

Master's Dissertation/
Trabajo Fin de Máster

**A DIDACTIC PROPOSAL FOR
STUDENTS WITH THE AUTISTIC
SPECTRUM DISORDER IN A CLIL
CLASSROOM**

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June, 2023

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ABSTRACT

This dissertation is based on a very controversial issue in the field of education, which is how to achieve full inclusion of learners with special educational needs. Its main aim is to provide a didactic proposal including students with autism spectrum disorder in a Natural Science Content and Language Integrated learning (CLIL) classroom in Andalusia. Even though, attention to diversity is a real challenge for the teaching practice, this project aims to respond to diversity through the use of an active methodology with a variety of resources and tools that allow for the full inclusion of students. To do this, first a brief theoretical overview will be made, providing guidelines for intervention in the classroom to finally arrive at this intervention proposal with the corresponding materials adapted to the level of content and language.

Keywords: INCLUSION, AUTISM, CLIL, CHALLENGE, ACTIVE METHODOLOGY, CONTENT AND LANGUAGE.

RESUMEN

Este trabajo se basa en un tema muy controvertido en el ámbito de la educación, que es cómo lograr la plena inclusión de los alumnos con necesidades educativas especiales. Su principal objetivo es proporcionar una propuesta didáctica que incluya a alumnos con trastorno del espectro autista en un aula de Aprendizaje Integrado de Contenidos y Lenguas Extranjeras (AICLE) de Ciencias Naturales en Andalucía. Si bien, la atención a la diversidad es un verdadero reto para la práctica docente, este proyecto pretende dar respuesta a la diversidad mediante el uso de una metodología activa con variedad de recursos y herramientas que permitan la plena inclusión del alumnado. Para ello, en primer lugar, se hará un breve recorrido teórico, proporcionando pautas de intervención en el aula para llegar finalmente a esta propuesta de intervención con los correspondientes materiales adaptados a nivel de contenido y lenguaje.

Palabras clave: INCLUSIÓN, AUTISTA, AICLE, RETO, METODOLOGÍA ACTIVA, CONTENIDO Y LENGUAJE.

1. Introduction

Educational diversity is a real challenge for the whole educational community. We live in a changing society characterised by profound technological, legislative and educational changes that require continuous adaptation and updating. In this context, the concept of inclusive education arises in order to respond to the demands of society and to guarantee the right to education for all students.

Inclusive education is a relatively recent concept. According to Alonso and Araoz (2011, as cited in Toboso, Ferreira, Díaz, Fernández-Cid, Villa and Gómez, 2012), until the mid-1980s, pupils with disabilities were placed in segregated schools and were considered undeserving of education in Spain. *Law 14/1970 of 4 August 1970 on General Education and Financing of Educational Reform (General Education Law)* was an important step in the inclusion of students with disabilities, allowing their entry into mainstream schools and the creation of special education classrooms. Subsequently, the National Institute for Special Education (INEE) was created, being key in the attention to students with disabilities.

In 1990, *Organic Law 1/1990 of 3 October 1990 on the General Organisation of the Education System (LOGSE)* was passed, establishing as a rule, whenever possible, the ordinary schooling of pupils with special educational needs. This was followed by *Organic Law 10/2002, of 23 December, on the Quality of Education (LOCE)*, in accordance with Calvo et al. (2004) although it was not implemented, a certain step backwards in relation to all that had been achieved up to that time was made (Calvo et al., 2004). In this line, *Organic Law 2/2006, of 3 May, on Education (LOE)* dedicates Chapter I of Title II to the care of pupils with "specific educational support needs" whose main principles are equity, flexibility and quality education (Casanova 2011, as cited in Alonso and Araoz, 2011).

Currently, the recent *Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education (LOMLOE)*, exposes that **inclusive education** will be adopted as a fundamental principle, aimed at attending to the diversity of needs of all students, both those with special learning difficulties and those with greater ability and motivation to learn, adopting the relevant organizational, methodological and curricular measures required.

It is therefore essential in this context to find the necessary tools and methods to cater to the great diversity of students in order to provide all of them with a quality educational response which is the main aim of education.

Within this framework, a new methodological approach has emerged which is here to stay and which moves away from all traditional methods and focuses its attention on the learner. That is, Content and language Integrated Learning (CLIL), which according to Marsh (2002, as

cited in Harrop, 2012) “describes any dual- focused type of provision in which a second language, foreign or other, is used for the teaching and learning of a non-language subject matter, with language and content having a joint and mutually beneficial role” (p. 57).

Halbach and Iwaniec (2000, as cited in Pérez, Rascón and Cueva, 2021), states that CLIL promotes the autonomy and responsibility of pupils as they receive less parental support due to the language barrier and increases their belonging to a group.

This new approach has become a major focus for boosting and reinforcing levels of learning and multilingualism. “It is a relatively recent set of practices which had its origin in Europe in the 1990s” (Ball, Kelly and Cleg, 2015). Beyond further, according to this same author, it is extremely important to have in mind that it may or not may work and therefore, we have to know why it works, how to improve it, when and where it works and if does not work what we could do to solve it.

In CLIL, classroom atmosphere changes and the quality of learning, too. It favors peer feedback and allow students feel safer, reducing pressure. In addition, in terms of language, students are willing to help each other since the language to use is less formal. They instinctively know at which level their peers think (Ball, Kelly and Cleg, 2015).

Taking into account all of the above considerations, the main aim of this master dissertation entitled “*A didactic proposal for students with Autistic Spectrum Disorder in a CLIL classroom*” is, as its own name said, to provide an intervention proposal allowing the inclusion of an autistic student in a CLIL classroom. To do so, we will first carry out a brief theoretical review of the most important conceptual concepts such as a clear definition and classification of Autism Spectrum Disorder (ASD) that allow us to better understand it and differentiate from other disorders as well as to propose guidelines and intervention strategies for teachers in classroom.

The following, a complete didactic sequence is proposed favouring inclusion in a CLIL Primary Education classroom in the subject of Natural Sciences with the corresponding methodological adaptations. In order to so, justification and contextualization will be crucial since they have sense to the other curricular aspects (didactic objectives, competences and contents) to finally present a series of activities, resources and materials subjected to a specific timing and methodology. Assessment of all stakeholders plays a crucial role to determine the extent to which the objectives have been achieved and to introduce possible changes.

Finally, a series of conclusions on the theoretical review and its practical proposal is presented, analysing and providing a series of recommendations and future improvements.

2. Theoretical framework

2.1. Teaching learners with specific learning difficulties

Learning difficulties have always been a major challenge for parents and educators and have become increasingly visible thanks to the concept of inclusion which abounds in school classrooms aiming at unification while guaranteeing the principle of equality (Fiuza & Fernández, 2014). In this context, these same authors state that it is difficult to establish a consensus definition that allows us to know and differentiate whether a pupil presents any educational difficulty and therefore to know the means to identify the different types that may exist (Fiuza & Fernández, 2014, as cited in Miranda, Soriano and Amado, 2000). In turn, Mackay (2009) concurs with the previous authors that there is no agreed definition. However, he provides a series of tips to establish an appropriate concept such a specific term which allow us to differentiate from other disabilities, involves all stakeholders, incorporates current knowledge and it should be all-purpose.

2.1.1. Definition

Although there is no agreed definition, we will now proceed to define the concept of Special Educational Support Needs from different authors perspectives and the current legislative framework.

According to the *Organic Law 2/2006, of 3 May, on Education (LOE)* pupils with specific educational support needs are considered to be those who require different educational attention to the ordinary one, due to special educational needs, specific learning difficulties, high intellectual abilities, late entry into the education system, or personal conditions or school history. Then, the *Organic Law 8/2013, of 9 December, for the improvement of educational quality (LOMCE)* modifies some aspects from the previous law. We can only highlight the modification it made by extracting students with Attention Deficit Hyperactivity Disorder from the group of special educational needs. Finally, the *recent Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education (LOMLOE)* law defines students with specific educational support needs as those with special educational needs due to maturational delay, language and communication development disorders, attention or learning disorders, severe lack of knowledge of the language of learning, socio-educational vulnerability, high intellectual abilities, late entry into the education system, or personal or school history conditions.

Moreover, the *Instructions of 8 March 2017, from the Directorate General for Participation and Equity, updating the protocol for the detection, identification of students with*

specific educational support needs and organization of the educational response, also provide a Specific Educational Support needs definition as “pupils who require, for a period of their schooling or throughout their schooling, different educational attention from the ordinary one due to special educational needs; learning difficulties; high intellectual abilities; or who require compensatory actions” (p. 155).

In this sense, Fiuza and Fernández (2014) emphasize the difference between learning difficulties and developmental disorders. While the difficulty refers to a developmental delay of a functional nature which is characterized by transience, the disorder is a disability or suffers from an organic level which is temporal and related to disability.

In turn, the concept of '**special educational needs**' dates back to the 1960s. The Warnock report brought about a real revolution in this terminology and recognised that grouping difficulties into fixed categories is detrimental both to teachers and families and to the pupils themselves for a number of reasons, including the fact that there are many children with more than one disability and it is therefore difficult to group them together. In addition, they generalise all children by stating that within the same category they are all the same in terms of characteristics. In addition to this, it is difficult to access certain resources because they do not fit into a specific category, and discrimination is encouraged by labelling these children (Marchesi, Coll & Palacios, 2014). In this sense, in accordance with Keil, Miller and Cobb (2006), students with low disability are put at risk of being lumped in with the vast majority as well as this label leads to confusion between those disabled learners who need resources and those who do not.

In this line, according to Ferrer, Cerdán and Gil (2010), currently, special educational needs are associated with developmental disorders which can be defined as “disorders that typically manifest themselves early in development and lead to impairments in personal, social, academic or occupational functioning” (p. 372).

2.1.2 Classification and characteristics

Once the concept of Specific Educational Needs has been defined and its main characteristics explained, we will proceed to present a classification from different perspectives.

Table 1

Specific Educational needs classification

LOE				LOMCE				LOMLOE			
-	Pupils	with	special	-	Pupils	with	special	-	Attention	or	learning
			educational				educational		disorders		
			needs				needs.				

- Pupils with high abilities	- Specific learning difficulties.	- High intellectual abilities
- Pupils with late entry or personal conditions or school history	- Attention deficit and hyperactivity disorder.	- Developmental language and communication disorder
- Specific learning difficulties.	- Late entry or personal conditions or school history.	- Maturational delay
	- High abilities	- Socio-educational vulnerability
		- Late entry or unfavourable personal or school history conditions
		- Severe lack of knowledge of the language of learning

Note. Specific Educational needs classification following Organic Law 2/2006, of 3 May, on Education (LOE), Organic Law 8/2013, of 9 December, for the improvement of educational quality (LOMCE) & Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education (LOMLOE).

The aforementioned Instructions of 8 March 2017, from the Directorate General for Participation and Equity, updating the protocol for the detection, identification of students with specific educational support needs and organization of the educational response, gives a much more precise and sophisticated classification, allowing us to gain an in-depth understanding of this group.

Firstly, it establishes a first group called “Special Educational Needs” which includes “severe developmental disorders” (severe or profound developmental disorder, severe language development disorders and severe psychomotor development disorders); “visual disability” understood as a severe decrease in vision in both eyes causing alterations in learning; “intellectual disability” when the IQ is equal to or lower than 70 causing difficulties in daily life activities; “hearing disability” when there is a significant deficit in communication and language; “communication disorders” where we find aphasia, specific language and speech disorders causing difficulties in the development of language; “physical disability” due to a malfunctioning of the skeletal system; “hearing impairment” where there is an important deficit in communication and language; “autistic spectrum” disorder which will be analysed in depth in the following section; “severe behavioural disorder” when there is a serious impairment in the articular, muscular and/or nervous system; “serious conduct disorder” when persistence of

inappropriate behaviour is manifested in at least two limits of socialization and finally attention deficit hyperactivity disorder as well as other mental illnesses and rare and chronic diseases.

Secondly, these same Instructions establish a second category called “learning difficulties”, which includes dyslexia, dysgraphia and dyscalculia, making it difficult to acquire reading, writing, calculation and mathematical reasoning. Difficulties due to language delay, limited intellectual capacity or attention deficit disorder or hyperactivity are also included in this group. The third group corresponds to students with “high intellectual abilities”, either due to intellectual giftedness with a percentile greater than 75 or due to simple or complex talent. Finally, the last group is called “students who require actions of a compensatory nature”, due to their personal or school history, periods of hospitalization or home care, families of temporary professions, court rulings or late incorporation into the educational system.

Ferrer, Cerdán and Gil (2010) include intellectual disabilities, communication disorders, autistic spectrum disorder, attention deficit hyperactivity disorder and specific learning disability within the group of special educational needs.

Following Lenhard and Lenhard (2013) we may find other classification according to the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (World Health Organization 2010) “specific forms usually are called learning disorders and include basic reading, spelling and arithmetic problems” (p.1).

2.2 Identification of students with Autistic Spectrum Disorder (ASD)

According to the *Royal Decree 157/2022, of 1 March, which establishes the organisation and minimum teachings of Primary Education* confirms that special emphasis will be placed on individualised attention to pupils as well as early detection of their specific needs in order to establish support and reinforcement measures to avoid retention in the same grade, particularly in socially disadvantaged environments, with the aim of reinforcing inclusion and ensuring the right to quality education. Following Lenhard and Lenhard (2013), in the process of diagnosis learning difficulties, it is crucial to identify those individual differences from the ordinary group, to investigate the causes that leads to academic failures by analysis of cognitive skills and finally, to take into account external factors such as anxiety, volition and motivation, among others.

2.2.1 Early detection and main difficulties

The process of detecting and identifying pupils with special needs is complex and requires gathering information from the pupil in his or her whole context. That is why,

according to Marchesi, Coll and Palacios (2014), it is crucial to precise a definition of “psychological evaluation” which can be defined as follow:

“A shared process of collecting and analysing relevant information regarding the different elements involved in the teaching and learning process, in order to identify the educational needs of certain pupils who present difficulties in their personal development or mismatches with the school curriculum for different reasons, and to base decisions regarding the curricular proposal and the type of help they need to progress in the development of the different abilities, as well as for the development of the Institution “ (p.396).

Early detection should focus on the age and developmental stage of the pupil, as it will depend on the context and the specific needs presented, with the early years being a key time for prevention and treatment. The psychological evaluation should be proposed at any stage of schooling in the second cycle of pre-primary, primary or secondary education when it is suspected that a pupil has specific educational support needs (Instructions of 8 March 2017, from the Directorate General for Participation and Equity, updating the protocol for the detection, identification of students with specific educational support needs and organization of the educational response).

In this context, we will draw our attention to students with Autistic Spectrum Disorder (ASD) being key in the dissertation.

It has been shown that early detection followed by the diagnosis of autism spectrum disorder has a strong prognostic effect on the prognosis of people with autism, mainly in behavior, communication and social skills (Canal, García, Touriño, Santos, Martín, Ferrari, Martínez, Guisuraga, Boada, Rey, Franco, Fuentes & Posada, 2006, as cited in Dawson & Osterling, 1997 & National Research Council, 2001 & Rogers 1998).

In this sense, studies conducted by Nadel and Poss (2007) and Daniels, Halladay, Shih, Elder, and Dawson, (2014) conclude that early intervention is the key to a favorable prognosis and much more beneficial outcomes.

Ferrer, Cerdán and Gil (2010) state that autistic spectrum disorder refers to “individuals with persistent impairments in social communication and social interaction, together with the presence of restrictive and repetitive patterns of behavior, interests or activities” (p. 378). Kanner's definition as cited in (Marchesi, Coll and Palacios, 2014), focuses on 3 main nuclei:

qualitative relationship disorder, communication and language disorders, and lack of mental and behavioral flexibility.

The *American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5)* provides standardized criteria to help diagnose ASD. Learners have persistent impairments in communication and social interaction in various contexts, restricted and repetitive patterns of behavior, interests and activities (stereotyped movements, inflexibility of routines and monotony as well as interest in unusual objects) and symptoms must be persistent early in development and not better explained by intellectual disability or global developmental delay.

This same manual determines that the level of severity is based on difficulties in social communication and restricted and repetitive behavioral patterns, with grade 1 being the mildest without needing help in situ and without showing serious problems although it shows difficulties in interaction, autonomy and alternation of activities. In contrast, grade 2 begins to need help with disturbances in social interactions as well as in verbal and non-verbal communication and inflexibility to change. Finally, in grade 3, the most severe, the deficiencies are severe, making social skills and coping with change very difficult.

Instructions of 8 March 2017, from the Directorate General for Participation and Equity, updating the protocol for the detection, identification of students with specific educational support needs and organization of the educational response, divides autistic spectrum disorders into five main groups, which are in line with those proposed by Fiuza and fernández (2014) and Marchesi, Coll and Palacios (2014). According to the abovementioned Instructions, the first group autism, is characterized by alterations in the social and communicative sphere, also presenting restricted, repetitive and stereotyped behaviors associated with intellectual disability.

Asperger syndrome, the second group, is characterized by higher cognitive abilities with normal or high IQs and normalized language, presenting difficulties in social areas. This lack of socialization is a distinctive feature from typical autism (Bauer, 2006).

The third group refers to “Rett syndrome”, which is prevalent in girls and women and manifests itself between the first and second year of life. It is characterized by motor difficulties and progressive severe mental retardation with poor prognosis (AES de Rett, 2022).

Fourthly, childhood disintegrative disorder constitutes the next group, to identify it, regression in acquired functions (expressive language, sphincter control, social and adaptive competences, play and motor skills) must be seen after the age of 2 years and before the age of 10 years (Marchesi, Coll & Palacios, 2014).

Lastly, pervasive developmental disorders unspecified, which according to García, Palacios, Román and Sevilla (2010) it is a range of disorders in several areas of development, making it difficult to place them in a single category. Many children are affected in the three main areas (communication, social interaction and behavior) but only display some features of the above disorders.

Canal et al. (2006) recognize that it is crucial to be aware of the warning signs or signals that will help us to identify this type of disorder. They can be summarized as follow:

- Difficulty in looking and directing their gaze in the same direction
- Lack of communicative gestures
- Lack of social smile
- Restricted interests and repetitive movements
- Little visual exploration of the environment.
- Use of simple words
- Alterations in social interaction.
- Lack of imitation

Moreover, Fiuza and Fernández (2014) also establish a series of indicators for detecting ASD pupils at the Primary Education stage, in which the following can be highlighted:

- Isolation
- Inappropriate play behaviors such as aggression and disruptive conducts.
- Difficulty in group play
- Difficulty understanding irony
- Rigidity in following rules
- Mutism
- Echolalia
- Inappropriate responses to invasion of their space
- Low frustration tolerance and disproportionate emotional reactions.
- May be associated with mood disorders, anxiety, fears and aggressive behavior.

Hernández et al. (2005) establish a series of barriers or limitations that hinder early detection in Spain, such as difficulty on the part of families to identify language deficiencies at the developmental stage, or lack of intentional communication, as well as lack of training and information on the part of the professionals involved. In this sense, these same authors recommend a series of useful instrument to detect autistic spectrum disorder:

- CHAT (Checklist for Autism in Toddlers), from 18 months.
- M-CHAT (Modified Checklist for Autism in Toddlers), 24 months.

- PDDST (Pervasive Developmental Disorder Screening Test).
- ASIEP-2 (Autism Screening Instrument for Educational Planning).
- ASSQ (Autism Spectrum Screening Questionnaire for Asperger and other high functioning autism conditions).
- CAST (Childhood Asperger Syndrome Test).
- ASDI (Asperger Syndrome Diagnostic Interview).

2.3. Inclusion of students with ASD in the Primary Education classroom

It is necessary to understand that students with ASD have a different view of the world, so educators must help them identify and manage emotions and behaviors in order to facilitate them socially integration. It is also essential to have a good knowledge of their characteristics in order to deal with them in the best possible way (Ferrer, Cerdán and Gil, 2010)

According to Rubio (2011) “comprehensive attention to pupils with specific educational support needs will begin from the moment when these needs are identified and will be governed by the principles of normalisation and inclusion” (p.76). In order to so, Rubio (2011) also remarks the importance of determining the schooling method which will depend on Early Care Team in case the child is not schooled. This team carries out a psycho-pedagogical assessment in order to identify special needs in order to decide which method of schooling best suits their characteristics and learning process.

The Instructions of 8 March 2017, from the Directorate General for Participation and Equity, updating the protocol for the detection, identification of students with specific educational support needs and organization of the educational response, exposes that two possible educational response are available: ordinary or extraordinary attention. The former is related to measures for all students characterized by organizational flexibility and educational inclusion: attention to diversity, splitting of groups, grouping of subjects into fields of knowledge, reinforcement of the area of Spanish language and literature instead of foreign language, methodologies based on cooperative groups, adaptation of didactic programs to the needs of students, among others. The latter refers to the measures in which organizational and/or curricular modifications personalized to the pupils in question, they are the following:

- Access Adaptations (AAC)
- Non-Significant Curricular Adaptations (ACNS)
- Significant Curricular Adaptations (ACS)
- Specific Programs (SP)
- Curricular Enrichment Programs for students with high intellectual Intellectual Abilities (PECAI)

- Curricular Adaptations for pupils with high with high intellectual abilities (ACAI)
- Flexibilization of the schooling period.
- Extraordinary Permanence (Only SEN)
- Schooling in a lower grade than the age for late entrants to the education system (COM only).
- Specific attention for late entrants with severe language communication deficits (COM only)

In accordance with Jurado (2019) “significant curricular adaptation” is carried out when the student's level of curricular competence is lower by at least 2 years and the adaptation must be included in the psycho-pedagogical report. Non-significant adaptation requires an adjustment in terms of methodology, organization, contents presentation, grouping of students or instruments or techniques without modifying curricular elements, instead. In case of evaluation, this author states that alternatives to written tests and adaptation on them are crucial to guarantee an inclusive evaluation.

In summary, it is necessary to have an in-depth knowledge of the pupils and their main characteristics in order to provide them with the most appropriate educational response to their profile and interests. That is why, we are going to draw our attention to how integrate Autism Spectrum Disorder students in the Primary Education stage,

Ferrer, Cerdán and Gil (2010), Marchesi, Coll and Palacios (2014) as well as Fiuza and Fernández (2014) agree that anticipatory organization is crucial to prevent disruptive behaviors. In turn, the latter authors argue that it is also primordial to eliminate discriminative stimuli, teach incompatible behaviors, not to show attention if undesired behaviors are presented, to use positive and negative punishment and to reinforce adapted behaviors.

Sanz-Cervera, Tarrara- Mínguez and Lacruz-Pérez (2018) provide some strategies to work with ASD. On the one hand, global or comprehensive models of treatment where we find the applied behavioural analysis (ABA), where tasks are broken down into several steps and they are taught to perform each of them with positive reinforcement; the TEACCH method, trying to modify the environment to adapt it to their needs, working with visual panels and work systems and finally the early start Denver model, which is used in early care. On the other hand, other strategies based on intervention practice are: picture exchange communication system, one of the resources are Augmentative and Alternative Communication (ARASAAC); social stories, scripts that help the child to understand what to do or peer-mediated intervention, helping them to interact and acquire new behavioural and social interaction skills.

In this sense, the communicative dimension is one of the areas affected in ASD in order to improve their language skills, the guide for teachers and educators of students with autism (2016) proposes a series of recommendations for integrating students with ASD in the classroom aimed at improving the linguistic communicative competence:

- Use proper names to reinforce the messages said.
- Sequence the instructions of an activity by asking questions such as “what are we going to do? what do we need? for when?”
- Clear and simple rules, avoiding double meanings and accompanied by visual aids. For instance: to speak, I raise my hand.
- Flexibility with eye contact to avoid distraction.
- Allowing more time to complete tasks.
- Use of positive language. “You can leave in 5 minutes instead of you can't leave in 5 minutes”.
- Use of "back and forth notebooks" to improve family-school communication. For example, telling what they have done over the weekend with photographs.
- Work on pronominal inversion. That is to speak in the first person e.g. "I want to go to the toilet".
- Drama and relaxation dynamics.

In turn, Fiuza and Fernandez (2014) recommends that given the difficulties that can be found in imitation, it is advisable to structure the activities and work in small groups, for generalization, teach in natural environments and useful day-to-day content as well as the transfer of skills and finally to work imagination, it is advisable to use concrete materials, lean on visual representations and avoid abstractions.

The Instructions of 8 March 2017 states that “rigid and transmissive methodologies are less advisable to achieve an adequate attention to diversity in the classroom, being, on the contrary, more suitable methods based on discovery and on the active role of the students” (p.56). In this sense, following Márquez and García (2022), we can highlight cooperative learning and project-based learning. These methodologies encourage inclusion and participation through challenges, final product and the necessary support of all members.

Zariquey (2020) states that it is necessary to understand that learning is not an individual act but a shared act where everyone is important to achieve a goal and quality learning. However, it is necessary to establish the necessary conditions from a curricular, organisational and methodological point of view, taking into account three factors: first, differentiation, creating learning situations adapted to the characteristics of the students; second, autonomy, the

more autonomous they are, the more learning opportunities they will have; and finally, cooperation, understood as dynamics that encourage the participation of all students.

2.4. What is CLIL?

CLIL is an approach whose roots are in the early nineties (Coyle et al., 2010 as cited in Harrop, 2012). Westall (2015, as cited in MacDougald, 2016) defined CLIL as “a pedagogical approach in which language and subject area content are learnt in combination. The generic term CLIL describes any learning activity where language is used as a tool to develop new learning from a subject area or theme” (p. 254).

In this context, when we refer to CLIL, we need to consider the 4Cs of the curriculum, developed by Coyle (1999, as cited in Pérez, 2009):

Content: the lesson should include content area content that allows progress in knowledge, skills and understanding of the specific topics of a given curriculum.

Communication: the language would be used for learning while learning to use the language itself in a communicative way.

Cognition: enabling the development of cognitive skills linking concept formation (abstract and concrete), knowledge and language.

Culture: which would allow exposure to varied perspectives and shared knowledge making learners more aware of each other and themselves (p. 6).

2.4.1. Foundations and characteristics.

Ball, Kelly and Clegg (2015) expose a series of factors which determine the success of CLIL and therefore, make easier learner to acquire a second language:

- Learner L2 ability: to maintain accepted level of subject knowledge, good levels of ability are crucial together with successful skill strategies. It also depends on how linguistic demanding the subject is and how the learner knows about the subject which will facilitate him/her a rapid acquisition of the linguistic competence in a foreign language.
- Exposure to L2: the second language should be widely used in society and in a variety of contexts and started from an early age.
- Literacy and cognitive skills: stakeholders' knowledge of CLIL features remains crucial. Students are much more prepared when they are equipped with a good level of literacy and cognitive skills.

- Socio-economic status: it is a widely myth that learners with disadvantaged context are not available to learn a second language. Research conducted by Pavón (2018) proved that there is no remarkable difference between rural and urban students in terms of capabilities. However, it is certain that they do need much more support to facilitate the process.
- Teacher L2 ability: teacher needs to be confident and fluent enough which give sense to the different pedagogical strategies adopted.
- Teacher pedagogical skill: this factor is also vital in line with the previous one. They need to help learners to comprehend, thus they have to be trained in CLIL pedagogy especially when students language proficiency is still in process.
- Resourcing: The most valuable one is materials. In this sense, book selection should be reflected to facilitate the linguistic access to learners.
- Self- selecting or system-wide programs: self-selecting works much better than system-wide programs. Students are selected, according to their L2 ability and motivation, learning capacities, by the school or by themselves to take part in bilingual programs.
- Time allocation: time determines students' L2 acquisition. Long-term CLIL requires a high level of commitment and schools need to be sure they have the appropriate resources.
- The language syllabus: CLIL is more effective when it is focused on its requirements.
- Planning: it is necessary from the school management, education authority and subject teacher and all the stakeholders should be informed about CLIL theory and practice.

To a better understanding of this complex concept, it is necessary to explain what the principles are which are summarized as follow

- The language is used for both content learning and communication.
- The subject determines the type of language needed.
- Fluency is most important, while grammatical correctness takes second place (Pérez, 2009).

Pérez (2009) exposes what are the characteristics of this methodology that differentiate it from other methods as well as some strategies that teachers can use:

- The methodology involves learner-centred teaching taking into account the characteristics and needs of the learner through negotiation of tasks, moving from the particular to the general, using real examples and situations, etc.
- This teaching is flexible and facilitative so that it reaches all learners through adapted texts, alternating between L1 and L2, gesturing, paraphrasing and scaffolding the language.
- The methodology is interactive and autonomous through diverse groupings, work by discovery or research.
- The use of multiple resources and materials, with special emphasis on ICTs, favouring their autonomy and attention to diversity.
- The methodology is focused on tasks, achieving a more meaningful learning. These should be focused on the objectives, flexible and open and adapted to the interests of the students.

According to Lesca (2012) a typical lesson plan includes a several steps in which the following activities are included “checking previous knowledge; practicing content language expanding vocabulary; consolidating knowledge; summarizing skills; applying the new knowledge; checking and correcting errors”. Likewise, Meyer (2010) suggests a series of steps in order to implement a CLIL lesson plan. First, it is advisable to start with content selection; then, it is substantial that students are exposed to multimodal input adapted to the different cognitive skills and learning styles and determine the level of language scaffold. Finally, tasks should be aimed at providing varied thinking skills and interactions deciding the appropriate output.

The role of a CLIL teacher cannot go unnoticed since he/she is in charge of teaching a language and therefore their level must be adequate. In this sense, Marsh et al. (2011, as cited in Papaja 2013) provides a list of idealized competences which teachers should have.

- Communication: sophisticated proficiency language level.
- Theory: knowledge of content and language theories and difference between language learning and acquisition.
- Methodology: ability to implement a wide variety of methods and strategies adapted to difficulties.
- Learning environment: awareness of variety of linguistic and cultural backgrounds.
- Material development: selection and implementation of resources and materials.

- Assessment: implementation of evaluation tools.

2.4.2. Main challenges and potentialities.

CLIL plays a crucial role in learners' motivation. In this sense, in accordance with Harrop (2012), it contributes to arise both integrative and instrumental motivation providing students with a useful context for authentic language use. What is more, this same author remarks that is bounded to all type of learners regardless their abilities and cognitive skills although scaffolds language remains necessary. Concerning to intercultural awareness, CLIL also leads to greater acknowledgement. Learners use the language as a tool of communication and integration in a globalized world (Coffey, 2005 as cited in Harrop, 2012).

Wolff (2007, as cited in Aliaga, 2008) remarks some CLIL assets from students' point of view. Students are better learners of both content and language than those who learn only one language as it allows them to process language better at a higher cognitive level. In addition, the activities are more connected to real life, providing them with autonomy and learning for the future through a variety of resources and teamwork.

However, CLIL models have some remarkable limitations. According to Dalton-Puffer (2007, as cited in Harrop, 2012), it is often described as a "linguistic bath" which leads to a disappointment of linguistic outcomes. Owing to this tension, this same author, Dalton-Puffer, proposes the integration of content and language in one curriculum as well as to clarify linguistic expectations in CLIL programs in order to maximize the usefulness of the linguistic competence.

Furthermore, Pérez (2018) states that foreign language proficiency together with teacher training constitutes a hurdle which it is influenced by several factors such as teacher experience, type of teacher and the previous experience abroad which can broaden horizons in linguistic competence. To these challenges, pedagogical and organizational issues are added: students' center methodologies, material adaptation, resources...specially in those related to cater attention to diversity. Moreover, although coordination and collaboration have always seemed to be a difficult obstacle to face, several studies prove to have been stepped up thanks to different means and digital programs according to Pérez (2018). Nevertheless, McDougald (2016) confirmed that both language and content teacher need further training in collaboration in the curriculum as well as a lack of time to meet up, being a great barrier overloading teachers. Finally, scientific knowledge is still waiting to be improved, especially in teacher's study of bilingual plans and documents and theoretical basis and models (Pérez, 2018 & McDougald, 2016).

3. Didactic proposal.

3.1. Contextualization

In this second part of this dissertation, we proceed to propose a *learning situation* called “The vegetable world” aimed at the 3rd year of Primary Education stage (2^o cycle, 8 years old) in a bilingual school in the subject of Natural Science in the academic year 2022-2023.

This topic is of great interest and importance to pupils. It is important to make them aware of their respect and care in order to continue conserving them. Moreover, it is a subject that is close to their reality, which allows them to create meaningful learning and understand its usefulness for human beings.

Concerning to the school’s characteristics, it is a public school located in the city of Cordoba in the Autonomous Community of Andalusia. The city where the school is located overcomes 325.708 inhabitants and the neighbourhood is considered to have a medium economic and socio-cultural level, and the predominant economic activity resides in the tertiary or service sector (75,8%), especially anything relating to trade and financial activity.

It was built several years ago so it is an old school but with recent renovations. The school is bilingual with natural, social and artistic subjects taught in English as the first foreign language. A total of 225 pupils are enrolled in this school. Parents also like cooperating with the school. The school has a webpage for parents to find information about the school.

The ratio of students per class is mostly 25, except for some extraordinary cases. It is organised on one line per level from Early Childhood Education to Primary Education.

The school consists of 2 buildings. The main building houses all the primary classrooms except for the first cycle and infants, as well as offices, library, teachers' room, Therapeutic Pedagogy (TP) room, auxiliary classrooms and a lift. The secondary building houses the first cycle of Primary Education.

The pupils have two playgrounds, a small one dedicated to playgrounds and leisure time for the infants and another one with large multi-sports courts used by the primary school pupils.

As to the human resources is concerned, the teaching staff is made up of 15 professionals (three early childhood education teachers, there is one English specialist teacher, one Physical Education teacher, one musical teacher, a religion teacher, an educational support teacher, a French specialist teacher, three English bilingual teachers). Also, there is a Pedagogical Team (one therapeutic pedagogy teacher and hearing and language teacher). The T.P. specialist attends only 50% of the teaching time. The Language and Hearing (LH) specialist attends the school one day a week. In addition to this, there is one school counsellor from the School Counselling Team and a Parents’ Association, known as AMPA.

Considering the characteristics of the group-class, it is formed by 25 children of ages between six and seven years old, 14 of whom are boys and 11 are girls. They are in the 1st cycle of Primary school on the second grade. According to the intercultural diversity, they are mostly native-born Spaniards but there is one student who is an immigrant from Latin America: a girl from Mexico. In addition, the vast majority presents a good level of learning (17 students).

Following Díaz-Serrano (2015) and in accordance with KHOLBERG's theory of moral development (1958), my students are entering the conventional stage where they start becoming aware of what is right and wrong. Thus, according to Huiit and Hummel (2003) following PIAGET's stages of logical thinking (1982), they will be in the first stage of the "Concrete Operational Stage". Hence, they will be able to apply logical thoughts to concrete problems, they will make use of concrete experiences to understand new concepts and ideas as well as they will use language to exchange more important information and become more sociable and less egocentric.

Regarding attention to diversity, the classroom is made up of mixed abilities: high, medium and low students. On the one hand, there are two boys who are considered as students with specific needs of educational support (2 autism students). Therefore, they will carry out reinforcement activities proposed along the development of every unit and some curricular adaptations will be implemented, as well.

On the other hand, there is one girl who is a fast-finisher. She will work on extension activities proposed in each session. Some other aspects and measures concerning their learning process will be explained in the attention to diversity section.

3.2. Didactic objectives

The educational purpose of this master's dissertation is to achieve the total inclusion of two autistic students in a Natural Science CLIL classroom, providing methodological strategies and resources to favor this achievement. To do so, a *learning situation* will be presented using an active, participatory and manipulative methodology through various active methodologies such as cooperative learning or guided learning.

In accordance with the recent Royal Decree 157/2022 of 1 March, which establishes the organization and minimum teaching standards for Primary Education, the following learning situation mainly contributes to the Primary Education general objectives "f) to acquire in at least one foreign language the basic communicative competence needed to express and understand simple messages and to cope in everyday situations [...]" and h) to know the fundamental aspects of natural sciences, social sciences, geography, history and culture" (p. 8).

Moreover, other specific objectives are also pursued:

Content

- To identify and differentiate different types of plants.
- To recognize and name the parts of a plant and their characteristics.
- To know the usefulness of plants for human beings.
- To classify plants as trees, bushes and grasses.
- To analyze which parts of plants we eat.
- To know the process of photosynthesis.

Language

- To learn vocabulary related to plants: stem, leaves, roots, etc.
- To use the foreign language as a tool for communication.
- To employ the present simple to describe plants.
- To enumerate plants' characteristics using ordinal numbers: first, second, etc.

3.3. Competences

In this section, taking into account what is regulated in *Royal Decree 157/2022, of 1 March, which establishes the organization and minimum teachings of Primary Education* and in accordance with what is established in article 5 of this Decree and the new Instruction 12/2022, of 23 June, of the Directorate General for Educational Planning and evaluation, by which aspects of organization and operation are established for the centers that provide Primary Education for the academic year 2022/2023, the competence profile is a tool that specifies the level of development of the key competences that students should have acquired by the end of each educational stage. In this sense, the aforementioned Instructions list these key competences, as follow:

- Linguistic Communicative Competence (LCC)
- Mathematical competence and competence in science, technology and engineering (MCCSTE)
- Digital Competence (DC)
- Cultural awareness and expression competence (CAE)
- Citizenship competence (CC)
- Entrepreneurship Competence (EC)
- Personal, social and learning to learn competence (PSLLC)
- Multilingual Competence (ML).

Accordingly, the following is a list of the descriptors of the key competences and specific competences of Natural Science subject and how they are to be worked on in this didactic proposal.

Table 2

Contribution of the didactic proposal to the key competences and Natural Science specific competences

Key competences	Specific Competences	Contribution from the didactic proposal
LCC MCCSTE DC CAE	1. Use digital devices and resources in a safe, responsible and efficient way, to search for information, communicate and work individually, in teams and in networks, and to rework and create digital content in accordance with the digital needs of the educational context.	The proposal includes digital games using computers in the computer room. To this end, students are informed in advance of their suitability and the rules necessary to successfully complete the activity.
LCC MCCSTE DC CC	2. Ask and answer simple scientific questions, using different techniques, instruments and models of scientific thought, to interpret and explain facts and phenomena that occur in the natural, social and cultural environment.	Pupils observe, reflect on and analyze natural phenomena using a variety of instruments and draw their own conclusions through experiments.
DC CAE EC PSLLC MCCSTE	3. Solve problems through design projects and the application of computational thinking, in order to cooperatively generate a creative and innovative product that responds to specific needs.	Students reflect on and create new ideas, propose solutions and recapitulate content by generating creative ideas and using resources.
MCCSTE DC CAE EC CC	5. Identify the characteristics of the different elements or systems of the natural, social and cultural environment, analyzing their organization and properties, and establishing relationships between them, in order to recognize the value of cultural and	Students learn about plants, their characteristics, their parts and the most relevant facts about the subject as well as recognise their importance for humans and their conservation.

	natural heritage and take action for its responsible use, conservation and improvement.	
LCC	6. Identify the causes and consequences	Students analyze in relational situations how humans intervene in the conservation or damage of plants as well as intervene in proposing solutions and measures.
MCCSTE	of human intervention in the	
EC	environment, from the social, economic,	
CC	cultural, technological and	
PSLLC	environmental points of view, in order to improve the ability to face problems, seek solutions and act individually and cooperatively in their resolution, and to put into practice sustainable lifestyles consistent with respect, care and protection of people and the planet.	

Note. Contribution of the didactic proposal to the key competences and Natural Science specific competences according to the Instructions 12/2022, of 23 June, of the Directorate General for Educational Planning and evaluation, by which aspects of organization and operation are established for the centers that provide Primary Education for the academic year 2022/2023

3.4. Contents

The didactic proposal is aimed at learning more about plants and their characteristics which is part of the basic knowledge “A. Scientific culture” A.2. Life in our planet” A.2.3. Classification and identification of living beings, including humans, according to their observable characteristics (Instruction 12/2022, of 23 June, of the Directorate General for Educational Planning and evaluation, by which aspects of organization and operation are established for the centers that provide Primary Education for the academic year 2022/2023, p. 31). Taking this into account, as the objectives, we are going to split the contents into those related to the contents of the subject and those related to the language.

Subject contents

- Identification of plants: rose, grass, bush, tulip...
- Characteristics of plants.
- Parts of a plant.
- Products obtained from plants.
- The photosynthesis' process.

Language contents

- Present simple.
- Ordinary numbers: first, second, third...
- Vocabulary related to the topic: leaves, roots, tulip...
- Adjectives description: tall, small, aromatic, bright...
- Revision of verb to be.

3.5. Timing

This didactic proposal will be carried out in the second term (April - May) of the academic year 2022-2023 whose duration is approximately of 3 weeks. According to the aforementioned new Instruction 12/2022, of 23 June, the teaching timetable corresponding to the 3rd year of Primary Education is 2,5 hours per week which in this case are distributed in 3 sessions (two of 45 minutes and one of 1 hour).

3.6. Methodology.

The methodology is one of the most important sections of this didactic proposal. In this point I consider the specific guidelines for carrying out my learning situation. According to the new *Royal Decree 157/2022, of 1 March, which establishes the organization and minimum teachings of Primary Education*, they can be defined as “an effective tool to integrate the curricular elements of the different areas through meaningful and relevant tasks and activities to solve problems in a creative and cooperative way, reinforcing self-esteem, autonomy, reflection and responsibility” (p.108).

The development of my lessons plans follow an integrative approach, which brings pupils to contextualized situations within their own experiences, favoring all types of learning and cognitive activities, alternating different activities through the active participation of the students and the performance of the teacher, who acts as a guide and facilitator of the learning.

Accordingly, the way of introducing topics as well as the way in which they are worked is paramount. Due to the number of pupils in my classroom, 25, the activities will be developed in small groups since the sense of security and support a team created may encourage students to work more relaxed and confident as they learn from and support each other. In this sense, cooperative learning will be implemented through different techniques such as “numbered head together dynamic, thing and share and learning stations”.

On the other hand, the importance of Information and Communication Technologies (ICTs) means introducing new techniques and resources for fostering students’ digital competence. Therefore, the inclusion of ICTs will mean new changes in the methodology, without the need to change it completely, only introducing ICTs at certain times, which will

mean altering the spaces, times or resources. The most relevant methodological strategies that can be used with ICT include gamification as in the fifth lesson plan.

Moreover, the Communicative Approach allow us to make use of real-life situations that students are likely to encounter in real life and that require communication, and the Task- Based Approach, where task is considered as a piece of meaning-focused work which involves learners in comprehending, producing, and interacting in the target language.

Concerning to the structure of lessons, every lesson is organized in order to facilitate learning for the students, therefore, all my lessons are structured in five different parts: warming-up, presentation, practice, production and wrap-up.

3.7. Design of the proposal: sessions and activities

The sequencing and development of activities per session is presented below. The learning situation consists of 8 sessions organized in 5 parts each: warm-up, presentation, practice, production and wrap-up organized around tasks that lead to a final task. Relevant adaptations to the activities to autism students can be found in the corresponding annexes.

1º session: diversity of plants.

The aim of this session is to find out what pupils know about the subject in order to consolidate the less developed contents and to strengthen the more acquired ones, as well as to detect the difficulties in each one of them.

As a *warm-up*, we may use of the Kagan's cooperative learning technique "numbered head together"(1980). The pupils are placed in groups of 4 components and numbered from 1 to 4. The following question is asked: what do plants need to survive? The pupils put their heads together to think about the answer and after 5 minutes, the teacher calls out a random number from 1 to 4 who will act as the spokesperson for the team.

In the *presentation* stage, making use of flash-cards, a presentation of different types of plants is made: rose, tulip, bush, tree, rose, grass, potato plant, etc. After that, in the *practice* phase, students play a domino game (annex 1) in which they have to relate the picture with the corresponding name.

In the *production* stage, pupils practice what they have learnt. To do, they complete two activities from a worksheet (annex 2): a word research and labelling plants.

Finally, to end the session, we play a memory game "*the plants chain*". The pupils stand in a circle. One of them starts by saying the name of a plant, the next one has to memorize the name of his or her partner and add one more, and so on until the end.

Regarding autistic pupils, pupils will work as the rest of the class but with pictogram cards. Cooperative groups will undoubtedly favor their inclusion and they will be included with pupils of a good level to increase their motivation.

2° session: help me survive.

This session is aimed at learning more about the characteristics of plants.

As a *warm-up*, it starts with a bingo game in order to revise what they have learnt in the previous session (annex 3). Then, in the *presentation* phase, pupils watch a video about characteristics of plants and classification from YouTube and a power point in order to understand deeply the contents. Once the video and the presentation have been displayed, in the *practice* stage, pupils in pairs, will play odd one out (annex 4) in which they have to rule out which of the following characteristics do not belong to the plants. After that, they will do a worksheet to consolidate the contents learnt (annex 5).

Finally, as a *wrap-up*, pupils play the yes/no game. Each one has two sticks (a green one for yes and a red one for no). The teacher will show different images: sofa, water, sun, car, etc., and the pupils will lift the stick according to whether it is something the plants need to survive or not.

In order to achieve the total inclusion of autism students, the video will be subtitled and the cards will be camped with pictograms.

3° session: Edible plants.

The main aim of this lesson is to learn different parts of the plants and to identify which parts of them we eat. In this session, no specific adaptation of activities to autism students is required.

As a *warm up*, to start the lesson, pupils play a flashcard game in pairs. They stand with their backs to each other with a flashcard and on a signal, they must turn around and say the name as quickly as possible in order to win. Then, in the *presentation* stage, teacher make use of different types of plants to identify their parts: leaves, roots, stem and fruit. In the *practice* phase, students have to classify different parts of the plants we eat in a big poster: spinach, potato, blackberry... into leaves, roots, stem and fruit (annex 6). For this activity, autistic pupils will have their own pictures with pictograms. After that, in the *production* stage, they complete a worksheet identifying the parts of the plants. This activity will be done through the cooperative technique “think and share” in which pupils first think of the activity on their own and then compare the answer with their peers. Autistic students will do the same as their colleges but they will have instructions of the worksheet with pictograms.

Finally, to end the lesson, to work on spelling, students will play hangman game.

4° session: I am a tree

This lesson is aimed at classifying different types of plants as trees, grasses and bushes. First, as a *warm-up*, to activate students, we play a game “every sheep with its mate” in which pupils will have a card (some of them have a plant and other a part of a plant) and they have to find their mates. Then, in the *presentation* phase, a power point is used to present students a classification of plants and explain students what we use some plants for. For instance: the cotton for sheets or wheat for pasta.

After that, in the *practice and production* stage, a learning station is carried out. Pupils will work in teams on different time-based activities (6 minutes each of them) (annex 7)

- First station: **spelling**. Pupils have to form different words from pictures.
- Second station: **find words**. Using dictionaries, students have to write 5 objects made from cotton, bush, pine tree and wheat.
- Third station: **riddles**. For instance: they are tall and strong plants. They have one hard and thick stem called trunk. The branches grow very tall. TREES.
- Fourth station: **Plants championship**. Students play in groups using a small board where, depending on the square, they must solve questions by choosing the correct option or draw something for their classmates to guess.

To avoid distractions, stations will be timed and students will be warned in advance. Autistic students will be placed in groups with quiet peers and the activities will be carried out in sequence.

5º session: funny plants

In this lesson, students will learn the photosynthesis process and review the previous concepts through gamification. As a *warm-up*, the lesson starts with the photosynthesis song (annex 8). Then, the teacher in the *presentation phase*, explains the photosynthesis process and a photosynthesis experiment will be conducted (*practice* stage). In this case, autistic pupils are provided with instructions on how to do it, accompanied by pictures. To do this, we add two tablespoons of bicarbonate to a jar of water and mix it, then put the plant in the jar with water and add the bicarbonate and place it in the sun. Afterwards, we will move to the computer room to play some games and when we return, we will observe how the roots of the plant begin to release oxygen bubbles (annex 9).

In the *production* stage, in the computer classroom, students play different games in order to consolidate contents. In the first game, pupils have to squash the moles that correspond to the things the plants need in order to gain points. In the second one, pupils have to classify different objects depending on whether they are made of cotton, pine or wheat. The last game, students have to find pairs by matching the pictures with their corresponding word (annex 10). In this phase, autistic students will play the same games as the rest of class.

6° session: Pre-task. let's investigate

This session aims for students to learn more about plants by learning discovery and to explain what students are expected to do in the final task. It is developed in the playground and the school surroundings. For the *practice* phase, pupils will be given a worksheet to complete (annex 11) in which they must identify: what types of plants they have found, what the leaves look like, in which season they are...Then, for the *production* stage, students have time to choose one of the ones they have seen and name its parts in groups of 4 members. In this case, the autistic pupils will go with quiet companions and with the supervision of the teacher.

7° session: Task-phase

This lesson will be devoted to elaborate the final task which consist of the elaboration of a lapbook (annex 12). Students are expected to include the contents they have learnt through the learning situation: parts of the plants, what they need to survive and edible plants and the photosynthesis process. To do so, a model will be provided to facilitate comprehension. Moreover, the evaluation criteria what they are assessed will be explained and the groups formation will be made (pairs). For autistic students there will be a sequence of content to be included which will be given to them in writing and that they should cross them out as they are included.

8° session: Final task

The main aim of this lesson is to assess students' work (self-assessment, peer-assessment and teacher assessment). Hence, in this session students will expose their final task to their classmates and evaluate their own work and that from their peers and teacher (annex 10).

3.8. Materials and resources

The main aim of the materials and resources selected is to encourage pupils' autonomy and promote their linguistic competence. They are adapted to their age and level, favouring attention to diversity in the classroom. Likewise, taking into account the technological era, the inclusion of technological resources such as didactic games in the computer room has not been left behind. Furthermore, the resources allow the student to achieve meaningful and experiential learning by combining both authentic and adapted materials. Therefore, with the main objective of favouring the Communicative Approach, mentioned previously, the following table shows a classification of the materials and resources used for each of the sessions.

Table 3

Classification of materials and resources by sessions

Session	Materials and resources
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Session 1: Diversity of plants	Flashcards, domino game, worksheets, picture dictionary
Session 2: Help me survive	Bingo cards, computer, projector, worksheets, sticks, worksheets and cards.
Session 3: Edible plants	Flashcards, poster, cards, picture dictionary
Session 4: I am a tree	Cards, computer, projector, dictionaries, letters, worksheets, board game
Session 5: funny plants	Computer, projector, bicarbonate, water,
Session 6: let's investigate	Magnifying glass, worksheet, pencils
Session 7: Hands- on work!	Cardboard, paper, colouring paper, pencils...
Session 8: All about plants	Worksheets assessment

3.9. Attention to diversity.

In this section, we are going to provide the educational measures to attend to diversity in the CLIL classroom taking into account the legal principles from statal and autonomous level.

The educational response to cater for diversity is developed specifically in each centre and each classroom. In addition, the general measures to cater for diversity adopted in the school are established taking into account organisational and curricular aspects.

From a practical point of view, these measures will be specified on the following factors:

- The arrangement of personal resources to foster co-operation and communication among all staff without letting aside other institutions and the families.
- The organization of resources to provide a wide range of materials to the students.
- The school environment must be structured and unchanging, thus avoiding irrelevant information.
- The distribution of time to cover not only the necessities of the subject area, but also those students with special needs.

The measures adopted by the school and the classroom in order to cater for diversity are necessary but not enough to response to those students with specific and special needs.

The main guidelines that this didactic proposal takes into account for attending attention to diversity are the Instructions of 8th March, 2017, from the General Department of participation and equity, by which is updated the detection protocol, identification of students with special needs support and organization of the educational response. The intervention and measures adopted in the classroom are planned to maximize pupils' potential, based on their individual needs. An appropriate and satisfying educative answer is provided to all learners, taking into consideration their personal, socio-economic, learning, cultural, ethnical or linguistic differences.

Now it is time to identify the students with specific or special needs within my group and their methodological adaptations (annex 13).

- **Special need: autism (pupil 1)**

His main characteristics include: lack of eye contact, adherence to routines and inflexibility, good cognitive level, does not obey rules, does not respond to his or her name and lacks imitation as well as a taste for manipulation. Therefore, the educational response for this pupil focuses on “non-significant adaptations” involving changes in methodology, organisation and assessment such as the use of a visual diary, specific routines, pictograms, manipulative activities, sequenced activities and flexibility in evaluation (oral and written tests).

- **Special need: autism (pupil 2)**

This pupil has similar characteristics to the previous one but differs in others such as: staring, disruptive behaviour and scattered attention, knocks objects and throws them, produces verbal emissions with echolalia (unintentionally repeating a word you have just heard), imitates sounds and simple words but responds to his name and simple commands with visual support. Thus, as the same as his aforementioned classmate, the educational response is based on “non-significant adaptations” involving changes in methodology, organization and assessment, too. In this case, behaviour and attention measures are also included such as savings sheet with the aim of eliminating disruptive behaviour by losing or winning points, place him in the classroom next to the teacher, visual materials and resources, family school communication agenda, social history, flexibility in evaluation (oral and written tests).

- **Fast finishers:** extension activities are designed for pupils who finish early, offering them a choice of work project and enabling learners consolidate the language and content work in a way that best suits their interests. In the classroom, in the Natural Science corner, we have a target where students throw a ball to see the number of activities they have to do (Annex 14).
- **Learning difficulties:** revision activities aim to consolidate, review and build on the content and language that students have already learned through the unit. They are stimulating, topic-based material focused on motivating students to communicate about matters that genuinely concern them.

3.10. Assessment

According to *the Royal Decree 984/2021, of 16th November, regulating the evaluation and promotion in Primary Education*, the evaluation of the pupils’ learning process will be continuous, formative, integrative, differentiated and objective as an instrument for the improvement of both teaching and learning processes. In order to analyze how learning and

teaching processes can be assessed in relation to the fulfilment of the objectives, it is necessary to consider three basic questions: “what”, “when”, and “how” to evaluate.

Concerning what evaluate, objectives, contents and evaluation criteria will be assessed through different “assessment instruments” and following the current legal framework. We must assess children in as many ways as possible so that they can express themselves by using those skills they are better: listening, speaking, performing, and also content such as procedures and attitudes.

Table 4

Didactic proposal evaluation

Specific Competence	Evaluation Criteria	Instrument
Specific Competence 1	10% 1.1.a. Be initiated in the use of simple digital devices and resources in accordance with the basic needs of the educational context in a safe manner.	Wordwall (computer games results).
Specific Competence 2	10% 2.3.a. Participate in small guided or guided experiments, when the investigation requires it, progressively initiating the use of some simple enquiry techniques, using some basic instruments in a safe way and recording observations through clear registers.	Experiment worksheet Portfolio Participation checklist
Specific Competence 3	50% 3.2.a. Present graphically the final design of the projects, explaining the steps followed with the help of a script.	Final task presentation (rubric)
Specific Competence 5	20% 5.2.a. Recognise, in a guided way, simple and direct connections between different elements of the natural, social and cultural environment through observation, manipulation and experimentation, and the main changes	Worksheets Final test

and adaptations that humans have developed for their needs.

Specific Competence 6	10% 6.1.a. Demonstrate sustainable lifestyles and become aware of being consistent with respect, care and protection of the elements and beings of the planet, identifying, in a guided manner, the relationship between people's lives and their actions on the elements and resources of the environment such as soil and water.	Fact-fille worksheet Observation checklist
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Note. Didactic proposal evaluation following the Instructions 12/2022, of 23 June, of the Directorate General for Educational Planning and evaluation, by which aspects of organization and operation are established for the centers that provide Primary Education for the academic year 2022/2023.

As for “when and how to evaluate”, assessment is a continuous process. It requires to be developed at three different stages: initial, formative and summative evaluation.

At the beginning of the didactic sequence, activities will be carried out in order to detect the possible difficulties of the pupils and to know their level on the subject matter such as the dynamics of the numbered heads together. Subsequently, as a formative evaluation, at the end of each session, the students will fill in "exit tickets" to check what they have learnt about that class and to observe and resolve any possible doubts. In addition, other criteria such as participation, the results of the activities, the notebook, etc. will also be taken into account. Finally, as a summative evaluation, a short test will be carried out and the final task will be presented, which will serve as a final evaluation instrument where the knowledge learnt throughout the learning unit will be compiled (annex 15).

4. Conclusions

The main objective of our intervention proposal is to achieve the full inclusion of students with autism spectrum disorder in the CLIL classroom. It is a well-known fact that when there are students with special educational needs, one of the first areas to be eliminated from their education is foreign language, especially when there are significant difficulties in the communicative and language area. Nevertheless, we can conclude that the main objective has been achieved, thanks to the numerous psycho-pedagogical tools and adaptations that this

proposal establishes, such as the use of pictograms or social stories or general measures such as cooperative grouping or guide learning.

This didactic proposal is based on active methodologies that encourage students' motivation to learn. To this achieve this goal, pupils' characteristics have been taken into account, considering the principle of individualization, as each pupil is different and unique, as well as the guidelines offered by numerous research studies and the current legislative framework. Moreover, it is adaptable and flexible, allowing relevant adaptations to be made for different learners as well as the introduction of new educational tools.

Finally, it is necessary to highlight that bilingualism favors the inclusion of pupils with special educational needs, providing them with opportunities for communication and interaction while learning a second language. However, it is true that there are many limitations that we have to face, such as the lack of information regarding these students on the part of teachers, the lack of material and human resources, as well as the lack of time.

Much research has been carried out in this field, and there is a great deal of research and partnerships aimed at the inclusion of learners with special needs. Despite this, it is a very open field in which there is still much to learn, research and innovate in order to provide new tools and new experiences to enrich the existing ones. All these arguments lead to the conclusion that there is a need for more training in both special educational needs and educational practices in the bilingual classroom. Continuous training in this area is crucial to enable pupils to achieve a quality education that allows them to become more autonomous and more competent.

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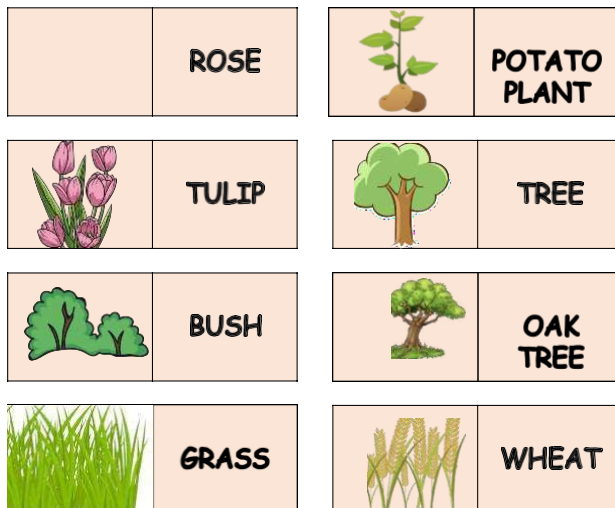
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Annexes

Annex 1. Domino game



Annex 2. Worksheets from session 2.

Name: _____ Date: _____

DIVERSITY OF PLANTS

G	R	A	S	S	K	M	R	O	S	E	I
S	T	R	A	W	B	E	R	R	Y	C	R
D	N	U	P	I	N	E	T	R	E	E	J
J	L	L	C	F	A	X	J	M	P	X	H
P	O	T	A	T	O	N	C	K	Q	H	J
F	W	H	E	A	T	U	D	Y	A	H	V
K	B	S	Q	O	A	K	T	R	E	E	O
A	W	T	U	L	I	P	B	U	S	H	V

Find the following words in the puzzle.
Words are hidden → and ↓.

BUSH

GRASS

OAK TREE

PINE TREE

POTATO

ROSE

STRAWBERRY

TULIP

WHEAT

Created using Word Search Generator on
Super Teacher Worksheets (www.superteacherworksheets.com)

Name: _____ Date: _____

Label the following plants



T_L_P



TR__



B__H



R_S_



GR_S_



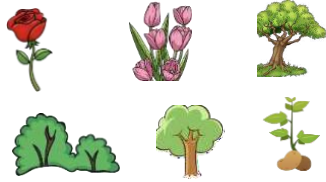
W_E__



P_T_T_PL_N_

Annex 3. Bingo game.

BINGO



BINGO



BINGO



BINGO



Annex 4. Odd one out.

They
are
living
things

They are
born, grow,
feed,
reproduce
and die.

They are
vertebrates

They
don't
need
water

They make their
own food
(photosynthesis)

They are
rooted in
one place

Annex 5. Worksheet: plants' characteristics.

Name: _____ Date: _____

1. Put the pictures in order and write.



The plant is born

The plant is growing

The plant
interacts with the
environment

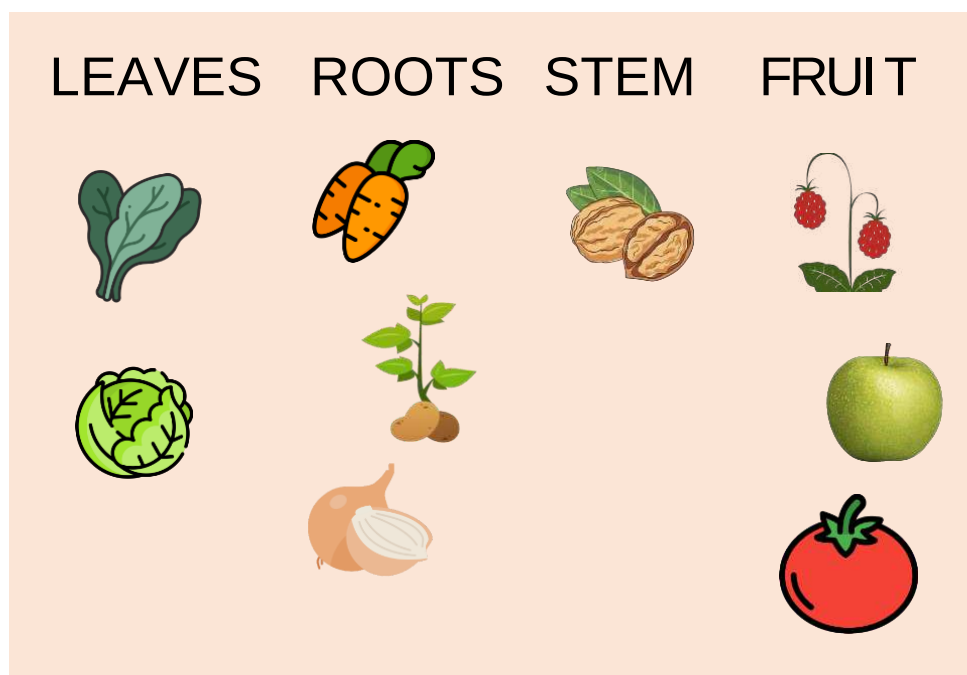
The plant dies

The plant reproduces

2. Write characteristics about plants.

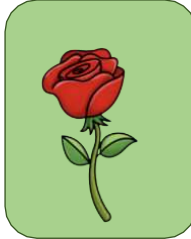
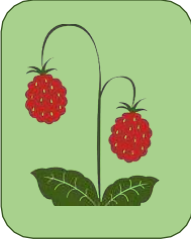


Annex 6. Plants' classification.



Annex 7. Learning station: board game.



				
		The stem holds the plant up TRUE OR FALSE	What do plants produce? A. Oxygen B. Water	Which part of the carrot we eat? 
The leaves take in air and sunlight TRUE OR FALSE	Which part of the plant is? 	Pasta is made from wheat TRUE OR FALSE	Name a fruit of a plant	What is not a characteristic of plants? A. Plants move. B. Plants make their own food

Annex 8. Multimedia resources.

The photosynthesis song: <https://www.youtube.com/watch?v=m2XzeJQOY4g>

Annex 9. Experiment



Annex 10. Gamification

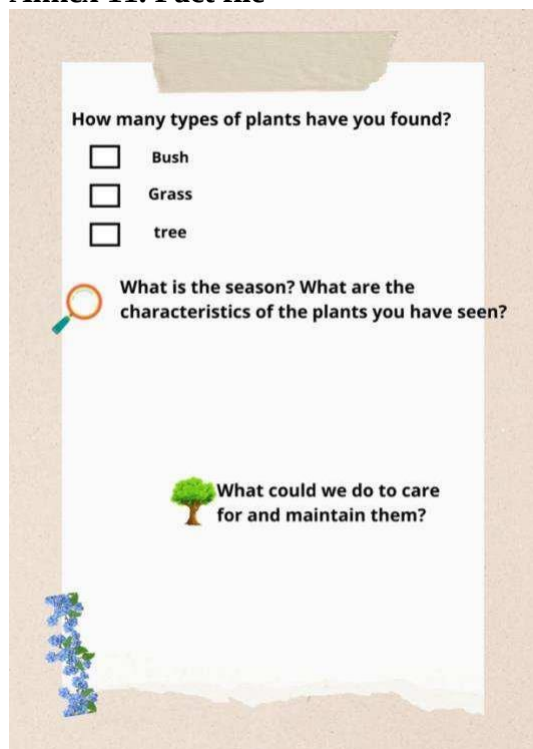
Gamification:

<https://wordwall.net/es/resource/55914326>

<https://wordwall.net/es/resource/55914506>

<https://wordwall.net/es/resource/55914713>

Annex 11. Fact file



How many types of plants have you found?

☐ Bush

☐ Grass

☐ tree

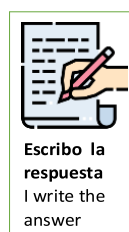
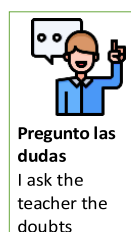
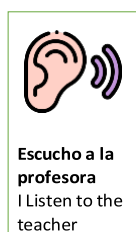
 What is the season? What are the characteristics of the plants you have seen?

 What could we do to care for and maintain them?

Annex 12. Lapbook (final task).

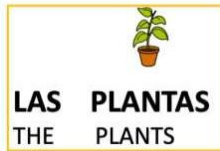


Annex 13. ASD adaption. Visual agenda



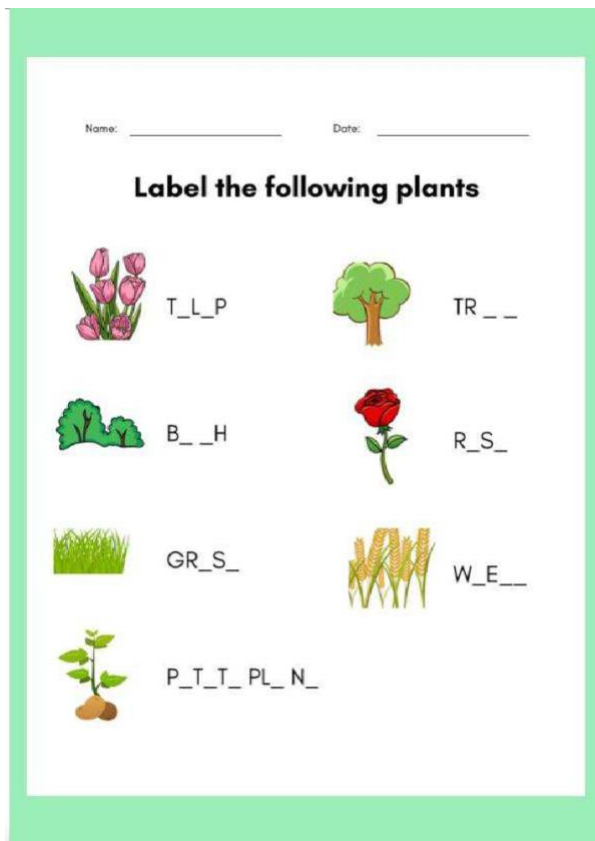
Social history

Pictures from ARASAAC

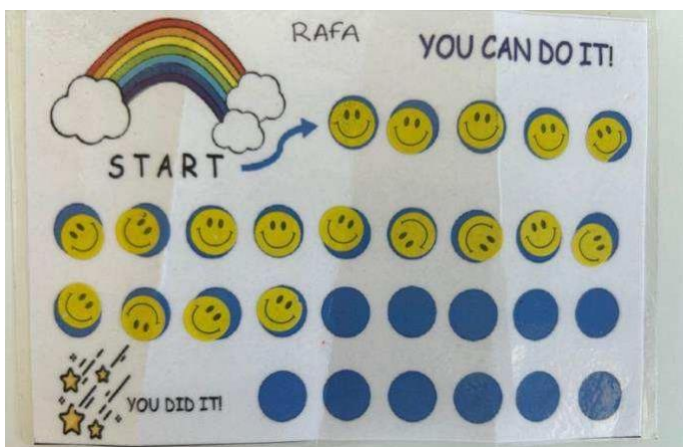


Worksheet adaption (instructions)





Saving sheet (disruptive behavior)



Experiment

NECESITAMOS



1.

 ECHA PUT	 DOS TWO	 CUCHARAS SPOONS	DE OF
 BICARBONATO BAKING SODA	 TO A	 TARRO DE AGUA WATER JAR	

2.

 MEZCLA MIX

3.

 INTRODUCE INTRODUCE	 LA PLANTA THE PLANT	 DENTRO INSIDE	 JARRA JAR
----------------------------	----------------------------	----------------------	------------------

4.

 AÑADE ADD	 BICARBONATO BAKING SODA	Y AND	 COLOCALO PLACE IT	AL TO THE	 SOL SUN
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5.

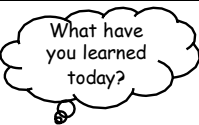
 ESPÉRA WAIT	Y AND	 OBSERVA OBSERVE
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Annex 14: fast finishers.

5 HELP A CLASSMATE	20 MAKE A DRAWING	20 MAKE A PUPPET OF A FLOWER	10 TONGUE TWISTERS!	
5 COLOUR A WORKSHEET	10 READING GAME	10 COMPUTER GAME	40 EXAM ACTIVITY	50 CHOOSE A GAME 
10 LETTER SOUP	40 CREATE AN ACTIVITY	20 EXTRA WORKSHEET ABOUT PLANTS	20 WORDS GAME	

Annex 15. Assessment.

Exit tickets

EXIT TICKETS	A WORD  AN IDEA  A DOUBT 		
	 _____ _____ _____  _____ _____ _____		
	Plants need to survive... 		

Final task (rubric)

ITEM	4 Excellent	3 Great	2 Good	1 Poor
Content	Is able to use the grammar correctly without any difficulty or prompting.	Is able to use the grammar and vocabulary correctly, but with some difficulty or prompting.	Is able to use the grammar and vocabulary but with difficulty or prompting.	Has great difficulty or is unable to use the grammar and vocabulary correctly.
Creativity	The draft is presented originally and with interesting information	The draft is something original and varied information	The draft has some original features with few information	The draft isn't original and without any interesting information

Pronunciation	Little pronunciation problems that don't interfere in the comprehension of the messages	Few pronunciation problems that don't interfere so much in the comprehension of the messages.	Some pronunciation problems that interfere in the comprehension of the messages	Many pronunciation problems that difficult considerably the comprehension of the messages
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Self-assessment checklist

CRITERIA			
I can identify different types of plants			
I can name the parts of a plant			
I can say different objects made by plants			
I can differentiate trees, bushes and grasses			
I recognize the parts of plants I eat			
I understand the process of photosynthesis			
I can describe the plants' characteristics using the present simple			
I can enumerate a sequence using ordinal numbers			