Life-Lines of Spanish Students with Disabilities during their University Trajectory

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Abstract
The authors conducted this study at a Spanish university to find out what barriers and aids students with disabilities identified during their university trajectories. The authors used a biographical narrative method, and specifically, life histories. Our analysis concentrated on the life-lines and interviews, showing the histories of three students with disabilities. We analyzed data through a narrative system, approaching each life history separately and making a global analysis of it. The results section presents the university trajectory of three students with disability, Javier, Luz María and José Manuel. Each student made a personal narration of his own university experience in a first-person history, describing aids and barriers. The conclusions discuss the main barriers and facilitators each student perceived at the university and suggest the potential of this technique for construing life histories.

Keywords
Higher Education, Disability, Inclusive Education, Life-line, Life Histories, Biographical-narrative Method

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In Life-Lines of Spanish Students with Disabilities during their University Trajectory

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Introduction

The purpose of this article is to present the aids and barriers encountered by three students with disabilities in Spain during the course of their university studies, using life histories. Essential facts and events during each of the educational itineraries are highlighted by making use of the life-line data collection technique.

A first contribution of this work is to contribute to research on University, Disability and Inclusive Education. In this study, people with disabilities offer their testimonies where they identify both barriers and aids in completing their education at University. The students give arguments that provide clues for Higher Education to review its policies and practices to build accessible and inclusive university settings. A second contribution of the work is the methodology used, since although previously we carried out studies about the university experiences of students with disabilities, we know of only one study on this topic that built life histories (Hopkins, 2011).

Finally, visual methods, including lifelines, have been identified as an opportunity for people with disabilities and vulnerable groups to participate in research (Fullana et al., 2014). However, to our knowledge, this data collection technique has not been used previously in studies about higher education or university students with disabilities. In this sense, a third contribution of this article is the presentation of university trajectories of students with disabilities through their life-lines.

The Challenge of Inclusive Education at University

Access to higher education for non-traditional students, including students with disabilities, is a reality in different international contexts (Laird, 2011; Liasidou, 2014; Seale, 2017). In the case of Spain, the country in which the research presented in this article is developed, 20,793 students with disabilities were registered at universities in the 2016/2017...
academic year, accounting for 1.4% of total university students (Universia Foundation, 2017), compared to the 18,418 students registered in 2011-2012, for example.

Different initiatives have influenced in the increase of students with disabilities at University. In the first place, different declarations and laws have supported the need for higher education to be wider, open to students traditionally not represented at University (Thomas, 2016). In the international level, for instance, the Convention for the Rights of Persons with Disabilities (UN, 2006) endorsed the obligation to guarantee persons with disabilities access to higher education, professional training, adult education and learning throughout life without discrimination and under the same conditions as others. This same organization has supported inclusive education at University through the 2030 agenda for sustainable development (UN, 2015). The European Union has also supported inclusive higher education, proposing the creation of plans for university support and services which improve access and educational inclusion of students with disabilities (Council of the European Union, 2011; European Commission, 2010). The Organic Law 4/2007 and the Royal Legislative Decree 1/2013 on the rights of people with disabilities and their social inclusion, in the Spanish legislative field, support the inclusion of people with disabilities in higher education and the guarantee of non-discrimination and equal opportunities.

In addition to legal initiatives, through decrees and laws, there are other reasons that might explain the presence of students with disabilities at university: the creation of disability office for supporting this group of students, the incorporation of the new technologies or the implementation of inclusive educational practices (Morgado, López, & Moriña, 2017). In fact, a significant number of countries have started up programs for making universities more accessible to persons with disabilities, and they are gradually becoming more committed to inclusion processes (Barnes, 2007; Jacklin, Robinson, O’Meara, & Harris, 2007).

However, although actions and mechanisms have been implemented in different international contexts to guarantee the right of students with disabilities to access the university system on equal terms that the rest of the students, it is not enough. We need mechanisms which contribute to the permanence and successful completion of university studies (Gibson, 2015; Quinn, 2013; Thomas, 2016). This is especially appropriate when several studies have concluded that higher education offers chances for students to experience processes of social inclusion (Moriña, 2017a). In the case of students with disabilities, the university can be considered as an opportunity to improve their quality of life (Moswela & Mukhopadhyay, 2011; Wehman 2006). This experience can help to get and maintain a job and obtain an independent life. It can also be an important experience of empowerment (Moswela & Mukhopadhyay, 2011).

Therefore, it is not surprising the movement that exists in favor of inclusion, demanding from different research, that the university walk towards an inclusive education model, since it is considered a pending issue in the agenda of a significant number of universities (Claiborne et al., 2010; Foreman et al., 2001; Holloway, 2001; Hopkins, 2011; Jacklin et al., 2007; Moriña, 2017a; Prowse, 2009). Although the advances of university systems in terms of inclusion are recognized, there is still a long way to go for the university to be inclusive. The inclusive education model supposes giving a quality answer to all the students, increasing the practices that lead to the learning and participation of all the students and the elimination of the obstacles that lead to exclusion (Ainscow, 2016). Likewise, the inclusive education model is conceived from the principles of justice and equality (Lawrence-Brown & Sapon-Shevin, 2013). In this context of inclusive education, disability is conceived from the social model of disability (Oliver, 1990). According to the social model, it is the practices, attitudes and policies of the social context that generate the barriers and/or aid that obstruct or favor the access and participation of people with disabilities in different areas: social, economic, training, etc. (Barton, 1996).
There is still much to be done to overcome the persistent barriers to access, retention and graduation, especially for students with disabilities (Pliner & Johnson, 2004). A considerable number of studies have identified obstacles that hinder the educational trajectories of university students with disabilities (Brandt, 2011; Fossey et al., 2017; Kilpatrick et al., 2017; Shevlin et al., 2004; Strnadová et al., 2015). These studies coincide in reporting about the continuous barriers they must face, whether in the macro-institutional environment (inaccessible buildings and virtual environments, unending administrative procedures, or regulations not applied,) or the micro-institutional environment in the classroom (negative attitudes of faculty members, need for faculty training, non-inclusive curricula, or absence of curricular modification).

Notwithstanding the foregoing, although less common, some studies describe facilitators for inclusion, such as family support (Riddell et al., 2005; Skinner, 2004), friendships and peer support networks (Gibson, 2012; Riddell et al., 2005), faculty support (Ferni & Henning, 2006; Leyser et al., 2011), help from student disability services (Riddell et al., 2005), or personal support, referring to their own strategies for coping with their difficulties (Moriña, 2017a; Prowse, 2009).

In short, providing a quality and inclusive response to students with disabilities should be included in the University's agendas, since the studies conclude that the presence of students with disabilities contributes to the construction of a better University (Higbee et al., 2007; Ridell et al., 2005; Shaw, 2009). It has also been found that changes made for university students with disabilities benefit the rest of the student body (Powney, 2002; Shaw, 2009; Warren, 2002). That is, as acknowledged by Ferni and Henning (2006), good teaching principles are relevant for everyone. In this context, universities are gradually beginning to be more committed to inclusion of students with disabilities, creating, among other initiatives, services for students with disabilities. Jacklin et al. (2007) and Tinklin et al. (2004) conclude that the presence of university students with disabilities is challenging how the university works. In fact, this challenge involves not only physical access to buildings, but also much broader access to curriculum, teaching, learning and evaluation.

The Life-Line as a Tool to Study University Trajectories

The life-line is a technique that is framed within the visual methods of research (Fitzhugh et al., 2015). This data collection instrument combines quantitative and qualitative information in a concise illustration for visual representation (Martin, 1997). That is, as Gramling and Carr (2004) define it, the life-line is a representation of the past and present of a life history, identifying events in chronological order and showing their importance or significance. Berends (2011) and Kolar et al. (2015) recommend that the technique not be used alone, but be completed with individual interviews.

Life-lines have been used for both professional and research purposes. The first includes clinical uses for a multitude of treatments (Martin, 1997) in the field of mental health (Landgarten, 1981) and professional consulting services (Brott, 2005), among others. The second has been used for studies on transitions by women from 25 to 35 years to investigate about their psychosocial development and the strategies used, (Gramling & Carr, 2004), for academic staff (Heydon & Hibbert, 2010), studies on perspectives in experiences with death (Widera-Wysoczańska, 1999), women with a history of drug abuse (Woodhouse, 1992), and disability studies (Frank, 1984).

Although this technique has not been used previously for the analysis of university trajectories of people with disabilities, the use in our study is presented as a suitable technique to analyze the barriers and aid identified by students with disabilities.
Method

The results presented in this article belong to a research project funded by the Spanish Ministry of Economy and Competitiveness, entitled “University Barriers and Aids Identified by Students with Disabilities.” This study, which lasted four years (2011-2014), was carried out by a research team comprised of faculty members from different areas and fields of knowledge (Education Sciences, Economics, Health Sciences, Experimental Sciences and Humanities). The authors of this article are faculty members of a public University of southern Spain (the first two of Education Sciences and the last author of Economic Sciences). Since 2010 they share research projects, based on qualitative methodologies, whose final target is to contribute to build a more inclusive higher education. In these years, their research team has been concerned with studying the barriers and aids identified by students with disabilities at University; analyze the role of the disability support offices staff; design, develop and evaluate a training program for academic staff in inclusive education and disability; and finally, to study those faculty members who are developing an inclusive pedagogy to know what, how and why they do it. In the specific case of the project that we present in this article we expect to give voice to students who are not usually heard in the studies and through their testimonies, make visible and report the barriers and aid that are found in their university trajectories.

Purpose and Research Questions

The purpose of the research was to study the barriers and aids identified by students with disabilities in their access, trajectory and results at university from their perspective. In this article, we set out three research questions:

a. How do the students who participated in the study describe themselves?
b. What are the barriers that students find in their university trajectory?
c. What are the helps that students identify in their university trajectory?

Qualitative Design

In this investigation, the research group decided to use the biographical-narrative methodology. This type of methodology emphasizes the importance of people speaking about themselves, without silence their subjectivity. Therefore, as a research methodology, it is very appropriate to listen to the voices of groups that have been silenced, which may be the case of vulnerable groups not present in scientific discourse, as is the case of people with disabilities (Shah & Priestley, 2011). As Owens (2007) acknowledges, it helps to release the voices and histories of people who are not usually heard. This approach proposes an alternative to the paradigmatic ways of knowing, where the role of the research subject is reconsidered and the need to include subjectivity in the process of understanding reality.

This research was developed through two phases of research. In the first phase, extensive, we made focus groups by fields of knowledge. Forty-four students participated in the study. These were organized by groups to interview. Two researchers, one who asked questions and another who took notes, held these interviews. Six to eight students participated in each focus group. In this phase, we expect to know in an extensive way what were the barriers and aid that the participants were at University. In the second phase, we selected 16 students from the initial 44 students, to study in depth the university life histories of these students. The criteria for selection of the 16 students who participated in the second stage were: type of disability, branch of study (so that the five areas of knowledge would be represented),
availability to participate in the study and university experience in which they met with barriers or assistance.

This paper is focused on the second phase of research, presenting only three life histories. This decision has been taken by the authors of the work, not because the life histories are the most representative, but because they expect to present each story in greater depth and therefore, a greater number of life histories would not allow it.

**Participants**

Forty-four students with disabilities participated in this study. Access to them was through the Student Disability Office. To access the students, we wrote an email from the office to all students with disabilities at the University. Twenty-one students replied to the email showing interest to take part. Afterwards, the research team presented the project in different universities to recruit more students. It was also necessary to use the snowball technique to have more participants (Cohen, Manion, & Morrison, 2000). This process lasted around an academic course.

The office is at city center and look after around 600 students with disabilities. The action protocol is usually an individualized meet with students who requests it and from this interview the needs of the student and the actions that are necessary to answer them are specified.

This article concentrates on the life histories of three of these students. As for student’s profile, two of them have a visual disability and one a hearing disability. The three students were studying for different degrees: Biology, Medicine and Labor Relations. The average age of the students was 24 years. The three students were studying their last course of their degrees.

**Instruments for Data Collection**

Our research used several life history data collection instruments (in-depth interview and life-lines). In meetings attended by a researcher and each individual student who has been included in this article, they were asked to draw their life-lines, from left to right, starting with the date they entered the university on the left end of the horizontal axis to date, and on the vertical axis each milestone or significant event in their university life history, and to grade it from 0 (where 0 is very negative) to 10 (where 10 is very positive). However, in some cases, due to the student’s disability, for example, students with a visual disability, the researcher filled in the figure for them. We interviewed them several times after that, and in the following meetings, focused on some particular aspects of their life at the University. These were not predetermined aspects, but we delved into those issues that were arising as we were collecting the data.

**Data Analysis**

Sparkes (2015) suggests that data analysis in research using life histories should not be paradigmatic or structural (etic perspective), but individual and not generalized. The task is then to configure the elements in the data into a unified history that makes sense in an authentic description of the individual’s life, but without manipulating it. This type of emic analysis attempts to reveal the unique character of each history, developing an argument or storyline. The emic analysis is characterized by being narrative, thinking with the histories, instead of thinking about the histories (Bochner, 2001). In this study, we performed narrative analysis on each participant’s history, as proposed by Goodley et al. (2004) or Sparkes (2015). In collaboration with the main actor in the life history, the information collected with the life-line
and the interviews was organized so it would make sense, without forcing it into any pre-established system of categories. In collaboration with the student, all the information collected was organized to make sense. We created our own analysis system for this study (Moriña, 2017b). Each history was approached individually and the narration itself was the central axis of the analysis. This was done following the steps below:

- The researcher read all the information collected (through life-lines and interviews) about the main actor in each life story.
- The information in the history was organized chronologically from past to present.
- The key moments (landmarks in the student’s histories that they pointed to as a barrier or aid) narrated by the participants in the research were identified by the researcher and agreed with the student.
- We attempted to remain neutral in the analysis and respect the history just as the student narrated it. The researcher did not question, judge or place any values on the history itself. Negotiation and continuous feedback were fundamental for the writing of each student’s life history. For this, we held work meetings in which we reviewed the history between a participant student and a researcher, in order that the history would represent the student's testimony.
- In the process of analysis and writing we asked ourselves: Was the student reflected in the history? Were we faithful to his words, experiences and emotions? For this, in the analysis process, the student had the final say, and he was who reviewed and gave the go-ahead to the history told. It was he who co-wrote, reviewed, approved, put into context and completed the analysis that we were doing.

Writing Life Histories

It seems clear that the biographic-narrative methodology for writing life histories must generate a narrative report (Hackett, 2013). As recommended by Goodley et al. (2004) each history in this article was written in first person, always respecting the voice of the main actor and emphasizing his subjectivity. We rewrite the words of the participants so that the history made sense and was organized. However, there was continuous collaboration with the students so that the story would be loyal to their words. The research team coauthored these narratives using the information collected, identifying essential elements in them and decisive moments for understanding the university inclusion process. The narratives were kept neutral, and the voices were those of the students with disabilities, leaving the researchers’ comments for the conclusions and discussion. In this sense, in this type of analysis, the researcher's subjectivity was also inevitably present. Not only because he was who transcribed the words in the text, to later organize them and reconstruct the history of university life, but also because his subjective view about the own history was incorporated into the analysis we carried out. Throughout the entire process, discussion with each participant was indispensable to provide the life history with sense and veracity.

Ethical Issues of Research

The University in which the study was made does not have an ethical body that approves of studies. However, as it is a study funded by the Ministry of Economy and Competitiveness of Spain, at the time we submitted the request form to obtain financing for the project, we had
to complete an ethics standards form in which we committed ourselves to the protection of Human Subjects, and in which we guarantee to protect the safety of the participants, privacy, and confidentiality. In the specific case of our study, all three students gave their written informed consent for participation in the study. They were guaranteed anonymity and confidentiality of all the information collected. Furthermore, they were informed that in case they did not want to continue participating in the study, their information would not be included in the analysis and would be destroyed. In addition, pseudonyms were used and all names were modified so as not to identify third parties named by the students. Their co-participation in the study was also planned for. They were invited to participate in the decisions made on the research itself, and they all participated in designing the data collection instruments as well as their analysis.

Results

This section presents the life histories of three students with disabilities, Javier, Luz María and José Manuel, compiled using the life-line technique. Each history was co-written between the researcher and the protagonist of the life history. Each student made a personal narration of his own university experience in a first-person history, keying aids and barriers.

Javier’s Life History

Figure 1. Javier’s life-line

Javier is 22 years old and studies Biology. He considers himself to be an active, curious person, a friend to his friends, committed and with a desire to live. He had always felt a special attraction for nature. He remembers his years in primary school and high school fondly, and they were not especially hard as far as his visual disability is concerned, and in fact, he thought he could say he was hardly aware of it.

However, trouble began when he got into the university. He had many problems while he was studying, although he had wanted to study the profession and had had a tremendous
inclination toward it since he was very young, very sadly, all his hopes in it were falling apart. He said to himself: “Why am I studying it? Because in the future I’m never going to be able to practice it.” But the fact was that, aside from whether he could or couldn’t exercise the profession, he was exercising his right as a citizen to study. He will worry about employment later.

What can I tell you ... since I was seven years old I am wanting to be a biologist, and now, at the university, in a year and a half, they can destroy you instead of fostering you. To me this…it gives me to think, because I do not have to drop out the degree...

He remembered the summer before he enrolled at the university. It was no worse for him than for many of his friends, since his academic records were good and he knew exactly what he wanted to study: Biology. Although it is true that he was nervous and a little afraid, because he didn’t know what the classrooms were like or whether he would be able to see the blackboard or the projections, but certainly in general he was rather looking forward to it.

Well ... I really wanted to start the university because I’ve always been very clear about what I wanted to study, and ... I really felt like, but also, I had a little bit of fear. I had been in cotton at high school, but at the University it was a completely new world, unknown, and without anyone who could give me a hand.

At the beginning of the semester, little by little, everyday problems started to come up. From technical problems, like not being able to see the blackboard, not being able to get to the computers, handling magnifying glasses or microscopes, managing the practice sessions, and following “numbers” in subjects like Physics, Math or Biostatistics. Furthermore, he couldn’t see the blackboard, had problems getting into the building and with the furniture in the classrooms. But above all, he would like to point out the barriers related to faculty members, who sometimes did not take him seriously. They even went so far as to suggest that he buy better glasses. He had come across faculty members uninformed about disability, but above all, with a very negative attitude toward it, and with little desire to solve problems. So, all the hope he had had at the beginning started disappearing when he came face to face with reality. The barriers were always higher and higher and there came a time when he wondered whether he could face them.

I was already desperate, quite desperate because I bumped into faculty members who did not want to do anything to help me. I for example told them: “Please, I don’t see the blackboard, nor the PowerPoint, give me the slides ahead of time that I can print them and take them to class.” Some of them said yes and most of them made excuses for me as they made the slides the day before giving the class. Even one academic even told me: “Well, buy yourself better glasses.” But do you really believe that if I could wear better glasses I would be here trying to solve these problems? ... It was really exasperating.

At the beginning of his second year of degree studies, he could already see that things were going very badly. Faculty members did not get involved, did not understand, or simply did not believe it. There were faculty who didn’t help him by not wanting to adapt the curriculum in some practice classes, and caused him to leave in tears… He was very discouraged and thought
about dropping out, quitting and giving up what had been his dream since childhood as impossible.

For instance, in the Vertebrate subject, I speak with this academic about I could not dissect a chicken, that I did not have coordination; that from my visual disability a series of problems are derived, that I do not have reflexes; that I do not have coordination when handling some forceps and a needle, in things as small as dissecting a vein that is attached to another. Then, I raised the possibility of making a curricular adaptation, but in no way, she refused completely. I remember being confronted with the dissection of the chicken... and when I had already been six hours I said her: “look, that is enough,” and I quit the practice...

In the third year, things started getting better. The Student Disability Office began to take the matter seriously and the university began to take action, although at an extremely slow pace given the seriousness of the situation, or at least so it seemed to him. This unit began to manage, and tried to get all the papers, legislation, decrees, regulations, etc., that protect students to be something more than just empty words.

I remember that my mother told me; “Javier, if you leave, it is not because we have not tried it until the end.” My mother met with those in charge of the University's unit for students with disabilities and she told them seriously that this could not continue like this. From this university service, they had always helped me a lot despite the few resources with they count, but they had to do something else...and the changes were coming.

This also coincided with a change in his attitude, since little by little he could see that it was useless to try and be a model student at the university, and that unfortunately, the prevailing attitude is “every man for himself.” His attitude changed. He kept going, he passed the subjects he could, and if he could not, he will pass later. And that is it, no stress. He had not only had obstacles in his life at the university. He had also found aids. But evaluating them, he could also say that almost all of them have come because he fought for them.

Life goes on, and the most important thing is that he had been through a lot and he was not going to get worked up about it ever again. By learning the hard way, he has become someone indestructible, strong, daring, resolute and extremely happy. Nothing frightens him, he wants to take advantage of all the opportunities that come his way and live life to the utmost. Thanks to these experiences at the university, and many others good and bad, he has become what he is now, someone who looks toward the future with hope and lives the present with passion.

I have already put that slogan, keep going, leaving behind what I can’t, that I will recover in the future, and keep going, I will not stop. Now I am happy, I know there is a lot to do, but I take it with another philosophy and I know I do not want to have a brilliant academic record. I do not care about the grades. I am studying this just for the fun of it, so I tell you, the grades do not matter to me, that matters to me is what I learn.
Luz’s Life History

Luz Maria is 21 and she has a 50% hearing disability. She has been studying at the School of Medicine for three years. She wanted to study medicine. She wanted to be a doctor. She has always liked it since she was young, and she was given a manual of pediatrics, and now she likes it even more.

She remembers that her admission to the university was loaded with uncertainty up to the last minute. When she applied, they did not take her disability into account, and she could not study medicine. At first, when she saw that she hadn’t been accepted, it was a tremendous disappointment. It was like the world had come crashing down around her. Her father went to the university to solve the problem and when he called to tell her that everything had been solved, she could breathe a little, but she did not rest until the day the second list of admissions was published and she saw that it confirmed that she could study for a degree in Medicine.

There are classrooms in the university buildings that have very poor acoustics, so it is an additional problem for a student with a hearing disability. For example, in the first term of the first year of Medicine, she tried to take a recorder to class, in case she missed something because she hadn’t caught it. She asked the faculty members for permission after the class was over, but only some of them agreed, others said “No.” The reason? “No.” After the first term, she stopped trying and decided to look for another way, another resource:

In the first course, I proposed to take a recorder to class, so that if I did not know something well, I could complete it with the recorder. But most of the academic staff told me no, I could have what I had, they told me no. And I insisted, I said,
“Look, I have this problem, this happens to me,” and they said “no, in my class, no.”

One of the problems she had come up against in class is not being able to keep reading the faculty’ lips when they look at the blackboard, keep talking while walking up and down the aisle, or when they are sitting down, and she couldn’t see their face behind the computer. Anyone might say that all of this is irremediable, that she couldn’t make faculty members stand at the podium facing the front.

The problems are, basically, sound. In the theoretical classes, the classmates do not stop making noise and there are always constant murmurs. And then, the academic who almost always moves around the classroom, and sometimes, when he goes to the back of the classroom, I can’t follow him...

She usually participated in class when a question is asked, but when a disorderly debate started she had to back out. She couldn’t catch what has been said in class and it turned out that her answer is on a different subject than what they were discussing at that moment. It wasn’t pleasant, but then she just had to laugh at her mistake. It was better to take things with a sense of humor.

She also needed the collaboration of the other students in the classroom. It wasn’t easy to hear what the academic was saying if everyone was murmuring around her. One of the characteristics of her hearing loss was that she couldn’t differentiate sounds well and it was hard for her.

In the second year of Medicine, one of her biggest problem was the practice classes. When she had to work in groups (usually with three others), and so many people were talking at the same time, it was very hard for her to participate in the discussion. When they had a practice session, they used a slide projector, they put off the lights to be able to see the screen, but then, she couldn’t see the academic, and couldn’t read his lips.

I remember the practical classes of Anatomy, in the dissection room, everyone talking. That constant noise because everyone is saying what they think; and when the academic spoke from the other side of the room, I did not know anything. It was very stifling.

In the third year of Medicine, when she discovered aids offered by the university, things started changing. They were a before and after in her university studies. The university has a specific area devoted to students with disabilities, the “Student Disability Office.” In the College of Medicine, an initiative known as the “Students with Special Needs Support Group” was started up coordinated by an academic who sent an email to all the students with special educational requirements, and any disability to arrange for an interview and personally find out their specific needs. Both aids had been fundamental for feeling better at the university and overcoming the barriers found in the previous years.

The director of the support group for students with disabilities is an academic from the School of Medicine who is coordinated with the disability office at the University. She contacted by mail with all the people with disabilities at the university, she gave us an appointment, she informed us of the purpose of the support group, of everything that was going to be done, and above all, she asked what is it that we needed.
Jose Manuel’s Life History

Jose Manuel is 31 years old and he studies a degree in Labor Relations. His situation is not easy, because he has a visual disability. Therefore, he thought training and occupational planning were fundamental for individuals with a disability. The best way to become part of society was through access to employment.

He began to study at the School of Labor Sciences in 2010/2011. The first contact he had with the university was with online preregistration. He had no prior information on how to fill it out or where to present it. In addition, this form was neither compatible nor accessible for filling out with the JAWS computer program for persons with a visual disability, so he had to ask his classmates for help.

At the beginning of the first year, the university started up an Orientation Workshop for new students which helped him to find out about the university environment and dynamics and meet some of the other students.

For me, it was very important on the first day. You arrive, you do not know anyone, and you sit next to a person with whom you start a conversation... It was those people who helped me at the beginning, who taught me little by little how the University was structured, how was the dynamic.

One of the main barriers he found was the classroom, since several of them are organized on tiers, that is, with desks on different levels, which could cause you to trip and fall. In some classrooms, the desks were chairs with a tablet arm. They were uncomfortable for everyone, but it was an additional problem for the students with visual disability, because the arms were too small and there were no optical aids.
One thing that had given him a lot of trouble had been combining work and study. It had often been impossible for him to attend class because of the work shifts. Then the tension and stress kept him from being able to continue. At those times he lost connection with his classmates, which was also very detrimental for him.

From the beginning, I was studying and working. And, I was doing very well. I got the degree per year. But last year, I changed the job, and this coincided with the February exams, and I did not take it. In June, I also had other personal circumstances that did not allow me to take a test. And the truth is that it is quite complicated to combine both.

His growing loss of vision was added to all of the above. That is, he had to face what it is like to be a person with a complete visual disability the hardest way. In the second year, he had problems moving to the Faculty’s new building. When he was finally used to the design of one building (the old Faculty), they changed to an enormous campus with several buildings, several courses of study, very wide-open with large spaces, etc. The new building, even though it was built recently, had several accessibility problems. For example, the color of doors and walls was very similar which makes it hard to locate a classroom door. It was also hard to locate the student restrooms. All of this considerably impeded my mobility and even became a discouraging factor for continuing studying at the university.

Especially difficulties in locating things. In a new building, I am amazed that the architects themselves did not stop to think about the need to put the numbers in relief in an elevator; and if I want to go to my classroom, I have to go asking people, because the numbers in the classrooms are not in relief either. Or something as simple as stairs that do not have any initial and final step that have contrast, with how dangerous it can be for a person with visual impairment.

Faculty members had a very important role in socialization and admission of students with disabilities in their classes. And despite a serious lack of information and training on the subject of disability, in general, his experience with them had been good. When he had contacted them to meet them personally, they had usually agreed to help him. They had given him a longer time for exams, changed the way they were taken, and even asked him about the best computer format for him. He especially valued their disposition to establish contact with him by and their support in faculty office hours. This had been very useful and a great help to him.

I think that you have to get by on your own, if the academic does not come to you, you go to him. In that sense, I have had a good experience, and they have made things easier for me. To do the exams, I was asked about the method I preferred to do it, they gave me more time ... I remember that once I ran out of computer battery, and in the middle of an exam I lost everything. The academic sat next to me and began to take my exam verbally. In that sense very well, the ease at the time of performing the exams has been most positive.

But he would especially like to highlight that the arrival of Olivia, his seeing-eye dog, in the third year, was fundamental in his life. Since her arrival, his problems at the university and in his life in general had been drastically reduced. Olivia was an extremely good guide dog and did her job perfectly. It was a privilege to be able to have this service provided by the ONCE (It is a non-profit organization known as National Organization of Blind Spaniards, whose mission is to improve the quality of life for the blind and anyone with a visual disability in
Spain). Her acceptance at the university community had been very good. All the faculty members, students and administrative staff treated her fondly and never made the least objection to her presence. He recommended a guide dog for anyone with a visual disability.

**Discussion**

In this study, the participants identified a series of common obstacles. All students recognized the physical barriers (because of the spaces were not adapted, the infrastructures were inadequate to their needs or the technological resources were not accessible). These results coincide with other previous studies (Fuller et al., 2004; Holloway, 2001; Moswela & Mukhopadhyay, 2011).

The students’ reflections and analyses on the architectural and infrastructure barriers lead us to conclude that, as also reported by Hopkins (2011) and Jacklin et al. (2007) the obstacles found by these students are in the environment. That is, they are structural and not personal or individual, as recognized by the social model of disability. This reality confirms that university spaces still require certain adaptations and readjustments to make them accessible and be used the same way by all students. The goal must therefore be full inclusion, taking universal design as the reference.

In addition to this, for Javier and Luz, faculty members were an obstacle to inclusion at the university, both because of their negative attitude toward disability and their lack of information and need for training in this respect. According to these students, faculty members were not sufficiently prepared to properly attend students with disabilities, and this gap in faculty training was one of the main barriers to their academic development. Hadjikakou and Hartas (2008) and Moswela and Mukhopadhyay (2011) also found ignorance about disability and thought that faculty members should be trained to provide a quality response. Moreover, faculty members who have participated in some type of training in this topic have been shown to be better informed and provide a more sensitive response toward students with disabilities (Murray et al., 2011). Universities should therefore include programs directed at attention to students with disabilities in their faculty training agendas.

Nonetheless, not only were faculty members not always a barrier, they were sometimes identified as an aid. This was the case of Jose Manuel, who thought the faculty helped him in the teaching-learning process. This shows that the experiences of students at the university are subjective, and depending on the person, the type of disability and the field of knowledge he is in, the obstacles and aids may vary (Moriña, 2017a).

We can conclude that the use of the life-line is a technique that facilitates the analysis of the university trajectories of students with disabilities. This is precisely one of the main contributions of our work, since previously this instrument has not been used in research on disability and higher education.

We believe the life-line is a powerful methodological tool, not often used in qualitative research. As may be observed in this article, a person’s trajectory may be known from a graphical representation. Through this technique, the key moments and events in the trajectories of the students can be contemplated visually and analyzed in terms of barriers or aids. Nevertheless, this technique in itself is insufficient and the interviews that accompany it are essential. We come to the same conclusion as Berend’s works (2001) and Kolar et al. (2015).

With regard to the purpose of this research, the students stressed two basic types of barriers, physical and related to faculty members. The main aid pointed out was the support received from the Disability Office. This reality confirms that university spaces still require certain adaptations and adjustments so that they can be accessible and used in the same way by all students. Therefore, the goal must be to achieve full inclusion, taking the universal design
as a reference. On the other hand, we consider that it would be convenient for universities to include in their training agendas programs directed to tend to students with disabilities. Even more so if we take into account that there are studies that reveal that faculty members who have participated in some type of training in this sense, have a greater knowledge and sensitivity towards the response to students with disabilities (Murray, Lombardi, & Wren, 2011).

What seems to be clear in all three cases, as also concluded in other studies (Holloway, 2001; Hopkins, 2011), is that the problems they found during their studies formed an obstacle course which often discouraged them and even caused them to doubt whether to remain at the university. However, their efforts, their resilient strategies (Zakour & Gillespie, 2013), family and university social networks (Tierney, 2014), and especially the Disability Office, has helped enable them to overcome those barriers. These students have taken a step forward, constructing new mechanisms for “survival,” as they themselves define it, in university environments, which can be somewhat hostile and insufficiently sensitive to the needs derived from their disability.

Finally, the study had some limitations, such as data referring to only a single university. It would be of interest to find out what is happening in other universities from the perspective of students with disabilities. Other voices could also be heard, such as faculty members, administration and service staff, and other students. Future studies might approach this subject from different voices or informers and not just students with disabilities, using other data collection instruments (e.g., with on-site observation of spaces and infrastructures), and be more specific, with a more detailed analysis in each of the colleges at the various university campuses.

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