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## **DIDACTIC PROPOSAL FOR LEARNING "INVESTMENT" BY APPLYING GAMIFICATION**

**GÓMEZ HAZAS Beatriz, masterandă,**

Programul: Teacher training in secondary schools and vocational training  
in the area of economics and bussines.  
Univeridad Europea del Atlantico, Spania

**Abstract.** *In the following document a didactic unit is planned for students of Financial Economics at a secondary school in Cantabria to learn the basic knowledge related to the purchase and sale of financial assets. By means of an online stock market simulator, the students will have to carry out asset trading operations and formulate a report in which they will relate theoretical and practical knowledge. At the end of the session planning presentation, the implementation and effectiveness of the sessions is analysed.*

**Keywords:** *gamification, investment, simulator, stock market, key competences*

### **INTRODUCTION**

Economics in Spanish education has evolved through the different educational laws. From the Moncayo law of 1857 to the LOMLOE law (current education law) of 2022, a total of 6 laws have been passed concerning the Spanish educational curriculum. During this process, we can observe the importance of economic education given by the Ministry of Education in different legislatures.

In the middle of the 19th century, in 1857, the Moyano law was implemented and content related to economics began to appear in education, but always playing a secondary role within other subjects (González, 2016). Thus, a subject called Home Economics was introduced, aimed at instructing women to become housewives. In the same century, content on economic analysis also appeared, but was eradicated at the beginning of Franco's dictatorship. It was not until the 1960s that the study of economics resumed in pre-university education (Murillo and Rosal, 2016).

In 1990, with the implementation of the LOGSE law, economics became a subject in its own right within the educational curriculum. Furthermore, the educational levels were completely reconfigured, giving way to Compulsory Secondary Education (ESO) and the Baccalaureate, the latter consisting of two years and introducing Economics in the first year and Economics and Business Organisation in the second year. Initially, both subjects were taught by teachers of Geography and History, until years later when the speciality of Economics was

created in the teaching staff, but there were still no subjects related to the area of Economics in ESO (Murillo and Rosal, 2016).

In 2002, the LOCE law was enacted, but its implementation did not affect any aspect related to the subject of Economics. This education law was never implemented, as it was paralysed by the Council of Ministers months after its approval. The LOCE was replaced by a new education law, the LOE, in 2006 and this allowed the creation of new optional subjects related to the field of Economics in the Baccalaureate: Fundamentals of administration, management and entrepreneurship and Initiation to working life (Murillo and Rosal, 2016).

In 2013, a new Organic Law was enacted, the LOMCE, of an educational nature, which modifies the LOE. Through this law, subjects are divided into core subjects, specific subjects and subjects of free autonomous configuration in the stages of Primary, ESO and Baccalaureate. This new regulation gives more weight to economic subjects in the educational curriculum. Under the LOMCE, subjects related to the field of economics are divided into: Initiation to Entrepreneurship and Business Activity for the first cycle and second cycle of ESO, and Economics for the second cycle. In Baccalaureate, Economics is taught in the first year and Business Economics and Fundamentals of Administration and Management in the second year (Vaquero, 2015).

The latest regulation in the field of education, the LOMLOE, Organic Law 3/2020, of 29 December, represents an important change in the area of education in many aspects. This law modifies 77 articles of the LOE. And one of its main changes is the importance of the development of a series of competences that students must acquire throughout their educational stage. In this way, the LOMLOE proposes a new way of understanding the education system and substantially modifies some of the key elements of the curriculum, such as, for example, eliminating content and adding basic knowledge that students must acquire in each subject (LOMLOE, 2020). In the field of economics, this law allows all subjects related to the field of economics to become optional, so that many students will finish their academic stage without having received any notion of economics (Colegio de Economistas, 2021).

Taking into account the above-mentioned legal frame for education of economics and business in Spain, we propose the design of the following didactic unit within the topic of Financial Economics. This didactic proposal is designed to work on investment-related content in a Financial Economics class in the first year of the baccalaureate. For this reason, the use of gamification is proposed as an active methodology through which the content related to investment will be developed, and at the same time the necessary competences will be worked on to contribute to developing the students' exit profile. Gamification is, according to Gaitán (2013), a technique that transports the game methodology to the classroom. This type of methodology is motivating for students and this is what allows them to internalise

knowledge in an enjoyable way and for a longer period of time, i.e. it favours meaningful learning for students.

The contents to be dealt with are set out in the form of basic knowledge in Order EDU/42/2022, of 8 August, by which instructions are issued for the implementation of the Bacculaureate in the Autonomous Community of Cantabria and refer to transferable securities, more specifically to the section related to cash operations of shares, the simulation of asset purchase and sale operations and the calculation of net profits and profitability of purchase and sale operations.

The key competences, set out in Royal Decree 243/2022, of 5 April, which establishes the organisation and minimum teaching of the Bacculaureate, which are going to be worked on through the didactic unit are: competence in linguistic communication, mathematics, science, technology and engineering, digital, personal, social and learning to learn, citizenship, entrepreneurship and cultural awareness and expression.

When it comes to developing the key competences necessary for the formation of the student's exit profile at the end of their education in Bacculaureate, the need to use different tools, resources and situations that allow students to put their skills and abilities into action is evident.

This teaching-learning process begins with an analysis of the students' prior knowledge of the basic knowledge to be covered, based on a class debate in which everyone participates actively. This method of assessing prior knowledge also helps students to lose their fear of public speaking and allows them to express their ideas, encouraging critical thinking. Once the starting point is clear, there will be an expository class in which, with the support of a PowerPoint, some of the concepts that the students need to know will be detailed.

### **METHODOLOGY**

During the following sessions, the main activity of the unit will be implemented, which consists of carrying out asset purchase and sale operations using a virtual stock market simulator. In addition, students will use Excel to record data and perform calculations related to the trades they perform in the simulator.

#### Online stock market simulator

The online stock market simulator is a computer platform that recreates the conditions and environment of the stock market very accurately. The programme used on this occasion is available at the following address: <https://www.labolsavirtual.com/> and in this case had a delay of 10 minutes with respect to the real stock market.

Another of the advantages offered by the simulator is that users should bear in mind that, when making transactions, both buying and selling assets, they will be charged a commission depending on the amount of capital. This adds realism.

In addition, students will be able to check their position in the ranking of the challenge, in which all the students in the class will appear.

### Development of the didactic unit

The secondary school Valentin Turienzo is the educational centre where the activity takes place. The centre includes 662 pupils, 84 teachers and 7 non-teaching specialists. This centre offers the two cycles of ESO, Baccalaureate, Basic Vocational Training in the speciality of computer science and communication and, in addition, a Higher Degree in Social and Sports Education and Animation. The school also offers a bilingual education programme, another sports specialisation programme (ESPADE), as well as an Erasmus + project and a TEI project.

The target group of students corresponds to a total of 18 students, 10 boys and 8 girls, in the 4th year of ESO in the subject Financial Economics. There are no students with specific educational support needs in the group. The duration of the course is 6 sessions, spread over 5 weeks. The idea is for the students to be able to check the evolution of the share values of IBEX35 companies over time.

**Session 1:** Introduction to investments, classification criteria, types and stock market through a PowerPoint presentation.

**Specific objectives of the session:**

- To introduce the concept of investment and its classification according to a series of criteria.
- To understand the types of investments that exist according to their characteristics.
- Recognise and understand how the stock market works and facilitate financial decision-making in this area.

**Materials:** A projector, a computer and the PowerPoint application.

**Sequencing:**

- 10': Analysis of students' prior knowledge of the concept of "investment" through a class discussion. Questions such as: What do you think it means to invest? How do you think investments work? What types of assets do you know? What are the requirements for someone who wants to invest?
- 45': Presentation on investment, the classification criteria, the types of assets that exist and the stock market, using a PowerPoint as a support resource.

**Evaluation:** During the session, an initial evaluation of the contents is carried out through a debate in the classroom and at the end of the session students are asked questions orally to check the achievement of the specific objectives of the session.

**Session 2:** Explanation of the activity, instructions and material to be used; and first part of the exercise corresponding to the purchase of assets.

**Specific objectives of the session:**

- To introduce the exercise that they are going to have to perform during the following sessions.
- To understand the rules of the game
- To understand the use of the materials and how to complete them.
- To make a purchase of financial assets.

**Materials:** one computer for each student

**Sequencing:**

- 15': Review of the theory seen in the previous session.
- 15': Explanation of the instructions for the exercise, the way in which the tables are to be filled in and the report to be drawn up.
- 25': Completion of the first part of the exercise, corresponding to the purchase of financial assets through the simulator. They will be able to use the class computers to search for information on companies when carrying out this task.

**Assessment:** There will be a systemic assessment of the students while they are doing the work in class to check the participation and effort of the students during the session. In addition, through this systemic evaluation it is possible to identify possible problems in the teaching-learning process, to check that the specific objectives of that session are met and to adjust, if necessary, the timing of the session

**Session 3:** Development of the classroom exercise.

**Specific objectives of the session:**

- Carry out asset purchase and sale transactions.
- Calculate the returns obtained from each of the assets sold that day, as well as the total return.
- Define the final situation of the investment portfolio for that session.
- Develop the report on the operations carried out in that session.

**Materials:** A computer for each student.

**Sequencing:**

- 30': Carrying out activities of buying and selling assets, completing the tables. They must also calculate the returns on the assets they sold during the session.
- 25': Development of the section of the financial report corresponding to the activities carried out in that session.

**Evaluation:** A systemic evaluation of the students will be carried out while they are doing the work in class to check the participation and effort of the students during the session. In addition, through this systemic evaluation it is possible to identify possible problems in the teaching-learning process, to check that the specific objectives of that session are met and to adjust, if necessary, the timing of the session.

**Session 4:** Development of the classroom exercise.

**Specific objectives of the session:**

- Carry out asset purchase and sale transactions.
- Calculate the returns obtained from each of the assets sold that day, as well as the total return.
- Define the final situation of the investment portfolio for that session.
- Develop the report on the operations carried out in that session.

**Materials:** A computer for each student.

**Sequencing:**

- 30': Carrying out activities of buying and selling assets, completing the tables. They must also calculate the returns on the assets they sold during the session.
- 25': Development of the section of the financial report corresponding to the activities carried out in that session.

**Evaluation:** A systemic evaluation of the students will be carried out while they are doing the work in class to check the participation and effort of the students during the session. In addition, through this systemic evaluation it is possible to identify possible problems in the teaching-learning process, to check that the specific objectives of that session are met and to adjust, if necessary, the timing of the session.

**Session 5:** Development of the classroom exercise.

**Specific objectives of the session:**

- Carry out asset purchase and sale transactions.
- Calculate the returns obtained from each of the assets sold that day, as well as the total return.
- Define the final situation of the investment portfolio for that session.
- Develop the report on the operations carried out in that session.

**Materials:** A computer for each student.

**Sequencing:**

- 30': Carrying out activities of buying and selling assets, completing the tables. They must also calculate the returns on the assets they sold during the session.
- 25': Development of the section of the financial report corresponding to the activities carried out in that session.

**Evaluation:** A systemic evaluation of the students will be carried out while they are doing the work in class to check the participation and effort of the students during the session. In addition, through this systemic evaluation it is possible to identify possible problems in the teaching-learning process, to check that the specific objectives of that session are met and to adjust, if necessary, the timing of the session.

**Session 6:** Completion of the exercise and debriefing.

**Specific objectives of the session:**

- Carry out asset sales transactions, liquidating the investment portfolio.
- Calculate the profitability of each asset, as well as the total profitability of the day.
- Develop the report on the operations carried out in that session.
- Hand in the completed report.

**Materials:** a computer for each student.

**Sequencing:**

- 25': Liquidation of all the assets in the investment portfolio, completing the tables. They will also have to calculate the returns on the assets.
- 25': Development of the section of the financial report corresponding to the activities carried out in that session.
- 5': Handing in the reports to the teacher.

**Evaluation:** A systemic evaluation of the students will be carried out while they are doing the work in class to check their participation and effort during the session. As a final evaluation method, the reports collected that day will be evaluated using an evaluation rubric to analyse the results of the exercise and measure the achievement of the objectives set.

## CONCLUSIONS

The activity has been very well received by the students for several reasons. Firstly, because investments in the stock market motivate and generate interest in

the students, so that participation and effort have been evident throughout the 6 sessions. The use of gamification, through the stock market simulator, has also been a success when it comes to working on concepts related to the stock market. Gamification has motivated students and has made the knowledge learned during the unit significant. In addition, the unit was designed to give the students a first notions of theoretical knowledge that they would later put into practice.

In general, in the classroom, the students discussed the results obtained with their classmates and with the teachers, compared the returns of the previous sessions and talked about the strategies they were going to use to invest in that session. Therefore, I believe that the activity motivated the students, which allowed them to maintain their attention during the sessions. In addition, the use of real Ibex 35 stocks allowed the students to get involved and search for information about the selected companies in order to try to obtain the highest possible profitability.

During the application of the activity, a problem arose related to the fall in the stock market price of IBEX 35 companies due to the collapse of Silicon Valley Bank. This fact created a difficulty in the development of the activity, as the profitability of the assets that the students had in their investment portfolio began to be negative and the motivation of the students decreased. Even so, this new economic situation gave rise to an analysis in the classroom of what happened and the global consequences that arise in these situations, making it an enriching experience for the students on an academic level.

Another way of overcoming this difficulty was not to take into account that the profitability was positive when assessing the students' report. Instead, it was taken into account that in the report the students had to explain in their own words why the global stock market had declined. In general, it can be said that the difficulties encountered during the course of the activity were successfully overcome. The main difficulty was that the planning of some sessions did not take into account the possibility that the students might find some aspects of the exercise complicated and that they might need more time to complete it. Even so, this was successfully overcome.

## REFERENCES

- Colegio de economistas (2021). Los economistas lamentan que Educación relegue la formación económica en la LOMLOE. Alicante plaza. <https://alicanteplaza.es/los-economistas-lamentan-que-educacion-relegue-la-formacion-economica-en-la-lomloe>
- Gaitán, V. (2013). Gamificación: el aprendizaje divertido. *Educativa*. Recuperado de: <https://www.educativa.com/blog-articulos/gamificacion-el-aprendizaje-divertido/>.
- González, M. (2016) Revisión de la enseñanza económica a lo largo de la historia: críticas y propuestas [Trabajo de Fin de Máster, Universidad Internacional de La Rioja]. Re-UNIR.
- Murillo, J. y Rosal, M. (2016). Veinte años de enseñanza de la economía en la educación secundaria en España. Balance, situación actual y futuro previsible bajo la LOMCE.
- Orden EDU/42/2022, de 8 de agosto, por la que se dictan instrucciones para la implantación del Bachillerato en la Comunidad Autónoma de Cantabria. *Boletín Oficial de Cantabria*, 156, de 12 de agosto de 2022.

Real Decreto 243/2022, de 5 de abril, por el que se establece la ordenación y las enseñanzas mínimas de Bachillerato. *Boletín Oficial del Estado*, 82, de 6 de abril de 2022. <https://www.boe.es/buscar/pdf/2022/BOE-A-2022-4975-consolidado.pdf>.

Vaquero, A. (2015). Los contenidos de Economía pública en las enseñanzas no universitarias. *E-pública*, 17, 23-48. <http://e-publica.unizar.es/wp-content/uploads/2015/09/173Vaquero.pdf>

**Cond. șt.: ALEXEEVA-ALEXEEV Ina, dr., prof. univ.**  
Academia de Studii Economice a Moldovei, Republica Moldova,  
Chișinău, str. Gavriil Bănulescu-Bodoni 61