

DIDACTIC UNIT SCRIPT

1. INTRODUCTION

The main objective of this Didactic Unit is the teaching of Mathematics through Physical Education in the last stage of Primary Education, which is from 10 to 12 years old. At the same time, the aim is to provide the teaching with a gender perspective, in order to guarantee equality between male and female students.

The questions that arise when approaching this Didactic Unit are, on the one hand, if it is true that our students lose interest in Mathematics during their school years and, on the other hand, if the transversal teachings can help to recover their interest in this subject.

Studies related to this problem confirm how students lose interest in Mathematics as they move up in their education, mainly because they do not find its usefulness in everyday life (González, 2005). For his part, Huertas (2016) assures that, when mathematical activities are carried out starting from real environments, and working with tools within their reach, learning of conceptual, analytical and social processes is achieved.

In relation to Physical Education, Madrigal, Lizano and Vargas (2008) state that all mathematical knowledge acquired at an early age is acquired through movement and play. Studies conducted by Prieto and Martínez (2016) confirm this idea, concluding that as students increase the practice of physical activity, their performance in Mathematics increases.

In conclusion, it seems advisable to apply Physical Education methodologies in the teaching of Mathematics, in order to recover the interest of students, especially those who are acquiring higher levels of education and whose chances of dropping out of school -according to PISA results- are higher (Fernández, 2010).

2. DIDACTIC OBJECTIVES

2.1 Didactic objectives (DO) of the didactic unit

- A. Develop individual and teamwork habits, effort and responsibility in studying, as well as attitudes of self-confidence, critical sense, personal initiative, curiosity, interest and creativity in learning.

- B. Acquire in at least one foreign language the basic communicative competence that allows students to express and understand simple messages in everyday situations.
- C. Develop basic mathematical skills and start problem solving.
 - a. Perform elementary calculation operations applied to real situations using estimates in those situations that require it.
 - b. Identify geometric figures and measure their perimeter and area.
 - c. Statistically analyse the results obtained in real life situations.
- D. Develop their affective abilities in all areas of personality and in their relationships with others, as well as an attitude against violence, prejudice of any kind and sexist stereotypes.
- E. Know their own body and its possibilities and develop basic motor skills in practice contexts, using the game as an essential learning resource, in accordance with educational intentions, and as a didactic tool due to its motivating nature.

3. CONTENTS

3.1 Relation with the content blocks

MATHS	
CONTENTS	STANDARDS OF LEARNING
<p>BLOCK 1: NUMBERS</p> <p>Natural numbers, fractions and decimals.</p> <ul style="list-style-type: none"> - Roman numerals. - Rounding natural numbers to ten and hundred. - Comparison, ordering and rounding numbers to the tenth or hundredth. - Equivalent and irreducible fractions. - Connection between simple fractions, decimals and percentages. <p>Percentages and proportionality.</p> <ul style="list-style-type: none"> - Meaning and application. - Percentage of a quantity. - Proportionality in the scale of plans and maps. 	<p>BLOCK 1: NUMBERS</p> <ul style="list-style-type: none"> - Identifies roman numerals applying knowledge to understanding dating. - Orders natural numbers, decimals, and fractions by comparison, representation of numbers on a number line, and conversion of each type of numbers into another. - Rounds simple natural numbers to ten and hundred, and rounds decimal numbers to nearest tenth and hundredth. - Uses different types of numbers in real contexts, establishing equivalences between them, identifying and using them as operators in interpreting and solving problems.

<ul style="list-style-type: none"> - Graphical representation of natural, integer, decimal and fractional numbers. <p>Calculation</p> <ul style="list-style-type: none"> - Use and automation of the standard algorithms of addition, subtraction, multiplication and division. - Development and use of mental calculation strategies. - Estimation of mental calculation results. 	<ul style="list-style-type: none"> - Estimates and checks results using different strategies. - Uses percentages to express parts. - Decompose, compose and round natural numbers and decimals, interpreting the place value of each of their digits. - Perform basic operations and calculations with different types of numbers. - Uses and automates standard addition, subtraction, multiplication and division algorithms with different types of numbers, in checking results, in problem-solving contexts and in everyday situations. - Develops and uses mental arithmetic strategies.
<p>BLOCK 2: MEASUREMENT</p> <ul style="list-style-type: none"> - Estimate of measurements of magnitudes of known objects and spaces; choice of the unit and the most suitable tools to measure and express a measure. - Units of the Decimal Metric System. Length, capacity, mass and surface. - Comparison, equivalence and ordering of measures of the same magnitude. - Measurement of surfaces. Agricultural units of measure. - Operations with measurement of magnitudes. - Comparison of surfaces of plane figures by superposition, decomposition and measurement. <p>Time measurement:</p> <ul style="list-style-type: none"> - Units and their relationships. - Calculations with time units. <p>Angles:</p> <ul style="list-style-type: none"> - Type of angles. - Angles measurement. Units. 	<p>BLOCK 2: MEASUREMENT</p> <ul style="list-style-type: none"> - Identifies, compares, orders and transforms the units of the decimal metric system: length. - Estimates lengths, choosing the most appropriate unit and instruments to measure and express a measurement, expressing orally the process followed and the strategy used. - Measures with instruments, using conventional and non-conventional strategies and units, choosing the most appropriate unit for the expression of a measurement. - Adds and subtracts measures of length, in a simple way, giving the result in the unit determined beforehand. - Expresses in simple form the length measurement given in complex form and vice versa. - Compares and orders measurements of the same quantity.

<ul style="list-style-type: none"> - Conventional instruments for measuring angles. - Management of instruments for drawing angles. 	<ul style="list-style-type: none"> - Knows and uses units of time and their relationships: second, minute, hour, day, week, month and year. - Makes equivalences and transformations between hours, minutes and seconds.
<p>BLOCK 3: GEOMETRY</p> <p>Plane figures:</p> <ul style="list-style-type: none"> - Classification of triangles according to their sides and their angles. - Quadrilaterals: parallelograms, trapezoids and trapezoids. <p>Polygons: perimeter and area</p> <p>Situation in the plane and in space.</p> <ul style="list-style-type: none"> - Cartesian coordinate system: description of positions and movements. Representation of plane figures. - The elemental representation of space, scales and simple graphs. 	<p>BLOCK 3: GEOMETRY</p> <ul style="list-style-type: none"> - Recognizes, differentiates, and represents relative positions of lines and circumferences. - Identifies and represents the different types of angles, their elements and the different positions: consecutive, adjacent, and opposite angles. - Classifies the triangles according to their angles and their sides. - Uses ICT and other technological tools in the construction and exploration of geometric figures. - Uses ICT and other technological tools in the construction and exploration of geometric figures. - Knows polygons and classifies them according to their number of sides.
<p>BLOCK 4: STATISTICS AND PROBABILITY</p> <p>Information processing</p> <ul style="list-style-type: none"> - Graphs and statistical parameters. - Bar charts. - Data tables. - Statistical terms: arithmetic mean, mode, absolute frequency, and relative frequency. - Critical analysis of the information presented through statistical graphs - Realization of simple statistical studies putting into practice the phases: obtaining and registering data, presentation in 	<p>BLOCK 4: STATISTICS AND PROBABILITY</p> <ul style="list-style-type: none"> - Identifies, collects, and interprets quantitative data from daily situations, creates tables and shows results in different graphs. - Interprets and makes different types of graphs based on data extracted from their daily situations. - Makes a critical argument analysis about the information presented in statistical graphics. - Recognizes the absolute frequency in a specific data set. - Applies the arithmetic mean and mode to family surrounding. - Interprets data, makes tables and uses different graphs for their

<p>tables, transformation into graphs and evaluation.</p> <ul style="list-style-type: none"> - Chance and probability. - Random character of some experiences. 	<p>representation, with the information obtained in his/her environment.</p> <ul style="list-style-type: none"> - Collects and classifies quantitative data from situations in their environment, using them to construct absolute and relative frequency tables. - Applies intuitively to familiar situations the measures of centralisation: arithmetic mean, mode, and range. - Performs a critical and argued analysis of the information presented by means of statistical graphs
<p>PHYSICAL EDUCATION</p>	
<p>CONTENTS</p>	<p>STANDARDS OF LEARNING</p>
<p>BLOCK 1: BODY KNOWLEDGE</p> <ul style="list-style-type: none"> - Body awareness and control. Proprioceptive aspects related to body postures. Postural control at rest and / or movement in an economical and balanced way. - Application of tonic and breathing control to body relaxation and motor control. Types of breathing. Active and voluntary relaxation in a global and/or partial way. - Adaptation of the posture to the expressive and motor needs in an economical and balanced way. - Organization of the action space: adjustment of sequences of actions at different distance intervals; adjustment of trajectories in the projection of mobiles. - Space management. Control of orientation changes and relative positions derivative from his' or hers' and others' movements. 	<p>BLOCK 1: BODY KNOWLEDGE</p> <p>The student:</p> <ul style="list-style-type: none"> - Adapts movements to different types of environments, expressive physical sports and artistic activities, adjusting the performance to space-time parameters and maintaining the body balance. - Applies motor skills, taking into account the three body axes and the two directions, and adjusting their performance to space-time parameters and maintaining postural balance. - Applies turning motor skills to different types of environments and expressive physical sports and artistic activities, taking into account the three body axes and the two directions, and adjusting their performance to the parameters. - Adapts basic jumping motor skills to different types of environments and expressive physical, sporting and artistic activities, adjusting their

<ul style="list-style-type: none"> - Perception and time-space structuring: coordination of various trajectories; coordination of one's own actions with those of others with a common objective: configurative anticipation. - Knowledge of the influence of physical activity on the functioning of the basic systems of the human body (circulatory, respiratory and locomotor). - Execution of movements of progressive difficulty with the non-dominant body segments in variable situations. - Adaptation of breathing and tonic control to different levels of effort. 	<p>performance to time-space parameters and maintaining postural balance.</p> <ul style="list-style-type: none"> - Understands the explanation and describes the exercises performed, using the terms and knowledge about the locomotive apparatus developed in the area of natural sciences.
<p>BLOCK 2: MOTOR SKILLS</p> <ul style="list-style-type: none"> - Coordination and static and dynamic balance in unstable and increasingly complex situations. - Physical conditioning focused on improving motor skills. Flexibility and endurance maintenance, and global speed and strength training. - Identification of the basic physical skills involved in different physical activities and sports. - Automation of actions related to the coordination capacities in the execution of sports skills. - Positive willingness to participate in various activities, accepting the differences in skills level. 	<p>BLOCK 2: MOTOR SKILLS</p> <p>The student:</p> <ul style="list-style-type: none"> - Adapts basic motor skills to different spaces according to the activities and objectives to be achieved. - Correctly applies technical gestures in throwing, catching, hitting, driving, etc. - Performs combinations of basic motor skills focused on a goal and some space-time parameters. - Shows an improvement in the physical skills related to health, comparing the starting point. - Adapts the intensity of the effort to the duration of the activity. - Identifies the basic physical capacity most significantly involved in the exercises. - Identify their level by comparing the results obtained in tests to assess physical and coordinative abilities with the values corresponding to their age.

<p>BLOCK 3: GAMES AND SPORTS ACTIVITIES</p> <ul style="list-style-type: none"> - Initiation to sport which is adapted to space, time, and resources: adapted sports, conventional and recreational adapted games. - Acceptance and respect for norms, rules, strategies, and people who participate in the game. Development and compliance with a fair play code. - Valuation of game and sport as social and cultural manifestations. Knowledge and practice of games and sports that are part of the popular and traditional cultural heritage. - Appreciation for the game and sports activities as an enjoyment, relationships, and satisfactory use of leisure time. - Preparation and practice of alternative games and sports. - Application of spatial organisation in collective games, adapting one's own position, the directions and trajectories of teammates, opponents and, where appropriate, the mobile. - Games and sport activities in nature. - Appropriate and creative use of basic game strategies related to cooperation, opposition, and cooperation-opposition. - Appreciation of personal and collective effort in different types of games and sporting activities regardless of preferences and prejudices. 	<p>BLOCK 3: GAMES AND SPORTS ACTIVITIES</p> <p>The student:</p> <ul style="list-style-type: none"> - Investigates and exposes the differences between popular, traditional, and native games. - Recognizes the cultural richness, the history and the origin of games and sports. - Accepts and complies with the rules of the game. - Adapts basic motor skills of manipulation of objects (throwing, catching, hitting, etc.) to different environments and physical sporting and artistic expressive activities, applying gestures properly and using dominant and non-dominant segments. - Performs combinations of basic motor skills by adjusting to an objective and space-time parameters. - Distinguishes and manages cooperation, opposition and cooperation-opposition strategies in individual and collective games and sports.
<p>BLOCK 4: PHYSICAL ACTIVITY AND HEALTH</p> <ul style="list-style-type: none"> - Improvement of physical capacities oriented to health: cardiovascular endurance, 	<p>BLOCK 4: PHYSICAL ACTIVITY AND HEALTH</p> <p>The student:</p> <ul style="list-style-type: none"> - Is interested in improving physical abilities.

<p>flexibility, and strength-resistance.</p> <ul style="list-style-type: none"> - Body control and self-regulation in the execution of physical activities. - Prevention of injuries in physical activity. Warm-up, dosage of effort and recovery. 	<ul style="list-style-type: none"> - Performs warm-ups with an appreciation of their preventive function.
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3.2 Cross-sectional

According to the characteristics of our students and to the context of this didactic unit, the transversal elements that will be present throughout its development will be:

a. Reading comprehension

- To analyze the sentences promoting comprehension.
- Use of different text typologies.

b. Oral and written expression

- Production of schemes and/or drawings.
- To speak, to write, to draw and to communicate what has been read in a text.
- To discuss and reason about the issues contained in the texts.
- Decision taking and its argumentation; communication between the group, respect and acceptance of the opinions of others, as well as cooperative work to learn from others and with others. When students are interacting with others (whether working in a small group or in a large group) they should make an effort to make themselves understood as well as to listen to others.
- To express the sentence of an activity in student's own words and being able to rewrite it taking into account different indications.

c. The technologies of the information and communication

The use of Information and Communication Technologies improves the teaching methodology and is a valuable tool for teaching. New technologies are increasingly present in our society and are part of the daily lives of our students.

We consider its incorporation essential in the early stages of education to initiate our students in the proper use of these.

d. Entrepreneurship

In order to ensure that students acquire a comprehensive education based on entrepreneurship and inspired by the basic democratic values, which are necessary for life, we intend to develop and promote skills to make them managers of the common good and of a coexistence that allows active participation and solidarity in the society to which they belong.

- Personal skills: initiative, autonomy, communication skills, critical sense, creativity, adaptability, observation and analysis, synthesis capacity, entrepreneurial vision.
- Cognitive skills: oral, written and plastic expression and communication; application of ICT resources in the classroom.
- Social skills: group work, communication, cooperation, ability to relate to the environment, empathy, managerial skills, planning capacity, decision making and assumption of responsibilities, organizational capacity...

e. Civic education

Through civic education, students will acquire the rules of coexistence, social values and habits of personal autonomy that allow them to manage their self-government and participate in their social environment freely and responsibly.

Considering the characteristics of our students, as well as the idiosyncrasy of this didactic unit, we will promote:

- Knowledge and respect for the constitutional values of freedom, justice, equality and political pluralism.
- Knowledge, respect and acceptance of fundamental rights and duties: equality before the law, right to life, religious and ideological freedom, personal freedom, freedom of expression, right of assembly, association and participation, right to education, to work, etc.
- Knowledge, respect and acceptance of social rights, duties and public policies: gender equality, protection of the family, rights of minors and adults, right to education, social benefits, right of people with disabilities.

4. METHODOLOGY AND ORGANIZATION

4.1 Methodology used

Methodology is understood as the correct way in which the different components involved in a process are organized, regulated and interrelated.

In this Didactic Unit the methodology seeks to connect the subject of Mathematics and Physical Education from a dynamic perspective, which is achieved through the planning of justified activities based on the stated objectives and available resources.

Despite the fact that mathematics throughout history has played a role of great relevance, being present in most of the sectors that make up knowledge (Peralta Coronado, 1998), nowadays its teaching is characterized by being dehumanized (Servais, 1980), giving rise to a subject that has no relationship with other areas. For this reason, it is essential to guarantee meaningful learning, relating the subject with previous knowledge and with aspects of daily life (Bermejo Fernández, 2005), as well as a cross-cutting education that links the different subjects and challenges all the actors that are part of school culture. Students become the protagonists of their learning autonomously because they listen, ask questions, have doubts and suggest solutions (Bermejo Fernández, 2005).

In this context, the use of gamification is proposed as an innovative alternative that aims to motivate students and promote a greater interest in mathematics through the spontaneous pleasure generated by game mechanics. In addition, it allows the use of other methodologies and tools such as cooperative learning and the use of Information and Communication Technologies. Gamification is a concept capable of involving and increasing the student's taste for learning, but it should not be seen as an isolated aspect of other tools and methodologies (Glover, 2013).

Within this definition, it is necessary to determine what a game is. Juul (2003, cited in Glover, 2013) refers to the game as a system based on rules with a variety of quantifiable results, where the effort is made with the aim of improving these results, and in which the consequences of the proposed activity are optional and negotiable. In order to make a game, it is necessary to determine how does it work and what role the player plays within it. Other components of great importance in the games are the rules, the objectives and the results (Contreras Espinosa, 2017). Within the classroom, the role of the teacher is decisive when it comes to achieving an educational goal, then the teacher has to establish the objectives to be achieved with the activity clearly and precisely (Sánchez-Aparicio, 2014), so that the students perceive that learning is

rewarded and they come to consider that success is closely related to effort (Pérez-Pueyo, 2016).

The 21st century is presented as a time of transcendental changes, making it necessary for the citizen to adapt correctly to the new society (Barrio de la Puente, Quintanilla Rojo, and Barrio de la Puente, 2007). In this knowledge society, the teacher must lead the change in the conception of teaching, adapting it to the new times and the current characteristics of their students (Fernández Solo de Zaldívar, 2015). Information and Communication Technologies, responsible of this rapid social transformation, are established as essential tools today introducing a wide range of applications in teaching (González Santa Olalla, Celada Perandones, & López Gallego, 2019). Consequently, including this new dimension within the teaching-learning process is crucial for students to become capable citizens, included within society and the world around them (Barrio de la Puente, Quintanilla Rojo, & Barrio de la Bridge, 2007).

On the other hand, and in relation to cooperative learning, Chamoso and Rawson (2001) establish that one of the most relevant factors in teaching is cooperation between students. However, it should not be confused with simple group work, because the main factors in cooperative learning are: positive interdependence between the students that make up the group; feeling responsible for their work and that of their classmates; positive interaction between members, collaborating reciprocally to achieve common goals; the learning of social competences thanks to interaction; and the follow-up, feedback and individual and group evaluation of the students (Lobato Fraile, 1997).

Collaborative learning uses diversity as a means to achieve learning, because each student contributes their own knowledge and talents in a different way, and this promotes mutual support and creates scaffolding situations (Zariquiey, 2015). In this way we increase the performance of our students, since we are creating a positive relationship between them through socialization.

The creation of a favorable and motivating context is essential in the correct development of the educational process. Appropriate motivation and a favorable emotional state are necessary for learning, as well as a set of values that foment a particular type of learning and a supportive cultural context.

In the evaluation we take into account that the ideal student is no longer the student who has learned the lesson by heart, but the one who has learned the necessary knowledge through autonomous and cooperative learning (Puga Peña & Jaramillo Naranjo, 2015). For this reason, during the evaluation we have several options at our disposal. Through self-assessment, the student is aware of everything he has learned and the process he has carried out autonomously. Furthermore, using peer assessment, students work cooperatively: they can assess their classmates. For the students, it is interesting knowing the opinion of their classmates regarding aspects such as their attitude, the division of tasks or the fulfillment of expectations.

Formative Assessment is a type of assessment whose purpose is not only to evaluate but is integrated into the teaching-learning process itself, to identify difficulties and student progress. In this way, changes adjustments can be introduced to achieve the proposed objectives (Melmer, 2008).

Formative Assessment puts the evaluation before the qualification. The role of feedback is fundamental, which improves student learning, as well as teaching practice (Hortigüela Alcalá, Pérez Pueyo and González Calvo, 2019). This active methodology makes students more aware of what they learn, encourages the development of the ability to self-regulate learning, identifies skills and transforms them into competencies, and creates various feedback channels.

This type of evaluation has other advantages, and one of them is that students are allowed to participate in the process of developing the evaluation criteria. Self-regulation or, in other words, "the student's ability to control and decide on their performance and work times" (Hortigüela Alcalá, Pérez Pueyo and González Calvo, 2019, p.16), also plays a fundamental role within of this evaluation method. In addition, intra or intergroup co-assessments are frequently used. These techniques will make students more aware of their level of success, according to the observation of the results of the rest of their classmates and how they could use this knowledge outside of the classroom. On the other hand, formative evaluation enables each one of the members of the classroom to give their contribution using different feedback mechanisms, or channels. Whether in writing, orally, video, individually or in groups, these types of activities are highly motivating for students (Hortigüela Alcalá, et al, 2019).

With this set of techniques, we try to get students to interact directly with the contents and knowledge, reaching real learning, as real as the environment that surrounds them. They become protagonists in a familiar and friendly environment, assuming responsibility for the learning process and reaching the objectives set in the activities (Pérez Pueyo, Hortigüela Alcalá, and Fernández-Río, 2020).

4.2 Didactic resources

All groups will have at their disposal a notebook made from the annexes of the UD in which they will write down, in the corresponding file, the results of the different activities.

For the sessions in the classroom, in addition to the notebook, they will have an electronic device in which they can enter the data in a shared document to be processed and thus be able to check the solutions to the challenges.

Specific material for the Math classroom: protractor, tape measures, scales and calculator.

Specific Physical Education material: cones, ropes, balls, sticks....

4.3 SESSIONS PERFORMANCE

Each session will last 50 minutes, structured as follows:

- 5 minutes: material preparation.
- 5 minutes: review of the lesson dynamic.
- 30 minutes: activities development.
- 5 minutes: discussion of the data collected.
- 5 minutes: co-evaluation.

A total of 11 sessions will be held. Sessions 0, 1, 4, 7 and 11 will be held in the classroom.

- Lesson 0 will be the didactic unit presentation and its work dynamic. The roles that each student must assume in each session and their responsibilities. Assessment is an important aspect that we need time to explain as students are not entirely familiar with co-assessment and the use of rubrics.

- In lessons 1, 4 and 7 we must ensure that the students have understood the mathematical concepts to implement the subsequent sessions, which will be eminently practical.
- Lesson 11 will give the students an opportunity to exchange opinions and the teachers will be able to share their reflections.

Lessons 2, 3, 5, 6, 8, 9, and 10 will be implemented in the gym or the playground, planned as follows:

Lesson 0. DU presentation.

- DU objectives and work dynamic.
- Roles' explanation and responsibilities during each session.
- Co-evaluation system demonstration.
- Assessment rubrics presentation, methodology needed to present the data collected.

Lesson 1. Numbers. Theoretical explanation of the concepts that students need to know to properly develop sessions 2 and 3.

Lesson 2. Memory & Petanque

MEMORY

Students will be placed in a row. At a certain distance (which could be modified) there will be several cards face down, with different mathematical elements. The first in line will have to reach the cards and will pick up two of them. If there is a couple of cards, the student will be able to take them back to the team. If not, the cards will have to be face down and the student will have to come back to the row, so that the next partner can leave.

The cards will be matched up following this:

- Roman numerals - natural numbers.
- Rounding natural numbers to ten and hundred.
- Rounding natural numbers to the tenth or hundredth.
- Proper and improper fractions.
- Equivalent and irreducible fractions.
- Fractions - percentages.
- The Metric System and converting units (litres-mass, lengths, volumes...)
- Equivalent triangles according to their angles.
- Classification of quadrilaterals.

- Groups and distances could change.
- The number of cards could be variable.
- Option to put together two teams, both with the same set of cards, being able to see the cards raised by each team and the rival.
- To include different types of displacements.

Results must be collected on the UD notebook.

PETANQUE

We will weigh the different game balls:

- Use of instruments for weighing: scales, weighing scales...

Through the game, units of measurement will be worked between players' balls and the boule (small ball), as well as the distance of throws made:

- Use of conventional instruments (ruler, meter), expressing the result using the International System of Units: millimetres, centimetres, decimetres, and meters.
- Use of non-conventional instruments (feet, spans, palms, different objects ...)

Data will be collected according to the template on annex A.

Lesson 3. Pichi baseball.

PICHI BÉISBOL

Adaptation of the sport baseball.

The pitcher will throw a ball to the batter, and the batter must hit it. Once it has been hit, he will run around the bases (hoops).

The batter's goal is to make a run (get around all the bases).

The opposing team must return the ball to the place where it was thrown.

- If the batter is on the way from one base to another when the ball arrives, that student is eliminated.
- The bases may not be occupied by more than one person at a time, therefore, if a runner goes to a base which is occupied by a teammate, it may not be occupied until the teammate moves to the next base.

Creation of the playing field.

The students will suggest the most appropriate geometrical shape to play the game (square, pentagon, hexagon...) and they will develop the following tasks:

- Make a previous sketch limiting it with the measures.

- Draw, measure and indicate distances:
 - Perimeter of the shape of the field.
 - Between the pitcher and the batter.
 - Between bases.

After a few games, the field will be modified, adapting it to the available space, the difficulty, the game itself, and to the number of players. They will be able to make superimpositions of the same playing field to make comparisons in situ.

Results must be collected on the UD notebook.

Lesson 4. Geometry. Theoretical explanation of the concepts that students need to know to properly develop sessions 5 and 6.

Lesson 5. Yoga & Simple maps

YOGA

Starting from yoga postures, previously worked. In pairs or groups of three students, one of the members will adopt a yoga posture indicated by the teacher.

The rest of the members of the group will correct the performer's position. Using an electronic device with a camera, will take a photograph.

Later, in each image, they must identify types of lines, segments, angles (elements and types), and classify triangles, being able to draw or edit them on the same image.

- To facilitate the sharing, it is recommended that all groups do the same postures, and in the same order.

Data will be collected according to the template on annex B.

SIMPLE MAPS

An orienteering map, where the map is divided into quadrants. To determine the location of a point, they must specify the sector in which it is located.

- Following a track, the students must pinpoint some locations (e.g., B4, C8...) and calculate the distance between them:
 - Relation space = velocity * time
 - Path length = time * velocity

- ¡Scale! From the mentioned points and their distances, determine the scale of the map (if the map scale is 1cm:20m, they need to calculate how far is one object from another in nature).

Data will be collected according to the template on annex C.

Lesson 6. Set in the right order & Orienteering on Cartesian axes.

SET IN THE RIGHT ORDER

Some benches will be placed in a row so that the students can go on them in this way. Each of them will be awarded a card (fractions, decimal numbers, percentages...).

Next, the students will have to work cooperatively, talking to each other, and creating strategies so that, without falling down the bank, they are able to sort themselves from smallest to largest, depending on the cards they have.

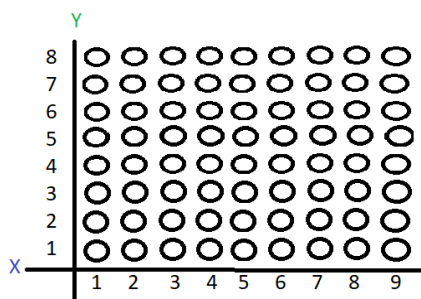
Results must be collected on the UD notebook.

ORIENTEERING ON CARTESIAN AXES

Two axes (X, Y) will be placed in the field. Cones are located in each coordinate (making the grid) of the Cartesian axes.

The goal is to cross the field, following the path of the coordinates which the partner is saying.

To do this, the partner will have several maps, with different paths.



Results must be collected on the UD notebook.

Lesson 7. Statistics. Theoretical explanation of the concepts that students need to know to properly develop sessions 8 and 9.

Lesson 8. Race pace & bowling.

RACE PACE

In pairs, one will be the performer and another the timekeeper. The teacher must set a target number of laps to a field to as the students develop their endurance.

Each time the performer takes a lap, the timekeeper will record the time in a data table.

Once the performer has done the agreed laps, they switch roles.

At the end of the session the two students of each pair will have their data table, with the time it has taken to do each lap.

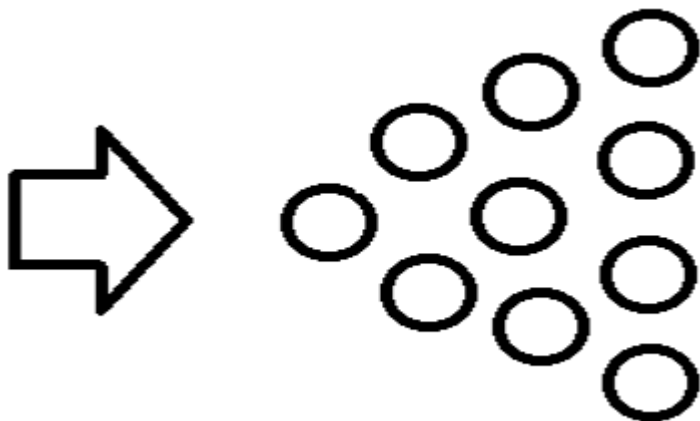
With this data they will elaborate a polygonal graph and make the assessment of their performance.

- Fastest lap
- Slowest lap
- Performance evolution during all the race
- Difference between the fastest and the slowest lap
- Lap average time
- Comparison among classmates

Data will be collected according to the template on annex D.

BOWLING

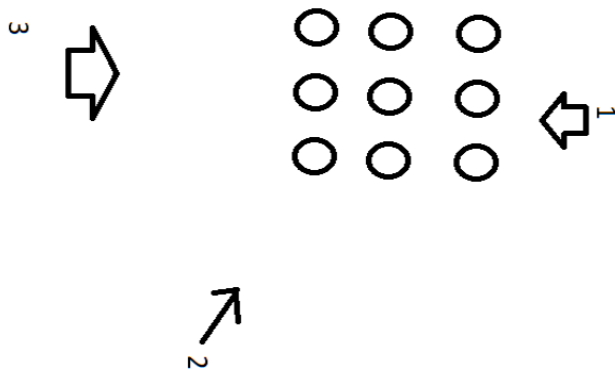
Playing bowling, we will perform calculations and collect statistical data.



- Collect data:
 - To make a bar graph.

- To calculate statistical parameters of knocked down bowling pins in a whole play:
 - Arithmetic mean
 - Mode
 - Relative and absolute frequency
- Write down, in each throw, the knocked down pins as a fraction.
- Addition of fractions of knocked down bowling pins.
- Fracción de bolos en pie, restando la fracción de los bolos derribados.
- Fraction of standing pins, subtracting the fraction of knocked down bowling pins.

SKITTLE



In this case, apart from fractions and statistics parameters as before, the multiplication will be worked:

- 1) closest area: each knocked down skittle will be multiplied x1;
- 2) in this area, each one will be multiplied x2;
- 3) each skittle will be multiplied x3.

* In both modalities, the distance between the pins will be worked, using conventional tools and unconventional strategies for their placing.

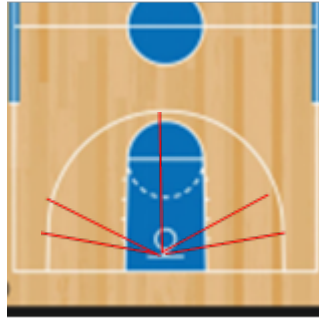
* Besides, we will also vary the launch zones, depending on their length, maintaining the strategies explained in the previous section.

Lesson 9. Basketball

BASKETBALL

The students throw the ball from five different positions, which they must locate on the triple line considering the basket post the apex of an angle:

- 30° to the left and right.
- 45° to the left and right.
- 90°



- They have to calculate the most successful position.
- They must calculate who is the most accurate player.
- Make graphs and diagrams of each individual and team with results/ratios/percentages.

Data will be collected according to the template on annex E.

Lesson 10. Maths Olympiad.

MATHS OLYMPIAD. Data will be collected according to the template on annex F.

Long jump:

- Measurement of the jumps, using conventional and unconventional strategies, interpreting the data, looking for a motor progression in terms of the results.
- Calculate difference in distances between jumps of the same jumper.
- Order the jumps from longest to the shortest.

Speed race:

- Measure the race distance (length) using conventional and non-conventional instruments.
- Make a table noting the times of all the runners and finding the average.
- Calculate time difference between all participants.
- Draw a bar chart using all the runners and their results.
- Order the results from the fastest to the slowest.

Relay race:

- Measure distances:
 - Individual running zone.
 - Transfer zone.
- Measure individual times (order the team members results, and compare with other teams, find average time of each runner, average time of the competition...)

Shot put:

- Weigh thrown object.
- Calculate distance achieved using different strategies; conventional and non-conventional (feet, strides, wingspan, body height, measuring tape, rulers...)
- Compare and order objects of different weights.

Lesson 11. Conclusions

- Final assembly to assess the development of the didactic unit.
- Check if the didactic unit met the students' expectations.
- Check if the didactic unit met the teachers' objectives.
- Get feedback from students.

4.4. Composition and organization of student groups in gamification:

Our students will form "Super π " groups. Super π is a heroine who wants to save Numberland (Θ) from the oppression exercised by the evil Plinth. Plinth has imprisoned the girls and boys of Θ so that they do not learn mathematics in order to submit them indefinitely under his slavery rules.

Plinth, who is a sportsman and mathematician, has negotiated with the president of Numberland to free the students, and proposes a game:



The objective will be to free the inhabitants of Numberland, performing 3 phases, being able to win in each phase a key. To free the inhabitants of Numberland, each group must win at least 8 keys.

The start of each phase coincides with sessions 1, 4 and 7. In each phase there are three challenges and in each challenge a key can be obtained. The keys will only be obtained if all team members demonstrate that they are competent (competency rubric).

Organization of the groups:

- Mixed groups of 5 members, if possible with a majority of girls.
- The roles to be assigned in each group are:
 - Coach, in charge of coordinating the group's strategy in the Physical Education tasks.
 - Mathematician, in charge of coordinating the mathematical part of the challenges, distributing the tasks.
 - Secretary, in charge of writing down in the field notebook the marks, the tasks, and other issues of the challenges.
 - Tic/researcher, in charge of carrying the mobile device to carry out the Internet search tasks and to write down the group's marks in the virtual notebook.
 - Spokesperson, in charge of communicating the results to the other groups as well as asking for assistance to overcome the challenges.

The roles will rotate among the team members each time the challenge is changed.

The evaluation will consist of two blocks, on the one hand, the overcoming of the challenges and on the other hand, the skills demonstrated when performing the challenges.

5. EVALUATION

5.1 Student assessment

5.1.1 Procedures and tools

This gamification consists of 9 Physical Education challenges in which they have to apply the Mathematics knowledge acquired in the classroom.

By having to apply the knowledge they have learnt in math class in a relaxed and motivating environment such as the PE classroom, we will promote the study of math among our pupils. The arrangement of the teams in the game promotes the female role as an important cog in the resolution of the challenges. This is one of the ways of promoting these two subjects among this population group, achieving, without a doubt, an increase in the interest of women in mathematics and, of course, in Physical Education. In these units, the classic stereotypes in mathematics and PE are set aside.

The assessment of the gamification-integrated DU will be developed taking into account different methodologies, we analyse from the particular to the more global.

On the one hand, students can obtain points and stars for overcoming the different challenges, and on the other hand, they can earn keys if they show that they are developing the competences established in the evaluation of the unit.

1. Assessment tools in each challenge:

Summative and qualitative evaluation will be used. While summative assessment is concerned with studying how effective the educational process has been, qualitative assessment evaluates what the students have learned, how they have learned and what they have learned for. Therefore, at the same time, we measure the competences acquired by our students in a real environment. As the students are the evaluators themselves, we generate an evaluation system in which the student receives feedback on each of the challenges and will be able to understand what he/she has done right or wrong, thus fostering a group self-correction system that generates learning.

What are the procedures and measures to be applied? (Ticket collection, self-evaluation, qualitative feedback, reflection, pre-post, integrative model, etc.).

In this didactic unit, all groups start with three stars, which are the jokers that they can use to look up clues for the completion of the challenges and move on to the next one.

Not all the challenges are worth the same, as there will be three challenges in which they will be able to get a star - a challenge star - whose value will be 2 times the initial star.

Each successful challenge is worth 10 points, each failure to complete the challenge will be penalized with 2 points. Each group can only be penalized twice per challenge.

Each help in carrying out the activity will subtract an initial star. In each challenge, groups can use all of their stars.

All challenges have two parts in which Mathematics and Physical Education are combined, with five points per part.

For those challenges that involve group physical skills against other groups, the score will be found by the overall average ranking.

The winning group will be the one with the highest number of points and the highest number of stars, so that, with equal points, it will be the badges that establish the tie-breaker.

1.1. The activity booklet will be a tool for assessing this educational process. It will be the pupils themselves who will generate part of the feedback they will receive in each challenge. Thanks to the digital or paper notebook tool, they will know at each moment what they have done right or wrong and they will be able to learn from their experiences to apply them in the following challenges.

The digital version of the notebook will be an Excel sheet shared among the team members in which each team's marks in the challenges will be written down. In this way, all teams will be able to know what their final score will be. This activity will be carried out in the classroom at the end of each session.

The challenge keys are achieved if the competences listed in the section have been acquired.

2. Co-assessment and self-assessment.

At the end of the gamification, the groups will carry out a co-evaluation in which each student will have to make an evaluation of each component of the group to which he/she belongs and at the same time his/her self-evaluation.

They will have to assess the ability to work in a group, the equal distribution of tasks, the involvement, as well as the interpersonal skills. Thanks to this activity, everyone will get to know themselves better and will be able to improve if necessary, as well as feeling an integral part of the assessment process.

By making use of the formative assessment guidelines and involving our students in the process, we will achieve a higher level of motivation (Hortigüela Alcalá, et al, 2019). Each participant will give their contribution to the process through the following channels:

2.1. Co-assessment and self-assessment will be analyzed through the use of the "Rubric for Cooperative Activities" (Pérez -Pueyo et al, 2020) that we can find in annex II developed by the team of Grupo Actitudes, it will allow our students to be evaluated among peers and themselves. This complementary process in metacognition will make it possible for students to be aware of what they have collaborated on.

3. Assessment of competences

The evaluation of the competences developed will be carried out using the competences evaluation rubric included in the field notebook, assessing each item between 1 and 0 in correspondence with each skill that we evaluate throughout the activity. Each skill has a different weight as indicated by the percentages in the table. The evaluation of the group's skills is translated into a mark between zero and ten.

Thanks to this activity, everyone will get to know themselves better and will be able to improve, if necessary, as well as feeling an integral part of the evaluation process.

The following competences will be assessed

5.1.2 Instruments, weight, and qualification criteria

Which are the activities that will be considered, and to which extent in the evaluation process (*quizzes, competences, pre-post, etc.*).

Which are the activities that will be considered, and to which extent, in the evaluation process (*quizzes, competences, pre-post, etc.*).

The final evaluation of each student will be made by means of the following table, where we will take into account the detailed instruments:

Final score of the gamification 50%.

Field notebook 15%.

Development of competences 20%

Co-evaluation 15%

In order to find the mark for the UD, the mark out of 10 for each qualification item will be found so that the final mark can be calculated in the table with the corresponding weights.

ITEM	WEIGHT	ITEM MARK OUT OF 10	WEIGHTED MARK
Gamification final mark	50%		
Field notebook	15%		
Development of competences	20%		
Co-evaluation	15%		
FINAL MARK			

Competence rubrics and field notebook

Competence assessment rubric

	mark category	EXCELLENT (1)	SATISFACTORY (0,75)	IMPROVABLE (0,5)	WEAK (0,25)
Competence in mother tongue	Uses correct expressions to communicate in the game	<p>He/she communicates orally and in writing in multiple communicative situations and adapts his or her own communication to the requirements of the situation.</p> <p>They can use different types of texts, search for, collect and process information, use assistive tools and formulate and express own oral and written arguments in a convincing and contextually appropriate way.</p>	<p>He/she can communicate orally and in writing in a variety of communicative situations and adapt his/her own communication to the requirements of the situation.</p>	<p>He/she can communicate orally and in writing in a wide range of communicative situations and does not adapt his/her own communication to the requirements of the situation.</p>	<p>He/she can hardly communicate in different situations.</p>
Foreign language competence	He/she communicates with peers in a common non-native language.	<p>He/she understands oral messages, starts, maintains and/or concludes conversations.</p> <p>They can read, understand, and produce texts appropriate to the needs of the situation.</p>	<p>He/she understands oral messages, starts, maintains and/or concludes conversations...</p>	<p>He/she can sometimes understand oral messages, start, maintain and/or conclude conversations.</p>	<p>He/she can understand sometimes but is unable to follow the conversation.</p>

nc e					
M a t h e m a t i c a l C o m p e t e n c e	Proficiency in trigonometry	He/she knows trigonometric ratios. He/she applies trigonometric ratios, analyses, and interprets solutions using trigonometric ratios.	He/she knows trigonometric ratios. He/she applies trigonometric ratios	He/she knows trigonometric ratios.	He/she does not know trigonometric ratios.
	Mastery of plane figures	He/she knows and distinguishes plane figures, classifies, and identifies them	He/she knows and distinguishes plane figures.	He/she distinguishes plane figures	He/she does not distinguish plane figures
	Mastery of measure	He/she can measure in any unit and masters the numbering systems	He/she can measure lengths and can estimate.	He/she can only measure, not estimate.	He/she cannot measure
	Transfer ability	He/she is able to apply theoretical knowledge to different contexts and interprets their meaning.	He/she recognises the transfer of some knowledge to other contexts and interprets its meaning.	He/she recognises the transfer of some knowledge to other contexts.	He/she is not able to apply knowledge outside the specific area
Le a r n i n g	Mastery of Statistics	He/she forms frequency tables, identifies position and dispersion parameters,	He/she forms frequency tables, identifies position and dispersion parameters	He/she forms frequency tables	He/she is not able to distinguish data variables.

to learn		and interprets data	but does not interpret data		
	Problem solving	He/she solves real problems following a strategy.	He/she does not always solve real problems following a strategy.	He/she cannot solve real problems following a strategy.	He/she cannot solve real problems.
	Autonomous work	He/she works autonomously ...	He/she almost always works autonomously .	He/she rarely works autonomously .	He/she does not work autonomously
	Review and self-assessment	The group reviews and self-assesses the work done	The group reviews and self-assesses the work done. They occasionally need help.	They review but does not self-assess the work done.	They do not review or self-assess the work done.
	Following instructions	Execution of tasks always corresponds in full to instructions given.	Execution of tasks generally corresponds to instructions given.	He/she follows instructions given incompletely and requires reminding	He/she follows instructions given incompletely and incorrectly.
Digital competence	Mobile learning	He/she uses mobile phone to carry out work	He/she occasionally needs external help to use mobile phone to carry out work	He/she needs external help to use mobile phone to carry out work	He/she does not use mobile phone to carry out work
	Search for contents	He/she performs a critical search and selects appropriate content.	He/she performs a critical search and selects appropriate content, but occasionally needs help.	He/she performs a critical search and does not select appropriate content.	He/she does not perform a critical search and does not select appropriate content.

	Use of GeoGebra/scientific calculator	He/she uses GeoGebra/scientific calculator in solving the problems	He/she does not always use GeoGebra/scientific calculator in solving the problems.	He/she needs external help for the use of GeoGebra/scientific calculator in solving the problems	He/she does not use GeoGebra/scientific calculator in solving the problems
	Power Point use	The group uses Power Point to make the presentation of their work.	The group is partially familiarised with the use of Power Point. Sometimes they need external help	The group needs help for the use of Power Point to make the presentation of their work.	The group does not use Power Point to make the presentation of their work.
Social and civic competences	Teamwork	He/she plans and carries out the work in agreement with the others.	He/she does not always plan and carry out the work in agreement with the others.	He/she needs help to plan and carry out the work in agreement with the others.	He/she is not able to plan and carry out the work in agreement with the others.
	Continuity of work	He/she performs tasks thoroughly, with several attempts before presenting an optimal result.	He/she generally performs tasks completely, with several attempts before presenting an optimal result.	He/she carries out the requested activities inconsistently or partially but shows intention to do so as requested.	He/she carries out activities in an inconsistent, partial, and even idle manner.

Field notebook rubric:

Classroom notebook rubric				
Gradable Items	Achievement Development			
	10	8	5	3

Presentation and organisation	Good presentation and tidiness	Good presentation, but with little cleanliness	The notebook has little cleanliness and tidiness	Poor presentation, untidy
Contents	It contains all activities, with annotations and drawings	It contains all activities, with annotations and does not use explanatory drawings	Lack of activities and few annotations	Little information
Corrections	All teacher's comments have been corrected and noted	Errors are noted, but not all are corrected	Some errors are noted	It does not note errors or corrections

Co-evaluation and self-evaluation rubric:

	Excellent	Good	Acceptable	Quite improvable
Positive interdependence	I have learnt/managed to carry out the proposals thanks to my colleagues and I have helped/encouraged them to do so.	I have learnt/managed to carry out the proposals thanks to my colleagues, although I have not helped/encouraged them to do so as much as I should have.	It has been very hard for me to carry out the proposals thanks to my colleagues due to my lack of attention, and/or I do not know if I have succeeded in getting them to do so.	I have not learnt/managed to carry out the proposals thanks to my colleagues and/or I do not think I have succeeded in getting them to do so.
Promoting interaction	I have supported, helped and encouraged my peers to improve	Although, in general, I have supported, helped and encouraged my peers to improve, there have been some exceptions	I have only supported, helped and encouraged my friends to improve	I have not supported, helped or encouraged anyone.
Individual responsibility*	I have done my work perfectly and I have made sure that my part of the work has contributed directly to the	I have done my work well, but I have not paid particular attention to making sure that my part of the work has contributed to	I have not done all my work, and furthermore I have not paid the attention I should have paid to ensuring that my part	I have failed to take responsibility for the tasks assigned to me.

	objectives of the group.	the objectives of the group.	of the work contributed to the group's objectives.	
Interpersonal skills	I have developed my interpersonal skills (empathy, encouragement, patience, ...) for the good atmosphere in the group	In some cases I could have been more empathetic, friendly, encouraging or patient with my colleagues in order to contribute to the good atmosphere in the group, although in general I have done it.	I could have been more empathetic, friendly, encouraging or patient with my colleagues to contribute to the good atmosphere in the group. I have only been so with my close friends	I was not at all empathetic, friendly, kind or patient with my classmates and friends.
Self-assessment /group processing *	I have actively participated (talked) in the group self-assessment process, analysing what has happened to continue improving.	I have participated (spoken) occasionally in the group self-evaluation process, analysing what has happened to continue improving	Although I have not participated (spoken) in the group self-evaluation process, I have cared enough to analyse what has happened to continue improving.	I have neither participated nor bothered to analyse what needs to be improved.
Equal opportunities to learn and succeed	I have allowed/favoured that we all have the necessary opportunities to perform and/or learn and succeed	At some point I could have favoured more that everyone, without distinction, have the necessary opportunities to perform and/or learn and succeed	I have only allowed/encouraged my closest friends to have the necessary opportunities to accomplish and/or learn and succeed; with the rest I have not helped at all.	I have prevented my peers from having the necessary opportunities to perform and/or learn and succeed.
Equal sharing of tasks	I have ensured that everyone (without exception) has participated according to their possibilities	In general, I have ensured that everyone has participated according to their possibilities, although there have been some exceptions for which I have not been concerned.	I was concerned that only my group of friends participated according to our possibilities. I failed to empathise and accept the limitations and possibilities of achievement of some of my friends.	I have been aware that not all of us have participated according to our possibilities, and I have done nothing to remedy this.

5.2 Teacher and DU evaluation

How the teacher and the DU will be evaluated.

We consider it essential for the application of this DU in the future to develop an evaluation of the teaching practice and of the DU itself. Based on the publication of

the education inspector Nando Rosales (2014), we have chosen the indicators that are suitable for our teaching practice.

In this way we ensure that the evaluation is correct because it is an evaluation that has been checked and validated by the researcher.

According to the theory of Nando Rodríguez (2014), we can analyze the teaching practice and the DU using this rubric:

1. MOTIVATION ON THE PART OF THE TEACHER TOWARDS STUDENTS' LEARNING

INDICATORS	ASSESSMENT (0 - 5)	PROPOSALS FOR IMPROVEMENT
Students' initial motivation:		
1. I present a work plan at the beginning of each session, explaining its purpose.		
2. I comment on the importance of the topic for the learner's competences and training.		
Motivation during the process		
4. I maintain the interest of the learners by drawing on their experiences, using clear and adapted language...		
5. I give feedback on progress made as well as on difficulties encountered.		
6. I regularly relate content and activities to the interests and prior knowledge of my students.		

2. STRUCTURE AND COHESION IN THE TEACHING/LEARNING PROCESS

INDICATORS	ASSESSMENT (0 - 5)	PROPOSALS FOR IMPROVEMENT
Activities in the process		

	I design activities that ensure the acquisition of the planned didactic objectives and basic instrumental skills and techniques.		
	I propose a variety of activities to my students (introduction, motivation, development, synthesis, consolidation, recapitulation, extension, and evaluation).		
	I facilitate the acquisition of new contents through different methodologies (lectures, cooperative work, individual work).		
Classroom structure and organization			
	I distribute the time appropriately: short presentation time and the rest of the time for the activities that the students carry out in class.		
	I adopt different groupings depending on the time, the task to be carried out, the resources to be used, etc. I always check that the working atmosphere is appropriate.		
	I use a variety of didactic resources (audio-visual, computer, learning to learn techniques...), both for the presentation of the contents and for the practice of the students, favouring their autonomous use.		
Cohesion with the teaching/learning process			
	I check, in different ways, that the students have understood the task they have to do: asking questions, making them verbalise the process, ...		
	I provide learning strategies: how to ask for help, how to look for sources of information, steps to solve questions, problems, give encouragement and ensure everyone's participation		

3. MONITORING OF THE TEACHING/LEARNING PROCESS

INDICATORS	ASSESSMENT (0 - 5)	PROPOSALS FOR IMPROVEMENT
Monitoring of the teaching/learning process:		

<p>I frequently review and correct the contents, proposed activities - inside and outside the classroom - and the appropriateness of the times, groupings and materials used.</p>		
<p>I provide feedback to the student on the execution of tasks and how they can improve them, and I encourage self-assessment and co-assessment processes.</p>		
<p>Contextualisation of the process</p>		
<p>I consider the level of skills of the students, their learning pace, the possibilities of attention, the degree of motivation, etc., and depending on them, I adapt the different moments of the teaching-learning process (motivation, contents, activities...).</p>		
<p>I coordinate with other professionals (support teachers, TP, Audio linguist, Educational and Psycho-pedagogical Guidance Teams, Guidance Departments), to modify and/or adapt contents, activities, methodology, resources...</p>		
<p>I adapt the didactic material and resources to the characteristics and needs of the students, carrying out individualised work and different types of activities and exercises.</p>		
<p>I look for and encourage interactions between teacher and student.</p>		
<p>Students feel responsible for carrying out the activities.</p>		
<p>I plan group work to analyse interactions between learners.</p>		

4. EVALUATION OF THE DU

INDICATORS	ASSESSMENT (0 - 5)	PROPOSALS FOR IMPROVEMENT
Assessment Criteria		
The didactic unit has clearly established assessment criteria.		
Enough assessment criteria are used to address the assessment of the different competences in a balanced way.		
Assessment tools		
Systematic use is made of a variety of instruments to collect information (observation register, student portfolio, monitoring sheet, class diary, etc.).		
Students' activities are corrected and explained, giving guidelines for the improvement of their learning.		
Self-assessment and co-assessment strategies and procedures are used in groups to encourage student participation in assessment.		
Different assessment techniques are used depending on the diversity of the students, the different areas/subjects, the units, the contents...		
I use different assessment instruments (oral and/or written tests, portfolios, rubrics, direct observation...) to find out their academic performance.		
The evaluation results are used to improve didactic procedures in future applications of the UD.		
Types of assessment		
I carry out an initial assessment at the beginning of the course, in order to adjust the course syllabus to the students' previous knowledge.		
I consider other moments of initial evaluation: at the beginning of a topic, of a Didactic Unit...		

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