008; Holloway 2001; Konur 2002, 2006), where the number of disabled students has gradually increased.

Moreover, within the field of higher education, in recent years, an inclusive education model has been the model to follow. This proposal advocates that universities become institutions to which students can belong and in which they can participate and learn (Hardy and Woodcock 2015; Messiou 2012; Moliner et al. 2011; Slee 2012).

Nevertheless, authors such as Oliver and Barnes (2010) have questioned the policies and practices of university systems, which, in many cases have inaccessible curricula, negative attitudes and physical barriers. From the standpoint of these authors and many others including Baglieri et al. (2011), Ferni and Henning (2006), Gable (2014), Matthews (2009) and Nes and Stromstad (2003), it has been suggested that instead of the medical disability model, university environments should, when it comes to disability, position themselves within the social model (Oliver 1990). This would mean changing the teaching environment by eliminating the barriers created by society, making it as inclusive as possible.

In this sense and as conceptualised by the World Health Organization (WHO) (2001), barriers could be defined as aspects in a person's environment – whether present or absent – that limit functions and generate disability. Such features include physical environments that are inaccessible, a lack of adequate technological assistance, negative attitudes regarding disabilities and also the services, systems and policies that are either non-existent or hinder the participation of those with a disability.

Within the scope of the specific case of disability and university education research, a number of studies have concluded that although universities have taken major steps towards favouring the rights of disabled students and have responded to their needs, there is still a long way to go. A series of barriers are still visible (in practice, no specification in legislation, negative attitudes, inaccessible methodologies, not making necessary adjustments to the curriculum, lack of professor training in disability matters, and architectural barriers) that hinder educational careers of university students with disabilities (for example, Boxall, Carson, and Docherty 2004; Moswela and Mukhopadhyay 2011; Riddell, Wilson, and Tinklin 2002; Shevlin, Kenny, and Mcneela 2004).

The architectural barriers and infrastructures are analysed in this article. Although at a glance these barriers might seem easy to change, it is also true that they continue to be found at many universities, as indicated in a number of studies (Borland and James 1999; Moswela and Mukhopadhyay 2011; Holloway 2001; Fuller et al. 2004; Wessel et al. 2015).

In the specific case of Spain, the studies carried out by, Díaz Velázquez (2012), Luque, Rodríguez, and Romero (2005), Alcantud, Ávila, and Asensi (2000), and Rodríguez et al. (2009) confirm this argument and describe barriers as the failure to adapt, together with inaccessibility of buildings and spaces. These works also include the inaccessibility of websites and virtual resources, commotion in the classroom (mainly affecting people with physical and visual disabilities), noise (generally linked to students with hearing problems), insufficient lifts, and lack of adapted classroom space or a lack of information posters in braille throughout the university as barriers.

According to Olivera (2006) who stated that *urban, architectural and transportation barriers* are found everywhere, this is also the case with *communication barriers* (public address systems and road signs to mention a few), including virtual platforms (websites with small or difficult-to-see type, without acoustic communication and without appropriate software). We emphasise the need to adapt and eliminate both architectural barriers and infrastructures considered hindrances to make them accessible for everyone. As Juncà (2003) explained, facilitating an accessible environment translates into greater personal autonomy and allows students with disability to live independent lives and enjoy full citizenship. For these students, decreasing barriers automatically increases their level of well-being.

We agree with Barnes (2009), Olivera (2006) and Rodríguez et al. (2009) in that structural changes and strongly rooted cultural conceptions must be changed in order to eliminate these barriers. As presented in the social model, accessibility barriers, from the architectural and spatial point of view, derive from a cultural concept in which spaces are neither contemplated nor built for people with a disability.

From this point, it is essential that policies conceive and design spaces and infrastructures that are accessible for everyone (Meyen 2015; Rodríguez et al. 2009). In this regard, legislation has been developed in Spain with a view to identify the right to accessibility and a more universal design (for example, Real Decreto Legislativo 2013), although the actual execution and everyday application of the law are still pending.

If a universal design is adopted, as proposed in 1997 by the Center for Universal Design at the University of North Carolina, we must design products and environments that are usable and accessible to all, without any need for adaptation or a specific design. This is applicable for buildings, streets, parks, equipment or signs (Connell et al. 1997; Mace 1997; Preiser and Smith 2011; The Center for Universal Design 1997).

As Olivera (2006), Scott et al. (2003) and Watchorn et al. (2013) explained, spaces would also be inclusive if these do not segregate or exclude a person due to his or her disability, but rather, these environments become, in the words of Kitchin (2001), 'inclusive landscapes'. In keeping with Pliner and Johnson (2004) and Powell (2013), adopting this focus for higher education means that the principles of universal design would have to be followed: equitable use, flexibility of use, simple and intuitive design, perceptible information, low physical and technical effort and tolerance regarding errors or mistakes.

Methodological design

This study is part of an extensive research project financed by Spain's Ministry of Education and Competition, the title of which is 'Barriers and aid that students with disabilities identify at the University' (ref. EDU 2010-16264). This four-year study (2010–2014) is being undertaken by a multi-disciplinary research team of professors from the University of Seville, from various fields of knowledge (educational sciences, economics, health sciences and experimental sciences). The objective is to study the barriers and aids that university students with disabilities identify with regards to access, career and results at the university.

The multidisciplinary nature of our study was one of its main contributions with regard to other studies done to date (Claiborne et al. 2010; Hadjikakou and Hartas 2008; etc.). The analysis of barriers and aids was done by field of knowledge, on the understanding that the reality of students with disabilities in social sciences might be different from those studying health sciences. Another novel feature that should be pointed out is that in collecting the data we made a macroanalysis (of the university in general) and microanalysis (of university classrooms). Furthermore, as suggested elsewhere (Hanafin et al. 2007), international research on participation of individuals with disabilities in HE often concentrates on physical or sensory disabilities. In this study, students with all types of disabilities participated. Finally, we should point out that this is one of the few studies using a biographical-narrative methodology, ideal for making the voice of vulnerable groups, such as students with disabilities, heard. Hopkins (2011) also made use of this methodology, but the sample was limited to only six people.

The biographical-narrative methodology was used for this three-phase research project. In the first phase, a number of focus groups were organised (at least one for each of the five knowledge areas,[1]) as well as individual interviews (oral and written). Forty-four students participated in this initial phase. In the second phase, micro-life histories were carried out with 16 university students who had participated in Phase 1. These themed micro-life histories focused on a topic and specific period of their lives – their university career. Three data collection instruments were used: life-lines (life-lines are visual depictions of an individual's life events in chronological order), focus interviews (focus interviews focus on critical incidences in the life of a person) and self-reporting (this is a document in which the actual participant in the research narrates, in first person, those aspects that he/she considers most significant for the topic being studied: his/her university life story).

Phase 3 included 8 of the 16 students who had already drafted their micro-life histories; a biographical-narrative methodology was applied to provide in-depth life histories and polyphony of voices (Frank 2011). To collect these histories, a number of data collection techniques were used, including in-depth interviews, photographs, interviews with other key people in the life of each student, observations, etc.

This work focuses on all of the research phases, but the analysis focuses exclusively on architectural barriers and infrastructures. Prior projects by these authors studied the barriers and aids that students with disabilities identify in other matters, for example, regarding the lecturers (Moriña, Cortés, and Molina 2015), syllabus (Moriña, Cortés, and Melero 2014), the university as an institution and university classrooms (Moriña, López, and Cotán 2010).

All participants were students with some type of disability and registered at the university for the 2009–2010 academic year. There were 445 students with a disability enrolled in this course, which represented 0.6% of the total student population (72,358) for that year at the University of Seville.

Regarding the characteristics of the participants, they ranged between 19 and 59 years of age, with the mean being 30.5. Fifty per cent were men and the other 50% were women. Concerning their academic progression, 25% were in their first year, 16% in the second, 25% in the third year, 14% in the fourth and 9% in their fifth year. The rest, approximately 11%, were postgraduates taking official Master's courses. Finally, when it came to the actual disability and in keeping with the categories used by the university, 38% of the students had a physical disability, 15% psychological, 36% sensory disability and 11% had difficulties associated with some type of organic problem (asthma, degenerative diseases, etc.).

The analysis was performed from a double perspective. On the one hand, to draft each history, a narrative analysis was performed, as described by Goodley et al. (2004). On the other hand, for the comparative analysis of all information collected with the techniques and participants, a structural analysis was performed (Riessman 2008) using a system of categories and codes based on the proposal by Miles and Huberman (1994) and the MaxQDA10 analytical programme.

Results

To present the results of architectural barriers and infrastructures, we designed our own analysis system, based in part on the proposal by Luque, Rodríguez, and Romero (2005), with the following classification:

(1) Urban barriers: Streets and public spaces outside the university
(2) Transportation barriers: Public transportation, personal vehicles
(3) Building barriers: Inside university buildings and spaces
(4) Environmental barriers: Furniture, environmental conditions (light, temperature)
(5) Communication barriers: Signposting, access to information (public address system, bulletin boards, non-adapted computers, *PowerPoint*, visual surroundings).

The five dimensions included in the analysis system are: urban barriers, transportation, buildings, environmental and communication. The first type of barriers – urban – refers to barriers that are outside the actual university campus, but in the surrounding area (for example, streets and public spaces, sidewalks, inadequate urban furniture, etc.). When it comes to transport barriers, these refer to both public transport as well as the difficulties when using one's own vehicle. Building barriers have to do with the obstacles inside university buildings, spaces and classrooms (narrow corridors and entry halls, small or no lifts, undersized bathrooms, classrooms with stairs and no ramps, etc.). Environmental barriers include those elements within the classroom, including furniture, lack of order, limited lighting, excessive noise and inadequate temperatures. Lastly, communication barriers mainly affect students with hearing and visual disability; these are divided into signposting (stairs, doors, or spaces without signs) and barriers when accessing information (public address system, inaccessible *PowerPoint*, outdated blackboards, virtual environments with inaccessible documents, videos with no subtitles, etc.).

When public streets and spaces fail to facilitate universal access

The participating students, especially those with a physical disability, pointed out a number of urban barriers they encountered when going to the faculty or to perform practical academic activities outside the university. These activities are essential to attain their objectives and the competencies established

in the curriculum for the degree they are preparing. Specifically, there were students who ran into obstacles on the streets accessing the faculty, such as rubbish skips, vehicles parked in the access to the educational centre, street lamps, etc.:

> RTE6:[2] The barriers when accessing the building, (rubbish skips on the sidewalk, parking spaces with cars right at the entrance…). As far as I'm concerned, the most frequent barriers have been when entering the university; on the main avenue there are so many parking places, the bus stops, there are so many street lamps and things on the sidewalk that it becomes a real adventure.

When moving around the city, it becomes a real obstacle course

When it comes to transportation barriers, one aspect is public transport whilst another is the use of personal vehicles. In the first case, buses were an aspect criticised by students with a visual disability. Sometimes, it is difficult to use them as there is no auditive signal to indicate each of the bus stops along the route. In many cases, the actual bus stop is not respected, in which case, it is impossible to know when they have reached the desired destination, as one must count the bus stops. This being the case, these same students admitted that of the various transportation options offered by the city, the underground is the most accessible:

> RS8: The underground is the most accessible; the best because it lets you know, you know… Not like here, buses have a nasty custom – I don't know, I haven't run into it in other cities – when they reach the planned bus stop, if there are no passengers for that stop, they keep going, without stopping. In other cities, they always stop, whether or not there are possible passengers, and you are thinking that from here to where I'm going, there are five stops, you count them and you get off. Here, you can't count [the stops] because the driver might or might not have skipped one.

When it comes to commuting in their own vehicle, these students pointed out the difficulties they encountered when parking in the city. The parking spaces reserved for drivers with disabilities are, on more occasions than desirable, occupied by other users. The same holds true at certain faculties, such as fine arts,[3] which is located in the historic centre of Seville, where parking is a major hindrance:

> RSP1: There aren't any spaces reserved for the handicapped. Then, the space reserved for the handicapped, well they won't let me park there because I have a crutch and I can more or less get around, so I don't have the disabled card; but in all truth, if I have to come every day with a heavy rucksack, park miles away and come walking, well, I can do it, but it ends up affecting my back really bad.

However, many of the students participating in this study commented that they have not run into this specific difficulty at the university. In fact, it was just the opposite, as they have been provided with special permits to park their vehicles within the university complex:

> RH7: The only recognized right that I see is that people here with disabilities are allowed to enter, and that gave me good vibes because it allowed me to come here by car; I live outside the city, and otherwise… there was no underground at the time, although there is now.

When university buildings and spaces should be more accessible

When it came to the actual building, and according to these same students, they encountered certain barriers that hindered their access to the centres as for the most part, there was a total lack or limited number of ramps:

> RSP7: When I arrived, there was only one stone ramp in one wing of the building, and that is a rectangle, with four faculties all together and there was only one ramp on one of the sides of the building.

Likewise, they pointed out that daily life as a student at some faculties is much more difficult when it comes to accessing certain common spaces, such as the library. In this case, they cannot use it because there is no lift. The same holds true for a number of classrooms and offices. They also commented that the doors are very narrow, which makes wheelchair access difficult. Another example is the extremely slippery floor material. These students ran into major difficulties when moving within the actual faculty due to the small dimensions of the common spaces, including corridors, restrooms, classrooms and even the lift.:

RSP7: Because the lift, you either go in backwards to be able to push the buttons, or when you enter, you have to twist sideways. I would move sideways to somehow push the buttons. So, what happens? The lift has been having problems and it would always stop a step below floor level. One day one of my friends fell, because, of course, by going in backwards, he didn't see the step, and he fell.

Obstacles are also seen in the actual building structure and organisation of spaces. For example, there are classes structured with steps, or in which the professor is on an elevated platform. For some students, this hinders access to the blackboard:

RS1: The elevated platform, for example, I can't get up there, so I can't reach the blackboard; I can't write on the blackboard. That classroom is prepared for people with no special needs.

When environmental conditions and classroom furniture are not adapted to student needs

The results prove that university students with disabilities also run into barriers within the classrooms where they study. These barriers include inadequate furniture or furniture that is not adapted to their needs. For example, some students underline the existence of inadequate chairs or desks, which hampers their working under appropriate conditions. Other students note the problem of moving round the classroom when the furniture is chaotic:

RSP9: That's what happens in my classroom; the seating is not fixed, both chairs and desks are movable, so in most cases, my classmates agree to and leave a more or less a passageway, but most of the time, there are chairs in the middle, and of course, I can't see them, so I hit them.

These university students all talked about barriers linked to environmental aspects of the actual classroom. Thus, for some, inadequate lighting in some classrooms was a problem. It prevented them from seeing the screen or the blackboard.

Other students, mainly those with a hearing disability, indicated that there are environmental barriers linked to background noise in the classroom. Due to this noise, they have trouble hearing the explanations provided by the professor, or, in some cases, even presenting work required for the subject.

When accessing information and virtual spaces, there are added difficulties

University students with hearing and visual disabilities generally find that accessing information or the learning context can be a barrier. This is especially true when working from a virtual platform or trying to access the information therein. Concerning communication barriers when accessing information, our results indicate that students have problems hearing the lecturer due to poor classroom acoustics, or public address (PA) malfunction:

RCS3: That is the case when the lecturer clips on the microphone; most of the time, you can hear how it reverberates because it is my microphone that the teacher uses, right? I can adjust it to listen to the classroom or hear only the teacher's voice, but most of the time, because the volume is turned up too high, I hear the microphone and I can hear, but it is really hard to understand.

Another difficulty that students with visual disability face is when accessing information. This is especially true for class notes, the blackboard or *PowerPoint* presentations covering class material:RTE4: Personally, for me at least, the idea of having blackboards that I can't see or electronic blackboards that nobody uses, for me that makes it all impossible for me to follow the class.

Students with visual disabilities have pointed out the problems they find when accessing information listed on the bulletin boards (exam/final grades, notifications, information from the secretariat, copy shop, cafeteria, etc.). For the most part, the font type is small, thus making it hard or impossible to see:

RS7: That's something else I didn't mention before: the grades and notifications. There are times when I can't see them, well, not sometimes; it is most of the time that I can't see them. I just can't see them. I have to wait for them to appear on the Internet, or ask someone, but it is the grades or anything else… it's impossible to see them, just like the list of accepted students, that too comes with very small print and it's impossible to see.

These university students explained that they also faced difficulties with new technologies (screens and computers that are not adapted, lacking screen readers) and virtual spaces. However, they consider

these good tools to access contents for the various subjects but they have problems when it comes to finding and seeing the information found, due to the excessively small font size:

> RS8: Accessibility when it comes to online registration, accessing the virtual platform, downloading documents and things like that could be improved, although there are many things you can access, but in many cases, it is not as accessible as it seems.

Finally, we found that students with visual disabilities have problems with the signposting. The participants in this study commented that at their faculties, either the signposting is poorly indicated or the existing signposting is insufficient for them:

> RSE8: In a new building, I'm surprised that the actual architects don't stop and think about location. Because it is true that in this day and age, the elevators have numbers in relief; but once out of the lift, and if I want to go to my classroom, I have to ask. I don't have… so, if we know that the lift needs to have relief numbers, then in the classroom too. Signs in the restrooms, just as on classroom doors, are hard to find.

Discussion

The right to higher education has been defended since the first half of the twentieth century and continues today. In recent decades, efforts have been made in a number of countries to guarantee that this right is real and effective for those with disabilities. For example, Spain has worked to guarantee this right with the current Organic Law 4/2007 for universities and Royal Decree 1/2013.

In recent years, the social disability model has been making headway by defending the need for educational contexts to be as inclusive as possible. At the same time, the universal design concept has frequently appeared in various legislative texts with reference to the rights of the disabled. A more accessible structural design is needed, including spaces conceived and built for everyone.

In their mission statements, many universities, whether in Spain or abroad, declare the need for students with disabilities to participate in university life under the same conditions as their classmates. However, the results of this work allow us to conclude that full equality has yet to be achieved; students continue to face a variety of barriers that hinder their access to the university and daily student life. With reference to architectural barriers and infrastructures, we can point out urban, transportation, building, environmental and communication barriers.

Regarding our findings, we can say that many of them are similar to previous works, some of which are more than a decade old (Alcantud, Ávila, and Asensi 2000; Borland and James 1999; Holloway 2001), while others are more recent (Castallena and Sala 2005; Díaz Velázquez 2012; Luque, Rodríguez, and Romero 2005; Moswela and Mukhopadhyay 2011; Rodríguez et al. 2009).

The participants in this study, especially those with physical and sensory disability, highlighted (when referring to urban and transport barriers) the problems they faced when trying to reach their faculty. These problems were due to the poor state of the streets and outdoor public spaces around their place of study or the obstacles encountered, in addition to hindrances when using public transportation and their own vehicles.

Nevertheless, these students ran into barriers not only outside the university campus, for they also identified a number of obstacles within university walls. All of these barriers made their student life more difficult, while placing them in a situation of discrimination and dependence upon their classmates. Among these barriers, we can point out those linked to the actual building (small spaces, lack of ramps, lifts, etc.) and those aspects relative to the actual classroom (cluttered furnishings, lack of ramps, furniture that is not adapted or fixed, etc.). Within the classroom, there are additional barriers linked to environmental conditions (noise, and too much or too little light) and communication barriers. Students, mainly those with visual impairments, emphasised the problems when moving around the centre and when accessing the various spaces, as well as difficulties derived from little or no signposting. In the case of these students, they found barriers on more than a desirable number of occasions, which became a major hindrance when accessing and reading important information. This coincides with the results obtained by Borland and James (1999), Castellana and Sala (2005), Fuller et al. (2004)

and Holloway (2001) and also indicates that there are a variety of barriers, which, depending on the disability, could be of one type or another.

Conclusions

The results presented reflect the reality of the participants in this study, who suffered the barriers described in the first person. Their considerations about and analysis of the various architectural barriers and infrastructures lead us to conclude, as Hopkins (2011) and Jacklin et al. (2007) defended, that the obstacles that these university students face are in their surroundings. In other words, they are structural barriers rather than personal or individual barriers, as recognised by the social disability model. This reality substantiates that the university centres studied still require a certain degree of adaptation and readjustments to make them fully accessible for and usable by all students.

Specifically, common spaces at universities must be accessible, with signage, ramps, wide doors and toilets, anti-slip strips and adapted lifts. Furthermore, classrooms must be designed without steps, and have spaces reserved in the front rows for students with disabilities, with adequate audibility and visibility and where there are new technological facilities (computers with appropriate software, digital blackboards, etc.). Luque, Rodríguez, and Romero (2005) and Scott et al. (2003) concluded that such improvements would benefit inclusive design of university environments. This leads us to believe that future university policies should earmark part of their budgets for complying with legislation on disability, and therefore, on architectural barriers existing in the various colleges.

In urban environments, it is advisable for specific legislation and accessibility plans to be developed (streets, transportation, buildings) and their noncompliance penalised. Thus, increasing accessibility means improved habitability, and any citizen, regardless of age or ability, may live in those spaces.

The objective must therefore be to attain full inclusion, using universal design as the reference and transforming the existing built environment so as to be less hostile to a wide range of users (Jones 2014). In this regard, we agree with Pliner and Johnson (2004) who state that improvements in these spaces and infrastructures will be beneficial not only for students with disabilities but for the entire university population. As Kitchin (2001) described, it is an 'inclusive landscape', with all scenarios being contemplated.

Recommendations

As explained throughout this article, the results obtained are in line with those of previous studies. Nevertheless, we consider it essential that future studies perform a more detailed and in-depth analysis of each individual architectural barrier and the infrastructures that are still found at the university studied. It would be recommendable that future studies approach this topic with an analysis from various voices or with different informants (not only students with disabilities), using other data collection instruments (for example, observing the spaces and infrastructure in situ) and in a much more specific manner, with a more detailed analysis at each faculty and various university campuses.

Limitations of this study

One possible limitation of this study is the sample itself. Access to it was a slow process that lasted a complete school year. The law on protection of personal information did not allow the research team direct access to it, and so the Student Disability Service acted as intermediary and contacted the students. At this first moment only about 20 people were interested in participating. Therefore, we had to think of other strategies, such as presenting the project on other campuses and the snowball technique. In any case, we would have liked more students to have participated.

Another limitation of the study is that the data refer to a single university. It would be of interest to find out the various barriers and aids identified by other students with disabilities from different universities.

Notes

1. The fields of knowledge contemplated at the University of Sevilla are: health sciences, experimental sciences, social and judicial sciences, engineering and technology, and humanities.
2. To safeguard the confidentiality of the participants in this research, we have used abbreviations to identify them. Therefore, RSC refers to health sciences, RSE to social and judicial sciences, RSP to social sciences (education), RTE to engineering, technology and experimental sciences and RH to humanities. Each participant was given a number in addition to the corresponding abbreviations.
3. This university currently has 26 teaching faculties located throughout the city.

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No potential conflict of interest was reported by the authors.

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Notes on contributors

Anabel Moriña is a professor in inclusive education at the University of Seville. Research interests include: educational exclusion, inclusive education, in-service teacher training, disability, higher education and qualitative methods.

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