

Educational Breakout as a Learning Strategy in Teaching Spanish as a Foreign Language

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Abstract

Breakouts are learning strategies that can stimulate the motivation of learning through challenges. During an educational breakout session, students must work as a team and use their reasoning, knowledge, and skills to solve puzzles and challenges related to the content of the curriculum in a limited time. This study intends to examine the impact of educational breakouts on classroom flow, academic performance, motivation, behaviour, and overall satisfaction of the first-year students of Applied Modern Languages, West University of Timișoara. In performing this experiment quantitative and qualitative techniques were used and the results showed a significant improvement in classroom engagement, flow, the feeling of well-being, autonomy, and loss of the notion of time and support the conclusion that the use of educational breakout is fun and motivating for students and facilitates knowledge accumulation.

Keywords: flipped learning, learning strategy, gamification, higher education, motivation.

JEL Classification: I20, I23, I29.

Introduction

We live in a high-tech world and our society evolves rapidly, changing many of the social aspects such as education, technology, innovation in all its forms, communication, urban planning, infrastructure, and even family models. The new generation of digital natives needs teaching-learning strategies that allow young people to communicate and collaborate. Digital

natives have multitasking skills and short attention spans, they like to share, socialize, and create, they need immediate access to information, they prefer to play, and they benefit from audio-visual learning tools.

The use of modern technologies in schools and universities should be part of the natural evolution of learning as a normal solution to modern challenges and to the educational needs of students. Its integration into the traditional teaching-learning-assessment process is an opportunity to integrate modern technological innovations with the traditional way of knowing. The new teaching models are: Gamification, Flipped Classrooms, Game-Based Learning, Storytelling, Serious Games, Multiple Intelligences, Problem-Based Learning, Augmented Reality, Virtual Worlds etc.

Active methodologies are one of the most interesting approaches to developing cooperative learning and student involvement in the classroom through games. According to Imma Marín (2018, p. 68), games experiences become meaningful by stimulating complex processes of motivation and self-motivation, self-confidence, communication, connection, effort, overcoming challenges, cooperation, imagination, creativity, strategy acquisition, and decision-making, as well as other elements which contribute to personal and social development.

It is obvious that in this study it is not possible to cover all these areas of didactic innovation, but I would like to approach the gamification methodology, and specifically, the key and the pedagogical background that is hidden behind its success. Therefore, this study aimed to evaluate the impact of educational breakout on learning, motivation, classroom climate, and overall satisfaction of the first-year students' of Applied Modern Languages. Specifically, the objectives of this study were: (1) to interpret the impact of using educational breakout in relation to classroom flow, academic performance, classroom climate, and behaviour of the students; (2) to evaluate the students' perspectives on learning Spanish through an educational breakout.

Literature Review

The term *gamification* first appeared in 2008 and it has gained increasing relevance since 2010 (Deterding et al., 2011; Seaborn and Fels, 2015). Unlike games, gamification is characterized by its serious purpose. Definitions of gamification vary and usually focus either on the elements and mechanics of the game, or on the game process and playful experiences in serious contexts.

Game elements are, for example, levels, points, badges, leaderboards, narratives, avatars, missions, challenges, feedback, progress, diplomas, rewards, penalties, collaboration, competition, timing etc. (Zainuddin et al., 2020). Deterding et al. (2011, p. 2) define gamification as "the use of game elements in non-game contexts". Kapp et al. (2014, p. 54) highlight the use of "game-based mechanics, aesthetics and thinking to engage, motivate and promote learning and problem-solving". Zichermann and Cunningham (2011, p. 14) define gamification as "the process of game design and game mechanics to generate engagement and problem solving". Rodrigues da Silva et al. (2019) mention that gamification emerged to "increase an individual's engagement, motivation and attitude by using games in non-game contexts".

Imma Marín (2018, p. 91) stated that gamification can completely transform the classroom by adding game-like elements to the school/university curriculum. It is only necessary that all students enter the game or be drawn in, little by little. In the field of education, platforms such as *ClassCraft*, *Guadalingo*, *Class Dojo*, *Toovari*, *Kahoot!*, *Blooket*, *Duolingo* etc. have been created to turn learning into a challenge, where each student has a mission and chooses his own itinerary, visualizing his progress. According to Hamari et al. (2014) gamified activities aim to influence student behaviour while increasing the enjoyment of learning, academic performance, and motivation of students.

Recently, two types of educational team-based game activities that fulfil the requirements mentioned above, i.e. help students in learning and enable the development of their curricular skills, have been identified: *Escape Rooms* and *Breakouts*. Both are games that require solving riddles and puzzles to reach the final goal: to escape from a closed room, in the case of an Escape Room, or to open a box sealed with a series of locks, in the case of a Breakout (Cornellà et al., 2020, p. 11). Both require players to make decisions that will lead to success or failure. The renowned game designer Sid Meier defines games as "a series of interesting decisions". Both types of games have an extra element: limited time to reach the final goal. Although Escape Room games have become popular as a leisure offering in cities around the world, they are increasingly being used as learning activities. Breakout games require fewer materials and are therefore more common in schools.

Maria Arfanakis (2016), a Chicago-based teacher specializing in educational technology, along with Sylvia Duckworth, listed a number of benefits of implementing a Breakout or Escape

Rooms experience in the educational environment: it can be adapted to any curricular content, it promotes collaboration and teamwork, it develops critical thinking and problem-solving skills, it is student-centred, it improves communication skills, students are encouraged to persevere, develop deductive thinking, they learn to work under pressure and develop inquiry-based learning.

The types of challenges that correspond to educational breakouts are:

- ciphers (many different ciphers can be used to leave secret messages, so they have to decrypt them to meet the challenge);
- crossword puzzles (students can do crossword puzzles to find words or key letters to decipher the code);
- secret messages (by using different filters, you can create messages that are invisible to the eye, as well as hide them by using the Genially tools);
- didactic activities (any basic activity, such as questions, ordering stories, analysing a text, mathematical operations etc.);
- puzzles (the puzzles provide a lot of play opportunities: first, the pieces can be found and then, behind the image of the puzzle, clues or codes can be discovered);
- apps (there are many apps, like augmented reality, to help you complete breakout challenges and tests: for example, merge cube);
- hidden clues (we can hide clues in objects and places);
- *flippity* (on this website we have a resource to generate different padlocks and gradually open them);
- coordinate axes (thanks to the coordinate axes, like the typical game of boats, we can hide clues or create codes).

Methodology

The methodology is the most important aspect to consider when designing and conducting an investigation. From my point of view, the most suitable choice would be to combine several learning methodologies so as to meet the educational requirements of students. This investigation proposes the following methodologies:

- Simulation method. It will activate students cognitively and affectively by simulating real-world situations. In this way, students can learn from their own mistakes, evaluate the effects, and make inferences from their own actions. In this experiment, the educational breakout will be used to create an immersive context, where students will investigate and complete a series of missions and challenges.
- Learning through discovery, exercise, and problem-solving. A series of tasks will be designed with the aim of practicing the knowledge acquired but also of assimilating new information in order to create meaningful learning. I have found that this breakout system stimulates learning through discovery; thus, students become autonomous and develop a series of skills by overcoming the missions. By providing them with the necessary information to complete the missions, the teacher will be a guide in their learning process. In addition, the missions will have a progressive degree of complexity; in this way, students' motivation increases as they progress in solving them.
- Active learning by promoting teamwork. I want to create a pleasant climate in the classroom and stimulate communication, critical thinking, and active listening during work sessions. This breakout proposal is not aimed to generate competitiveness or negative feelings among students.
- Flipped learning. Through this teaching model, teachers spend less time on introducing new topics, thus focusing on the exploration and application of knowledge. Also, students develop independent learning skills and are able to build a deeper understanding. In this experiment, I will use the Edpuzzle platform, which allows transforming any video into a lesson. Therefore, I will choose a YouTube video about the influence of the Arab culture and civilization in the Iberian Peninsula; then, I will create 11 grid-type questions that will test the listening and understanding skills by using the information presented in the video.

Participants

The context of this study was the implementation of an educational breakout in the subject Translation skills of the Department of Modern Languages and Literatures, Applied Modern Languages of the West University of Timișoara during the academic year 2022/2023. A total of

16 female and 4 male students, with ages between 19 and 30 years, participated in the experience and voluntarily completed the questionnaires and interviews. The students were informed from the beginning about the project. They filled out a questionnaire in Google Forms, in which they were asked for permission to record video and audio throughout the lesson, ensuring their anonymity.

Design of the educational breakout

The entire group was separated into 7 groups of 2/3 students. Before starting the activity, I explained the rules, necessary to perform the breakout. The rules were simple and very clearly explained: the students had to find the box containing the key to the Alhambra palace and return it to the Catholic kings. In addition, I explained the narrative situation through which they entered the breakout and created a suitable environment. For 90 minutes the students had to collaborate and successfully solve the 6 missions.

In the following, I will present the lesson plan of the *La llave de Granada (The key of Granada)*, an example taken and adapted from teacher Kasia (2020, colorELE), according to the Gamification Canvas model (Jiménez Palmero, 2019, p. 48):

Context	Narrative	Components
<p data-bbox="305 1150 415 1178"><u>Students</u></p> <p data-bbox="212 1203 509 1507">West University of Timișoara, Department of Modern Languages and Literatures, Applied Modern Languages, first year</p> <p data-bbox="256 1587 464 1671"><u>The name of the discipline</u></p> <p data-bbox="250 1696 470 1724">Translation skills</p>	<p data-bbox="565 1167 964 1797">Students will become time travellers for 90 minutes. Their mission is to help the Catholic Kings find the key to the Alhambra palace, so they can free the city from Arab occupation (Figure 1). Students have to overcome 6 missions, and after each successfully solved mission, they receive a number. To be able to open the combination box, where the key is, they need the 6</p>	<p data-bbox="1105 1167 1326 1194"><u>Breakout support</u></p> <p data-bbox="1029 1220 1409 1797">A week before the breakout, the students were asked to watch a video, from the Edpuzzle platform, about the influence of the Arab culture and civilization in the Iberian Peninsula and to answer some grid-type questions afterward. The purpose of this activity is to arouse students' interest and to successfully complete the</p>

<p><u>The name of the activity</u></p> <p>La llave de Granada. Educational breakout. Level A2</p> <p><u>Date</u></p> <p>09.01.2023</p> <p><u>Materials/Digital tools</u></p> <p>Handouts, phone/laptop, Internet connection, Google Classroom, Genially, EdPuzzle, YouTube</p>	<p>numbers (Figure 3). The reward of the winning team (i.e. the one that will manage to solve all the missions in the shortest time) is in the box which contains the key to the Alhambra palace, old coins, jewellery, old silver objects, Spanish fan etc. (Figure 4).</p>	<p>missions found in the breakout.</p> <p>Link: <i>La herencia árabe en España:</i> https://www.youtube.com/watch?v=Xx3VREIAokY&t=329s.</p> <p>Also, to further introduce the students to the breakout narrative, I offered each of them an entrance ticket to the Alhambra Palace and I played Andalusian Spanish Arabic music throughout the lesson.</p>
<p>Time</p> <p>90 minutes</p>	<p>Players</p> <p>Beginners 20 students Teams are a maximum of 3 students</p>	<p>Link: https://www.youtube.com/watch?v=62tSUVOd-bM.</p>
<p>The role of the teacher Guide (will guide the whole process, explain the missions, and offer help if requested)</p> <p>The role of the students Time travellers</p>	<p>Level/XP Increasing difficulty as missions are completed.</p>	<p><u>Evaluation system</u></p> <p>All missions are self-correcting. If the answer is wrong, the student must redo the mission; if the answer is correct, the student can solve the next mission (Figure 2). In addition, the teacher evaluated</p>

<p style="text-align: center;">Objectives</p> <ul style="list-style-type: none"> • Find answers to the 7 related questions about the Alhambra palace in Granada (<i>El nombre de la Alhambra deriva de la palabra árabe al-Hamra lo que significa: la roja; Los jardines en la Alhambra se llaman: Generalife etc.</i>). • Recognize words of Arabic origin (<i>aceite, alfombra, ojalá, naranja etc.</i>). • Discover the secret word by solving a crossword puzzle (<i>Boabdil</i>). • Identify the location by following the directions on the map (<i>Patio de los Leones</i>). <ul style="list-style-type: none"> • Chronologically order a series of historical events. • Choose a grammatical form of the verb according to the context, after reading the legend of the ghost soldier (<i>preguntaba/preguntó</i>). <p style="text-align: center;">Contents</p> <ul style="list-style-type: none"> • Grammatical: the contrast of the past tenses (<i>Pretérito Indefinido or Pretérito Imperfecto</i>). <ul style="list-style-type: none"> • Lexicals: Arabisms. • Sociocultural: the influence of Arab culture and civilization in the Iberian Peninsula (711-1492); information about the Alhambra palace in Granada. 	<p>the participation and collaboration of each team, the interaction between the team members, the distribution of tasks within the team, and the tasks performed during the breakout with a team evaluation rubric.</p> <p style="text-align: center;"><u>Elements</u></p> <p>Challenges, rules, missions, narrative, aesthetics, freedom to make mistakes, instant feedback, limited time, surprise, QR codes, content unlocking, progress, hidden places, role-playing, cooperation, competition, rewards, surprise, excitement (curiosity / happiness / frustration).</p>
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Figure 1. Educational breakout. The key of Granada. First mission.

Source: <https://www.colorele.es/la-llave-de-granada-version-interactiva/>



Figure 2. Educational breakout. The key of Granada. Feedback. (Own source)



Figure 3. Educational breakout. The key of Granada. The combination to open the box. (Own source)



Figure 4. Educational breakout. The key of Granada. Rewards. (Own source)

Instruments

In conducting this experiment, I used quantitative and qualitative techniques. The data collection techniques used were: participant observation, interview (15 students were interviewed), document analysis, field diary, audio and video recording, and questionnaire.

- Participant observation

My objective was to observe and analyse the impact of the educational breakout on students in terms of stimulating learning, motivation, involvement, and behaviours generated in the classroom. This tool did not represent the active participation of the researcher in the proposed educational tasks, but I tried not to let my presence influence the natural course of the lesson. The only interventions I had were to make sure that the students understood the requirements and rules of the missions and to clarify the ambiguities. Therefore, the questions received from the students during the class, to clarify some aspects, were part of this participatory observation, combined with the spontaneous conversations in the classroom.

- Interview

The structure of the interview included the following aspects: recounting the experience following participation in the breakout session, mentioning the skills developed through the breakout session, specifying the strong and weak points of the strategy etc. The interviews were in the form of natural conversations and meant, to generate a pleasant and trusting climate in which the interviewees felt comfortable and relaxed while speaking.

- Document analysis

In this experiment, I was particularly interested in the analysis of formal and administrative documents (the subject project, the didactic project), checking the accuracy of solving the didactic materials used by the students, and assessing the use of the Edpuzzle digital platform.

- Field diary

The field journal includes a section in which I wrote down my classroom observations, with a detailed description of the events that took place, and another section, in which I wrote down student's feelings, reactions, and impressions after the breakout session. I also added some ideas and reflections following the spontaneous conversations and interviews with the participants. This field diary was the starting point in the development of the investigation.

- Audio and video recordings

I audio and video recorded the breakout session with the aim of presenting the course and way of organizing the classes and of capturing the behaviours, reactions, attitudes, and impressions of the students during the sessions, but also during the interviews and spontaneous conversations.

- Questionnaire

I created two questionnaires in Spanish by using the Google Forms tool. The first questionnaire requested the students' permission to record, video and audio, the entire performance of the breakout session and the interviews, ensuring their anonymity among colleagues. The second questionnaire was adapted from the *Game Experience Questionnaire* model to assess students' perception of the breakout session they took part in and consisted of 10 closed questions. These questions were formulated, with two possible answers: yes or no. These answer options were chosen because they did not require a consistent effort on behalf of the respondents. Due to the complexity of the session and the significant number of missions, the time dedicated to this questionnaire was limited. This questionnaire was completed after the end of the session and

includes the following evaluation scales: efficiency, autonomy, stimulation, immersion, and the generation of positive and negative emotions.

Results and discussion

A week before the breakout session, the students were asked to watch a video, from the Edpuzzle platform, about the influence of the Arab culture and civilization in the Iberian Peninsula and to answer 11 grid-type questions afterward. The purpose of this activity was to arouse students' interest and to successfully complete the missions found in the breakout. With the help of Edpuzzle, real-time data is obtained about who watched the video, how many questions the students answered correctly, and how many times they watched the video in order to make customize learning and to be able to identify the problems faced by each student. In the case of this experiment, the results were the following: 17 students watched the whole video, and 12 students did not watch it at all, 2 students had 8 correct responses, 7 students had 9 correct responses and 8 students had 10 correct responses (**Figure 5** and **Figure 6**).

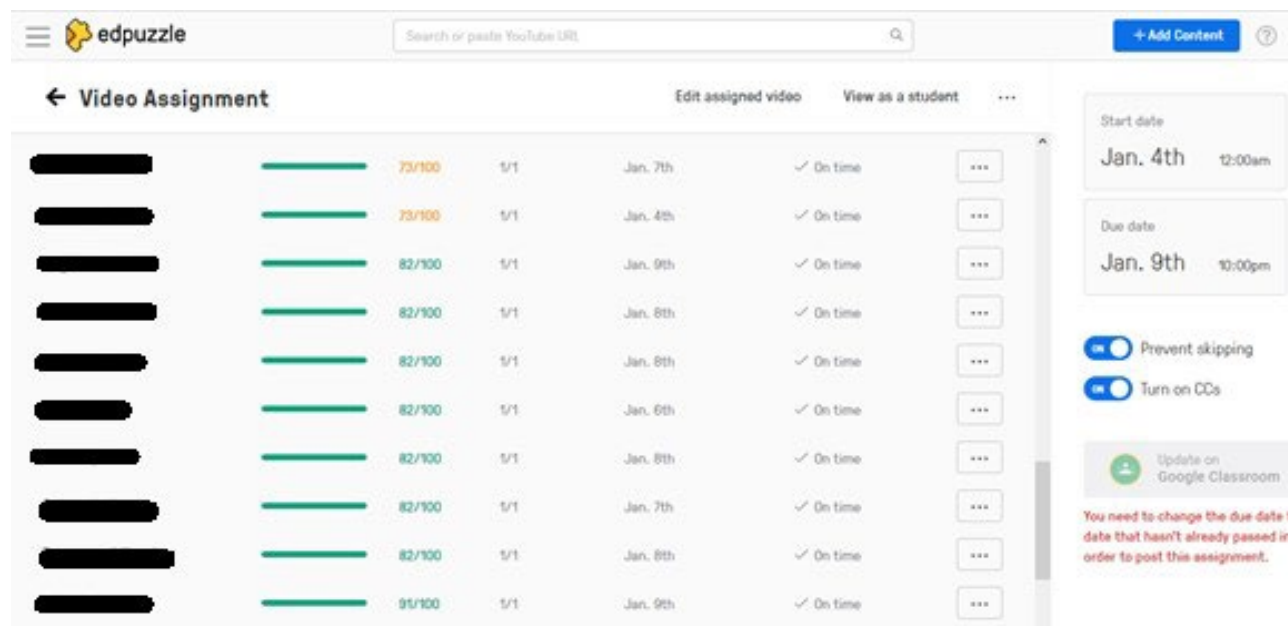


Figure 5. Edpuzzle – Students' assessment

Source: <https://edpuzzle.com/assignments/63b5ae8ff6a327413a302833/students>

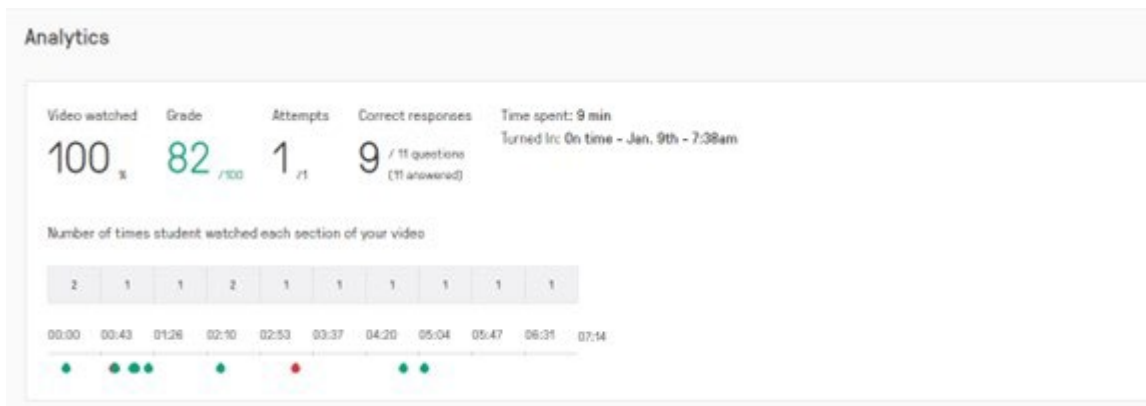


Figure 6. Edpuzzle – Individual assessment of the student

Source: <https://edpuzzle.com/assignments/63b5ae8ff6a327413a302833/students>

Regarding the evaluation of the students, in this breakout, a self-correcting evaluation system that offered the students instant feedback was inserted. If the answer provided by the student was wrong, he/she must have had to redo the mission, and if the answer was correct, he/she could complete the next mission. I also created a team evaluation rubric with the help of which I observed and analysed the accuracy of solving tasks, involvement, participation, collaboration, equal distribution of tasks within the team, completion of tasks in a timely manner, interaction between team members, and distribution of roles and responsibilities.

The results obtained have been analysed based on the opinions and concerns of the participating students. After completing the missions, the students filled out the second questionnaire. The aspects assessed were, on the one hand, those corresponding to the breakout itself, such as its organization, its dynamics, and its components, and on the other hand, the content that is the object of the game, such as motivation and internalization of the content learned.

The variables used for the assessment have been: motivation, flow, the usefulness of learning activities, the feeling of well-being and autonomy, the loss of the notion of time, the development of critical capacity, and the design of the breakout. In general, the assessment has been quite positive under all aspects. Next, I will present the 10 questions from the questionnaire and the students' answers (**Figure 7**).

Q 1: My experience with the educational breakout was pleasant.

Q 2: I learned with the help of these methodologies.

Q 3: The learning activities were useful.

Q 4: My attitude was positive.

Q 5: I was motivated by the activities to learn.

Q 6: I lost track of time during the educational breakout.

Q 7: I got frustrated while doing the missions.

Q 8: Carrying out this activity stimulated my imagination.

Q 9: I was motivated to receive immediate feedback on my activities.

Q 10: I felt autonomous while doing the activity.

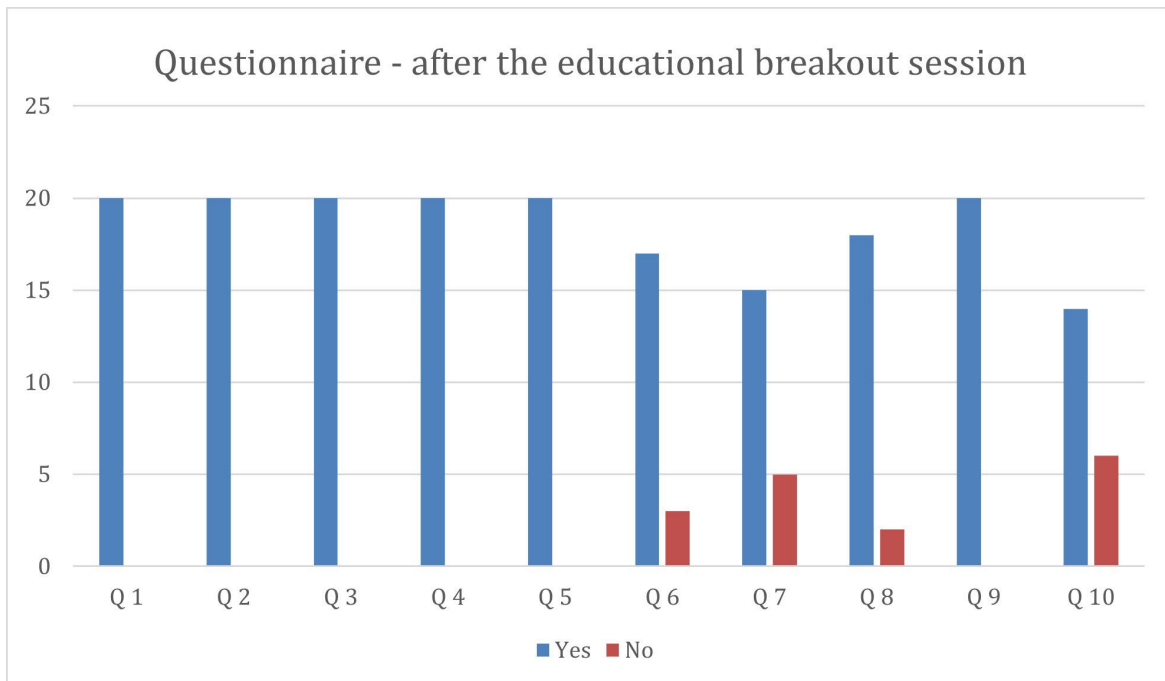


Figure 7. Questionnaire - after the educational breakout session (Own source)

From the results obtained, it can be noted that this educational breakout is a very useful didactic resource and produces a practical approach to subjects that are essentially purely theoretical. This fact causes the interest in and dedication to their study to grow in the students since they also have fun while learning. The development of critical thinking or the ability to solve problems is manifested in the difficulties or impediments when it comes to overcoming challenges, selecting between the true and the false, between the relevant and the secondary, and between the true clues and those that mislead.

The students who participated were not used to obtaining learning through innovative resources that are rather absent in traditional classes. In addition, this activity is complemented by the fun factor, which causes the contents to be learned and assimilated in a more significant way. According to the students interviewed, the breakout was fun, it helped them to learn and/or review the contents of the subject, and they really enjoyed working in teams because it develops their self-confidence and communication skills in Spanish. The students also mentioned that they could evaluate their knowledge in a playful manner, without being afraid they might give a wrong answer.

On the other hand, from the point of view of the implementation of the breakout experience, it required a lot of work and effort when it came to organization and design, which, from my point of view, would be the only drawback of this activity. However, as I have already said, the results were quite satisfactory, which means that this effort was worthwhile.

Conclusions

Once the results have been presented, essentially valuing the opinions of the participating students, I can verify the acceptance and success of what has been learned through the gamification methodology, specifically with the educational breakout. The high level of positive responses to the question of whether they would repeat the experience in class is also worth mentioning it is an activity that has pleased the majority of the students, enhancing their interests, abilities, and skills.

Based on the concept presented by Bruner (1984), it is necessary to highlight the idea that students should always be provided with a feeling of enthusiasm while learning. Students must become the protagonists, based on previous knowledge and on their preferences, thus achieving significant learning.

Regarding the usefulness of the study, the results are effective for representatives of the academic environment who research the topic addressed in this article. The limit of this research is the small size of the sample which is due to my intention to evaluate the impact of the educational breakout in only one of the groups to whom I teach Spanish. Also, I have to mention that I work with each group of students differently, depending on the level of the Spanish language and on the curriculum.

With respect to the future directions, it is important to emphasize that, although the results of this study provide data that demonstrate the effectiveness of this breakout, it would be interesting, in the future, to be able to evaluate the longer-term effects with a larger number of participants so as to allow a more detailed evaluation of this strategy.

In conclusion, the use of the educational breakout in university can have benefits in the motivation, flow, and acquisition of student knowledge, and can be successfully applied together with other strategies of active and traditional learning.

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