



REVISTA

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Establishing the digital accessibility care unit at the Tecnológico Nacional de México / IT Aguascalientes

Estableciendo la unidad de atención a la accesibilidad digital en el Tecnológico Nacional de México / IT Aguascalientes

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Abstract

The objective of this work was to present the set of basic services of the Digital Accessibility Attention Unit of the Tecnológico Nacional de México / IT Aguascalientes (TecNM/ITA), as well as its initial integration into the organizational structure of the institution. These actions were carried out within the framework of the project "Technological assistance to



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accessibility in Virtual Higher Education, EduTech", registration number: 609785-EPP-1-2019-1-ES-EPPKA2-CBHE-JP, co-financed by the ERASMUS+ program of the European Union. In this sense, emphasis was placed on the implementation of the results derived from two deliverables of said project: "1.1 Report on the state of the art of technological accessibility care units applied to Higher Education", and "2.1 Guide for the implementation and management procedures of a technological accessibility care unit applied to Higher Education". The findings and recommendations of these deliverables made it possible to establish the foundations of the first Digital Accessibility Attention Unit in the entire national technological system, which has 254 institutes throughout the country. It is hoped that the content of this article will inspire other Higher Education Institutions (HEI) to create their own Digital Accessibility Attention Units.

Keywords

Attention units, curricular adjustments, digital or technological accessibility, HEI, reasonable adjustments.

Resumen

El objetivo de este trabajo fue presentar el conjunto de servicios básicos de la Unidad de Atención a la Accesibilidad Digital del Tecnológico Nacional de México / IT Aguascalientes (TecNM/ITA), así como su integración inicial a la estructura orgánica de la institución. Dichas acciones se llevaron a cabo en el marco del proyecto "Asistencia tecnológica a la accesibilidad en la Educación Superior Virtual, EduTech", número de registro: 609785-EPP-1-2019-1-ES-EPPKA2-CBHE-JP, cofinanciado por el programa ERASMUS+ de la Unión Europea. En este sentido, se enfatizó la implementación de los resultados derivados de dos entregables de dicho proyecto: "1.1 Informe del estado de arte de unidades de atención a la accesibilidad tecnológica aplicada a la Educación Superior", y "2.1 Guía de implantación y procedimientos de gestión de una unidad de atención a la accesibilidad tecnológica aplicada a la Educación Superior". Los hallazgos y recomendaciones de estos entregables permitieron establecer los cimientos de la primera Unidad de Atención a la Accesibilidad Digital en todo el sistema nacional de tecnológicos, el cual cuenta con 254 institutos a lo largo del país. Se espera que el contenido de este artículo inspire a otras Instituciones de Educación Superior (IES) para que conformen sus propias Unidad de Atención a la Accesibilidad Digital.

Palabras clave

Accesibilidad digital o tecnológica, adaptaciones curriculares, adaptaciones razonables, IES, unidades de atención.

1. Introduction

To provide a clearer idea of the context of this article, three important aspects will be described in this section: the objectives and characteristics of the Digital Accessibility Attention Units, a summary of the project "Technological Assistance for Accessibility in Virtual Higher Education, EduTech", and a summary of the national technological system in Mexico.

1.1 Technological Accessibility Attention Units

The Support Services for People with Disabilities in Universities are also known as: Program/Service/Unit/Office of Attention/Support to Disability, Unit of Attention to Technological/Digital Accessibility, Unit for Equality and Attention to Disability, Inclusive Education Unit, Student Support Center, among other similar names. The general objective of this type of services is "to guarantee the full inclusion and participation of university



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students with disabilities, contemplating their individuality, through effective equal opportunities and non-discrimination in academic life, as well as the promotion of awareness and sensitization of all members of the community" (Universia Foundation, 2017, p. 23). Achieving this objective entails the following specific aspects: incorporating accessibility into the university admission process; sensitizing and raising awareness among the university community for the proper implementation of accessibility policies and standards in favor of people with disabilities; offering academic support services to students with disabilities; ensuring accessibility in the university environment (infrastructure, equipment, information, services, teaching-learning process) including virtual space; promoting collaboration and synergy between the university community and foundations, organizations, or external institutions in favor of care for students with disabilities; modify current guidelines (and/or generate new ones) in order to formalize and preserve the adequate attention to the needs of students with disabilities; encourage industry and government to promote job placement and future hiring of students/graduates with disabilities; incorporate accessibility training programs for those involved in the teaching-learning process; and modernize the care processes in university service centers by fostering an inclusive culture in favor of people with disabilities (Fundación Universia, 2017; Peralta and Comunitaril, 2011; Porto Castro and Gerpe-Pérez, 2020; United Nations, 2006).

Based on these specific objectives and the general aspects to consider in this type of services pointed out by Fundación Universia (2018), the following ideal characteristics were identified for disability services in HEIs:

- The unit operates directly as a service, office, or internal/specific area in the university. Although this is the most common form of operation, it can also operate through a foundation, or as a shared task between 2 or more services, offices, or internal areas in the university.
- The unit depends organically on a vice-rectorate or sub-directorate (the most common organizational structure), management or other administrative area, or on a foundation.
- The unit's work teams are multidisciplinary (psychologists, pedagogues and psychopedagogues, physiotherapists, sign language interpreters, among others) and inclusive (e.g., men, women, staff with disabilities).
- The care unit of a university works together with similar units in other universities, other care units in the university itself (e.g., psychological care), public and/or private institutions that work with disabilities.
- The care unit encourages the voluntary participation of students by recognizing with academic credits their collaboration in support services for people with disabilities at the university.
- The care unit has a continuous improvement process or an internal evaluation system, its own or based on any quality assurance standard (e.g. UNE-EN ISO 9001:2015 standard).
- The unit considers personalized strategies for induction to the university environment, orientation, tutoring, follow-up, support, and counseling for students with disabilities, involving the processes of admission/enrollment of new students, university training, and graduation, and even job placement.
- The unit ensures that academic rigor is maintained in the training of students with disabilities by maintaining constant communication with students and professors to solve problems of accessibility in the facilities, information or necessary curricular adaptations.



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- The unit ensures mechanisms for students with disabilities to participate in the various student mobility programs (state, national, international) including student participation with industry (e.g. internships).
- The unit has the necessary mechanisms to promote the employability and labor inclusion of students with disabilities through strategies such as job orientation and support in defining career goals. It also carries out internship programs in companies, communication of job offers received and even the management of job exchanges through the areas of university linkage and / or employment service of the university.
- The unit ensures the adaptation of study places for people with disabilities in the context of the concepts of curricular adaptations and reasonable adaptations, for example, reserved seating in classrooms, recording of classes, adaptation of furniture, incorporation of magnetic loops in lecture halls, accessible educational materials, extension of time for exams, curricular adaptation, among others.
- The unit ensures reasonable adaptations can be made in different ways according to the resources available at the university, for example, provision of specific software and hardware, digitization of content with accessibility criteria, and subtitling of audiovisual material.

1.2 The project "Technological Assistance for Accessibility in Virtual Higher Education, EduTech"

The idea of the project was born at the University of Alcalá de Henares, Madrid, Spain, as an initiative of Dr. Salvador Otón Tortosa, Research Professor at the University of Alcalá de Henares. The project was selected to be co-funded by the ERASMUS+ program, "Key Action 2: Capacity Building in Higher Education", for its acronym in English: "KA2: CBHE", of the European Union in its 2019 call. The EduTech project seeks to generate attention units to manage the different aspects related to technological accessibility in higher education, a purpose that is integrated from the same acronym of the project: "Edu" that represents inclusive education and "Tech" that represents the Information and Communication Technologies (ICT) in HEIs, and in Nahuatl (Mexican indigenous language) represents the terms "We or for us".

The project will be in force until 2023 and its development is carried out through the collaborative work of eight partner institutions: Universidad Alcalá (UAH, Spain), Østfold University College (HioF, Norway), Universidad de Alicante (UA, Spain), Universidade Aberta (UAb, Portugal), Tecnológico Nacional de México/Instituto Tecnológico de Aguascalientes (TecNM / ITA, Mexico), Universidad Veracruzana (UV, Mexico), Universidad Politécnica Salesiana (UPS, Ecuador), and Universidad del Azuay (UDA, Ecuador).

The EduTech project focuses on finding solutions to five main problems in the context of technological accessibility in higher education:

1. The lack of a unit or department model in HEIs that deal with the different aspects related to technological accessibility.
2. The lack of documentation or training material for HEIs in relation to success cases and good practices in: Student attention in accessible technology aspects; Tools for accessible virtual training; Accessible virtual campuses with accessibility features; Accessible learning objects and OERs; Accessible Massive Open Online Courses (MOOCs); Quality in accessible virtual training and Training aspects to involved in the teaching-learning process.
3. The need to improve the technological infrastructure and management capacities for Accessible Virtual Higher Education in Latin American partner universities.



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4. The lack of massive training programs on topics of the "Agenda for new skills and jobs" of the 2020 Strategy, especially oriented to vulnerable groups such as people with disabilities.
5. The lack of a common space for technological accessibility units in HEIs to share success stories and best practices.
6. To achieve the above, the following specific objectives of the action were established.
7. To assist Latin American (LA) and European Higher Education Institutions (HEI) in setting up technological accessibility care units, replicable and adaptable according to the characteristics of the institutions, and to train the staff involved in these care units.
8. Create a volume on accessibility, consisting of six guides on the main accessibility issues: (1) Guide for the implementation of technological accessibility management units in HEIs; (2) Technical guide for accessible and adaptive virtual campuses for the implementation of e-learning; (3) Technical guide for the creation and management of accessible OERs and MOOCs; (4) Guide for self-evaluation of accessible virtual quality; (5) Guide for accessibility training of personnel involved in the teaching and learning process. (6) Guide on good practices for the employment of people with disabilities.
9. Develop a series of tools to support accessibility for teachers and students (for example: accessibility plugins for Moodle, repositories of learning objects and OERs, and job simulators) implementing the results and recommendations of the guides prepared in objective 2.
10. Improve the technological infrastructure and management capacities of partner HEIs for an Accessible Virtual Higher Education.
11. Promote the labor and educational insertion of students with disabilities.
12. Support Latin American HEI partners to advance in the creation of an inclusive virtual higher education space, as a way to consolidate the common ALCUE (Latin America, Caribbean and European Union Summit) Higher Education space, through the expansion of existing cooperation networks with a cooperation network of technological accessibility units.

1.3 The National Technological System and the Tecnológico Nacional de México

Los primeros Institutos Tecnológicos (IT) surgieron en México en el año de 1948, fueron Durango y Chihuahua los estados en los que se asentaron, con el propósito de impulsar la ciencia y tecnología regional. Poco tiempo después se fundaron los de Saltillo (1951) y Ciudad Madero (1954). Hacia 1955, estos primeros cuatro Tecnológicos atendían una población escolar de 1,795 alumnos, de los cuales 1,688 eran hombres y sólo 107 mujeres. En 1957 inició operaciones el IT de Orizaba. En 1959, los Institutos Tecnológicos son desincorporados del Instituto Politécnico Nacional, para depender, por medio de la Dirección General de Enseñanzas Tecnológicas Industriales y Comerciales, directamente de la Secretaría de Educación Pública. En el libro *La Educación Técnica en México. Institutos Tecnológicos Regionales*, editado por la Secretaría de Educación Pública en 1958, se marcó la desincorporación plena de los IT y el inicio de una nueva etapa caracterizada por la respuesta que dan estas instituciones a las necesidades propias del medio geográfico y social, y al desarrollo industrial de la zona en que se ubican. Al cumplirse los primeros veinte años, ya se contaba con diecisiete IT, los cuales estaban presentes en catorce estados de la República Mexicana. En la década siguiente (1968-1978), se fundaron otros 31 Tecnológicos, para llegar a un total de 48 planteles distribuidos en veintiocho entidades del país. Durante esta década se crearon también los primeros centros de investigación y apoyo a la educación tecnológica, es decir, el Centro Interdisciplinario de Investigación y Docencia en Educación Tecnológica (CIIDET, 1976) en Querétaro y el Centro Regional de Optimización y Desarrollo de Equipo (CRODE), en Celaya. En 1979 se constituyó el Consejo



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Nacional del Sistema Nacional de Educación Técnica (COSNET), el cual representó un nuevo panorama de organización, surgiendo el Sistema Nacional de Educación Tecnológica, siendo los Institutos Tecnológicos parte fundamental para la integración del Sistema Nacional de Institutos Tecnológicos (SNIT). De 1978 a 1988 se fundaron doce nuevos Tecnológicos, dos Centros Regionales de Optimización y Desarrollo de Equipo (Chihuahua y Mérida), y el Centro Nacional de Investigación y Desarrollo Tecnológico (CENIDET).

La investigación y los posgrados se impulsaron con gran intensidad gracias a la creación progresiva de los Centros Regionales de Estudios de Graduados e Investigación Tecnológica (CREGIT) en cada uno de los planteles. Para 1988, los IT atendían una población escolar de 98,310 alumnos, misma que en los cinco años siguientes creciera hasta 145,299, con una planta docente de 11,229 profesionales y 7,497 empleados como personal de apoyo y asistencia a la educación. En 1990 iniciaron actividades los Institutos Tecnológicos Descentralizados, con esquemas distintos a los que operaban en los IT Federales, ya que se crearon como organismos descentralizados de los Gobiernos Estatales. En 1993 se crea el CRODE de Orizaba. Mientras que en 2005 se reestructuró el Sistema Educativo Nacional por niveles, lo que trajo como resultado la integración de los Institutos Tecnológicos a la Subsecretaría de Educación Superior (SES), transformando a la Dirección General de Institutos Tecnológicos (DGIT) en Dirección General de Educación Superior Tecnológica (DGEST). Como consecuencia de esta reestructuración, se desincorpora el nivel superior de la Dirección General de Ciencia y Tecnología del Mar y de la Dirección General de Educación Tecnológica Agropecuaria y se incorpora a la recién creada DGEST. El 23 de julio de 2014, fue publicado en el Diario Oficial de la Federación, el Decreto Presidencial por el que se crea la institución de educación superior tecnológica más grande de nuestro país, el Tecnológico Nacional de México (TecNM). De acuerdo con el Decreto citado, el TecNM se funda como un órgano desconcentrado de la Secretaría de Educación Pública, que sustituye a la unidad administrativa que se hacía cargo de coordinar este importante subsistema de educación superior. El Tecnológico Nacional de México está constituido por 254 instituciones, de las cuales 126 son Institutos Tecnológicos Federales, 122 Institutos Tecnológicos Descentralizados, cuatro Centros Regionales de Optimización y Desarrollo de Equipo (CRODE), un Centro Interdisciplinario de Investigación y Docencia en Educación Técnica (CIIDET) y un Centro Nacional de Investigación y Desarrollo Tecnológico (CENIDET). En estas instituciones, el TecNM atiende a una población escolar de más de 600 mil estudiantes en licenciatura y posgrado en todo el territorio nacional, incluida la Ciudad de México (TecNM, 2021).

1.4 Problem statement

Despite the fact that the technological system in Mexico has been in operation for more than 70 years, it was only in 2018 that work specifically oriented to accessibility and technological inclusion was initiated, this through a diploma course on inclusive education. Therefore, it is necessary to establish strategies that contribute to strengthen the current alternatives in favor of students with disabilities in the institution. In this sense, the model of Digital Accessibility Attention Unit is new in the system, requiring informed information, guidance, and training to initiate an adequate development of this strategy.

The implementation of the "1.1 Report on the state of the art of technological accessibility care units applied to Higher Education" and the "2. 1 Guide for the implementation and management procedures of a technological accessibility care unit applied to Higher Education", as well as the co-financing provided by the European Union through the EduTech project, has made it possible to mitigate this situation by initiating the planning of the Technological Accessibility Care Unit at the institute, cataloging the TecNM/ITA as a pioneer in the establishment of this type of support services within the national technological system.



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The purpose of this article is to disseminate the EduTech project by encouraging the implementation of its deliverables once they are available. In this sense, section 2 summarizes the implementation of the "1.1 Report on the state of the art of units of attention to technological accessibility applied to Higher Education" and the "2.1 Guide for the implementation and management procedures of a unit of attention to technological accessibility applied to Higher Education" to integrate the unit of attention to digital accessibility of the TecNM/ITA, highlighting its functions in subsection 2. 1, and its organizational structure in subsection 2.2. Finally, section 3 presents the first conclusions obtained after the implementation of the findings derived from the aforementioned deliverables.

2. Integrating the Digital Accessibility Service Unit

The EduTech project made possible the integration of the support unit in the institute not only through the co-financing of the ERASMUS+ program of the European Union, but also through the results and recommendations of its deliverables "1.1 Report on the state of the art of support units for technological accessibility applied to Higher Education", and "2.1 Guide for the implementation and management procedures of a support unit for technological accessibility applied to Higher Education". The essential conduction of these documents made it possible to visualize the functions of the digital accessibility care unit, and its integration into the institute's organizational structure. The following preliminary statements for the unit's mission and vision have also been proposed.

- **Misión**, establecer una comunidad accesible donde los estudiantes con discapacidad tengan la misma oportunidad de participar plenamente en todos los aspectos del entorno educativo, promover la independencia de los estudiantes, y asegurar que los estudiantes sean reconocidos por sus habilidades y conocimientos por encima de su discapacidad.
- **Visión**, un ambiente educativo – incluyendo: Oportunidades y actividades educacionales; académicas; laborales; recreativas; sociales; y deportivas– en el Tecnológico Nacional de México /IT Aguascalientes universalmente accesible para todos los estudiantes sin la necesidad de intervenciones, adaptaciones, y/o diseños especiales gestionados por la unidad de atención a la accesibilidad.

En las siguientes subsecciones se describen las actividades correspondientes resaltando su estatus actual indicándose: en planificación, en desarrollo, o implementadas.

2.1 Funciones de la Unidad de Atención a la Accesibilidad Digital

Los fundamentos del estado del arte de unidades de atención a la accesibilidad tecnológica aplicada a la educación superior, y las recomendaciones de la guía de implantación y procedimientos de gestión de una unidad de atención a la accesibilidad tecnológica aplicada a la educación superior, permitieron identificar el siguiente conjunto de servicios de apoyo tecnológico para estudiantes universitarios con discapacidad:

- **Technological assistance to students with visual (partial), hearing (partial), and mobility disabilities** (IN PLANNING), through the equipment acquired with the support of the European Commission through the project "Technological assistance to accessibility in Virtual Higher Education", technologies will be developed to assist accessibility in accessible virtual education, including: accessible virtual campus, accessible open educational resources, accessible plugins for Moodle, and 3D work simulators. In addition, fifteen accessible workstations will be available for students with visual (partial), hearing (partial), and mobility disabilities who wish to use them to carry out academic activities in their face-to-face classes. Additionally, a strategy based on the promotion, design, development,



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and implementation of curricular adaptations (Alcantud, Avila, & Asensi, 2000; Corredor Ponce, 2016) and reasonable accommodations (Ortego Hernando, 2000; Sandoval, Morgado, & Domenech, 2020) has been presented to the institute's authorities. This initiative that would be managed by the digital accessibility care unit involves the detection of students with disabilities during the enrollment process; the notification of teachers who would have such applicants as students; and the negotiation of curricular and reasonable accommodations based on available resources. A student volunteer service is envisioned as academic support for students with disabilities based on the Victoria University of Wellington (New Zealand) model. As well as strengthening the current academic tutoring program by incorporating accessible aspects to better serve students with disabilities.

- **Assistance to the distance education programs offered at the institute by incorporating accessibility aspects in virtual education** (IN PLANNING), the digital accessibility unit will collaborate with the distance education coordination of the Tecnológico Nacional de México / IT Aguascalientes to develop accessible technological elements (for example, plugins for Moodle), and implement them in the courses of the two undergraduate programs in the distance education modality that are currently offered.
- **Training for the institute's teachers in essential aspects of accessible virtual education** (IN PLANNING), through the digital accessibility unit, an accessible training program will be managed and carried out, initially for teachers and later extended to administrative personnel. Currently, a preliminary agenda has been designed to establish an accessible training program for the institute's teachers following the recommendations of the Guide for Accessible Training of those Involved in the Teaching-Learning Process in Higher Education, deliverable 2.5 of the project "Technological Assistance for Accessibility in Virtual Higher Education". The training is based on the sensitization of teachers to disability and accessibility (Bruder and Mogro-Wilson, 2010). The proposal will be reviewed by the institute's authorities and structured in accordance with current teacher training guidelines to formalize its delivery. It is also expected that this function of the digital accessibility unit will be intertwined with other initiatives that the Tecnológico Nacional de México is implementing at the national level, such as the Diploma in Inclusive Education.
- **Academic mobility for students with disabilities** (IN PLANNING), it is expected to work closely with the Department of Technology Management and Liaison to formalize specific agreements to ensure the mobility of students with disabilities, with industry, government, and foundations in the State of Aguascalientes. This activity would be complemented with the establishment of a specific process for the management of accessible mobility, which will cover from the dissemination of information to students, to the culmination of the stay.
- **Internships and internships in industry and promotion of academic employability for students with disabilities** (IN PLANNING), it is also expected to work closely with the department of Technology Management and Liaison to formalize specific agreements to ensure the proper conduct of internships and internships in industry; even considering the possibility of conducting virtual internships using the student's own equipment, or the accessible workstations of the digital accessibility unit. In this sense, the development of 3D work simulators is also envisioned as an alternative to promote the employability of students with and without disabilities.
- **Consulting for teachers and staff** (IN PLANNING), it is envisioned that the digital accessibility unit will be available to advise teachers of the institute who wish to implement accessibility strategies in their courses (e.g., curricular adaptations), as



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well as to provide advice on accessible technology considering the aspects described in (Bruder & Mogro-Wilson, 2010).

- **To develop research projects in the context of technological assistance for accessibility in virtual education (IN PLANNING)**, it is envisaged to take advantage of the equipment acquired through the project to carry out tests with users of the different accessible technological developments carried out by the digital accessibility unit. Both the developments and the results of the tests would be structured as research projects resulting in different types of scientific publications depending on the impact of the findings obtained.

2.2 The Digital Accessibility Attention Unit within the organizational structure of the TecNM/ITA

Similarly, the deliverables of the EduTech project, mentioned at the beginning of the article, helped to visualize the internal organization of the care unit and its proper integration into the organizational structure of the TecNM/ITA. The actions in this context are described as follows:

- **After several meetings with the institute's authorities, it has been determined that the technological support unit will be attached to the Academic Sub-Directorate (from which all academic departments and their programs of study at the institute depend) and will be integrated into the Distance Education Coordination Unit (UNDER DEVELOPMENT)**. Currently, a couple of spaces have already been identified in the Distance Education building (whose construction was completed in May 2021), however, this is still being formalized by the institute's authorities. Similarly, it is being considered to make the care unit visible as a transversal service on the institute's website.
- **Work team and collaborators (IN DEVELOPMENT)**, the initial work team integrates three professors with expertise in the following areas of knowledge: Professor 1: User experience, human-centered design, Human-Computer Interaction, educational technology, and accessibility. Professor 2: Serious game design and development, Virtual Reality, and Artificial Intelligence. Professor 3: Advanced web design and development, and virtual education platforms. The integration of an expert professor in Psychology and human behavior is also envisioned. This element is in the process of institutional formalization. Initially, only the profiles mentioned above are considered for the unit's work team. However, the external participation of experts in Sign Language (it is expected to have meetings with representatives of the National System for the Integral Development of Families, DIF Municipal, in Aguascalientes to discuss the project) and Braille (the Union of the Blind of Aguascalientes has been identified, linked to the ONCE Latin America Foundation, with whom it is expected to have meetings to discuss the project).
- **Quality assurance in the accessibility care unit (IN PLANNING)**, we have chosen to implement the set of criteria suggested by The Quality Assurance Agency; because it is a reliable strategy with a large number of positive cases of implementation reported in the literature; in addition, it is compatible with multiple implementation scenarios. However, it is necessary for this alternative to be corroborated by the institute's authorities. Once the care unit is formalized, the self-evaluation commission will be formed, considering the participation of students with disabilities. It is envisioned that the self-evaluation will be carried out every six months. The first self-evaluation is expected to be carried out after the first semester with a record of the care and/or services provided by the attention unit. It is planned to hold meetings to analyze the results of the self-evaluation on the next working day after the self-evaluation is carried out.



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3. Conclusions

This first approach to the establishment of a Technological Accessibility Attention Unit at the TecNM/ITA was very positive and generated interest in the national technological system. Likewise, it allowed corroborating the generality and easy implementation of the findings and recommendations from the deliverables "1.1 Report on the state of the art of technological accessibility care units applied to Higher Education", and "2.1 Guide for the implementation and management procedures of a technological accessibility care unit applied to Higher Education" of the EduTech project. Therefore, it can be inferred that it will be able to help other higher education institutions to set up their own technological accessibility care unit. In this sense, and as part of the EduTech project, it is expected to be able to confirm the above by replicating the exercise in the other Latin American partner universities of the project. This situation is important, since even though considerable progress has been made in the implementation of the attention unit, most of the actions are in the process of development and even in the planning process, preventing the visualization of a definitive implementation.

On the other hand, the exercise also revealed some critical aspects to be considered for a successful outcome. The first of these is undoubtedly institutional support; beyond the funding provided by the European Union, it was necessary to count on the willingness of the institute's authorities to generate specific processes (for example, the bidding process for the purchase of equipment), allocate space for the assembly of the technological accessibility unit, and manage specific actions of various departments and units of the institute (for example, financial resources, planning and budgeting, computer center, and material services). Another key element is to encourage the participation of teachers and students with and without disabilities in the strategy proposed through the mission and vision of the technological accessibility unit. Likewise, it is considered important to link with external associations, including government agencies, specifically focused on the attention to people with disabilities.



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