Educational Inclusion and Development of Strategies for Learning a Second Language. The Case Study of a Student with Visual Impairment

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Abstract
This paper analyzes the process of inclusion underwent by a person with visual impairment, as well as the strategies she developed for learning a second language. We found that, even though in Mexico inclusion has been part of the educational policies since the 1990s, institutions still have to face many challenges to provide opportunities to people with disabilities, in terms of the curriculum, teachers’ training, and accessibility, among others. Specifically, on the acquisition of a second language, we found that the development of strategies and the assumption of a proactive and assertive attitude are fundamental to achieve meaningful learning. This has to be accompanied by the continuous work of teachers and the support of educational institutions.

Keywords: Inclusive education, second language learning, learning strategies, disability.

1. Introduction

The inclusion of people with disability is a relatively recent issue in educational policies. Only a few decades ago, this theme was notable for its absence in the international sphere, despite the fact that at the end of the 1940s, the Universal Declaration on Human Rights had already recognized the importance of providing education whereby the benefits would be for all people, regardless of their physical, social, or cultural conditions (Moríña, 2004). Moreover, for a long time, the dominant tendency was focused on providing ‘special’ education; in this way, the services for this sector of the population were given through the operation of a parallel education system. It was not until the 1990s, after almost three decades of struggle by the people with disabilities and their families, when the movement promoting inclusion was adopted in the international educational discourses. In 1994, at the World Conference of Salamanca, for the first time, the problem of inclusion and special educational needs were addressed; thereafter, these subjects became two of the most important principles regarding educational policies (UNESCO, 1994). However, so far, actions for inclusion have focused mainly on basic education. In tertiary education, the participation of people with disabilities has been a slower process. In countries such as Great Britain, Spain, and the United States, it was not until the end of the 1990s that these people finally began to join the ranks of the student population in the higher education institutions.
This was largely due to the movement in favor of inclusion, alongside the slow changes adopted throughout the two preceding decades in the respective national legislatures (Alonso and Sánchez-Dopico, 2011; Fuller, Bradley & Healey, 2004; Wolanin & Steele, 2004). In Latin America, it was not until the beginning of the 21st Century that people with disabilities began to form part of the student body; the first countries on the Continent to adopt a normative framework regarding this sector of the population were Argentina and Brazil, at the beginning of 1980 (Pérez-Castro, 2016). In particular, when a student with visual impairment enters tertiary education, in addition to the usual uncertainty generated by the transition to a different educational level, there are other difficulties. Academically, the students worry about what will happen in the new environment and fear the new demands placed upon them, given that the expectations are higher than the previous educational levels. Personally, they ponder on the difficulties of establishing friendships with their new colleagues (Avendaño & Díaz, 2014). Added to this is the fear that the new institution may not provide the necessary conditions regarding their needs. Moreover, it has been observed that the humanities degrees have been the most popular among people with disabilities, even when they are not their first choice, since these students feel that they will have more possibilities to succeed, if they possess the knowledge and the basic abilities, or if they gained good grades in their previous studies (Avendaño & Díaz, 2014).

Nevertheless, despite the obstacles, when students with visual impairment manage to access higher education, they tend to show an increase in their willpower and in their abilities to take advantage of different types of resources, whether they be personal, technical, or economic, together with the support networks provided by family and friends (Abejón, Terrón & Martínez, 2010). This paper is part of a wider research, funded by Programa de Apoyo a Proyectos de Investigación e Innovación Tecnológica (PAPIIT) of the UNAM, aimed at analyzing the institutional and personal factors that intervene in the educational inclusion of people with visual impairment, in particular, those who wish to study a second language. As part of the specific objectives, we are looking for the strategies developed so as to improve these students’ performance in a foreign language, as well as to understand the different barriers and facilitators that accompany them through their scholarly trajectory. To this end, we resort to the biographical method and concentrate on the life history of a person who is studying a Degree in Languages. The results show us the need to implement specific measures that favor the personal, academic, and social life of these students.

2. The Learning of A Second Language in The Case of People With Visual Impairment

In addition to the focus on inclusive education, our research is based on the developments in the teaching and learning of a second language in persons with visual impairment. It is important to say that this type of research is somewhat scarce, and the majority of the studies related to this field presents results based on the application of specific methodologies for the teaching of a second language. Furthermore, the research has tended to be developed into a continuum in which, on one hand, there are those who hold that visual impairment does not interfere in the acquisition of the mother tongue (L1), and as long as there is a good management of the first language, the disability should not interfere with the learning process of a second language (L2) (Cummins, 1984). On the other hand, there are those who sustain that there are insufficient elements to demonstrate that there is a common pattern for people with visual impairment regarding the acquisition of a second language. They also argue that it is something that has not been achieved even in the students without disability, which amounts to a limitation in terms of understanding how disabled people learn languages (Guinan, 1997). For a blind person, the number of words they are unable to associate with tangible objects is far greater, thus resulting in more difficulties for them to learn to speak, since, in general, people tend to establish relationships between what they hear, see, and touch. In addition, people usually guide themselves by the gestures, movements, and the facial expressions of the persons with whom they are communicating, so as to construct the specific meaning of what is said (Motta, 2004). In the case of a second language, we normally refer to what we have already learned in our mother tongue and make comparisons between the two languages in question. These possibilities are generally reduced in people with visual impairment, since there are not always enough elements to distinguish between concrete and abstract qualities, as well as to make comparisons in both, the mother tongue and the target language (Velasco, 2012). The counter argument is found in Couper (1996) and Nikolic (1987), both of whom point to the fact that people with visual impairment demonstrate a high level of aptitude with regard to the learning of languages, given the increased development of their memory and auditory perception, which, to a certain extent, compensate for their lack of vision. In the opinion of Santana (2003), however, this problem has more to do with the teaching methods, than with the way in which people learn.
As previously stated, research on the learning of a second language in people visual disability is relatively recent. All this came about after two studies carried out in the 1970s by Stern and Rubín, both of which addressed the way that learners managed and controlled their learning strategies. According to Rubín (1975), strategies are the techniques and resources that a student utilizes to acquire knowledge. These may differ based on the task being developed, the age of the student, and personal style of each individual, among other things. For his part, Stern (1975) developed a list of strategies that the ‘ideal learner’ should possess; among them are the following points:

1. A personal learning style or positive learning strategies.
2. An active approach to the learning task.
3. Tolerance and an open attitude to the foreign language, as well as empathy with the speakers of the language.
4. To know how to deal with the language in technical terms.
5. Experimentation and planning strategies aimed at constructing a structured system of the language being learned, and reviewing the said system on a regular basis.
6. A constant search for meaning.
7. A predisposition to practice.
8. A predisposition to use the language in real communication.
9. Self-monitoring of their learning and critical sensitivity to the use of the language, and finally
10. A desire to progress in the language acquisition to the point of being able to think in the language.

3. Methodological notes

This research was developed along the lines of the qualitative paradigm; to approach our subject of study we based our research on the biographical method, since this takes into consideration the subjective testimony of the individual (Pujadas, 1992). Based on the testimony of a student with visual impairment, we aimed to discover the learning strategies used by the subject in her quest to learn the English language, as well as to identify the obstacles and possibilities she faced during her studies.

The interview work was carried out at the Juárez Autonomous University of Tabasco (UJAT), an institution located in southeast Mexico. At the UJAT, they offer a Degree in Languages, which is where the student we interviewed was enrolled. So as to generate inputs from both the theoretical and methodological aspects, following Bisquerra’s proposal (2009), our research was divided into four stages: in the first one, the theoretical framework was elaborated, in which the information was analyzed referring to educational inclusion, disability, and the learning strategies used by visually impaired students when learning a second language. In the second phase, the instrument was designed and planning was carried out regarding the best way to obtain the necessary information. The interviews were analytically organized at two important junctures: the first dealt with five dimensions: sociodemographic, economic, technical, ideological-cultural, and natural; the second interview was designed to gather specific information with regard to the learning strategies for the acquisition of a second language (L2). In the third stage, the interviews were transcribed so as to divide the contents into four units: basic registration, thematic, logistic, and complementary (Bisquerra, 2009), all of which was designed to obtain a solid base for the analysis. The fourth and final phase consisted in the interpretation and analysis of the life story. Once this phase was completed, all the necessary information had been collected in such a way that the results could be categorized based on the dimensions and concepts that support the research, and thus come to specific conclusions.

4. Results


The life story was constructed by way of interviews held with a student enrolled on the Degree in Languages at the Juárez Autonomous University of Tabasco, whom we refer to as ‘Perla’. Her educational trajectory, from Primary school to university, was plagued by several difficulties. The main problems she experienced were regarding the actual learning process, due to both the lack of materials and adequate conditions relating to her disability, along with inclusion problems, since not all the institutions she attended were willing to accept her as part of the student body. For the aforementioned reason, Perla was unable to attend kindergarten.

“I was not accepted as a kindergarten student, as such. We [the people with visual impairment] were not accepted. However, I do recall attending some form of kindergarten, at least for a couple weeks, and then I don’t recall why I stopped attending.” (Interview 2).
At that time, at the beginning of the 1990s, attending kindergarten was not considered as obligatory within the Mexican education system. To overcome this lack in her schooling, Perla was enrolled in workshops for children and adults with visual impairment offered by the National System for the Integral Development of the Family (DIF), in the State of Tabasco. According to the experience of our interviewee, at her young age, she soon learned how difficult it was to be a person with visual impairment, due both to the institutional barriers and to the social stigma she faced from some of the parents of the other children who were sharing the same classroom with her. The exclusion to which disabled people are subjected creates important differences regarding the quality and quantity of opportunities distributed among the different social groups, thus resulting in a limitation to the development of capabilities on an equal basis. Nevertheless, what we should never lose sight of, particularly in education, is that everyone has the potential to construct their own life projects, as long as society is willing to search for more equitable ways to assign opportunities.

Returning to Perla’s experience, so as to attend Primary school, she was enrolled at the Multiple Care Center (CAM for its acronym in Spanish), number 4, which was a special education school, in the public sector. She entered the aforementioned school around the age of 7 or 8, and continued her studies there until the age of 15; that is to say, she was above the average age in Mexico, which is in 6 years for admission and 12 for conclusion, among regular students. Over-age enrollment is a highly common problem among children from vulnerable families, given the fact that there are several causes that exclude them from the school system: poverty, child labor, the distance from the educational centers, the lack of support from the parents, interfamily violence or their immediate social context, malnutrition, and, of course, disability (Hernández & Pacheco, 2011). Additionally, although special education has a long tradition in the Mexican education system, dating from the second half of the 19th Century, it still presents several shortcomings that limit the quality of the services provided, such as, the prevalence of the medical-rehabilitation perspective, a low level of teacher training, the lack of links with the regular education system, together with the lack of strategies to foster parents’ participation (Romero & García, 2013).

In this respect, Perla commented as follows:

“I come from a somewhat closed educational background. What I’m talking about is like it was in the 1990s and, although one may think that there have been many advances, for us they still haven’t arrived.” (Interview 2)

A further obstacle during Perla’s Primary education was the lack of adequate educational materials for her disability. The free text books provided by the Ministry of Public Education (SEP for its acronym in Spanish) were printed in the conventional way, thus meaning that Perla’s mother had to learn Braille so as to be able to transcribe the contents of the text books by hand so she could read them. Despite this, Perla had the advantage of receiving an almost personalized education since she was the only student with visual impairment in the school she attended.

“[…] the school divided disabled students into groups for visual and auditory impairment, etcetera, with each teacher having their specialty and their own students. However, I was the only student in the visual impairment class, so I had the teacher all to myself. It wasn’t so difficult because the teacher helped me.” (Interview 1).

Parallel to her studies in the Multiple Care Center (CAM), she enrolled in a Specialized Center for the Blind and Visual Impaired, where she was introduced to the Braille system and was taught other abilities to help her with her mobility and personal autonomy.

“I don’t recall actually seeing [educational] content at the beginning of the Primary school, in reality, they were teaching us to write in Braille and to use the walking stick; basically, they taught us everyday things. In fact, it wasn’t exactly a school as such, because it wasn’t recognized by the SEP.” (Interview 1).

In Secondary school, Perla continued in the special education system. Her studies lasted two years and were open source learning, run by the Basic Education Centers for Adults (CEBA’s). The CEBA’s depend on the Ministry of Public Education and offer services covering Primary and Secondary education, as well as literacy services, for the population with a lack of education; serving children between the ages of 10 and 14, youths above the age of 15, and adults. According to Perla’s testimony, the academic content was very different from that of the regular education system, which eventually led to her being disadvantaged later in life, especially when she attended high school. However, the fact that she undertook her Secondary education at the Center for the Blind and Visual Impaired definitely helped her, given the advantageous conditions of her studies there.
“In Secondary, I didn’t have too many problems, because with me studying at the Center for the Blind, the school itself printed the materials, although not always […] Most of the time, we worked in the same way as the other Secondary schools with the official textbooks, but since my teacher knew Braille, she was willing to transcribe the material for us.” (Interview 1).

Her High School studies were also done through open source learning and lasted two and a half years. That is to say, Perla finished her studies both at this level and the previous one quicker than the average students in the regular education system, in which these levels last for three years, each one. The main obstacle here were the teachers because, although she stated that the majority was willing to help her, some others actually excluded her from classes, fundamentally due to the lack of formal training in attending disabled people.

“In High School, the English teacher didn’t show much enthusiasm to help, she said: ‘since she cannot see, I am unable to teach her’ […] At that time, I knew nothing, because I had never studied English, […] So, my mother replied: ‘But teacher, she wants to study languages.’ However, the teacher then dared to say: And how will I be able to teach her if she can’t see?” (Interview 1).

One of the greatest challenges for any educational institution is to have teachers who are capable of developing new attitudes to teaching and not solely being able to transmit knowledge, to achieve this, continuous training is fundamental, whether it be in the field of regular teaching or inclusive education (Glat & Pletsch, 2004). This fact has become an emerging issue in Mexico, as a result of the growing importance given to inclusion; however, as we have seen in Perla’s case, although the teachers had good intentions, they did not always possess either the knowledge or the pedagogical-didactic strategies with which to attend disabled students.

Once at university, there were other barriers to overcome. The first one was the admission process, since the institution did not have the entrance exam in the Braille format, nor the reading assistant services, which were necessary for a person with visual impairment. After the enrollment process was completed, other problems included the organization of learning activities. In general, the teaching staff planned their classes for people without disabilities, meaning there was a lack of English materials for disabled people, nor were they in the Braille format, which would have allowed our interviewee to transcribe the contents of the textbooks, one should recall that Perla studied a Degree in Languages. To this, we should add the weak training she had in her previous educational levels. In this regard, Perla told us:

“I think there are several obstacles, the first one is that there are some activities in which I cannot participate because they are too visual, for example, the homework and the classroom activities […] Furthermore, there aren’t always the appropriate study materials; there aren’t even any Braille books in the library. Moreover, there were many occasions when I said: ‘I have never learned this before’. There were also times when I needed a lot of help and I think that that also affected my studies.” (Interview 1).

Once again, the aforementioned leads to the question of the facilitators and the barriers that still exist in the inclusion process. Educational institutions should be aware of the available supports, as well as the obstacles faced by the students with disability, as a first step in the construction of an inclusive environment that fosters learning, participation, and the coexistence of the members of the educational community in conditions of equality (López, 2011). However, when this does not occur, in many cases, it is the families who have to help their offspring to overcome the problems and, in doing so, invest their own resources.

In Perla’s case, she and her family developed strategies that aided her studies and facilitated her time at university. For example, previously, during High School, she had taken private English classes.

“It wasn’t until my mother was able to get help from the daughter of a friend, who was an English teacher, that I was able to first start studying the language. I learned everything by ‘sound,’ for example, the teacher said: ‘this means this and is used for this,’ and so on…” (Interview 1).

However, we must also recognize that some institutions have developed their own learning processes, aimed at attending the demands of their students. In the university where our interviewee studied, faced with an ever-increasing number of students with special educational needs, a system of consultation was introduced, known as K’lot.
It was administered by students from more advanced semesters with good scholarly results, whereby support was offered to the students with disability, helping them both with explanations and the understanding of the course content, as well as with their homework. The implementation of inclusion strategies on the part of the institution contributes to the enhancing of the student’s abilities and provides an answer to the diversity of the student body. These actions should offer the opportunity of learning to all students, with or without disabilities, by providing an open, flexible curriculum that helps them not only to continue their studies, but also to construct meaningful learning opportunities.

4.2. Strategies for learning a second language

According to Stern (1975), the ideal learner of a second language (L2) possesses a series of strategies that not only entail the ability to learn, but also in communication, attitude, self-monitoring, and the sense of progress. Through our contact with Perla, we were able to recognize that she had several of these characteristics. One of her abilities was to have an active focus on the learning process. Despite having no previous experience in the learning of a second language, she developed her own methods of study so as to understand the English-language structure.

“… the teacher asked: ‘Is this your first contact [with English]?’ I answered that it was, and she responded by saying: ‘For your first contact, the truth is, you understand it well. I am not saying that you can understand a whole class of English, but you do understand the structure, you understand what things are used for, and I believe that you are able to learn the language.’” (Interview 1).

This capacity strengthened her interest, that is to say, it promoted her desire to progress in the knowledge of a second language, which is another of the traits mentioned by Stern (1975). To improve her performance, she continued to search out professional help, which led her to enroll in a private school where she had the opportunity to meet a teacher who showed interest in her case. Despite the teacher not having been trained to work in contexts of diversity, with disabled people, his willingness to include Perla in the school environment was an important factor in encouraging her to continue her studies and, over time, to decide to study a degree in Languages.

“During the English classes, the teacher told my mother: ‘she is very good, she can learn, the thing is they need to know how to teach her, they need to know how to connect with her’”. (Interview 1). When Perla began her Bachelor’s Degree, she was no longer able to take her private classes; however, she enrolled at the Language Learning Center (CEI for its acronym in Spanish) of the university so as to complement the subjects that formed part of the curriculum. There, she began to learn English at the basic level, despite already having a general knowledge on the language. This leads us to a third characteristic of the ideal student, which is tolerance toward, and openness to, the foreign language (Stern, 1975). Our interviewee decided to start from scratch because she felt that it was the best way to reinforce the knowledge she had already attained.

Studying at the CEI enabled her to approach the language from a technical viewpoint (Stern, 1975), since at this center the teaching was based mainly on the student’s knowledge of the English-language structures, which meant a very important change for our interviewee. Prior to this, Perla began to develop other learning strategies, placing her attention more on the grammar than the other linguistic abilities.

“I said to myself: you have to concentrate on the structures: How can I do that? … with an example. So, when I studied the present tense, I looked for an example to understand the present tense and advanced in that way, until I managed to understand.” (Interview 2).

This way of learning allowed her to experiment and plan what she listened to, so as to be able to organize a more structured system regarding the second language and thus have the possibility of returning to it when necessary. A further strategy used by Perla was to record all the lessons on the computer so that she could listen to them whenever she needed to practice. On this point, it is worth mentioning that, unlike her colleagues, Perla never learned to write English in the conventional way. To compensate for this weakness, she sought to construct concepts, to find her own grammatical explanations through a series of relationships between the structures, from the way in which they are used and from the examples she heard.
“Well, if we refer to the grammatical structure, I don’t follow it the way others do, rather I take mental notes. I think: the present tense is used for a certain thing and the past is used for another thing. In other words, I concentrate on the uses and the examples.” (Interview 2).

Currently, there are several technological resources based on the new communication and information technologies that have been designed specifically to enable the use of written materials for students with disability. Perla’s strategy of using audios became, in her own words, a kind of evidence regarding what she had learned. Moreover, given that her family were unable to help, since nobody spoke English, and that the books she had access to were not in Braille, the recordings she had made were a constant source of consultation for her. This type of learning is called auditory, those who use it experience the world through hearing, they closely examine the details of sounds, remember what people say, and their speech is influenced by terms and expressions related to hearing.

For Byrnes (1984), listening comprehension is fundamental with regard to learning a language because through it the language rules are learned, as it also constitutes an antecedent for language production, whether spoken or written. This is a two-way learning process; on the one hand, people use their prior knowledge on the topic, the context, the type of text, the culture, and whatever other type of information they have stored in their memory. This is a top-down process that allows them to understand the meaning of the message. On the other hand, they also resort to the linguistic knowledge they have on the language, relating specific sounds to words, to form grammatical relationships, and thereby arrive at the lexical meaning. This is a bottom-up process that enables one to understand the final message. Both these processes are running in parallel and in an interactive and interpretive way in all listeners (Vandergrift, 2002).

In Perla’s case, in addition to having problems writing, she also had listening difficulties because she was not always able to understand all the words. One strategy which helped her was for her friends to read the lyrics of songs, in this way, not only did her listening abilities improve, she also attained much more vocabulary.

“Why do you want me to read the lyrics to you?” [asked my colleague]. ‘Because there are some words I don’t understand.’ So, he once again asked me which words I didn’t understand and said: ‘Ok, this word is pronounced like this,’ … ‘What do you think it means?’ This was one way I could learn [English]. In fact, I try to understand through the context…” (Interview 2).

The use of songs to learn a second language is not new. For Millington (2011), songs used as teaching resources can open up many other possibilities, whether they are used to improve speech or listening, acquire new structures and sentence patterns, learn vocabulary, or even to learn the culture of the language in question. Finally, Ruiz (2008) argues that songs generate several advantages with regard to teaching, among them: the creation of a greater variety of situations in everyday contexts; it stimulates students’ attention and concentration, fosters creativity and strengthens listening comprehension skills; it promotes student participation and the communication between other members of the class; it reduces the psychological distance between the teacher and the student; and finally it allows to learn cultural aspects of the target language.

5. Final Considerations

The inclusion of disabled people continues to be a challenge for the Mexican education system, particularly in higher education. From the complexity of the circumstances faced by this group, the individuals with visual and motor impairment have been the two segments of the population to have gained more advances with regard to accessing higher education (Brogna and Rosales, 2013), when compared to other types of disability such as sensorial, psychosocial, and the people with multiple disabilities. However, most of the time, these advantages have usually been gained as a result of struggle by the individuals and families involved, rather than as the result of the implementation of institutional policies that allow them to exercise their right to education. When teaching a second language to people with disability, the situation becomes more complex than it usually is. The training of teaching staff, the adaptation of the facilities and institutional equipment, the supporting programs, and the academic follow up, among other things, requires the collaboration of specialized personnel, trained to work in contexts of diversity, along with the accessibility of educational materials in the target language.
Added to the aforementioned, there are difficulties for the visually impaired students with regard to constructing their own system of meanings, both in their mother tongue and in the second language, given the infinite number of words and expressions to which they have difficulty accessing in a tangible way. In the case presented here, two factors contributed to the student arriving to the university and her graduation; firstly, her ability to overcome barriers and adverse conditions throughout her educational career, and secondly, her ability to use a variety of resources, material and abstract, by converting them into assets. With respect to the English language, Perla always tried to assume a pro-active and assertive role throughout her own learning process. Analytically, we could divide her abilities as a student into three large areas: cognitive, technical and attitudinal. The former allowed her to acquire the theoretical knowledge, make inferences and abstractions, apply her knowledge, and to learn on a continuous basis. The second one focused on the development of strategies to follow up on and gain feedback from her prior learning and experience, express her advances and doubts, use different media: conventional and information and communication technologies, as well as to find the different possible ways in which to attend to her needs. Finally, the latter helped her to acquire and consolidate her abilities regarding decision making, working autonomously, and maintaining a positive attitude to learning from the obstacles she faced and even to taking advantage of them (Silva, 2016; Tobón, 2006). The aforementioned helped her to construct an organized system of contents and uses of the English language. With regard to her learning strategies, following the typology of González and Tourón (1992), those used by Perla were fundamentally of a cognitive type, such as repetition, the recording of her lessons so as to be able to replay them, and the grouping of information.

However, skills and strategies are not everything. In the case of our interviewee, as happens in many other cases, the help of certain people and support groups was of great importance throughout her educational career. Firstly, of course, was her family, who sought out the different ways for her to enroll in the education system and successfully arrive to university. Her parents also helped with additional resources so she could learn English and thus be able to enroll on the Degree in Languages.

This is very frequently in the careers of the people and groups in vulnerable situations; several studies have shown that families, whether biological or constructed, are an important asset that in critical situation represent the first help network. Also of importance here is the composition of the home and the communication between the members thereof (Pizarro, 2001). Another key factor is the role of the teachers. In Perla’s case, there were several teachers who were interested in her and aided her in constructing meaningful learning experiences, not only in relation to the English language, but also with respect to her abilities and attitude, while others actually increased the barriers to her inclusion. In both of situations, a common factor was the lack of teacher training; both parties faced the dilemma of including a disabled person whilst lacking the sufficient elements to do so. This is a problem met by many schools, especially since Mexico began the transition from special education to regular education. Additionally, the curriculum of the teacher-training institutions has no specific options or special assignments to prepare them for work in the inclusive, diverse environments, teaching students with special educational needs (de la Peña, 2015). The only teaching staff to receive specialized training is those who graduate from the special education teacher-training schools. The same is true of higher education; the professors, who in general have professional training in a whole range of disciplines, are not always prepared with a view to including disabled students, although there have been certain advances in this regard, mainly in the last decade. Finally, it is worth highlighting the fact that incorporating disabled students into the regular education system implies introducing several changes, in aspects such as the curriculum, the teaching methods, institutional organization, plus the provision of physical and informational access, as well as academic and economic supports. To do this, it is necessary to have a comprehensive and transversal vision of inclusion that links the three main pillars of institutional improvement: the policies, practices, and culture of the institution (Booth and Ainscow, 2002).

### 6. References


