

REVOLUCIONANDO LA EDUCACIÓN: APRENDIZAJE PEDAGÓGICO ACTIVO

REVOLUTIONIZING EDUCATION: ACTIVE LEARNING

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Resumen

En este artículo damos respuesta a los desafíos a los que nos enfrentamos en la educación como la baja motivación, el fracaso escolar, el bajo rendimiento y el absentismo escolar. Nuestra propuesta a estas problemáticas radica en un enfoque que combina las diversas metodologías y áreas curriculares, en diferentes espacios, con el propósito fundamental de empoderar a nuestro alumnado. Esta metodología la hemos denominado "Aprendizaje Pedagógico

Activo" (APA) en el que se trabaja por zonas de descubrimiento pedagógico donde los estudiantes se involucran activamente en su propio proceso de adquisición competencial. Consideramos necesario brindarles un abanico de posibilidades adaptadas a sus características y necesidades desde un enfoque inclusivo y sustentado en los fundamentos del Diseño Universal de Aprendizaje, así como dotar de las herramientas necesarias para emprender un viaje de aprendizaje continuo teniendo de base la Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOMLOE) y teniendo en cuenta los Objetivos de Desarrollo Sostenible (ODS), concretamente el 4. Educación de calidad.

En esencia, nuestro objetivo es equipar al alumnado con las habilidades y el nivel competencial que no solo les sirvan en el aula, sino que también sean extrapolables a lo largo de sus vidas, preparándolos para enfrentar los retos del futuro con confianza y determinación.

La educación no debe ser vista como un objetivo en sí misma, sino como un instrumento o herramienta para alcanzar metas y logros más amplios en la vida de una persona, es decir, la escuela es un medio por y para el alumnado.

Palabras clave: *Metodologías innovadoras, aprendizaje pedagógico activo, fracaso escolar, bajo rendimiento, Aprendizaje Pedagógico Activo, zonas de descubrimiento pedagógico.*

Abstract

In this article, we address the challenges we face in education such as low motivation, school failure, poor performance, and school absenteeism. Our proposal to these issues lies in an approach that combines diverse methodologies and curriculum areas in different spaces, with the fundamental purpose of empowering our students. This methodology is called "Active Learning", in which we work through pedagogical discovery zones where students actively engage in their own process of competency acquisition. We consider it necessary to provide a range of possibilities adapted to their

characteristics and needs from an inclusive approach based on the principles of Universal Design for Learning. Additionally, we aim to provide the necessary tools for embarking on a journey of continuous learning, with the basis of the Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOMLOE), and considering the Sustainable Development Goals (SDGs), specifically, number 4. Quality education.

In essence, our goal is to equip students with skills and competencies that not only serve them in the classroom but are also transferable throughout their lives, preparing them to face future challenges with confidence and determination. Education should not be seen as an end but as an instrument or tool to achieve broader goals and accomplishments in a person's life. In other words, the school is a means for and by the students.

Keywords: *Innovative methodologies, active pedagogical learning, school failure, low performance, Active Learning, pedagogical discovery zones.*

1. EDUCATIONAL INNOVATION AND ITS IMPORTANCE IN THE 21ST CENTURY

Educational innovation has emerged as a central theme in the field of education, acquiring significant importance in the context of the 21st century. This transformation in education is characterized by the incorporation of advanced technologies, modern pedagogical approaches, and creative strategies to foster student learning (Johnson, 2019).

The 21st century has been characterized by dramatic changes in society and the economy, driven largely by technological advances, which have created an increasing demand for specific skills and competencies. Traditional education can no longer fully meet these demands, highlighting the need for innovation in education (Smith & Jones, 2020).

Translation to English: Globalization and the interconnection of cultures have driven the need for education that fosters adaptability and intercultural

understanding. In this sense, educational innovation allows the creation of learning environments that prepare children for the challenges of an increasingly diverse and ever-changing world (Brown, 2018).

Furthermore, research has shown that educational innovation can have a positive impact on student performance. In a recent study, it was found that the implementation of innovative teaching methods in schools significantly improved students' academic outcomes, as well as their motivation and engagement (García et al., 2021).

This evolution in education is crucial because, in the current era, it is recognized that each student is unique, with different learning paces and cognitive styles (Johnson, 2019). Therefore, personalizing and enhancing learning capacity in education is essential to meet their individual needs and prepare them for the future. Modern education focuses on developing essential skills for the 21st century, including critical thinking, problem-solving, effective communication, collaboration, and creativity (Smith & Jones, 2020). These skills are considered fundamental in a world where the ability to adapt and learn continuously is essential.

2. INNOVATIVE METHODOLOGIES

In the current context of education, innovative methodologies have gained a prominent place, playing a fundamental role in the transformation of the teaching and learning process. These methodologies represent a significant change in the way educators approach the transmission of competencies (know-how).

2.1. CONCEPT

Innovative methodologies refer to pedagogical approaches and strategies that seek to transform the way teaching and learning occur, embracing new methods, technologies, and approaches that promote active student

engagement and effective acquisition of competencies and skills (Smith & Johnson, 2021).

A distinctive feature of innovative methodologies is their focus on student-centered learning (Brown & Davis, 2018). This implies that educators design learning experiences that adapt to the needs and learning styles of students. Traditional teaching methods, which often follow a knowledge transmission approach, are being replaced by approaches that encourage students to be active participants in their own learning process.

New technologies, such as Information and Communication Technologies (ICT), Learning and Knowledge Technologies (LKT), and Empowerment and Participation Technologies (EPT), play a fundamental role in innovative education methodologies. The integration of technological tools allows the creation of more interactive and personalized learning experiences (Clark & Roberts, 2020).

2.2. THE IMPORTANCE OF INNOVATIVE METHODOLOGIES IN A LOMLOE CONTEXT

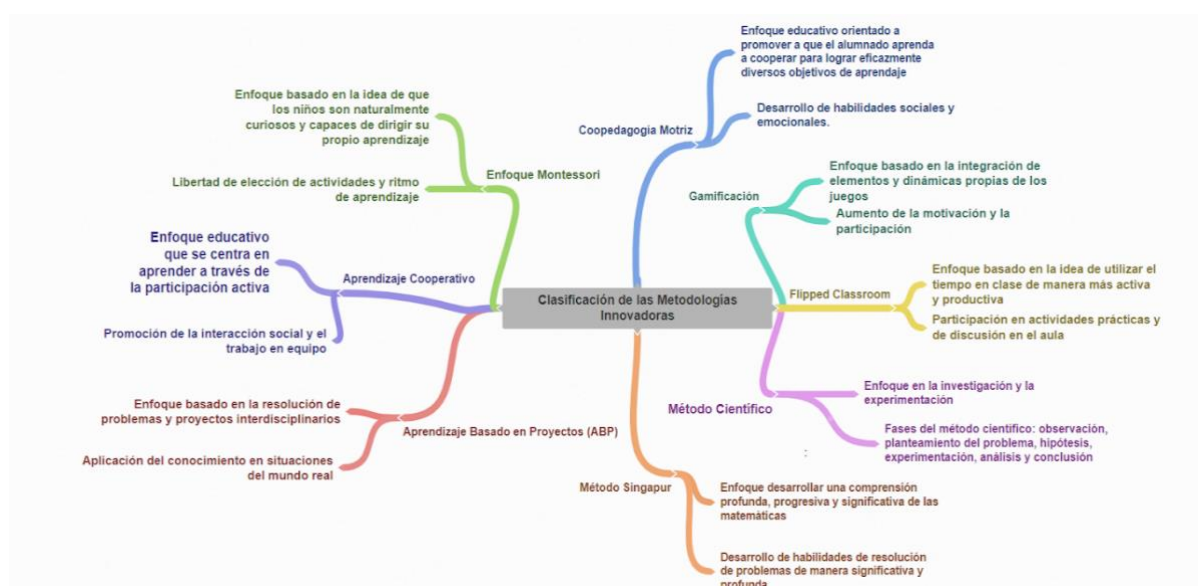
The LOMLOE (*Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación*) has introduced significant reforms, and one of its highlighted aspects is the promotion of innovative methodologies, which has had a notable impact on Spanish education (López, 2021). This new law recognizes that a student-centered approach and the adoption of innovative methodologies are essential elements for improving the quality of education (Sánchez, 2020). Additionally, it is important to consider that the inherent flexibility of these methodologies allows adaptation to individual needs, ensuring that everyone has equal opportunities, aligning with two fundamental values of the LOMLOE: inclusion and equity, aimed at reducing educational inequalities (Martínez, 2021).

The interconnection of education with the environment and the community is another relevant aspect introduced by this law. Innovative methodologies, such as project-based learning and collaboration, enrich the educational experience and foster active citizenship (Gómez, 2019).

2.3. CLASSIFICATION OF INNOVATIVE METHODOLOGIES

Innovative methodologies can be classified into several categories ranging from pedagogical approach to the use of educational technology. Figure 1 depicts a variety of innovative methodologies that can be adapted to different educational contexts. The choice of a specific methodology will depend on the needs of the learner in a particular environment.

Figure 1. Classification of innovative methodologies.



Source: own elaboration (2023)

3. INNOVATIVE DESIGN: Active Learning

The integration of innovative methodologies in LOMLOE is translated into an innovative approach called "Active Learning" in which we work by pedagogical discovery zones. Each zone is associated with an area of the Primary Education curriculum and in turn is linked to an innovative methodology, making it a unique space for exploration and knowledge acquisition. The approach used is crucial

because it revitalizes the educational process, motivating students, improving their performance and preparing them for continuous and applicable learning in a constantly evolving society. The following reflects the division of spaces and areas:

- In the Spanish Language and Literature area, the Project-Based Learning (PBL) methodology will be employed, challenging students to immerse themselves in literature and communication through creative projects.
- Mathematics will find its place in the Singapore Method, where mathematical concepts are formed based on three principles: concrete, pictorial, and abstract.
- In the Environmental Knowledge area, the scientific method will be adopted, encouraging all its stages: observation, problem formulation, hypothesis, experimentation, analysis, and conclusion, along with Cooperative Learning to promote collaboration and achieve a common challenge.
- In the Physical Education area, it will be transformed into a playground and movement space through the motor coopedagogy approach.
- Gamification will be implemented in the Educational Attention field through interactive technological experiences, integrating game elements to enhance participation and learning.
- The Montessori approach will be reflected in the Art Education area, fostering creativity and self-discipline.
- Finally, the Flipped Classroom methodology will transform Foreign Language teaching by reversing the learning process and promoting active communication.

This strategy not only diversifies the teaching and learning process but also addresses the specific needs of students for a constantly changing future.

On the one hand, it is crucial to highlight that students are the protagonists of their learning, and the teacher serves as a guide, enriching the experience for

both. In addition to promoting participation, interdisciplinary work is encouraged in heterogeneous, flexible, and changing groups.

On the other hand, in this approach, each curriculum area is supported by an innovative methodology backed by an author (Table 1). Each of these methodologies aligns with a general objective (reflected in each methodology in point 3) and the didactic objectives (marked in LOMLOE) that are closely linked to fundamental knowledge. To measure progress and learning, specific assessment tools are employed for each designed activity, which are linked to evaluation criteria, key and specific competencies. Competency-based assessment will be used; therefore, specific competencies will be identified and distributed (each teacher must choose those deemed appropriate for evaluation).

This methodological proposal is designed to be applied across all levels of primary education. In this article, no distinction is made between specific levels; therefore, the guidance is generic and does not target a particular grade. Each interested teacher looking to implement this methodology must link specific competencies, adjust criteria, and select knowledge in accordance with the needs and characteristics of their student group.

The pedagogical discovery zones, adapted to each subject area, are rotational, meaning that students have the opportunity to experience all methodologies. Additionally, a personal record (Table 1) is maintained for each student's progress, allowing for a more effective and personalized tracking of their educational development.

Table 1. Teaching staff record

ZONA/ÁREA DE DESCUBRIMIENTO	METODOLOGÍA	NOMBRE	FECHA DE LA SESIÓN	ADAPTACIONES REALIZADAS	CONTEXTO Y DETALLES RELEVANTES	DESCRIPCIÓN DE LA SESIÓN	LOGROS Y PARTICIPACIÓN DE ESTUDIANTES	OBSERVACIONES DEL DOCENTE	EVALUACIÓN
Lengua Castellana y Literatura	ABP	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Matemáticas	Método Singapur	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Ciencias Sociales	Aprendizaje cooperativo	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Ciencias de la Naturaleza	Método científico	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Educación física	Coopedagogía matriz	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Atención Educativa	Gamificación	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Educación Artística	Montessori	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores
Lengua extranjera	Flipped Classroom	Alumno 1	Fecha 1	Tipo de adaptación	Detalles del entorno o recursos utilizados	Narrativa detallada de la actividad	Logros específicos,	Reflexiones sobre el proceso	Evaluación descriptores

Source: own elaboration (2023).

3.1 AREAS AND METHODOLOGIES

Education is a fundamental pillar in the formation of individuals and society. We have explored various innovative methodologies in the field of education, as well as the principles, methodology, and objectives of each. From Project-Based Learning and Flipped Classroom to the Scientific Method and the Montessori Method, each educational approach has been examined in detail, highlighting how it focuses on the learning experience and the holistic development of students.

Additionally, we have delved into the importance of assessment in these contexts, providing specific examples of assessment tools that can be applied to measure success and achievement of goals in each methodology.

We also addressed the fundamental purpose of education, emphasizing how it aims to promote personal development, preparation for life, active citizenship, and social change.

Next, in Table 2, an interdisciplinary relationship is reflected for each subject area associated with an innovative methodology, aiming to offer a more detailed insight into these approaches.

Table 2. Interdisciplinary relationship of innovative design

Area	Methodology	Principles	Author	Activities	Evaluation instruments
Spanish Language and Literature	Project Based Learning (PBL)	Interdisciplinary, collaborative, real context, autonomy.	John Dewey	Theater, picture book, exhibition, awareness campaign.	Systematic observation
Mathematics	Singapore Method	Problem solving, visualization, comprehension, collaboration and verbalization.	Jerome Bruner	Fractions with manipulatives, geometry with constructions, sorting and seriation activities.	Checklist
Natural Sciences	Scientific Method	Observation, investigation, comparison, experimentation, analysis and reflection.	Leonardo da Vinci and Galileo Galilei	Experiments, identification, research, field study.	Field notebook
Social Sciences	Cooperative learning	Positive interdependence, individual and group responsibility, interaction and social skills.	David W. Johnson and Roger T. Johnson	Exploration/presentation, debate, simulation, timelines and interviews.	Oral presentation
Physical Education	Motor Coopedagogy	Cooperation, organization, teamwork, mutual help.	Carlos Velazquez	Interviews.	Anecdotal record
Special Education	Gamification	Motivation, rewards, challenges and narrative.	Nick Pelling	Cooperative obstacle course, motor skills stations and spatial orientation.	Questionnaire
Art Education	Montessori	Multisensory, holistic, self-directed, problem solving and critical thinking skills.	Maria Montessori	Rewards, educational apps and mission board.	Field notebook

Foreign Language	Flipped Classroom	Active learning, personalization, digital resources and feedback.	Jonathan Bergmann y Aaron Sams	Artwork, art techniques, artists and styles, exhibition and slogan.	Presentation
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Source: own elaboration (2023).

3.2. PROJECT-BASED LEARNING: Spanish Language and Literature

Project-based learning is built on the idea that students learn best when they are involved in authentic and meaningful projects. Educator Dewey (1916) played a pivotal role in the development of this methodology, which emphasizes the application of knowledge in real-world situations.

General objective: foster an understanding and love of literature and the Spanish language through creative projects that allow students to apply literary concepts in the creation of original content.

Methodology: Project Based Learning is an educational methodology that focuses on learning through project-based learning that promotes deep and meaningful learning by engaging students in the active application of their knowledge and skills in authentic situations. PBL is based on the idea that students learn best when they are involved in solving real problems and creating authentic projects. The process involved is as follows:

- **Project Selection:** Students choose a project based on their concerns and interests. The project should be meaningful, challenging and relevant to their life.
- **Research:** Students research and gather information about the project topic. This may include finding resources, interviews, readings, and experimentation.
- **Planning:** Students design a detailed plan that includes objectives, tasks, timelines, and resources needed to carry out the project.
- **Execution:** Students work in teams to carry out the project. This involves the application of knowledge, problem solving and decision making.
- **Presentation:** Students present the results of their project to their peers, teachers or even the community. This presentation may take the form of reports, oral presentations, exhibits or even online publications.

Activities: as an example, we will propose activities related to literary education.

Activity 1: "Literary Explorers": Students choose a literary education theme. The teacher creates small groups and assigns each group a literary genre (short story, poetry, fable, etc.). Students explore books of the assigned genre and share the main characteristics within their group. Each group presents their genre to the class through a brief dramatization, summary, or visual representation.

Activity 2: "Literary Treasure Hunt": Groups are formed (3-4 people), and each group is provided with a list of literary elements (characters, places, events, etc.). Students read different texts and search for the elements on their list. Each group presents their findings to the class, highlighting how those elements contribute to the plot and meaning of the text.

Activity 3: "Interview with literary characters": Each student selects a literary character from a story read in class. They form pairs and conduct interviews, representing the character. Then, the pairs share their interviews with the class, demonstrating a deep understanding of the characters.

Activity 4: "Creation of a giant book": Students form groups, and each group is assigned a common theme or story. Each student contributes a page to the group's "giant book." Afterwards, groups present their giant books to the class, emphasizing the coherence of the story and individual creativity.

3.3. SINGAPUR METHOD: Mathematics

The uniqueness of the Singapore Method lies in its learning process structured in three phases: concrete, visual and abstract. Beginning with the manipulation of tangible objects for conceptual understanding, the method progresses to visual representation through the use of bars and finally arrives at abstract translation, ensuring that students internalize the concepts before tackling algorithms and procedures. This approach seeks not only to teach "how" to perform calculations, but, more crucially, "why" these calculations work.

General objective: To develop a deep and conceptual understanding of mathematical concepts, promoting logical reasoning, problem solving and the flexible use of mathematical strategies.

Methodology: Comprises three phases: 1. Concrete phase: initiate teaching through tangible and manipulative experiences and use physical objects, such as cubes or dice, to introduce mathematical concepts in a practical and tangible way. Visual phase: facilitate the transition to visual representation by modeling problems using the bar method. Abstract phase: move towards abstract translation, where students identify and apply mathematical operations, as well as ensure that conceptual understanding precedes learning algorithms, allowing students to understand the "why" before the "how".

Activities: As an example, we have designed an activity with fractions, geometry and seriation associated to home phase.

Activity 1: "Fractions with Manipulatives" (concrete phase): Manipulative blocks are distributed to each student, and they are asked to divide a cardboard into equal parts using the blocks. They have to explore simple fractions, such as $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$, visually representing them with the blocks. The teacher will guide the group towards reflective questions: How would you represent the fraction $\frac{2}{3}$ with the blocks? What happens when you add $\frac{1}{4}$ and $\frac{1}{3}$?

Activity 2: "Geometry with constructions" (visual phase): Students are asked to construct triangles, squares, and rectangles using toothpicks and clay. Then, they have to draw their constructions on paper, identifying geometric properties. The teacher will guide the group towards reflective questions: What similarities and differences do you find between the constructions? How does the shape change if you add or remove toothpicks?

Activity 3: "Seriation and classification" (concrete phase): The teacher provides blocks to each student and presents category cards. Students are asked to classify and arrange the blocks according to the proposed categories. The teacher will guide the group towards reflective questions: How did you decide to

classify the blocks? Could you create a new category and classify the blocks according to that category?

3.4. SCIENTIFIC METHOD: Natural sciences

The scientific method is a systematic approach to research and problem solving that has developed throughout the history of science. Its origin is attributed to various thinkers, but Bacon (1620) and Descartes (1637) are key figures in the formulation of its principles.

General objective: Promoting curiosity, observation and scientific research through activities that follow the scientific method to understand and analyze the natural world around them.

Methodology: It is a systematic process used in scientific research. It is based on observation, hypothesis formulation, experimentation, and data collection to reach conclusions. The Scientific Method is crucial in scientific research and in seeking answers to questions about the natural world. It provides a structured framework for acquiring evidence-based knowledge and solving scientific problems. The steps of the Scientific Method are as follows:

- Observation:** It begins with the observation of a phenomenon or problem in the real world. This can be anything from a natural event to a scientific question.
- **Hypothesis formulation:** An educated explanation or assumption is proposed for the observed phenomenon. The hypothesis is a statement that can be tested.
- **Experimentation:** Experiments or investigations are designed and conducted to collect data. This involves manipulating variables and observing the resulting effects. Experiments should be controlled and reproducible.
- **Data collection:** The results of the experiment are recorded and analyzed. Data can be qualitative or quantitative and are used to assess whether the hypothesis is consistent with the evidence.

- Interpretation of results: Data is evaluated, and it is determined whether they support or refute the hypothesis. Based on the results, adjustments to the hypothesis may be made.

- Formulation of conclusions: Conclusions are drawn based on the collected evidence. If the hypothesis is supported by the data, it is considered valid. If not, the hypothesis may be reformulated or new questions may be raised.

- Communication of results: Findings are communicated through scientific reports, articles, or presentations. This allows other scientists to review and replicate the study.

Activities: As an example, we have developed an activity focused on plants (the topic has to come from the students).

Activity 1: "Observation and question formulation": Provide each student with a small plant or seed. Ask students to observe the plant and note all the characteristics they can observe. Then, in groups, have them discuss and generate questions about plant growth, needs, and behavior.

Activity 2: "Experimentation and hypothesis": Each group poses a specific question related to plants (e.g., "How does the amount of light affect plant growth?"). They then design an experiment to test their question, considering controlled variables and independent variables. They carry out the experiment and record the results.

Activity 3: "Data collection and analysis": Groups share their data with the class. Together, they create graphs, tables, or visual representations of their results. Students, guided by the teacher, facilitate a discussion about observed patterns and any discrepancies among the groups.

Activity 4: "Conclusion and results communication": Each group presents their findings to the class, highlighting the research question, hypothesis, experimental method, and results. After each presentation, there is time for questions and discussions among the groups.

Activity 5: "Reflection and design of next steps": Groups reflect on what they have learned and discuss possible limitations of their experiments. Additional questions are raised, and ideas for future investigations are proposed. The class collaborates to identify possible directions for future research projects related to plants.

3.5. COOPERATIVE LEARNING: Social Sciences

Cooperative learning is based on the theory of positive interdependence, developed by Lewin (1948). In addition, David W. Johnson and Roger T. Johnson (1994) are recognized for their research and promotion of cooperative learning in educational environments.

General objective: Foster collaboration, effective communication, and critical thinking in addressing social science topics (history, geography and society) through group activities.

Methodology: Is an educational methodology that is based on collaboration and interaction among students to achieve common learning objectives where it promotes individual work, teamwork, and shared responsibility. Cooperative learning is a methodology that not only improves students' academic performance, but also provides them with valuable skills for their personal and professional development. The steps in the implementation of cooperative learning are:

-Group formation: Students are organized in small groups: first in pairs and then in groups of 4. Groups can be assigned by the teacher or by the students themselves.

-Task structure: A task or project is provided that requires group collaboration. The task is designed so that each member has a specific role and is necessary for the success of the group.

-Instruction and supervision: The teacher provides guidance and support during the group work process, ensuring that the principles of cooperative learning are met.

-Evaluation: Both individual and group performance is evaluated, incorporating self-evaluation as a key component. Evaluation can be based on the quality of the group's work, the participation of each member, and individual reflection on one's own performance.

Activities: as an example, activities are designed with historical time as a theme of interest.

Activity 1: "Interactive timeline": The teacher provides each group with a series of cards featuring historical events (discovery of America, invention of the printing press, etc.). Students must work together to organize the cards into a giant timeline on the wall. Afterwards, they can discuss and explain the events to the class, highlighting their understanding of historical time.

Activity 2: "Interview with historical figures": Each student is assigned a historical figure (e.g., an explorer, a scientist, a political leader). Students research and prepare questions about the life and contributions of their historical figure. Finally, they conduct simulated interviews in pairs, with each student acting as their historical character.

Activity 3: Creation of a "Time Museum": Each group selects a historical era and creates a "museum" with objects or images representative of that period. Students can explain their exhibits to their peers, highlighting key aspects of life during that time.

Activity 4: "Representation of eras through drawings": Students choose different historical periods and create drawings representing the clothing, architecture, and daily life of that era. They then organize their drawings into a visual presentation that they share with the class, explaining the characteristics of each period.

Activity 5: "Historical role-playing": Each group is given a specific historical scenario (a battle, a political decision). Students act accordingly, making decisions as if they were in that era. In the end, they reflect on the implications and consequences of their actions.

3.6. MOTOR COOPEDAGOGY: Physical Education

Coopedagogy focuses on encouraging students to acquire collaborative skills and take advantage of the opportunities offered by cooperation to effectively achieve various learning objectives. As indicated by Velázquez (2014), it seeks to generate people who are competent to cooperate to achieve their own goals in life and to help others achieve theirs.

General objective: Fostering the development of basic motor skills and cooperation among students through playful activities and cooperative games.

Methodology: to put this approach into practice, it must be considered:

- Motor skills stations: Organize activity stations focusing on the development of basic motor skills such as running, jumping, throwing, and catching. Students will rotate through the stations to practice and refine these skills.
- Cooperative games: Introduce cooperative games that promote collaboration and teamwork. For example, games where students must overcome challenges together, fostering communication and mutual assistance.
- Obstacle courses: Design obstacle courses that involve various physical activities, encouraging the practical application of learned motor skills.
- Cooperative learning in teams: Organize activities where students work in small teams to achieve common goals. This will strengthen cooperation, joint decision-making, and shared responsibility.
- Reflection and discussion: At the end of the class, conduct a brief reflection session where students share their experiences, what they have learned, and how they have collaborated with each other. This will encourage group awareness and personal development.

Activities: as an example, the following activities can be carried out:

Activity 1: "Cooperative obstacle race": The teacher organizes an obstacle course where students must work in pairs or small groups. Each team member completes a section of the course before passing the baton to the next.

Activity 2: "Ball game with common objectives": The class is divided into teams, and a common objective is set: passing the ball through hoops and scoring points in a designated area.

Activity 3: "Motor skills stations": Activity stations are created focusing on the development of motor skills such as balance, coordination, and agility. Students rotate through the stations, practicing and improving these skills through games and challenges.

Activity 4: "Spatial orientation games": The teacher designs games that require spatial orientation, such as "Human Compass," where students follow cardinal directions, or "Living Map," where they move following a map drawn on the floor.

3.6. GAMIFICATION: Special Education

Gamification involves the incorporation of typical game elements such as scores, rewards, competition, and challenges to motivate people to participate in an active and engaging way. In the educational context, gamification is used to improve student engagement, knowledge retention and the achievement of learning objectives (García, 2019).

General objective: improving students' concentration, attention and motivation by making the learning process an engaging and immersive experience through the application of game elements.

Methodology: is an educational methodology that incorporates game elements and mechanics in non-game contexts, such as education, to increase student motivation and engagement. Through the application of game elements, such as points, rewards, challenges and competitions, the learning process is made more attractive and fun (Smith & Johnson, 2020).

The implementation of gamification considers the following steps: -Goal definition: educators identify the learning objectives they wish to achieve through gamification.

-Mechanics design: Appropriate game mechanics are selected and designed to achieve those objectives, such as points, rewards, and challenges

-Content creation: Educational content is developed and integrated into the gamified environment, such as quizzes, activities and projects.

-Feedback and evaluation: Continuous feedback is provided and learners' progress is evaluated.

-Content creation: Educational content is developed and integrated into the gamified environment, such as quizzes, activities and projects. Feedback and assessment: continuous feedback is provided and learners' progress is evaluated as they participate in the gamified activities.

Activities: as an example, activities are designed to focus on positive values and good deeds.

Activity 1: "Values board game": Create a game board with squares representing different situations related to values (helping a friend, sharing, being kind, etc.). Each square has a task or question related to the represented value. Students move around the board based on the result of a die. When they land on a square, they must respond to the task or question related to the value. They earn points for each correct answer, promoting participation and reflection on values.

Activity 2: "Values race": Identify various specific values (respect, responsibility, empathy, etc.). Create cards with situations where students can demonstrate those values. Students, divided into teams, compete in a "values race." They must perform good actions related to the selected values and record them. In the end, the quality and quantity of actions are evaluated, rewarding the team with the most significant contributions.

Activity 3: "Treasure of values": Create cards with situations representing good actions and values. Hide these cards in different places around the classroom.

Students, divided into teams, participate in a treasure hunt. When they find a card, they must perform the described action. The goal is to complete the most good actions to unlock the "treasure" at the end of the game.

Activity 4: "Values adventure" (digital role-playing game): Create a series of virtual situations presenting ethical dilemmas and challenges related to values. Then, use educational platforms or interactive apps to implement the game. Students engage in a virtual adventure where they make decisions based on values. Each choice affects the story and game development. In the end, there is a reflection on the decisions made and the application of values in various situations.

3.7. MONTESSORI: Art Education

The Montessori method was developed by Montessori in the early 20th century. It is based on the idea that children are naturally curious and capable of learning autonomously by providing them with a prepared environment and appropriate materials (Montessori, 2003).

General objective: foster creativity, self-expression and appreciation of art in students, allowing them to work autonomously with a variety of art materials and techniques.

Methodology: is an educational approach developed by Italian physician and educator Maria Montessori in the early 20th century. This methodology focuses on respect for the individuality of the child and his or her innate ability to learn through exploration and experimentation. This methodology is characterized by its focus on self-directed learning, respect for each child's individuality and the creation of prepared environments that encourage exploration and independence. This methodology consists of creating spaces that aim to achieve the joy of an aesthetic, warm and attractive environment for children. That is to say, a space designed and thought to the measure of the little ones that allows them to dominate it in a relaxed way. (Montessori, 1913).

Activities: as an example, activities are designed to focus on primary/secondary colors and shapes.

Activity 1: "Sensory exploration of colors": Invite children to explore paint in a tactile and sensory way. Place dots of tempera paint on plates and allow children to mix primary colors to create secondary colors. Encourage students to experiment with different shapes and patterns in their creations.

Activity 2: "Building shapes with natural materials": Children gather natural materials and organize them according to shapes and colors. They can paint or mark shapes and colors on the collected pieces. Then, they create artistic compositions using the materials and cardboards.

Activity 3: "Color and shape sorting": Children sort and match color and shape cards according to their own categories. They can work individually or in small groups, creating a mural or sorting chart.

Activity 4: "Creation of shape and color mosaics": Children cut geometric shapes from construction paper. They create mosaics and patterns in their works, experimenting with different combinations of colors and shapes. They can glue the pieces onto cardboard to display their creation.

Activity 5: "Shapes and colors shadow theater": Children cut geometric shapes out of black cardboard and glue them onto wooden sticks. They use lamps to project shadows on a screen or wall. They experiment with the position and movement of the shapes to create visual stories.

3.8. FLIPPED CLASSROOM: Foreign Language

The Flipped Classroom approach is attributed to Bergmann and Sams (2012), who recorded their lessons and assigned them as homework to watch at home, freeing up time in class for hands-on activities and discussion.

General objective: maximize class time for active foreign language practice and communicative interaction by allowing students to become familiar

with content and language structures prior to class, which facilitates more effective classroom learning.

Methodology: The Flipped Classroom, or Inverted Classroom, is an educational methodology that reverses the traditional teaching dynamic in the classroom. Instead of students receiving lessons in the classroom and then doing homework at home, the Flipped Classroom does the opposite: students review the content at home and use class time for practical and collaborative activities. The key steps of the Flipped Classroom are:

- Creation of digital content: Teachers create online learning resources such as videos, readings, or presentations that students review before class. These resources typically explain fundamental concepts.
- Individual review at home: Students review the material at home at their own pace. They can pause, rewind, and review the content as needed.
- Practical activities in class: Class time is used for interactive and practical activities that reinforce and apply the concepts learned. This may include discussions, debates, problem-solving, experiments, group projects, and collaboration.
- Educator guidance: The teacher acts as a guide and facilitator rather than a lecturer. They assist students in understanding and applying the content, provide feedback, and address questions.

Activities: as an example, the family and numbers are worked on.

Activity 1: "Family video" (family): Prepare a short video with images and sounds representing family members (parents, siblings, grandparents, etc.). Include subtitles with corresponding English words. Students watch the video as homework. In class, discuss family relationships and practice pronunciation and vocabulary using the images and subtitles.

Activity 2: "Numbers in the family" (numbers): Create a presentation with images of families and numbers related to each member (e.g., "two brothers," "three

sisters," etc.). Students review the material at home to learn numbers in a family context. In class, engage in practical activities, such as counting family members.

Activity 3: "Numeric songs" (numbers): Find an English song that includes numbers and is easy to remember. Students listen to the song at home and learn the lyrics. In class, sing the song together and then engage in activities related to the numbers mentioned in the song.

Activity 4: "Family interviews" (family and numbers): Provide each student with a list of questions related to family and numbers. Students interview their peers using the provided questions, practicing responding in complete sentences using the vocabulary learned.

Activity 5: "Creation of a digital family album" (family and numbers): Students create a digital album on platforms like Canva. Each slide represents a family member with a brief description and the number of members. Students present their digital albums in class, practicing pronunciation and sharing information about their families and associated numbers.

4. EVALUATION

The evaluation allows measuring and assessing the level of knowledge, skills and competencies acquired by the students. Assessment is not limited to final grades; formative assessment provides continuous feedback to guide the teaching and learning process. Teachers can adapt their teaching in real time based on the results of formative assessments.

To evaluate the methodological approach called Active Learning, competency-based assessment will be used, as it is an effective way to measure not only the knowledge acquired, but also the skills and abilities that students have developed throughout the project. In order to carry out this evaluation, the following is required:

Step 1: Identify specific competencies. Before starting the assessment, specific competencies to be evaluated in the project, already outlined by the curriculum, will be identified and distributed.

Step 2: Establish evaluation criteria. Clear evaluation criteria will be defined for each specific competency, and each of them will be linked to the basic knowledge of the subject area.

Step 3: Design assessment tasks. Assessment tasks will enable students to demonstrate their competencies and will align with the evaluation criteria.

Step 4: Assess during and after the project. Competency assessment will not be limited to the final phase of the project; student progress will be assessed throughout the project.

Step 5: Use rubrics. Rubrics will be essential for consistently and objectively evaluating competencies. They provide a structure for assessment and help students understand expectations and evaluation criteria.

Step 6: Provide constructive feedback. Constructive feedback on competencies will be provided to students, highlighting strengths and areas for improvement, along with specific suggestions for development.

Step 7: Reflection and self-evaluation. Self-evaluations will be conducted for students to reflect on their competency development throughout the project.

Step 8: Final evaluation and feedback. A final evaluation covering all identified competencies will be conducted, providing final feedback and an opportunity for students to reflect on their growth.

Step 9: Documentation and records. Records of competency assessments and documentation of student progress throughout the project will be essential for assessment consideration.

Step 10: Communication with students. Assessment results of competencies will be communicated to students clearly and constructively. Students will be encouraged to use this feedback for their ongoing development.

4.1. EVALUATION INSTRUMENTS: Students, families, and teachers

Evaluation instruments are specific tools used to measure and evaluate the teaching-learning process in the context of educational methodologies and activities. The following are some common instruments that can be used to evaluate the whole process considering all educational agents:

-Evaluation rubrics: used to evaluate projects, presentations, essays or other activities based on specific criteria.

-Portfolios: To assess student progress and growth over a period of time.

-Self-assessment and co-assessment: Students can self-assess, which means they reflect on their own learning. They can also engage in co-assessment, where they evaluate the work of their peers.

-Evaluation interviews and conferences: Teachers can hold individual interviews with students to discuss their progress, goals and challenges. This allows for a more personalized assessment and identification of areas for improvement.

-Classroom observation: Teachers can observe student behavior and performance in the classroom to assess their participation, interaction, and use of learning strategies.

-Surveys and questionnaires: Can be used to collect opinions and comments from students about the teaching-learning process.

-Exhibitions, blog and forums: Exhibitions allow the presentation of projects and research, blogs encourage critical and reflective writing, forums promote the exchange of ideas.

-Evaluation of group projects and assignments: Evaluation tools can be used to assess both final products and individual collaboration and contribution.

Choosing evaluation instruments depends on the learning objectives, the type of activity and the methodology used. It is important to use a variety of

instruments to comprehensively evaluate the teaching-learning process and provide meaningful feedback to the entire educational community.

Table 3 below shows the distribution of evaluation instruments according to each educational agent.

Table 3. Purpose of each evaluation instrument according to the educational agent.

EVALUATION TOOLS	STUDENTS	TEACHER	FAMILIES
Evaluation rubrics	Select and reflect on the pieces included in their portfolio, evaluating themselves.	Analyze their own planning, teaching and evaluation.	Contribute to assessment through specific rubrics, providing feedback on home support.
Portfolio	Self-assess their contributions to group projects, participation in interviews, and performance in various activities. When participating in group projects, students can evaluate the contributions of their peers using specific rubrics.	Select and reflect on the evidence they include in their portfolio, evaluating themselves.	Add evidence of their child's participation in home activities to the portfolio, allowing for an assessment of the learning environment outside the classroom.
Self and co-evaluation	Reflect on their goals and challenges prior to interviews, contributing to the discussion.	Self-assess their own effectiveness in planning and facilitating group projects and activities.	Self-assess in terms of their participation in home learning activities and co-assess their children's progress.
Interviews and conferences	Provide feedback on their learning experience and their perception of the educational process.	Think about their pedagogical approaches and strategies prior to interviews.	Exchange views and select information that is of interest.
Surveys and questionnaires	Analyze the effectiveness of their presentations, the quality of their contributions to blogs and forums.	Solicit feedback from students and parents about their teaching and areas for improvement.	Contribute to educational improvement and information exchange feedback.
Exhibitions, blog and forums	Evaluate their own contribution to the group project and the quality of their individual work.	Reflect on the effectiveness of your presentations, the quality of your contributions to blogs and forums.	Enjoy the process and give an objective opinion of each methodology and its impact.
Project-based assessment	Think about their own behavior and participation in the classroom.	Evaluate their own planning and facilitation of group projects.	Observe the development and the final product.
Systematic observation		Reason about their classroom performance and areas for improvement identified during	Reflect on how you work, organize yourself and your child's time dedicated to schoolwork.

		observations.	
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Source: own elaboration (2023).

5. CONCLUSION

En summary, the importance of innovative methodologies in education is undeniable in the 21st century. Approaches such as the Singapore Math Method, Project-Based Learning (PBL), the scientific method, cooperative learning, motor coopedagogy, Gamification, the Montessori approach, and the Flipped Classroom offer a fresh and effective approach to teaching and learning.

These methodologies prioritize deep understanding, the practical application of concepts, and meaningful learning. By considering individual differences among students, they promote adaptability, autonomy, collaboration, and the development of essential 21st-century skills, including critical thinking, problem-solving, effective communication, and creativity.

Active Learning is valuable for its ability to engage and motivate students, thereby enhancing their academic performance and engagement with learning. Furthermore, implementing this methodology can have a positive impact on education, preparing students to face the challenges of an ever-changing world. It provides a dynamic and effective approach to education, moving away from mere information transmission toward an active, collaborative, and meaningful learning process. All of this is crucial for preparing students for an uncertain and constantly changing future, where adaptability and critical thinking are essential. Its implementation requires a continuous commitment to improving teaching and learning, benefiting students, families, and educators, and strengthening the entire educational system.

The foundational pillars of education, such as innovation, adaptability, personalization, and continuous improvement, are reinforced through the implementation of these innovative methodologies. Education aims not only to transmit knowledge but also to cultivate skills that enable children to thrive in a diverse and evolving environment.

6. REFERENCES

- Álvarez, M. (2020). El aula invertida como estrategia pedagógica. *Revista de Educación y Tecnología*, 17(1), 45-60.
- Bacon, F. (1620). *Novum Organum*. Harvard University Press.
- Bergmann, J., & Sams, A. (2012). *Flip Your Classroom: Reach Every Student in Every Class Every Day*. International Society for Technology in Education.
- Brown, A. (2018). Innovations in education for the 21st century. *Journal of Educational Innovation*, 42(3), 365-382.
- Brown, A., & Davis, J. (2018). Student-centered learning in the digital age. *Educational Technology*, 43(3), 45-61.
- Clark, M., & Roberts, L. (2020). Integrating technology in innovative pedagogical approaches. *Journal of Educational Technology*, 52(1), 78-94.
- Descartes, R. (1637). *Discourse on the Method*. Oxford University Press.
- Dewey, J. (1916). *Democracy and Education*. Macmillan.
- Fernández, A. (2017). Aprendizaje basado en números: una guía para educadores. *Ediciones Educativas*, 32(2), 89-105.
- García, R. (2019). Gamificación en educación: teoría y práctica. *Editorial Educativa*, 48(4), 78-93.
- García, M., López, S., & Martínez, P. (2021). The impact of innovative teaching methods on student performance. *Educational Research Quarterly*, 48(2), 215-230.

- Gómez, A. (2019). Aprendizaje basado en proyectos y su contribución a la formación ciudadana. *Revista de Educación*, 41(2), 67-82.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1994). *Cooperative Learning in the Classroom*. Interaction Book.
- Johnson, P., & López, S. (2018). Aprendizaje cooperativo y sus beneficios en el aula. *Revista de Innovación Educativa*, 22(3), 56-71.
- Johnson, R. (2019). Educational innovation and its significance in the 21st century. *Educational Review*, 35(1), 15-30.
- Johnson, R., & White, L. (2019). Formative assessment and feedback in student-centered learning. *Journal of Educational Assessment*, 36(2), 120-136.
- Lewin, K. (1948). *Resolving social conflicts: Selected papers on group dynamics*. Harper & Row.
- López, M. (2021). La LOMLOE y su impacto en la innovación educativa. *Revista de Educación y Tecnología*, 15(3), 45-62.
- Martínez, J. (2021). Aprendizaje basado en proyectos: un enfoque innovador. *Revista de Educación Avanzada*, 40(1), 34-49.
- Martínez, J. (2021). Metodologías activas y personalización del aprendizaje en la LOMLOE. *Educación y Sociedad*, 36(2), 78-92.
- Montessori, M. (1913). *Antropología Pedagógica*. Barcelona: Araluce
- Montessori, M. (2003). *El método de la pedagogía científica aplicado a la educación de la infancia*. Madrid: Biblioteca Nueva
- Piaget, J. (1962). *Play, Dreams, and Imitation in Childhood*. Norton.

- Sánchez, P. (2020). La LOMLOE y la promoción de la inclusión en el sistema educativo. *Revista de Política Educativa*, 25(1), 34-49.
- Smith, J. A., & Johnson, L. R. (2020). Gamificación en la educación: estrategias efectivas para la motivación de los estudiantes. *Revista de Innovación Educativa*, 15(3), 123-137.
- Smith, J., & Jones, K. (2020). Adapting education for the 21st century: The role of innovation. *Educational Leadership*, 55(4), 43-58.
- Smith, P., & Johnson, R. (2021). Innovative pedagogical approaches in modern education. *Educational Review*, 49(4), 380-395.
- Velazquez, C. (2015). Coopedagogía. El enfoque de la pedagogía de la cooperación en educación física. *La peonza: Revista de Educación física para la paz*, 10,3-22
- Vygotsky, L. S. (1976). Play and its role in the mental development of the child. *Soviet Psychology*, 5(3), 6-18.