



Forms of educational support for students with disabilities or educational needs in the Universidad Nacional de Costa Rica, and implications for their professional training

Las formas de apoyo educativo al estudiantado con discapacidad o con necesidades educativas en la Universidad Nacional de Costa Rica y sus implicaciones en su formación profesional

Formas de apoio educacional para estudantes com deficiência ou com necessidades educativas especiais na Universidade Nacional da Costa Rica e suas implicações a sua formação profissional

Angélica Fontana Hernández, M.Ed.^{1*}

Marie Claire Vargas Dengo, Dra.^{2**}

Abstract

This article presents the forms of educational support for students with disabilities or educational needs in the

1* Master in Pedagogy with emphasis on the Diversity of Educational Processes. Graduate in Special Education with emphasis in Mental Retardation and Bachelor in Learning Problems of the National University of Costa Rica. Academic of the Division of Basic Education of the Center for Research and Teaching in Education (CIDE) of the National University, Costa Rica and responsible for the project A quality education, which attends students with disabilities or educational needs in their professional training. She has experience in primary education and special education services. Has publications in the field of pedagogy at the national and international level.

2** Master in Curriculum and Instruction with emphasis in Special Bilingual Education from The George Washington University, USA. Doctor in Education by the Latin American Program of Doctorate in Education of the University of Costa Rica. Academic of the Division of Basic Education of the Center for Research and Teaching in Education (CIDE), National University, Costa Rica where she has been part of the Project A quality education that attends students with disabilities in this institution. She has publications in the fields of Pedagogy and Special Education.



university environment, and their implications for these students' professional training, according to results obtained through the FIDA Proyecto *Percepciones y realidades en la atención de las necesidades educativas: propuesta de desarrollo profesional y su implementación en la Universidad Nacional (código 0524-10) del año 2012 al 2015*. [Project Perceptions and realities in addressing educational needs: professional development proposal, and its implementation in the Universidad Nacional) (code 0524-10) between 2012 and 2015]. One hundred and ninety-one students participated in this study (76 men and 115 women), who were enrolled in different careers in several UNA Sites (Central, Brunca, and Chorotega), as well as 427 staff members (181 men, and 246 women). The methodology uses a qualitative approach; 15 workshops and 65 individual interviews were conducted with students to gather their observations. It was found that only some of the students receive individual assistance (during and outside classes), and occasionally tutoring (in English, Mathematics and Chemistry) by academic staff of the institution in the Central Site. For instance, more time is provided for them to take exams, during which they receive individual instructions; this is also done when they prepare research projects. One finding that stands out is that most students of UNA Regional Sites stated that their opinion is not taken into consideration by academic staff when determining and implementing adjustments in methodology or for evaluating the courses they receive. On the other hand, in the Central Site, most members of the group of students with disabilities talk with academic staff about defining at least types of adjustment or educational assistance.

Keywords: educational assistance, disability, educational needs, higher education.

Resumen

Este artículo presenta las formas de apoyo educativo a la población estudiantil en condición de discapacidad o con necesidades educativas en el ámbito universitario y sus implicaciones en su formación profesional según los resultados obtenidos en el Proyecto (FIDA) *Percepciones y realidades en la atención de las necesidades educativas: propuesta de desarrollo profesional y su implementación en la Universidad Nacional (código 0524-10) del año 2012 al 2015*. En este estudio participaron 191 estudiantes (76 hombres y 115 mujeres) matriculados en distintas carreras de las sedes de la UNA (Central, Brunca y Chorotega) y 427 personal académico (181 hombres y 246 mujeres). La metodología responde al enfoque cualitativo y se realizaron 15 talleres con estudiantes y 65 entrevistas individuales para recabar sus apreciaciones. Se determinó que solo una parte del estudiantado recibe atención individual (dentro y fuera de las sesiones de clase) y en ocasiones tutorías (en Inglés, Matemática y Química) por parte del personal académico de la institución en la sede Central. En la evaluación, se les facilita mayor tiempo para la realización de las pruebas e instrucciones individuales durante la misma; asimismo para elaborar trabajos de investigación. Un aspecto que se destaca, es que la mayoría del estudiantado de las Sedes Regionales de la UNA expresó que su opinión no es tomada en cuenta por el personal académico para determinar y aplicar

los ajustes en la metodología ni la evaluación de los cursos que imparten. Mientras que en la Sede Central, la mayor parte del grupo conversan con el personal académico para definir por lo menos un tipo ajuste o apoyo educativo.

Palabras clave: apoyos educativos, discapacidad, necesidades educativas, educación superior.

Resumo

Este artigo apresenta as formas de apoio educacional oferecidas a população estudantil com deficiência ou necessidades educativas a nível universitário e suas implicações a sua formação profissional, de acordo com os resultados obtidos no projeto (FIDA) Percepções e Realidades na atenção as necessidades educativas: proposta de desenvolvimento profissional e sua implementação na Universidade Nacional (código 0524-10) de 2012-2015. Fez parte de este estudo 191 estudantes (76 homens e 115 mulheres) matriculados em várias carreiras de diferentes localidades da UNA (Central, Brunca e Chorotege) e 427 docentes (181 homens e 246 mulheres). A metodologia responde à abordagem qualitativa, foram feitas 15 oficinas com estudantes e foram realizadas 65 entrevistas individuais para conhecer suas opiniões. Determinou-se que apenas parte das pessoas estudantes receberam atenção individual (tanto dentro como fora de sala de aula) e, algumas vezes em tutorias (em Inglês, Matemática e Química) pela equipe acadêmica institucional da área central. Na avaliação, se dá mais tempo para realizar as provas e recebem instruções individuais; este apoio também é aplicado quando os estudantes elaboram trabalhos de pesquisas. Um aspecto de destaque é que a maioria dos estudantes das sedes regionais da UNA dizem que sua opinião não é tomada por parte dos professores, no que se refere aos ajustes na metodologia e na avaliação de seus cursos. Por outro lado, na Sede Central, a maior parte do grupo dialoga com o pessoal académico para definir pelo menos um tipo de ajuste ou apoio educacional.

Palavras-chave: apoio educacional, deficiência, necessidades educativas, educação universitária.

Introduction

The topics of disability and educational inclusion have been addressed by investigations at the Universidad Nacional (UNA), such as those by [Arce and Venegas, 2008](#), [Miranda, 2009](#), [Castillo and Bonilla, 2009](#), [Soto, 2007](#), [Torres, 2013 and Vargas, 2013](#)). However, there are no studies that provide information about forms of assistance and follow-up for the population of students with disabilities and educational needs, and their implications for these students' professional training.



Given that education is a human right, it is essential to implement initiatives for reflection on and discussion of opportunities to access high-quality education with equity and equality for all of the student population in the university environment.

The challenge posed by the Costa Rican educational system in this new century, in particular in the case of higher education, consists of developing pedagogical proposals that will contribute to educational inclusion, through which students with disabilities or educational needs will be able to stay in school and graduate in the different careers offered; and the challenge of promoting new, more inclusive educational alternatives that respond to the diversity of personal and social characteristics of the student population in today's society.

In the UNA, several initiatives have been developed over the last 30 years in both the administrative and the academic spheres, seeking to promote equity and equality of access to higher education.

The Program called *Actividad Física Adaptada Salud y Discapacidad* AFISADIS (Health- and Disability-Adapted Physical Activity Program) was launched in 1983, and the *Proyecto Escuela Deportiva para Personas con Discapacidad Intelectual*, EDDI (Sports School Project for Intellectually Disabled Persons) began in 1993, both of which are carried out by the School of Human Movement and Life Quality Sciences. In 1998 the Project *UNA Educación de Calidad*, UEC (*A High-Quality Education Project*) was also launched in the CIDE's Basic Education Division.

Institutional Policies were approved in 2005 which guide academic activities (investment and financing), including those related to disability and equity (Gaceta UNA 01- 2005, amended in Gaceta UNA 04- 2014), while the student Psycho-Pedagogical Care Program was launched in 2009 by the Psychological Counseling Department.

Lastly, the Interinstitutional Commission for the Disabled, known as CIMAD, was strengthened in 2013 ([Gaceta UNA 15-2013](#)).

A *critical aspect* stemming from the institutional experience with the Project *UNA Educación de Calidad* addressing the student population with disabilities ([Fontana and Rodríguez, 2012- 2015](#)), regarding the definition and implementation of curricular adaptation and assistance required by students in their professional training, is the impact of pedagogical, emotional and social elements on those involved, which have direct and indirect impacts on decision-making and on the implementation of these types of assistance in the university environment.

In this respect, [Sánchez and Torres \(2002\)](#) state that attitudes, beliefs and behaviors determine and guide pedagogical interventions and organizational structures of teaching approaches implemented by teaching staff in the educational environment.

Based on the foregoing, this study is intended to generate scientific knowledge about types of assistance and follow-up on the population of disabled students, and their implications for these students' professional training, from the perspective of those involved.

Theoretical and conceptual points of reference

Conceptualization of the term “disability” and its implications on social constructions

The concept of disability has changed throughout the history of humanity, with its constructions and interpretations responding to the economic and social trends prevailing in each historical period in which they have emerged.

The following paragraphs discuss the evolution of the concepts of “disability” and “educational needs” from different perspectives.

From a *traditional perspective*, disability is understood as a divine punishment or as a feature of a demonic spirit, where the animist approach prevails in the interpretation of reality; persons with disabilities were later seen as *objects of charity*, leading to physical, functional and social exclusion of the disabled.

From a welfare point of view, in the 18th and 19th centuries the disabled were considered as *subjects of medical assistance*, and then as *subjects of protection and guardianship*, mainly provided by the Catholic church and private initiatives.

With scientific advances and further medical investigation in the 19th century, disability was conceived of as a disease. Therefore, disabled persons were *subjects of studies and treatment* (medical, psychological, and pedagogical), and were cared for by private institutions, hospitals or asylums, giving rise to a period of institutionalization.

At the end of the 19th century, institutions were established for groups of persons based on their impairments, leading to the emergence of two parallel educational systems (one for *normal* people, and another for *abnormal* people), each one with their own teaching methods, resources, didactic materials, and facilities.

This situation of deprivation generated attitudes that devalued impaired individuals, such as rejection and protection (Zazzo, 1973 cited by Lou Royo, 2011), as did the use of pejorative terminology to refer to disabled persons, which had an impact on the perception of lesser worth and discrimination.

In the middle of the 20th century, the *Clinical – Rehabilitative approach* was strengthened, in which disability was considered to be an anomalous condition with respect to standard conditions in the physical, sensorial and cognitive spheres, caused by a pathology.

From this point of view, disabled persons are considered as *passive objects of intervention, treatment and rehabilitation* (Lou Royo, 2011) by a team of professionals (in medicine, psychology, special education, and other areas), to provide them with a rehabilitation process based on the development of functional skills (adaptive skills) which would allow them to integrate with society.

With the rise of behaviorism and behavior modification strategies in this period, the idea of carrying out diagnoses emerges, in order to have a broad vision of the condition and progress of disabled persons.

This approach reduces disability to a static condition, ignoring the experiential and situational aspects of persons (Lou Royo, 2011), bringing about segregation, dependency and marginality, in which the position of professionals prevails, relegating disabled persons to roles of clients or patients.

Based on this model, rehabilitation centers and special education schools were opened in European countries (France, Italy, and Germany) and in the United States for specific types of impairments, providing specialized education. In Costa Rica this model is still used, with special education centers and support services continuing to attend to students using this clinical perspective.

In parallel, in the international context (during the 1960s and 1970s), a series of events related to the social consequences of differentiated education (maladjustment - segregation), its organization, and the didactic strategies used were criticized (Sánchez and Torres, 2002).

From this sociological perspective, disabled persons were considered as *subjects with rights* who consume services and must have a role in their planning and development (Lou Royo, 2011). Additionally, *acceptance of differences between persons and adjustments of the social environment* that facilitate their inclusion and participation in society generated changes in

concepts and social attitudes towards the disabled. A fundamental element underlying this approach is *self-determination* by persons with disabilities in deciding on their care and their lives.

In this changing social context, in contrast to the previous model, the *Social Model* arises, which considers that disabilities are not personal attributes, but are rather the result of a complex set of conditions which originate in or are increased by aspects of the social environment.

This approach proposes a vision that takes into account opinions of the persons who are seeking to construct the identity of their disability and their belonging to a diverse collective, emphasizing the context in which they live and actions taken to eliminate obstacles and promote accessible environments, to improve their social participation (Lou Royo, 2011).

For its part, the United Nations (UN) promulgated the Convention on the Rights of Persons with Disabilities in 2006 – the first binding legal instrument for the Member Nations, based on the social model.

This Convention defines disability as “an evolving concept that results from the interaction between people with impairments, and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others” (UN, 2006 p. 8).

At present, the Costa Rican educational system is in a transitional period between the Clinical-Rehabilitative Model and the emergent Social Model, in which each one’s pedagogical approaches, i.e., procedures for integrating and inclusive education, often coexist in a clear state of philosophical and sociological contradiction.

In the present, guided by the contributions of recent investigations by Schalock, Verdugo, and others between 2003 and 2011, other models have emerged, such as the ecological model, the universal model, and the biopsychosocial-integrating model, which try to solve the challenge of improving the understanding of disability, seeking to promote a better quality of life for this diverse group.

Conceptualization of “educational needs” and “forms of educational support”

There are different definitions of the concept of educational needs, which range from a traditional perspective focused on students’ individual characteristics, to concepts that include socio-cultural aspects.



The main characteristics of these perspectives are presented below.

According to [Brennan \(1988 cited by Aguilar, 2002\)](#) educational needs are defined as the major difficulties experienced by a student in having access to common learning for his or her age, due either to internal causes or to an inadequate educational approach, who requires certain conditions and adaptations in learning to compensate for these difficulties, as well as provision of specialized resources.

[Blanco \(1989, p. 20\)](#) proposes a similar concept, indicating that persons with educational needs:

Experience greater difficulties than other students in accessing the learning that is specified in the curriculum for their age (due either to internal causes, difficulties, or deficiencies in their social or family environment, or poorly adjusted learning in the past); to compensate for these difficulties, they require significant access and/or curricular adaptations in several areas.

It is important to emphasize that the concepts mentioned previously stem from the following assumptions: educational needs originate mainly in students' personal characteristics, their difficulties in learning, and deficiencies of the educational environment that hinder responses to these characteristics.

In Costa Rica, the [Ministry of Public Education \[MEP\] \(2005a, p. 14\)](#) shares this vision of persons with educational needs, and therefore defines them as:

... persons with different learning abilities or learning difficulties greater than those of average students, which hinder their capacity to access the curriculum corresponding to their age; they therefore require adaptation of one or several areas of the curriculum to compensate for these differences.

Reflecting on the previous discussion, it can be said that educational needs are closely related to the pedagogical aids or educational assistance services required by this group of students during their educational process. For this reason, the attitude of respect and understanding that educational actors express about their individuality will make it possible for each student to be recognized as an integral being.

The concept of educational needs is currently understood from a broader and more flexible perspective, incorporating the different concepts discussed in forums and global declarations organized by the United Nations (UN) and the United Nations Educational, Scientific and Cultural Organization (UNESCO),

which include both personal and socio-cultural aspects of students, seeking to guarantee a high-quality education for all the groups that constitute society, without any type of discrimination or exclusion.

Given the previous discussion, the educational needs perceived and evaluated in this new approach generate a conceptual change – not only disabled persons may present specific conditions in their educational training, because it is assumed that these conditions may arise due to both personal and socio-cultural factors; i.e., the nature of educational needs is more extensive, and they may apply to all groups in a society.

Educational needs, therefore, may arise due to multiple causes, including personal conditions or conditions stemming from the interrelation between specific characteristics of students and their social environment (family, school, or community) that hinder their development and learning. They may also originate in teaching approaches which do not consider the learning conditions or adaptations required by students, as well as in the lack of support products (technological resources and technical aids).

On the other hand, according to [Sánchez and Torres \(2002\)](#), educational needs have two significant characteristics: the first one emphasizes their *interactive* nature; i.e., the need is defined in connection with the social context in which persons live, and do not depend only on students' personal conditions. The second characteristic is their *relative* dimension; i.e., it is determined by a time and a space; they therefore cannot be definitive or permanent.

Another aspect that arises from this reflection is that *need* is an inherent aspect of the human condition, and all persons, at some point in their life, require support to respond to the demands of personal development and to the social context. Education is not an exception – it is here where student diversity demands the most significant and most varied forms of assistance and follow-up, according to the approaches and levels of the educational system.

On the other hand, when the concept of educational needs is viewed from a pedagogical perspective, the purpose of Special Education changes, as indicated by [Aguilar \(2004\)](#), since attention is focused on a learning situation rather than on personal conditions of the group of students (deficiencies), which have been used to label and classify and, even worse, to discriminate against and exclude them.

Nonetheless, according to [Aguilar and Monge \(2008, p. 27\)](#) the concept of educational needs “has generated a certain confusion and ambiguity, as it is

considered a diagnostic category, rather than as an educational approach, although the initial intention was precisely to make a change in educational practices.” This leads to the generation of new forms of classification in the educational context through the use of language, since this concept is applied to disabled students who require specialized care.

The authors also indicate that based on actions of educational support services offered by different institutions in the country, some practices are observed that rather than helping students, foster labeling and differential treatment, such as personal care by a specialist away from peers, the creation of student groups to take tests, as well as the creation of new categories, such as *student with curricular adaptation* to refer to those students that receive this educational support.

The current debate over the *conceptual crisis* evidences a prevailing global change, with the emergence of new terms such as “different capacities” and “functional diversity,” among others. However, a careful review of the assumptions of these concepts reveals that “diversity requires different structures for different students” (Sánchez and Torres, 2002, p. 81), which may turn into new ways of labeling and categorization.

For the purposes of this study, educational needs are understood as *the learning conditions that stem from the interaction between students’ individual differences and the social environment that presents attitudinal, physical, architectural, pedagogical and cultural barriers that hinder their participation and, likewise, their enjoyment of society’s goods and services* (Fontana, Espinoza and León, 2009).

In the pedagogical approach, types of adjustments and assistance play a fundamental role because they are the strategies used to respond to the requirements of the student population, in particular, the group with disabilities or educational needs.

For these reasons, the curriculum must be conceived of based on a broad perspective that allows consistency and continuity in the various processes proposed, regarding adjustments to the educational offer as a significant action; i.e., it must be flexible, open, and contextualized, so as to allow for different levels of curricular specification.

From this approach, the levels of curricular specification in the Costa Rican educational system could be the following: center-, stage- or cycle-based curricular project, classroom programming, and individualized curriculum adaptation.

It is important to point out that at these levels of curricular specification, various strategies can respond to the characteristics of the student population, but in the last two levels in particular, *specific adjustments* are used to attend to the educational needs of a diverse group, such as curricular adaptations (CAs) and adaptations for accessing the curriculum (AACs).

The main characteristics of these types of adaptations are discussed below.

According to [Sánchez and Torres \(2002\)](#) CAs are adaptations made to basic elements of the curriculum such as methodology, objectives, contents and evaluation of a specific area or discipline, so that students may develop specific skills according to the level of their studies.

[Borsani \(2003\)](#) defines CAs as specific modifications made by teaching staff to respond to personal situations of the student population in the educational context. Among these are adjustments to methodology (activities, materials and resources) and to evaluations.

[Puigdemívol \(2002, p. 97\)](#) proposes another CAs concept – that they are “... adaptations and aids for assimilating the curriculum, and its adjustments to educational needs.” Among these are adaptations and aids that facilitate the assimilation of content, such as aid materials, individual assistance, and complementary methodological strategies and alternatives for responding to students’ educational needs, as well as changes in the hierarchy of objectives and contents.

Sharing the vision of the authors mentioned before, the [MEP \(2005a\)](#) defines CAs as the accommodation of the educational offering to the characteristics and needs of students, to attend to their individual differences.

At the university level, curricular adaptations do not have a significant effect on the demands of the objectives or content established in the different courses of the careers offered.

Another type of adaptation used in the pedagogical approach are Adaptations for Accessing the Curriculum (AACs), which are not considered to be within the curricular sphere itself, since they are mostly adaptations or changes that prepare the educational environment to allow students to have access to it, according to their characteristics and needs.

Among the AACs the following dimensions stand out, according to [Sánchez and Torres \(2002\)](#):

1. The adaptation of human elements of the educational center to establish teamwork strategies and facilitate educational services for students. Examples include flexible student grouping and the creation of technical educational coordination, guidance, or support teams.
2. Adaptations of spaces and physical aspects to facilitate use and movement within the educational center facilities, such as the elimination of architectural barriers, furniture arrangement, signposts, and other adjustments related to accessibility.
3. Adaptations in equipment and resources to provide a variety of materials that respond to student needs.
4. Adaptations in the time allowed for the different activities carried out in the educational center.

[Puigdemívol \(2002\)](#) establishes three categories of AACs:

1. Architectural and environmental adaptations, related to the elimination of barriers in infrastructure or physical space which hinder autonomous mobility.
2. Organizational adaptations, which refer to all those measures related to the order and arrangement of the educational environment required to accommodate educational needs.
3. Didactic adaptations, considered as the actions related to the presentation of didactic resources used in the teaching and learning processes.

According to [Borsani \(2003, p. 45\)](#) AACs are defined as “changes in the space, resources, and specific equipment to facilitate learning of content.” Examples include adaptations in the physical facilities of the educational center to eliminate urban and transport barriers, providing technical aids, and making schedule adjustments.

From a similar perspective, the [MEP \(2005a, p. 15\)](#), defines AACs as “The changes or provision of special resources, materials or communication systems aimed at some students (especially those with motor, visual or hearing impairments) to facilitate their access to the regular curriculum or, otherwise, to the adapted curriculum.” Examples include building ramps to facilitate access to the institution; enlarging the size of characters in texts or other documents;

facilitating the use of thick pencils, headphones, magnifying glasses, glasses and other devices; adapting furniture to student needs (folding tables or tables with wheels); using alternative communication systems (Braille or sign language); using tape recorders, computers, and technological support resources, among others (MEP, 2005b).

It is important to mention that based on the experience observed in the Project *UNA Educación de Calidad* (1998- 2016) in the university environment, the curriculum adaptations made do not change the levels of demand and objectives proposed in the courses delivered in the various careers in the institution. As a result, academic staff, in a dialogue with students, must determine the pertinent supports and adjustments necessary to promote participation, equity and equality in university education. Among these, adjustments in methodological strategy and evaluation to favor access to information and communications systems, individual assistance, adaptation of didactic material, and peer support stand out (Fontana and Rodríguez, 2015).

Considering the concepts presented previously, it may be observed that curriculum adaptations and adjustments for access to the environment are fundamental aspects for persons with disabilities or educational needs to achieve autonomous participation in different contexts – in particular in the educational context – as well as to improve their life quality and their social and work insertion.

Methodological strategy of the study

This research is carried out using a qualitative approach, since it explores a social phenomenon and, at the same time, looks for possible solutions for improving the situation described. Taylor and Bogdan (cited by Gurdían, 2007) indicate that qualitative research is characterized by being naturalist, because investigators try to understand persons and the phenomena studied within their reference framework, and humanistic, since it considers these persons' life experiences, perceptions, conceptions and behaviors.

The methodological proposal of this study combines actions in the areas of day-to-day institutional activities: research, teaching, outreach, and production, since the educational process is considered to be an integral activity and a permanent, dynamic and flexible process (Fontana, 2004) which involves actions related to investigation, systematization, construction of knowledge, and discussion of results.



In general terms, the project was carried out in the following phases:

Phase I: Study planning and coordination.

Phase II: Analysis of information and systematization of proposed actions.

Phase III: Design of the updating strategy.

Phase IV: National and international dissemination of research results.

As part of the study, different actions were implemented to present its objectives and gather relevant information. Among these, the following stand out:

- Visits to the UNA Regional Sites and to their different campuses. First, the Chorotega Site was visited (Nicoya and Liberia Campuses), followed by the Brunca Site (Pérez Zeledón and Coto Brus Campuses), and, finally, the Sarapiquí Campus was visited, for a total of 10 visits (seven in 2012, two in 2013).
- Visits to Academic Units (AUs) of the UNA Central Site (Omar Dengo and Benjamín Núñez Campuses), for a total of 25 contacted AUs, and 15 workshops were carried out with students.

Approximately 738 persons participated (427 academic staff, 55 administrative staff, and 191 students, of which 65 were interviewed) in the application of the investigation's instruments.

Among the techniques used were: a questionnaire for academic and administrative staff, interviews with a group of students, and group work with students. The techniques of incomplete phrases and imagery association were used with academic and administrative staff.

During group work, students showed great interest in sharing their experiences, and high expectations for the results.

Analysis and discussion of findings

In the following pages, the investigation's results are presented by Sites of the UNA. They were obtained by analyzing the information and discussing findings about types of assistance and follow-up for the population of students with disabilities or educational needs.

The academic staff of the UNA Regional Sites who participated in the study indicated that they did not have educational experience with disabled students. However, a substantial majority of them stated that they carry out a variety of actions that favor the group of students with certain characteristics (such as learning difficulties, attention deficit, language problems, emotional problems, health situations, or lagging behind in secondary education) which have an impact on their professional training; all of them were referred by specialists (doctors, counselors, psychologists, educational psychologists, special education teachers, among others), or requested by the group of students.

The actions mentioned may be grouped into three categories:

Those that facilitate access to information and communication

Part of the academic staff of the Sites indicated that they use different technological resources and audiovisual means (portable computers, multimedia projectors, and other devices); provide more time for students to carry out classroom activities (individually or in a group); clarify questions or concerns via electronic mail; and share support or additional material (videos, documentaries, or articles) about the subject matters addressed in the courses.

Those that facilitate understanding of the subject matters or contents addressed in the courses

Another part of the academic staff of the Sites indicated that they explain the subject matters covered in the courses in a descriptive manner, using images, day-to-day vocabulary, and examples; review the main ideas of the subject matters; prepare summaries or conceptual maps; and review the practices or exercises assigned. They also carry out group activities, such as panels, debates, cine forum, and other recreational dynamics (games and dramatization), and provide guidelines for projects.

In contrast, students of Regional Sites participating in the study indicated that their *opinion is not taken into account* when defining curricular adaptations, since the perspective of academic staff prevails; likewise, they must be referred by a specialist (psychologist, educational psychologist, special education teacher, neurologist, or other) to obtain the curricular adaptations they require. This situation generates *great* concern and anguish to students because in many cases these recommendations are too general, and are not adequate for all of the courses

in which they enroll. In this regard, a student said that academic staff “only allow more time for taking tests, and some times provide individual assistance to clarify doubts about the issues addressed.” (Workshop 2, June 2012)

Some particular actions implemented in the Regional Sites are discussed below.

In the Sarapiquí Site, some teachers indicated that they use *specialist participation* in the methodology of their courses, so that the student group may expand coverage of subject matters covered in the course. In addition, for evaluation, one of the teachers indicated that he *formulates tests as a guide* – for instance, for the preparation of agrochemical products.

On the Liberia Campus, some teachers mentioned that they allow *preferential seating* in the classroom for the group of students that request it, to facilitate hearing and visibility; likewise, some English teachers indicated that they use a *language guide* in their classrooms, and make adjustments for presentation of projects (oral presentations with prior or spontaneous preparation) to promote better understanding of the language.

In the Pérez Zeledón Campus, some teachers indicated that they conduct math workshops and provide less difficult exercises.

Personal assistance during and outside classroom sessions

The greater part of the academic staff of Regional Sites indicated that they provide individual assistance to students during and outside classroom sessions, reviewing the main ideas of the subject matter covered in the class, reviewing exercises or progress reports of research projects, clarifying questions or concerns, preparing outlines, summaries or conceptual maps, and assigning additional homework, projects, or practice exercises for students who cannot go on trips.

On the other hand, it is important to indicate that at the time that the study was carried out (2012 through 2015), only four students were registered as being disabled due to visual impairment (poor vision), hearing impairment (poor hearing or deafness), physical-motor impairment, and cognitive impairment in the Chorotega Regional Site. It is therefore pertinent to ask what the barriers are that hinder participation of the group of students with disabilities in the North Pacific zone of Costa Rica or the province of Guanacaste in university training. It is then necessary to investigate conditions of accessibility in the Admissions Test for Higher Education, and opportunities in secondary education in the zone for this diversity group, since their entry rate is very low compared to statistical data on prevalence.

Returning to the findings of this study, a *conceptual confusion* was detected between the techniques used in a basic teaching approach in the university context, with specific adjustments to meet the educational needs of a disabled student. This was because a large part of the academic staff of the Sites of the institution mentioned the use of audiovisual means (computers, multimedia projectors), and cognitive techniques (class summaries, conceptual or semantic maps, explanations with day-to-day examples, group activities, among others) as if they were aids specifically for disabled students. Even though these techniques facilitate access to information and communication for all students taking the courses, and of course for the group of students with educational needs, they are not considered specific adaptations for disabled students.

The UNA Central Site, and particularly the Omar Dengo Campus, is different from the Regional Sites in that the academic staff who participated in the study had experience with disabled students, and many of them mentioned different *curricular adaptations and specific assistance* for the group of students with sensory impairments (blindness, impaired vision, impaired hearing), as well as with physical-motor or cognitive impairments that have an effect on their professional training.

Below are the adaptations or types of assistance found in the *methodological strategy*, taking into account the moment at which they are implemented:

Personal assistance in the classroom

The greater part of the academic staff of the Central Site that participated in this research indicated that they provide *personal assistance* to those students who present particular conditions (disabilities), giving them specific instructions to carry out a project or exercises, or clarifying questions or concerns individually. Some teachers spend their personal assistance time listening to answers written using the Braille system in the area of mathematics, and in the French language.

Teachers also ask for *support from classmates* to provide guidance to the group of students with visual impairments (blindness or impaired vision) during activities in the class session, so that they provide orientation in the classroom, description of activities, exercises, multimedia presentations, and videos (documentaries or movies). Only a few teachers establish *specific roles* to students for providing adequate accompaniment.

In addition, some teachers *provide study material in advance in digital format* (a course program, instructions for projects, videos and other documents) so that these

students have access to them before each class. In particular, some female teachers stated that they provide adapted material (enlarged 14- or 16-point Arial fonts in Word or PDF digital formats, in the Braille system, or embossed), such as readings, graphics, mathematics exercises, project guides, works of music, and other documents to be used by students in the classroom, either independently or with assistance.

Other *specific adaptations* mentioned by academic staff are: verbalization of instructions for class work, description of the classroom (arrangement of furniture and positioning of classmates), as well as of images, figures, diagrams or graphics, or recording of class sessions. They also mention seating students in the front row of the classroom (if they request it) to maintain adequate communication and provide them with assistance. Some teachers have also received support from a LESCO (Costa Rican Sign Language) interpreter in their classrooms because they had deaf students.

Individual assistance outside of classroom sessions

The greater part of the academic staff indicate that they implement various types of assistance outside of the class schedule for the group of students that request them, to review subject matters addressed in the class and exercises or progress reports of research projects, clarify questions or concerns, prepare summaries, or assign additional homework or projects when required.

The greater part of the academic staff coordinate with the Project *UNA Educación de Calidad* for digitizing printed documents (books, anthologies, and readings) for blind students, and receive pedagogical advice and recommendations about pertinent curriculum adaptations for this diverse group. Some of them have also received assistance (in the areas of English and Mathematics) from the Psychological Counseling Department and the Academic Success Program through a student tutor.

Other teachers in the Center of General Studies mentioned that the Counselor of the Integral Student Care Office provided recommendations for assisting students who presented particular problems in their academic training.

It is important to indicate that a part of the academic staff keeps a registry of the adaptations and types of assistance provided in the course, hold meetings with students to come to agreements regarding the adaptations and types of assistance that they require in the course, and complete the Initial and Final Report.

Only a few teachers stated that they implement different actions for providing *support in the emotional area* to the group of students, using positive phrases to reinforce achievements, giving advice on how to cope with personal or family problems, and motivating them to continue and finish the course. It should be emphasized that some teachers indicated that they give support to students who have a *phobia of mathematics*, and do not allow negative comments about persons with disabilities in their class.

The greater part of the academic staff who participated in the study do not consider that as part of their academic functions they must implement actions to contribute to better emotional performance of students with disabilities or educational needs, a situation that is reflected in the limited types of educational assistance.

According to the academic staff of the Central Site, curricular adaptations and specific types of assistance implemented in the *evaluation strategy* include:

Allowing more time for the group of students who ask for it to take tests in the courses and hand in their projects; likewise, in particular situations (specific difficulties in mathematics and English) teachers provide specific instructions and clarify questions and concerns during the execution period.

Following up on homework and individual projects through specific reviews and observations. For following up on group work, teachers say that they talk to each member of the group to get information on their progress, and provide additional material.

Oral tests with concrete short answers are given to the group of students who have visual impairments (blindness), and answers are recorded or written; support materials are used (texts in the Braille system, a glossary or other materials), and individual assistance and adequate space are provided. This is also done for students who cannot write (because of an accident), for health reasons (illness or pregnancy), or emotional situations (crisis of anxiety or panic).

Some mathematics teachers indicated that they administered oral tests with the help of materials in the Braille system, tables, and embossed formulas or figures, allowing students to carry out calculations using the Braille system or a talking calculator. When the subject matter of the courses allows it, they use the Excel program, and the program JAWS screen reader program. They state that they receive support from the team of the Project *UNA Educación de Calidad* in this area, so that the material is adapted (printed in Braille or embossed) to administer the tests.

In the case of *written tests*, academic staff indicated that they administer short tests (3 or more) with support materials (dictionaries, glossaries, graphics, formulas, tables or other materials) for those students that require them, with constant supervision and clarification of questions. For students who have a visual impairment (poor vision), they create *written tests with enlarged print (14- and 16-point Arial fonts, among others)*, or use technological support. These are administered using the schedule established for the course and, in general, with more time provided.

Specific actions implemented in the Central Site and in the Regional Sites, in the *evaluation strategy* are discussed in the following paragraphs.

In the *Liberia and Pérez Zeledón Campuses*, the academic staff in the area of English indicated that they use short tests with hearing support (repetition of instructions or dialogues), and visual support (images), readings with different difficulty levels, and use of a dictionary during tests. In particular, they indicated that the oral part of the test is done in a separate room when situations of panic or shame occur, and they allow short presentations.

In the *Liberia Campus*, a teacher indicated that he allows his students who have children and do not have child care, to take tests in the company of their young children.

In the *Sarapiquí Site*, some teachers indicated that they talk to students that appear very anxious or worried during the tests, and on one occasion it was necessary to carry out an intervention during a crisis which was referred to the Social Work Department for follow-up.

On the *Omar Dengo Campus*, some teachers indicated that they use the self-evaluation technique to assess personal performance, and co-evaluation to assess performance of group members. Some female English and French teachers indicated that they use time to *systematize the experience*, since they have had to use specific criteria to assess the language construction process individually for blind students, and to prepare specialized material (textbooks accessed through screen readers) for Interactive English courses (I, II, III and IV), as well as to support the program's accreditation processes.

However, academic staff in the areas of English, Chemistry and Mathematics indicated that there are courses which are evaluated through comprehensive cumulative exams, which can only be changed under duly justified conditions – this situation does not favor students with educational needs.

On the other hand, a group of teachers in all Sites of the UNA, said that to carry out adaptations and provide the assistance required by students, it is necessary to *have more time and professional dedication*, given that each student is different and the nature of the courses demands it.

Many students of the Central Site who participated in the study, indicated that *their opinion is taken into account*, in particular those with visual impairment (blindness or poor vision). However, they still need a recommendation or reference by a specialist (psychologist, educational psychologist, Special Education, neurologist, and other) to allow the academic staff to implement the curriculum adaptations they need. This situation generates anxiety and discontent among students with disabilities because the recommendations are often given in general terms, rather than specifically for all the courses in which they enroll at the university. (Workshop 10, August, 2013).

Conclusions

The analysis of the results of this study show that the opinion of students of UNA Regional Sites with a disability or with educational needs is not taken into account when defining and implementing curricular adaptations and types of assistance during their university training. On the other hand, many students of the Central Site at least talk with academic staff about defining some of the types of adaptations and assistance they require in their professional training.

It is concluded that pedagogical attention and educational assistance to students are defined based on the impairments they have, disregarding their capacities and talents. In particular, the opinions of academic staff and references by specialists prevail, with general recommendations that cannot be adapted to students' personal situations and to the different types of courses (theoretical, theoretical-practical, laboratory, and courses for the development of specific skills such as dancing, singing, handling of equipment, etc.) offered at the university.

A conceptual vacuum is observed with respect to what is understood as educational needs and assistance, since the greater part of the academic staff confuse actions inherent to university teaching approaches (use of multimedia equipment) with curricular adaptations or specific types of assistance for disabled students. This situation leads to serious difficulties in the university environment when defining pertinent adaptations and types of assistance for this diverse group, taking into account their personal and social conditions.

It is concluded that the prevailing curricular adaptations in the methodological strategy used by the academic staff of the UNA Central Site consist of individual

assistance during and outside class sessions, providing material adapted for students with visual impairments (blindness or poor vision) in an accessible format (using the Braille system, embossed or digital format), and peer support. For the evaluation strategy, it was determined that the adaptations consist of giving more time to take tests or hand in research projects, and adapted tests (taken orally, with enlarged print or in the Braille system, with support of material or digital format), in order to facilitate access to information.

It was found that student follow-up actions by academic staff consist of communications through social networks (e-mail or other media), individual assistance outside class sessions, and participation in counseling or training meetings by the teams of the Project *UNA Educación de Calidad* or the Psychological Counseling Department.

It is concluded that the greater part of the academic staff who participated in the study do not consider that as part of their academic functions they must implement actions to contribute to better emotional performance of students with disabilities or educational needs, a situation that is reflected in the limited types of educational assistance provided.

Regarding university teaching, it is important to emphasize that part of the academic staff of the UNA Sites complies with minimum requirements for attention to students with disabilities or educational needs (individual assistance, and allowing more time), since it is considered that personal aspects are determining factors of their academic performance and their stay in the university, avoiding their professional commitment with the excuse of a lack of assistance or training in this subject; they likewise delegate to the institution their responsibility of getting updated in this area.

Finally, it is relevant that the results of this study and its pedagogical implications be disseminated through different media, in order to construct new perspectives about pedagogic attention to students with disabilities or educational needs in the university environment, based on the principles of Inclusive Education (attention to diversity and social inclusion); thus contributing to their admission, stay, and graduation under conditions of equity and equality in Higher Education.

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