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Investigation of the Edmark method with a child with Klinefelter Syndrome. Design of a learning situation for the acquisition of a foreign language (Spanish) in an Irish school context.

Investigación del método Edmark con un niño con Síndrome Klinefelter. Diseño de una situación de aprendizaje para la adquisición de una lengua extranjera (español) en un contexto escolar irlandés.

TRABAJO DE FIN DE GRADO EN EDUCACIÓN PRIMARIA

(MENCIÓN LENGUA EXTRANJERA, INGLÉS)

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*A mi familia,
porque gracias a ellos soy quien soy, por apoyarme y
darme la oportunidad de vivir esta experiencia tan gratificante.
Por estar siempre.*

RESUMEN

Este trabajo de fin de grado se enfoca en una investigación llevada a cabo en un colegio de Irlanda, donde se implementa el método de lectura Edmark en un niño diagnosticado con Síndrome Klinefelter. A su vez se analizarán las características del caso y se considerará la implementación del método. Además, se elaborará una situación de aprendizaje para el niño con el fin de favorecer la adquisición de una lengua extranjera (el español), teniendo en cuenta las necesidades este y las particularidades del método.

PALABRAS CLAVE

Método Edmark, síndrome Klinefelter, Làmh, situación de aprendizaje, lengua extranjera.

ABSTRACT

This final degree work focuses on an investigation carried out in a school in Ireland, where the Edmark reading method is implemented in a child diagnosed with Klinefelter's Syndrome. The characteristics of the case will be analysed, as well as the implementation of the method. In addition, a learning situation will be designed for the child in order to promote the acquisition of a foreign language (Spanish), taking into account the child's needs and the particularities of the method.

KEY WORDS

Edmark method, Klinefelter syndrome, Làmh, learning situation, foreign language.

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1. INTRODUCTION

The academic and personal experience of doing an Erasmus mobility program in a school in Ireland has provided me with a very enriching vision in my training process, an opportunity to get to know another culture and another way of teaching. During my stay in this educational environment, I was given the opportunity to explore the Irish culture; and at the same time, teach some of the Spanish culture. In addition, as far as this work is concerned, I have had the opportunity to investigate reading as a foreign language, both in children without difficulties and in those who face significant challenges in their learning process. This is the case of E., a boy with Klinefelter's syndrome (among other things to be developed later), who was part of my classroom.

The context of the classroom during the internship, and especially to carry out this work, has been very enriching. Here, there were children with different backgrounds and abilities, some harder than others. However, the boy with Klinefelter's syndrome especially caught my attention, which allowed me to get to know all the characteristics and particularities that concerned him. At the same time, the basic principles of inclusive education were known.

My role in 1st class was not just passive observation, but I was given the opportunity to contribute to the teaching of these children, particularly in relation to learning Spanish as a foreign language (even though Irish, as a second language, is compulsory in the school). Moreover, I also participated in the rest of the lessons in English. In this academic work, I will present part of my Erasmus experience in Ireland through an action plan for E., based on the Spanish as a foreign language project. Which I carried out with the rest of E.'s classmates, a very multicultural and diverse environment.

Throughout this work, I will describe the characteristics and particularities of the child, among other things, what Klinefelter Syndrome is and how the teaching-learning process develops with him in this specific context through a particular method (Edmark's method). I will also develop the action plan which would be carried out after two years, contributing to the learning of a foreign language and the inclusion of students with special needs in the educational environment.

2. OBJECTIVES

Objectives of the bachelor's degree in Primary Education:

The objectives that I, as a teacher, must be able to achieve, and which appear in the Primary School degree report, and which are related to my TFG, are as follows:

- To design, plan and evaluate teaching-learning processes, both individually and in collaboration with other professionals in the center.
- To design, plan, adapt and evaluate teaching-learning processes for students with special educational needs, together with other professionals.
- To deal effectively with language learning situations in multicultural and plurilingual contexts. Encourage reading and critical commentary of texts contained in the school curriculum.
- To encourage coexistence in the classroom and outside it, solve discipline problems and contribute to the peaceful resolution of conflicts. Stimulate and value effort, perseverance, and personal discipline in students.
- To maintain a critical and autonomous relationship about knowledge, values and public and private social institutions.
- To reflect on classroom practices in order to innovate and improve teaching work. Acquire habits and skills for autonomous and cooperative learning and promote it among students.

Objectives in the English major:

In the following, I will state the most relevant objectives in relation to my dissertation and to the English language section of the Primary Education Degree:

- To understand the cognitive, linguistic and communicative bases of language acquisition.
- To use techniques of corporal expression and dramatisation as communicative resources in the corresponding foreign language.
- To plan what is to be taught and assessed in relation to the foreign language concerned, and select, devise and develop teaching strategies, types of activities and teaching resources.

- To know the main didactic trends in the teaching of foreign languages to children and their application to the foreign language classroom at the different levels established in the curriculum.
- To develop positive attitudes and representations and an openness to linguistic and cultural diversity in the classroom.
- To stimulate the development of metalinguistic/metacognitive and cognitive skills for the acquisition of the new language by means of relevant tasks which are meaningful and close to the learners.
- To plan the teaching-learning process of a foreign language, selecting, devising and developing teaching strategies, types of activities and materials according to the diversity of the learners.

Specific objectives in the TFG:

The specific objectives of TFG that allow me to focus my line of research and that I can consider to be the most optimal for the development of this final degree project are:

- To conduct research on the teaching of reading, both in the mother tongue and in a foreign language, in a multicultural environment.
- To acquire knowledge of the characteristics of Klinefelter syndrome, what it consists of, how it is reflected in the child and what its particularities are.
- To understand the Edmark method, what it consists of and how it is carried out with the child with special educational needs.
- To develop an action plan for the teaching of Spanish as a foreign language, specifically adapted to the child with Klinefelter syndrome.
- To contribute to the promotion of inclusion and equity in the educational environment.

3. JUSTIFICATION

The choice to carry out my internship through an Erasmus program in a school in Ireland has been a decision that has benefited me in my training as a future teacher. This process has been an enriching experience from which I have chosen the topic for my final work.

Learning a foreign language is essential in the education of children, so the decision of doing my internship abroad is due to the importance of learning other languages. The children's aim was to learn Spanish; whereas in my case, the intention was to improve my English and my teaching skills. Thanks to this I was able to appreciate the number of challenges this has required, adding difficulty in the very diverse class I had and which will be described subsequently.

Regarding reading in a foreign language, it has an essential role in comprehension and in effective communication. During my time in the Irish school, I observed the amount of time children was given to read books and how this influenced their language acquisition. This will also be an aspect to refer to, as reading is essential for developing different skills in children, for example, the interaction with others.

Reading is essential for the development of child-to-child interaction because it exposes children to a wealth of words and expressions that they can use with others, communicating more effectively. In addition, it allows them to broaden their understanding of the world through stories, developing social skills.

The experience of having this diverse class enriched my skills as a teacher, because it allowed me to understand the importance of inclusion in education. Specifically, I was lucky to share these four months with a child with Klinefelter syndrome, which made me interested in this syndrome, what it implied and, particularly, the relation with reading, as he is not able to produce words verbally. This was the reason why I chose this topic as my final thesis.

This final work aims to reflect and share the remarkable lessons and knowledge learned through this experience, contributing to the teaching of a foreign language from an inclusive perspective.

4. THEORETICAL FRAMEWORK

Taking into consideration that foreign languages in Ireland are not taught at the lower levels of education, this research will be carried out using the knowledge of teaching a foreign language in 1st class applying Spanish. To this end, normative documents within foreign language teaching in the Irish context, mainly the primary curriculum, will be reached to contextualise this work.

TEACHING A FOREIGN LANGUAGE IN THE CONTEXT OF IRELAND

As the European Commission argues in relation to teaching and learning:

“The curriculum for the primary schools is determined by the Minister for Education and Skills, who is advised by the National Council for Curriculum and Assessment (NCCA). The curriculum sets out, not only what is to be taught, but how learning in the particular subject area is to be assessed. The NCCA leads developments in curriculum and assessment and supports the implementation of changes resulting from this work.”

Considering the Irish curriculum, the Irish primary education system aims to provide a holistic education to enable children to live their lives to the full and to develop their potential as unique individuals.

Children’s learning in primary school is a building block for the learning they experience throughout the rest of their lives. Exploring, creating, building foundations in for example Language, STEM, the Arts, Social and Environmental Education and in their development of their whole selves. Talents and skills nurtured in the early stages of their education can have a formative impact on their whole lives.

The primary curriculum was launched in 1999, and much has changed in society and in classrooms since then. All these have been reworked thanks to the National Council for Curriculum and Assessment (from now on NCCA) and it has engaged with schools and other stakeholders to determine what a new primary curriculum should look like and do for children’s learning and development.

The redevelopment of the primary curriculum to take account of these changes, and to best serve today's children, has been ongoing for a number of years. The Primary Curriculum Framework forms the basis for high-quality teaching, learning and assessment for all children attending primary and special schools. This framework, refined through NCCA's process of working with networks of schools and teachers, research, deliberation and consultation, will guide the evolution of the specifications for each of the curriculum areas.

This is what brings us to the area of language and foreign languages taught in Ireland. The main second language taught in this country is Gaelic or Irish, it is not until secondary school that pupils choose another language to learn. However, as it has already mentioned above, there is an association between the teaching of a foreign language, in this case Spanish, and the age group I have been working with, 1st class. Assigning to this level, level 2 of the 4 that the NCCA created. The school has previously received Spanish teachers trainee and considers it a beneficial learning experience for the students.

The principles to be considered to value the high-quality learning, teaching, and assessment in the primary curriculum are:

- Partnerships
- Learning environments
- Inclusive education and diversity
- Pedagogy
- Relationships
- Transitions and continuity
- Assessment and progression
- Engagement and participation

The different key competences to be considered are:

- Being well
- Being a digital learner
- Being mathematical
- Being a communicator and using language

- Being creative
- Being an active learner
- Being an active citizen

All competences are important and cross-cutting for the good development of the students; and this investigation on the teaching and learning of a foreign language, as all also contributes to this full child development.

By relating this knowledge to the study of other languages it is said that the NCCA established the goal to establish communication skills, as well as recognizing the interdependence between language and culture and develop their appreciation of the relevance of languages to their lives for personal, social, educational, vocational and leisure purposes for students to enjoy language learning. Modern Foreign Language skills are progressed across three inter-related strands:

- Communicative competence
- Language awareness
- Socio-cultural knowledge and intercultural awareness

Moreover, the learning of a language takes place when the communicative competence of the student, their knowledge of the language and their knowledge both sociocultural and intercultural grow through an integrated manner, achieving a more inclusive approach in this type of teaching.

Another aspect that schools should promote is positive attitude towards so as to improves. The teachers' task must be that of making this learning attractive and rich in the language to study. Primary school teachers have then a crucial role in expanding their students' vocabulary and trying to improve their communicative skills in English (and Irish). This will also have a positive impact on students, helping them to learn future foreign languages.

METHODS USED WITH CHILDREN WITH DIFFICULTIES.

The NNCA Curriculum defines a method to be used in the classroom with the Special Needs kids. So the school being focused on, uses the “Learning without tears”

method as stated, but has also included the Edmark method for the benefit of the child with Klinefelter syndrome.

“Learning without tears” is an innovative program that uses interactive and, above all, multi-sensory instruction to teach basic communication skills in early literacy. It considers the following skills:

- Reading
- Handwriting
- Phonics

Regarding writing, this method allows children to improve their fine and gross motor skills thanks to different materials and practical resources. They learn through intentional play and explore language themselves through related text.

For the purpose of helping pupils to read, they first must start writing, so writing is an essential skill that allows them to improve over time in letter recognition. At the same time, they connect those learned letters with their own sound, strengthening the alphabetic principle.

About phonics, when children connect sounds with letters, the road to reading begins. These connections will allow them to begin to establish the necessary skills to become competent readers.

Finally, it is worth highlighting the importance of the professional impact of teachers. It allows them to educate by building confidence and ensuring the children's own competence. This method allows teachers to inspire kids, empower their growth and enable them and their students to thrive.

The Edmark Method, which will be further developed later in this document, will be the guiding thread of this work, the aim of which is to study whether it would be possible to use this system of teaching Spanish with a kid in Ireland. Since this language is the one that the rest of the children in the classroom are learning thanks to the project carried out with them. Moreover, there is a direct connection between airports. a particularly important aspect for the development of the learning situation.

READING THEORIES TO BE MENTIONED

These processes and theories described below do not only refer to learning to foreign languages, but to the learning of reading as they are general theories for any type of reading.

The reading process by Goodman

Kenneth Goodman is a well-known linguist and educator working in the field of reading and literacy. His theory of the reading process, known as the "Miscue Reading Theory", has had a significant impact on education and the understanding of how individuals process written text. His approach to the reading process has several points to address.

Firstly, this theory is based on the idea that reading is an active and meaningful construction process in which readers use their prior knowledge and understanding of language to make sense of text. Rather than seeing reading as a process of decoding individual words, Goodman argues that readers make "miscues" or deviations from what is written in the text. These miscues are personal interpretations, a necessary part of the reading process.

Furthermore, he places a strong emphasis on the importance of comprehension in reading. He argues that the main goal of reading is not the accurate decoding of words, as it has said before, but the comprehension and construction of meaning. Readers must be able to make connections between what they read and their own knowledge and experiences in order to construct meaning effectively.

For Goodman, reading is a process of constant reconstruction. Readers use visual clues and contextual clues to reconstruct the author's message. Words are not seen simply as isolated elements, but as components of a whole in which context and the reader's experience are central.

It is also worth noting that Goodman's Miscue Reading Theory is framed within a cognitive perspective. Reading is understood as involving the activation of complex mental processes. Readers engage in a range of cognitive steps, such as prediction, inference and monitoring, as they progress through reading.

Finally, Goodman has also developed methods of reading assessment that focus on content comprehension and the identification of readers' strategies for constructing meaning. One of the best-known approaches is miscue analysis (examining deviations from written text to understand how readers construct meaning).

Bottom-up and top-down processes

Bottom-up and top-down processes are two fundamental approaches to foreign language reading comprehension, and David E. Esker and William Grabe (1988) have made significant contributions to the field of foreign language reading instruction and research that should be referred to as well.

1. Bottom-up process:

The bottom-up process refers to reading a text from the smallest elements (letters and words) moving upwards towards a complete understanding of the text. In this approach, the reader processes information in a sequential order, first identifying individual words and then combining them into phrases and sentences to extract the full meaning of the text. In this process, priority is given to decoding and identifying of words and grammatical structures. David E. Esker (1988) has contributed to issues related to vocabulary acquisition or grammar comprehension in foreign language texts. And his approach has helped to understand how readers develop reading comprehension skills in a foreign language.

2. Top-down process:

The "top-down" process focuses on overall comprehension and the construction of meaning from contextual information and the reader's prior knowledge. In this approach, readers use their experience and knowledge to form expectations about the content of the text and then confirms or adjusts these expectations as the reading progresses. This process resembles the way people interpret speech in everyday communication, where context and cues play a crucial role in comprehension. This is supported by William Grabe (1986), who has focused on the importance of world knowledge in reading comprehension. He also states that

the acquisition of reading competence in the foreign language is particularly relevant with extensive reading and constant contact with authentic texts.

Furthermore, it should be noted that the approaches are not exclusive and there is an integration between the two of them as readers use a combination of both processes to comprehend foreign language texts to achieve a full and effective understanding of them.

Teaching reading skills in a foreign language

According to Nuttall (2005) and with regard to the approach of reading in a foreign language in the classroom some conceptions can be mentioned and taken into account, this is the case of reading texts for the development of reading comprehension as the meaning of words is processed and grammatical structures are understood in context, with real situations. The texts are also full of cultural and social elements, allowing the reader to learn about culture and traditions. Furthermore, reading stimulates imagination and creativity. At the same time, reading both aloud and quietly contributes to a better fluency in the foreign language, which also helps to communicate. That is why the use of texts is an essential strategy to improve reading comprehension.

It can also be distinguished between extensive and intensive reading. Extensive reading is that which aims to encourage reading for pleasure, in which meaning is extracted from the more general text without details, such as reading books, magazines, blogs, etc. Intensive reading, however, focuses on the total comprehension of the text in relation to vocabulary, structures, and grammar. Examples of such texts are news articles or technical texts. After this division, should be considered that the choice of one or the other reading will depend on the objectives set, although both approaches are important in the development of reading in a foreign language; therefore, the combination of both would be beneficial for effective learning.

In relation to this, the role of the teacher specifically with this topic is essential in guiding students in developing their reading skills in the new language. For this reason, this involves selecting texts according to the children, teaching effective

strategies through a context. However, there are times when teachers do not always help adequately; this is the case of over-explanations even before reading the texts or excessive translations where students rely too much on their mother tongue and neglect the foreign language. Other times, they focus on over-correcting grammatical errors making learners feel insecure, thus hindering comprehension. Similarly, not encouraging active participation can make reading passive and less effective, as well as maintaining a common and established reading rhythm, as each student needs a different amount of time to understand what is being read. For all these reasons, it is essential that teachers are aware of the mistakes that can be made and try to avoid them. The key is to find the balance between the support they need from teachers and the autonomy they need to develop on their own.

It should be noted that in the case of the child with Klinefelter Syndrome, it is translated into sign language as E. is unable to produce any words verbally. In addition, it should be noted that in the case of the child for whom I develop this work, a particular reading is carried out since these reading books collect the contents learned, that is, the specific vocabulary of the level in which it is found. As well as matters relating to the interests of the child.

5. EDMARK METHOD'S PRESENTATION

WHAT IS THE EDMARK METHOD?

The Edmark method is an educational approach used to teach reading to people with developmental disabilities, especially those with severe reading difficulties. It was developed by the Edmark Corporation in the 1980s and has been widely used in educational and therapeutic settings. For example, the "Edmark Reading Program: Level 1 (Version 4.0)" mentioned above in the reference citation provided, corresponds to the year 2020.

It is based on a whole-word recognition approach, rather than teaching students to decode each letter or sound individually. It uses a series of word cards in which each word is accompanied by an illustration depicting its meaning. Students learn to recognise whole words by associating the written word with its corresponding picture.

The program is structured in lessons that are graded in difficulty, and students' progress through the lessons as they acquire reading skills. This method also incorporates repetition and positive reinforcement to aid in word learning and retention.

According to the Edmark Corporation (2020) report, which has been praised for its effectiveness in teaching reading to individuals with developmental disabilities, it is important to keep in mind that each student is unique and may require individualised approaches to learning.

HOW DOES THIS METHOD WORK?

The Edmark Method (1999) is based on a series of structured principles and steps for teaching reading to people with developmental disabilities. The following is an overview of how it works:

1. **Word Selection:** The Edmark program uses a series of word cards containing a written word and a picture related to its meaning. These words are carefully selected to be visually distinctive and have relevance to the student's daily life.

2. **Presentation and association:** The instructor shows a word card to the student, pronounces the word aloud and points to both the written word and the illustration. The aim is to associate the word with its visual meaning and to develop visual recognition of whole words (mostly referred to as flashcards).
3. **Word identification:** Once the students have correctly associated the word with its picture, they are presented with several word cards and asked to identify the word corresponding to a verbal or visual instruction.
4. **Reading aloud:** After students have acquired a set of words, they are encouraged to read aloud sentences and phrases containing those words. This helps develop reading fluency and comprehension skills.
5. **Positive reinforcement and repetition:** The Edmark method emphasises positive reinforcement, praise and verbal or tangible rewards, to motivate the student and reinforce learning. Systematic repetition of words and regular review of previous lessons are also an integral part of the program.
6. **Gradual progression:** The program is structured in sequential lessons and graded in difficulty. As the students acquire reading skills, they progress through the lessons and is introduced to more complex words.

It is important to note that the Edmark method is tailored to the individual needs of each student, and progress may vary according to each person's ability and pace of learning. Instructors and therapists trained in the method are essential to properly implement this educational approach.

WHY THIS METHOD AND NOT ANOTHER?

The choice of using the Edmark method or another educational approach depends on a number of factors, such as the individual needs of the learner, their level of development, their specific skills and difficulties, as well as the resources available. Here are some reasons why one might choose to use it:

1. **Whole-word recognition approach:** The method is based on whole-word visual recognition, which can be beneficial for students with severe reading difficulties or developmental disabilities who find it difficult to decode individual letters or sounds. By teaching whole words, students can acquire reading skills more quickly and feel a greater sense of accomplishment.

2. **Structured and sequential approach:** It is divided into lessons graded in difficulty, which provides a clear and sequential structure for learning. This can be useful for students who benefit from a step-by-step approach and require a gradual progression in their learning.
3. **Direct linkage between words and pictures:** The use of word cards with associated illustrations allows for a visual and conceptual connection between words and their meanings. This can help students with comprehension difficulties or who benefit from a visual representation to understand vocabulary.
4. **Repetition and positive reinforcement:** This method incorporates repetition and positive reinforcement techniques to help reinforce learning and improve word retention. This can be beneficial for students who benefit from repetitive practice and respond positively to motivation and praise.

Educators and therapists should assess the individual student's needs and consider different educational approaches and methods to determine which is most appropriate in each case.

The reason why this method was chosen by one of the teachers who works with children with special educational needs was her knowledge of this subject. As she had previously worked with this method and after carrying out the corresponding tests for the child, with the intention of finding what would work best for him, they came to the conclusion that this method would correspond to what the child needed.

READING THEORIES AND CONNECTIONS WITH THE EDMARK METHOD

Edmark Method – Goodman theory

Although the Edmark Method and Goodman's Reading Process Theory seem to work on the teaching of reading from different perspectives, it is possible to detect relationships between them: firstly, visual decoding, for example, both approaches share the visual recognition of words in the reading process. The method focuses on visual decoding and relating pictures to words and Goodman's theory states that this decoding is necessary for effective reading.

In turn, the Edmark method begins by teaching concrete words, so this idea can be related to Goodman's idea of connecting reading to experiences and prior knowledge. Then, adaptation to individual needs is another possible point of connection because both approaches allow for adaptation to individual needs. Although the method has been designed for this type of learner (with educational needs), Goodman's theory also emphasises the importance of responding to individual experiences and prior knowledge in the reading process.

The integration of comprehension strategies stands out among the connections because, although the Edmark method focuses on visual decoding, these strategies suggested in Goodman's theory could be used. Finally, both approaches consider the importance of developing vocabulary, even in different ways; the method focuses on visually memorising vocabulary, while Goodman emphasises the connection between vocabulary and reading comprehension.

Edmark Method - bottom-up and top-down process

The Edmark Method, which focuses on specific visual word recognition strategies, can be related to both the bottom-up and top-down approaches to the reading process; the relationship to the bottom-up approach is that it focuses on decoding smaller units of language to gradually build meaning; and the method focuses on visual word recognition as the basic unit; students using this method learn to visually decode specific words in order to continue with the comprehension of phrases and sentences.

In relation to the Top-Down approach, this approach is based on the use of prior knowledge, experiences and contexts to understand the meaning of the text, and although the Edmark Method is more related to the Bottom-Up process, although there is a relationship in which top-down strategies can be introduced to strengthen reading comprehension. In addition, after each level of words, the child read a short story encompassing all the words to be covered in the level, so this can be a bridge to link this process with the theory.

6. CASE STUDY: A BOY WITH KLINEFELTER SYNDROME

DEFINITION

Klinefelter syndrome is caused by a chromosomal abnormality during the formation of eggs or sperm in one of the parents and is a genetic condition that affects males. People with Klinefelter syndrome usually have specific physical characteristics, although signs and symptoms can vary widely in each individual. In addition to physical features, people with Klinefelter syndrome may also experience learning problems, such as difficulties in language development, lower cognitive skills and attention problems.

SIGNS AND SYMPTOMS

The child this study focuses on, suffers this syndrome and here are the distinctive features and peculiarities that specially relate to him:

1. Physical characteristics:
 - Gynecomastia: overdevelopment of the male mammary glands may cause an increase in breast size.
 - Tall height
 - Long legs: the legs are disproportionately longer in relation to the torso.
2. Hormonal problems:
 - Low testosterone production: which can affect their sexual development and the appearance of secondary male characteristics.
3. Developmental problems:
 - Delayed speech and language: difficulties in speech and language development, and difficulties in verbal comprehension, in this case there is no oral production, it is produced through signs.
 - Delayed motor development: delayed motor development, he has difficulty in walking and physical coordination.
4. Emotional and social problems:

- Difficulties in social interactions: difficulty relating to their peers and may experience social and emotional problems.

LEARNING DIFFICULTIES

Boys with Klinefelter syndrome may have both, some learning and language development difficulties. E. presents the following learning problems associated with the Klinefelter syndrome:

1. **Speech and language delay:** He has difficulties in language acquisition, as well as in comprehension; the verbal production is non-existent.
2. **Reading and writing difficulties:** He has problems with word recognition and decoding, difficulty understanding written texts and reduced fluency in writing.
3. **Lower cognitive skills:** he has lower cognitive skills compared to peers and in most of the areas in the curriculum.

Some children may develop academic skills within a normal range, while others may benefit from additional interventions and supports, such as speech and language therapy, individualised educational support and early intervention programs. Working closely with education and health professionals can help identify and address any learning issues and maximise the potential of each child with Klinefelter syndrome as Visootsak, Aylstock & Graham (2019) state.

DIAGNOSIS OF THE SYNDROME

According to Aksglaede, Link & Juul (2013), the diagnosis of Klinefelter syndrome in a child is usually made through a combination of clinical assessments, genetic testing and hormone analysis. These are the typical steps involved in the diagnostic process:

1. **Clinical evaluation:** The physician will perform a thorough evaluation of the child, including a review of the child's medical history and family history. A physical examination will also be used to detect possible physical features.
2. **Genetic testing:** The definitive diagnosis is confirmed by genetic testing. A chromosomal analysis called karyotyping is performed, which involves the observation and counting of chromosomes in a sample of the child's cells.

3. **Hormone testing:** Blood tests can also be performed to assess the levels of hormones in the child, such as testosterone and hormones related to testicular function.

The diagnosis of Klinefelter syndrome can be made at different stages of life, from early years to adolescence or even adulthood. If the syndrome is suspected, it is essential to consult a medical specialist or geneticist, who can perform the necessary tests to confirm the diagnosis and provide appropriate guidance and support as referred by Ratcliffe & Farberov (2021). E. has been diagnosed with this syndrome since birth.

THIS SYNDROME AT SCHOOL

According to Davis, Reynolds & MacNeil (2017), when a child with this syndrome attends school, it is important to provide appropriate support to ensure academic, social and emotional success. This is E.'s case, and here are some considerations and strategies that are helpful:

1. **Awareness and understanding:** It is essential that teachers and school staff are informed about Klinefelter syndrome and understand its characteristics and potential challenges. This will enable them to adapt the educational environment and provide the necessary support.
2. **Individualised educational planning:** It is recommended that an individualised education plan (IEP) or educational support plan be developed for the child with Klinefelter syndrome. This involves setting specific goals and accommodations to address his academic and learning needs. It includes strategies for language development, additional support in the classroom and additional time for completing assignments and assessments.
3. **Classroom support:** Teachers provide additional support in the classroom, such as clear and concise instructions, use of visual aids, breaking down tasks into smaller steps and providing regular feedback. It is also important to foster an inclusive and respectful environment where the child feels safe and accepted.
4. **Speech and language therapy:** Many children with Klinefelter syndrome can benefit from speech and language therapy to address difficulties in language and

communication development. Working with a speech and language therapist help improve articulation, verbal comprehension and expression skills.

5. **Emotional and social support:** Children with Klinefelter syndrome face emotional and social challenges. It is important to provide a supportive environment and encourage participation in social and extracurricular activities. Support from school counsellors, support groups or group activities are beneficial to a child's emotional well-being.
6. **Communication and collaboration:** Maintaining open and regular communication between parents, teachers and school staff is essential to ensure that the child receives appropriate support and that strategies are consistent both at school and at home.

7. THE EDMARK METHOD STRATEGIES USED WITH THE CHILD

OTHER MEDICAL ASPECTS

The student this study in focused on presents other medical circumstances that must be considered previous to the design of a proposal, these are:

- **Verbal dyspraxia**

According to the American Speech-Language-Hearing Association (2007) verbal dyspraxia, also known as apraxia of speech or developmental speech disorder, is a neurodevelopmental disorder that affects the ability to plan and coordinate the movements necessary for speech. It is characterised by difficulties in the production of speech sounds and the accurate articulation of words and phrases.

Children with verbal dyspraxia have difficulty coordinating the movements of speech muscles such as the lips, tongue and jaw, making it difficult to produce sounds and to control the sequence of movements needed to form words. Unlike other speech disorders, such as dysarthria (difficulties in speech muscles) or phonological disorder (difficulties in sound patterns), verbal dyspraxia is specifically related to the planning and coordination of speech motor movements.

Children with verbal dyspraxia may exhibit the following characteristics AS Peter, Stoel-Gammon & Raskind (2020) refer:

- Difficulty pronouncing words correctly, especially those requiring more precise or rapid movements of the speech muscles.
- Inconsistent patterns of sound production, meaning that they may say a word correctly on one occasion and incorrectly on another.
- Omission, substitution or distortion of sounds in words.
- Difficulties in controlling the rhythm and fluency of speech.
- Difficulties in imitating or following verbal instructions.
- Limitations in vocabulary and grammatical structure of language.

- **Moderate pulmonary hypertension**

Moderate pulmonary hypertension in children refers to a condition in which children have high blood pressure in the pulmonary arteries, which are the blood vessels that carry blood to the lungs. Pulmonary hypertension occurs when the blood vessels in the lungs become narrowed, blocked or damaged, resulting in increased resistance to blood flow. This creates higher pressure in the pulmonary arteries, which can put strain on the heart and hinder its ability to pump blood efficiently.

- **Bilateral choanal stenosis**

Bilateral choanal stenosis in children is a condition in which both posterior nasal passages (choanae) are narrowed or blocked. The choanae are the narrow passages in the back of the nasal cavity that allow airflow from the nose to the back of the throat according to Tabae & Kacker (2019). In this case, bilateral choanal stenosis is congenital, the child is born with this condition

E. has received help from:

1. Early Intervention and Holy Family pre-school.
2. Special needs pre-school
3. Speech and language therapy
4. Domiciliary Care Allowance
5. Occupational therapy

STRATEGIES USED IN THE FAMILY CONTEXT

Lámh sign language is one of the strategies used by the child to communicate and be understood. It is the sign language he uses with his mother and also the teachers at school start to learn it.

Irish Sign Language (Lámh) Mallinson & Vach (2016) is a manual communication system used in Ireland to support the communication of people with speech difficulties, especially those with developmental disabilities, autistic spectrum disorders and other conditions that affect verbal communication.

Lámh is based on a combination of gestures and manual signs representing key words and phrases. It was developed specifically to suit the needs of people who

cannot speak effectively and to provide them with a clearer and more understandable form of communication.

Although Lámh is inspired by sign language, it is not a full-fledged, self-contained sign language like American Sign Language (ASL) or British Sign Language (BSL). Instead, it is considered a complementary communication system, used in conjunction with speech and other means of communication, such as oral language and augmentative and alternative communication (AAC) systems.

The Lámh system is characterised by simple gestures and hand signals, which are combined with facial expressions and body movements to convey information. Lámh signals focus on key words and concepts essential to everyday communication, such as greetings, names of objects, activities, actions and emotions.

In Ireland, resources and training programs have been developed to promote the use and understanding of Lámh in a variety of settings, such as schools, early childhood centers, health care services and homes. These resources include learning materials, storybooks and songs adapted to the Lámh system, as well as training programs for parents, careers, and professionals.

The main objective of Lámh is to facilitate effective communication and improve the quality of life of people who have difficulties communicating verbally. It provides a visual and tactile form of communication that can help reduce frustration and promote active participation in community and social interactions.

It should be emphasized that both the family and the school are responsible for establishing communication with the child. Since, although E. understands what they try to communicate verbally, it is not able to produce another answer that is not through this strategy, the language Lámh.

STRATEGIES USED BY TEACHERS AT SCHOOL

In relation to this method, these are some of the educational strategies that were followed by professionals with the child. It is important to note that specific strategies may vary according to implementation and educational context. Practitioners and teachers trained in the Edmark Method can adapt the strategies

according to the individual needs of the children and provide additional support as needed. It is important to note that the assistant teacher working with him also worked on these strategies that the method has defined for the benefit of the child.

1. **Word-picture association:** The Edmark Method uses flashcards or printed material with words and corresponding pictures. E. learns to associate the words with the pictures to facilitate comprehension and word recognition.
2. **Repetition approach:** A repetition approach is used to reinforce word recognition. Words are presented repeatedly in different contexts and activities to help children internalise and recognise them more automatically. The groups of words were repeated until they were memorized by the child, also he was given flashcards with the words of that moment to repeat them as homework; as well as the book mentioned related to the level.
3. **Gradual progression:** The method follows a gradual progression, starting with simple, common words and moving towards more complex and less familiar words. This allows children, and E., in this case, to develop reading skills step by step, building on what they have learned previously.
4. **Positive reinforcement:** Positive reinforcement is used to motivate and reward children's progress. Praise and positive reinforcement is given when children recognise words correctly, which helps to maintain their motivation and confidence in their reading ability. In the case of E.'s teachers, they continuously recognized their effort through words and stickers (element that E loved) trying to reward positive behaviors and works, that is, significant rewards.
5. **Intensive practice:** Time is devoted to intensive word practice. Children do exercises and activities that allow them to read and recognise words repeatedly to strengthen their reading skills. In this case, as the child leaves his classroom, the teachers focus exclusively on reading and word recognition; so the sessions become very intense, that is, it goes directly to the essential tasks.

8. DESIGN OF THE LEARNING SITUATION

SCHOOL CONTEXT

This school is located in the northwestern part of Ireland, in the center of a coastal town. It caters for a wide range of children of different ages, from junior infants to 6th class. This school is a Catholic, co-educational primary school with an Ursuline philosophy and ethos, which strives to provide a well-ordered, caring, happy, safe, and supportive environment where the different types of development of the children are provided for.

The ethos of the school has a number of objectives through which the pupils develop. The school works through holistic growth, acquiring the skills necessary for their future, promoting self-esteem and helping children to contribute to the life of the school. As well as developing good relationships with the whole community.

Furthermore, it can also be highlighted that it is a green school; each classroom is dedicated to reducing, reusing and recycling. They are very committed to the environment and make this known in their policies and when carrying out any action.

This school operates through a series of policies (what in Spain are called programs), which guarantee the correct development and organization of all the members of this great community. Some of these policies or programs related to this case and specifically to the child are:

- 1. Acceptable use:** The aim of this Acceptable Use Policy is to ensure that pupils will benefit from learning opportunities offered by the school's Internet resources in a safe and effective manner. Internet use and access is considered a school resource and privilege. This program should be highlighted because many of the activities that the child carries out are through technology and the responsible use of these devices are included in this policy.
- 2. Anti-bullying:** The Board of Management recognises the very serious nature of bullying and the negative impact that it can have on the lives of pupils and is therefore fully committed to the following key principles of best practice in preventing and tackling bullying behaviour: a positive school culture and climate

which is welcoming of difference and diversity and is based on inclusivity; encourages pupils to disclose and discuss incidents of bullying behaviour in a non-threatening environment; and promotes respectful relationships across the school community: an effective leadership; a school-wide approach; a shared understanding of what bullying is and its impact and implementation of education and prevention strategies; an effective supervision and monitoring of pupils; supports for staff a consistent recording, investigation and follow up of bullying behaviour and an on-going evaluation of the effectiveness of the anti-bullying policy. This policy is important because, as a general rule, the students who suffer from this action by their classmates or students of the center are those who have cognitive or physical difficulties.

- 3. Attendance:** We define attendance as the obligation of a parent to cause a child between the ages of 6 and 16 to attend at “a national school or other suitable school” on each day that the school is open for instruction. Class attendance data is recorded daily on Aladdin, the administration system which presents cumulative attendance data on a monthly record sheet.

If a pupil does not attend on a day when the school is open for instruction, his/her non-attendance will be recorded by the class teacher. Any pupil not present will be marked absent for the day. The importance of this policy is reflected in the absence of the child at certain times some days, due to appointments with different doctors.

- 4. Code of Behaviour:** Ursuline Education aims to nurture the development of the pupil in a spiritual, moral and intellectual way, in an atmosphere where difference is respected. A positive climate is used to motivate the pupil. Every effort is made to enhance the child's self-esteem and to foster a friendly and supportive atmosphere, conducive to learning. Because of the complications you face to learn, the work of your self-esteem and the strengthening of your abilities are especially important.

- 5. Intercultural education:** Ursuline Schools strive to nurture a community where Christian values are respected, lived and taught. They are based on the Gospels and the teachings of St Angela Merici. In a context where Ireland is an increasingly multicultural society, Catholic Education values tolerance and inclusiveness. It is open to generous dialogue with Christians of other traditions,

and those of other faiths and none, while remaining true to its own distinctive ethos. Catholic Schools are open to children of all denominations consonant with their Admissions Policy. This child, in addition to the difficulties we have already explained, comes from a foreign country (Latvia specifically) this is why intercultural education is very present in him too.

6. **Irish exemption:** Many non-English speaking newcomer children have enrolled into the school in recent years. 'New Irish' may be entitled to an exemption from the study of Irish as may children with a severe degree of specific learning difficulties, general learning disabilities and/or sensory impairments as to render it futile to introduce or continue with another language (Irish) when there is a difficulty and/or deficit in attainment in the main language of instruction (English). The exception for Irish on the part of this child is due to the difficulties of learning his own language that result in the rest of subjects; and therefore, mainly in another language, Gaelic.
7. **Child safeguarding statement:** The Board of Management recognises that child protection and welfare considerations permeate all aspects of school life and must be reflected in all of the school's policies, procedures, practices and activities. In its policies, procedures, practices and activities, the school will adhere to the following principles of best practice in child protection and welfare. The school will: recognise that the protection and welfare of children is of paramount importance; fully co-operate with the relevant statutory authorities in relation to child protection and welfare matters; adopt safe practices to minimise the possibility of harm or accidents happening to children and protect workers from the necessity to take unnecessary risks that may leave themselves open to accusations of abuse or neglect; develop a practice of openness with parents and encourage parental involvement in the education of their children; and fully respect confidentiality requirements in dealing with child protection matters. We can relate this policy to the child by the simple fact that due to the other aspects and "diseases" that E. has developed, its teachers are able to provide any medication if necessary, as well as any other action you require, such as the safety posture if you have an epileptic seizure, providing protection and safety.

In relation to pupils and families, the resources of the families are very varied as there are families of all kinds and with different economic resources. It is also

important to add that communication between teachers and parents is through access to an online information platform called "Aladdin", where important messages or absences are recorded. Homework is carried out from Monday to Thursday and is not allowed on weekends unless it has not been done during the week.

This school also has different "extracurricular" activities such as swimming, football, and soccer. In addition to these, there are also art or reading competitions in the afternoons in which the students are involved. Many of them win medals (from all the extra-curricular activities) and, the following day, they go around the classrooms showing them and promoting values such as teamwork and perseverance. It should be noted that due to the vital moment in which E. finds himself, he does not take part in the extracurricular activities offered by the center.

CLASSROOM CONTEXT

First class is made up of 23 children, 10 of these are girls and 13 are boys. In this class we can differentiate many nationalities that allows for individual enrichment. In addition, the class consisted of a main tutor and a teacher's assistant. The last-mentioned works continuously in the classroom with E. and with another girl that has learning difficulties.

Firstly, about children with educational needs, there is great diversity of conditions, syndromes, or circumstances, as in all classrooms in the world. Specifically, in this classroom, there is a boy who has just arrived from Pakistan with a very basic level of English, a girl with developmental delay, a boy with Klinefelter Syndrome, a boy with behavioral problems, a boy who is a victim of gender violence and a boy with dyslexia. In each case, curricular adaptations are made by learning support, teachers take the pupils out of the classroom to help them with individualized learning, could it be through different methods, strategies, or resources. In E.'s case they use phonics with Edmark as it has been previously described.

The center of the classroom is characterized by three tables grouped in fours. Each child has a chair and a plastic box in which they store all their books and materials, there are some plastic boxes with books that serve as a library. Next to the door, there is another table, which is mainly used to support the children who need it or to play in the different corners on Fridays at playtime. E. is part of the group closest

to the door, as he usually leaves the classroom, and this makes it easier. This group consists of 6 students, two of them have special needs and are in the care of a teaching assistant.

The subjects or areas that are dealt with in this class are the ones mentioned below. Although it should be mentioned that E. has individualised adaptations in each of the subjects. Likewise, he is also exempted from learning Gaelic because of his learning difficulties.

- Language: Gaelic and English
- Mathematics
- Social, environmental and scientific education (SESE)
- Arts education (visual arts, music and drama)
- Physical education
- Social, personal and health education (SPHE)
- Religious education

And, therefore, considering these areas we can make up the timetable that 1st class has. However, the hours can be modified depending on the predisposition of the children, how they are at that moment or according to the parameters that the teacher considers in order to make the most of both the time spent in class and the effort that the children put in and their learning. It is also important to mention that E. has an individualised timetable in which he works on the same subjects as the rest of his classmates, however, this is carried out with adaptations. Furthermore, when the rest of his classmates learn Gaelic, this child goes with the special needs teacher to another classroom to work with the Edmark method. This point will be reconsidered in the spatial organisation of the designed learning situation.

Regarding rules and conflict resolution in this class, at the beginning of the school year, they signed a document that they have behind the door detailing the class rules. The rules and values are well-developed, presented and very marked throughout

the school, so they have it very much internalized. One aspect to highlight is that these rules are signed by all members of the class, to raise awareness and commitment to them. However, there are conflicts between friends, at the time of playing in the playground or because of unfortunate comments in class; although this class, in general, is very polite and respectful.

Talking about the homework, in their homework folder, they have a "copy", which is a notebook in which every Monday they write the words to be worked on during the week. In addition to this, they are also assigned one book per week. The kids with special needs work with different materials and their homework is a different book with different activities. In relation to this, the homework for these children is from the book "learning without tears", which we have discussed before. Moreover, they took home flashcards made at school with the words of the level they were at with the Edmark method.

Another section I would like to add is that of meetings with families. Each family must meet with the teacher after some time has passed and it is observed how each child evolves, if necessary, another one was also performed throughout the course and according to the educational needs of the child.

PRESENTATION OF THE CHILD

E. is an 8-year-old Irish boy attending the school explained before. This boy was born with Klinefelter syndrome, and it was not until 2 years old that he was diagnosed through various medical, school and family tests.

E. has also developed other diseases that influence his daily life: verbal dyspraxia, moderate pulmonary hypertension and bilateral choanal stenosis (which have been developed and explained previously).

It should be noted that currently both school and family work together through the Edmark program (as will be explained later) and a manual sign system, which is only carried out in Ireland, and is known as Làmh sign language.

This learning situation is thought to be used when E. has 9 years old, when he is in 2nd grade. Because it is not until then that the child would have acquired the

knowledge needed for the acquisition of a foreign language, as well as the essential knowledge of his own language.

GENERAL ADAPTATIONS FOR THE DESIGNED LEARNING SITUATION

E.'s specific characteristics, when learning a foreign language, makes it essential to adopt an inclusive approach and provides suggestions to fit his individual needs. Those adaptations will be later on considered in the designed learning situation:

1. **Individualized assessment:** Conduct a detailed assessment of the student's language skills, needs, and preferences in order to develop a personalized learning plan.
2. **Specific goals and objectives:** Establish clear and achievable goals that fit the student's level and ability in learning the foreign language.
3. **Support from a specialized professional:** Have the advice of a special education specialist or speech and language therapist to provide specific guidance and strategies for the student. In this case, E. went once a week to occupational therapy so there are other professionals who also help him improve
4. **Multisensory approach:** Use approaches that involve multiple senses, such as visual images, gestures, and sounds, to enhance language comprehension and retention.
5. **Adaptation of learning materials:** Modify learning materials by reducing the amount of information, using larger fonts, or providing simplified versions according to the learner's needs.
6. **Repetitive and structured instruction:** Provide repetitive and structured instruction to help the learner consolidate the new language.
7. **Positive reinforcement and constant feedback:** Recognize and reward student progress to keep motivation and self-esteem high.
8. **Use of visual aids:** Provide flashcards with pictures, graphics, or key words to facilitate communication and language comprehension.
9. **Additional time on tests and assignments:** Allow additional time to complete tests and written assignments to compensate for any processing difficulties.
10. **Reduced workload:** Adapt the amount of work assigned to ensure that it is manageable and appropriate for the learner's abilities.

11. **Small group or individual practice:** Provide opportunities for one-on-one or small group learning, allowing for more personalized attention and a supportive environment.
12. **Application of assistive technology:** Use educational applications, computer programs, or assistive technology devices that can facilitate language learning.
13. **Encourage peer support:** Encourage teamwork and collaboration among students to create a positive and supportive learning environment.
14. **Teaching learning strategies:** Helping the student develop self-learning skills and techniques to effectively approach language learning.

DESIGNED LEARNING SITUATION

Introduction

This learning situation is called: a Trip to Spain. It is designed for an Irish student with Klinefelter's syndrome, who communicates by signs through Lámh and uses the Edmark method for reading in his native language. It should be noted that E. will respond to all sessions and activities through the Lámh language. This learning situation will be connected to some of the aspects mentioned above. These aspects are, for example, some of the strategies used both at school and at home, which will be reflected in the methodology or even some adaptations considered such as the multisensorial approach or the repetitive structures.

The main theme is an exciting trip to Spain, where the child will explore the culture, places and activities of the country, while learning Spanish in a playful way adapted to his particular needs. Moreover, this destination has been chosen because there are direct flights from Dublin to Málaga (making the experience even more real). This learning situation aims to provide a meaningful experience, adapted to the characteristics of the child, thus encouraging active participation and promoting a positive learning environment.

Contents

In this section the contents worked with the rest of the children who attended the Spanish classes will be included, this is the contents compiled in the basic foreign

language program; however, with E. they will be worked in a different way, through a learning situation. Some of these contents are:

- Comprehension of basic Spanish words and phrases related to travel.
- Recognition of specific vocabulary about the airport, the flight, the beach, the city, food and festivities.
- Knowledge of Spanish cultural concepts.

Objectives

The objectives will be adapted and reworked, meaning that those developed for the other classmates before will not be used. Some of the updated ones are:

- To introduce the child to the essential words and expressions for communicating in everyday situations while travelling.
- To encourage visual association between Spanish words and specific situations.
- To facilitate the child's adaptation to a new cultural and linguistic environment.
- To provide a positive learning experience.

Methodology

The methodologies and adaptations that will be applied for this student in the learning of a foreign language are:

1. **Assessment of the child's needs:** Before implementing any adaptations, it is critical to conduct a detailed assessment to understand the child's specific abilities, challenges, and needs related to foreign language learning.
2. **Personalized learning program:** An individualized learning program that takes into account the child's specific medical conditions and difficulties will be developed. This may include a more gradual and structured approach to language instruction. Besides, allowing additional time to complete tasks, providing additional written supports, and reducing oral demands when necessary.
3. **Support from a speech and language therapist:** A speech and language therapist will provide specific strategies and exercises to address the difficulties of verbal dyspraxia and improve oral communication, always related to the Lámh language.

4. **Modification of written tasks:** Consider adaptations in written tasks due to the child's limitations. Moreover, this will involve providing simpler exercises or reducing the amount of writing required.
5. **Use of visual aids and clear communication:** Incorporate pictures, graphs, and other visual aids to support language comprehension and facilitate the association of words with concepts; as well as clear and concise instructions.
6. **Auditory training:** To encourage the development of listening skills through specific listening activities and active listening practices. In this case, through the Spanish teacher pronunciation.
7. **Technological support:** Using adaptive educational tools and software that adapt to the child's learning pace and level.
8. **Stress and Anxiety Reduction:** Provide a relaxed and supportive learning environment to help the child feel more comfortable and willing to participate.
9. **Build self-esteem and confidence:** Provide a supportive environment and build the child's self-esteem and confidence by recognizing and valuing his achievements and creating activities in which he can be successful and fulfilled. These activities are defined in the sessions section; in addition to those listed in the typology.
10. **Adapting the timing and length of sessions:** Adjust the length and frequency of learning sessions according to his ability to concentrate.

Resources

Regarding resources, we should use those related to their own interests such as objects or elements that are close to them or that they like (thus linking it to the interest-based learning methodology). As well as the use of flashcards or graphic resources. Specifically for this learning situation will be used:

- Flashcards with images of places, actions and objects related to the trip to Spain.
- Map of Spain.
- Multimedia material (videos, images, songs) that represent Spanish culture and language in a visual way.
- Items to simulate situations, such as beach toys, kitchen utensils and festive items.

Spatial organization

The organization of space with E. should be the same as in the rest of the subjects, otherwise he will perceive a change that will be harmful and difficult for him to focus on the task at hand, in this case, learning a new language. In addition, E. will maintain an individual work area, in order to promote an optimal learning space, a display will be used in the Spanish subject, in which concepts can be related to English, his mother tongue; and, in addition, it can be completed session by session, thus showing everything he has learned. This could also be a positive reinforcement for him.

As previously mentioned in the context of the class, this child leaves the classroom every time any reinforcement takes place, so taking into account the principle of inclusion, we will try to keep him in the classroom for as long as possible and, as it was said, he will also have a space in the classroom to reflect his own learning; as the other classmates have other spaces available in the classroom.

Temporal organization

Some suggestions for an effective time organization for E., that are planned here are:

- **Established schedule.** With a clear and predictable organization, establishing a daily routine so that the child feels secure and can anticipate what will happen. The benefit of this suggestion is due to a prediction that makes the child feel safer, better manage his time and reduce the possible anxiety that this can produce.
- **Short, frequent sessions:** Due to the child's possible physical and attention limitations, it is advisable to divide learning time into shorter, more frequent sessions rather than extended sessions. This will allow the child to focus better and assimilate the information without feeling overwhelmed. This allows E. to adapt to its capabilities, allowing him to focus on the task, as well as preventing fatigue and improving performance.
- **Regular breaks:** Incorporate regular breaks during sessions so that the child can relax and recharge. This is especially important considering the child's medical conditions. As we have said before, this helps the child to prevent fatigue, as well as improve his concentration and adapt to the rhythms of his own learning.

- **Use of visual schedules:** Use visual schedules with pictures or pictograms so that the child can follow the sequence of activities and know what is expected of him during each time of the day. It is also used as a reinforcement for the instructions given in addition to structuring the environment and serves as a support for planning and organizing different tasks or activities.

Activities typology

The activities that can most benefit E. in learning Spanish as a foreign language are:

- **Role-playing and dramatizations:** These activities encourage verbal and nonverbal communication, which can be beneficial for a child with verbal dyspraxia. Role-plays also allow the child to practice real-life situations in a playful and practical way in order to understand some of the new actions. In this case, the child will dramatize ideas or even words worked in the sessions through actions represented, due to the fact that it does not verbalize any word.
- **Incorporate hands-on and manipulative activities:** Include hands-on and manipulative activities in language learning that help the child interact with the material in a more tangible and meaningful way. Such as, for example, building blocks, puzzles, and sensory materials. These activities will help the child understand abstract concepts in a more concrete way.
- **Songs and music:** Use songs in the foreign language to improve the child's learning, by following the rhythm he can understand the new songs. Music can be a powerful tool for learning and memorizing new words.
- **Use of visual and technological aids:** Integrate visual aids, graphics, pictures, and assistive technology to facilitate comprehension and access to foreign language content.
- **Stories and picture books:** Read stories and picture books in the foreign language to enhance the child's auditory and visual comprehension. Simplified versions of stories must be used to suit their reading level.
- **Matching and association activities:** Use flashcards or pictures to have the child match words in his native language with their equivalent in the foreign language. This helps to strengthen the association of words with concepts. In addition, these activities may remind you of the activities carried out with the Edmark method.

- **Sensory activities:** Integrate sensory activities such as dough manipulation or sand play to engage different senses in language learning.

Sessions:

SESSION 1: Preparing the journey!	
Objective:	To introduce the concept of travelling to Spain and begin to associate key words with related images.
Activities:	<ol style="list-style-type: none"> 1. Welcome <ol style="list-style-type: none"> a. Friendly greeting and positive atmosphere. b. Welcome song, greetings in Spanish (<i>songs and music</i>). 2. Presentation of the trip <ol style="list-style-type: none"> a. Show a map of Spain. b. Introduce key words such as: aeroplane, suitcase or beach, using flashcards. 3. Association activity <ol style="list-style-type: none"> a. Use picture and word cards in Spanish. b. Associate pictures with words exemplifying the Edmark method (<i>matching activity</i>). 4. Travel simulation <ol style="list-style-type: none"> a. Create a travel atmosphere with images and sounds (<i>dramatization</i>).

SESSION 2: Airport and flight	
Objective:	To continue to associate Spanish words with specific actions and objects related to the airport and flying.
Activities:	<ol style="list-style-type: none"> 1. Review <ol style="list-style-type: none"> a. Review the words from the previous session using flashcards (<i>association activity</i>). 2. Airport simulation <ol style="list-style-type: none"> a. Create an area representing an airport (<i>dramatization</i>). b. Use picture cards and match them to their signs. 3. Simulated flight through an interactive educational tablet application (<i>the use of technological aids</i>)

	<ol style="list-style-type: none"> a. Simulate a flight. b. Work on words such as: aeroplane, window or seat...
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SESSION 3: Discovering the beach	
Objective:	To introduce words and concepts related to the beach in Spanish, encouraging interaction and the association of words with actions.
Activities:	<ol style="list-style-type: none"> 1. Welcome and review. <ol style="list-style-type: none"> a. Greetings through song (<i>songs and music</i>). b. Review of the words learned through flashcards. 2. Beach simulation (<i>dramatization</i>) <ol style="list-style-type: none"> a. Creating a play environment that represents a beach. b. Use the "memory" game to associate words with objects and actions on the beach (<i>association activity</i>). 3. Practical activity <ol style="list-style-type: none"> a. Play with sand, shells and beach toys (<i>sensory and manipulative activity</i>). b. Associate the Spanish words with the actions/sign during the game (<i>association activity</i>).

SESSION 4: Exploring the city	
Objective:	To introduce words and phrases related to the city in Spanish, encouraging exploration and interaction.
Activities:	<ol style="list-style-type: none"> 1. Review <ol style="list-style-type: none"> a. Review the words learnt so far using flashcards (<i>association activity</i>). 2. City simulation <ol style="list-style-type: none"> a. Create an area representing a Spanish city (<i>dramatization</i>). b. Associate words with places and actions in the city, such as: street, building or park (<i>association activity</i>). 3. Exploration

	<p>a. Use a simple story about "exploring" the city to recognise words already worked on (<i>story book activity</i>).</p>
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SESSION 5: Flavours of Spain	
Objective:	To introduce words related to Spanish food and encourage interaction around food.
Activities:	<ol style="list-style-type: none"> 1. Review using flashcards (<i>association activity</i>). 2. Simulated kitchen <ol style="list-style-type: none"> a. Creation of an area representing Spanish cooking (<i>dramatization</i>). b. Use association games. For example, associate a word with the corresponding object. 3. Practical activity: food preparation <ol style="list-style-type: none"> a. Creation of a simple Spanish food dish (<i>sensory and manipulative activity</i>). b. Recognise words such as: food, plate, knife. 4. Review and reinforcement <ol style="list-style-type: none"> a. Reinforce the understanding of the words by extending the story seen earlier (<i>story book activity</i>).

SESSION 6: Celebrating in Spain	
Objective:	To introduce words and concepts related to Spanish celebrations and festivities, concluding the series of sessions.
Activities:	<ol style="list-style-type: none"> 1. Final review <ol style="list-style-type: none"> a. Remember the greeting song and the rest of the words using flashcards (<i>association activity</i>). 2. Party simulation <ol style="list-style-type: none"> a. Create an area that represents a Spanish celebration: The Malaga's Fair (<i>dramatization</i>).

	<ol style="list-style-type: none"><ol style="list-style-type: none">b. Carry out a listening exercise and point out the corresponding word in Spanish.3. Festive activities<ol style="list-style-type: none">a. Participate in simulated activities such as: dancing or singing (<i>dramatization</i>).b. Associate words with these actions (<i>association activity</i>).4. Final celebration<ol style="list-style-type: none">a. Conclude with a small celebration, reviewing words and concepts learned.
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Assessment

Assessment will be continuous and formative. In other words, a table will be filled in at each session. In which you will be able to see aspects such as:

- Effective use of the Lámh signs related to words.
- Active participation of the child in the activities.
- Review and understanding of key words in Spanish using the Edmark method.
- Feedback from the child and continuous adjustment of the methodology according to the child's needs and progress.

9. CONCLUSIONS

In this final degree project, a series of specific objectives related to the teaching of reading as a foreign language in a multicultural environment, the understanding of Klinefelter syndrome and its characteristics, the Edmark method, and the development of an action plan adapted to the child with Klinefelter syndrome in the teaching of Spanish have been addressed. I have not been able to carry out this pedagogical proposal, as it is intended for two years from now, when E. will have developed his communication skills in his own language to a greater extent; however, I can say that it will fulfil and respond to the established objectives, having in mind his progress.

The first objective concerned research on the teaching of reading in a multicultural environment. Through the research carried out through different books and the proposal created, I have highlighted the importance of adapting the methodology and resources to the individual needs of the child with Klinefelter Syndrome. The proposal is based on a varied methodology that takes into account individual differences and the specific needs of the child, which contributes to inclusion and equity.

The second objective focused on gaining knowledge about Klinefelter syndrome and how it is reflected in the child. Throughout the work, an understanding of Klinefelter syndrome and how its characteristics influence the learning process has been demonstrated. A specific action plan has been developed in order to knowledge to benefit the learner. This learning situation has been developed with objectives, contents and a methodology adapted especially to the characteristics of the child and the peculiarities of the method. Also, there have been a number of resources created especially for this case, as well as a specific temporal and spatial organization. Moreover, a typology of activities has also been included through which the sessions will be developed. In turn, this design has also developed an individualized assessment.

The third objective related to the understanding of the Edmark method and how it is carried out with the child with special needs. The proposal has integrated aspects of the Edmark method, adapting it for the child with Klinefelter syndrome,

which shows that there is an understanding and application of different pedagogical approaches to address the individual needs of the learner.

The fourth objective is focused on the development of an action plan for the teaching of Spanish as a foreign language, specifically, as mentioned above, adapted to the child with Klinefelter Syndrome. The proposal has presented a detailed plan that includes a varied methodology, adequate resources, and a specific spatial and temporal organisation for the child. This plan seeks to improve the student's linguistic competence in a foreign language and to facilitate their inclusion in the educational environment.

In summary, the proposal developed in this thesis effectively fulfils the established objectives. It has demonstrated a comprehensive and personalised approach to teaching reading as a foreign language, which contemplates the characteristics of Klinefelter syndrome and the specific needs of the child. This approach contributes to inclusion and equity in the educational environment, focusing on diversity and improved learning for all students.

10. BIBLIOGRAPHY

- Aksglæde, L., Link, K., & Juul, A. (2013). Klinefelter syndrome in clinical practice. *Nature Reviews Endocrinology*, 9(1), 8-12.
- American Speech-Language-Hearing Association. (2021). Childhood Apraxia of Speech: Technical Report. Disponible en: <https://www.asha.org/policy/TR2021-00363/>
- Carrell, P. L., Devine, J., & Eskey, D. E. (1988). *Interactive Approaches to second language reading*. Cambridge University Press.
- Davis, S. M., Reynolds, E., & MacNeil, L. K. (2017). Educational considerations for children and adolescents with Klinefelter syndrome. *Journal of Developmental and Behavioral Pediatrics*, 38(9), 753-760.
- Edmark Corporation. (1999). Edmark Reading Program: Level 1. Seattle, WA: Edmark Corporation.
- Edmark Corporation. (2020). Edmark Reading Program: Level 1 (Version 4.0). Seattle, WA: Edmark Corporation.
- Goodman, K. (1982). El proceso de lectura: consideraciones a través de las lenguas y del desarrollo. *Nuevas perspectivas sobre los procesos de lectura y escritura*, 13, 28.
- Goodman, K. (1990). El lenguaje integral: un camino fácil para el desarrollo del lenguaje. *Lectura y vida*, 11(2), 5-13.
- Goodman, K. S. (1969). Analysis of oral reading miscues: Applied psycholinguistics. *Reading research quarterly*, 9-30.
- Peter, B., Stoel-Gammon, C., & Raskind, W. (2020). Motor Speech Disorders in Children: The Importance of Differential Diagnosis. *Seminars in Speech and Language*, 41(4), 269-282.
- Nuttall, C. (2005). *Teaching Reading Skills in a foreign language*. Macmillan Publishers Limited.

- Ratcliffe, S. G., & Farberov, S. (2021). Klinefelter syndrome: An update on diagnosis, treatment, and psychosocial considerations. *Journal of Pediatric Nursing*, 61, e55-e61.
- Tabaee, A., & Kacker, A. (2019). Choanal atresia: A comprehensive review. *Clinical Reviews in Allergy & Immunology*, 57(3), 366-378.
- Tartaglia, N., Davis, S., & Hench, A. (2018). A new look at XXYY syndrome: Medical and psychological features. *American Journal of Medical Genetics Part C: Seminars in Medical Genetics*, 178(1), 62-68.
- Teaching and learning in primary education. (s. f.).
<https://eurydice.eacea.ec.europa.eu/national-education-systems/ireland/teaching-and-learning-primary-education>
- Visootsak, J., & Graham, J. M. (2017). Social function in multiple X and Y chromosome disorders: XXY, XYY, XXYY, XXXY. *Developmental Disabilities Research Reviews*, 17(2), 148-159.
- Visootsak, J., Aylstock, M., & Graham, J. M. (2019). Learning and memory in children with sex chromosome aneuploidies: A review. *Developmental Disabilities Research Reviews*, 24(2), 102-114.