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Review Article

Implementation of Kahoot as a Didactic Tool for the Construction of Knowledge, Case Study: Subject "Process Engineering" of the Technological Institute of Milpa Alta

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Abstract: In this research project entitled "implementation of kahoot as a didactic tool for the construction of knowledge, case study: process engineering of the technological institute of milpa alta". Its objective is: To implement Kahoot in the matter of process engineering. Subsequently, a satisfaction survey of the use of the Kahoot tool was implemented. It has a Cronbach's alpha of .958% which indicates that the answers are aligned with the objective. Where through the implementation, it was possible to verify that it is a practical, efficient and fun tool for university students of the Engineering in Business Management career of the Technological Institute of Milpa Alta.

Keywords: Gamification, kahoot, teaching, learning.

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INTRODUCTION

Today, globalization has forced the educational sector to improve its teaching-learning process with the diverse use of information and communication technologies for continuous improvement.

The educational environment has had one of the greatest transformations it has suffered with this accelerated development of information and communication technologies; This is where the concept of learning and knowledge technologies and technologies for empowerment and participation appear [1].

The importance of using learning and knowledge technologies (TAC) that correspond to information and communication technologies (ICT) and communication oriented to pedagogical processes to favor humanistic education [2].

Overall Objective

- Implement Kahoot in the field of process engineering.

Specific Objectives

- Create content in the Kahoot tool.
- Apply Kahoot in the field of process engineering.
- Evaluate the impact of the implementation.

Justification

The present investigation is entitled "Implementation of Kahoot as a didactic tool for the construction of knowledge, case study: subject of process engineering of the Technological Institute of Milpa Alta.", which has as its main objective: To implement Kahoot in the subject of Engineering of processes. This tool serves as a pedagogical mediation to stimulate education and generate critical thinking in the subject, such as the levels of analysis of relevance, amplitude, or precision in the approaches that arise from reality [3].

Thanks to the implementation of this tool in the process engineering subject of the Business Management Engineering career at the Technological Institute of Milpa Alta (ITMA), the benefits are as follows:

- The tool is interactive.
- It is practical.
- It is dynamic.
- Easy to understand.
- Cognitive learning.

Currently, Learning and Knowledge Technologies (TAC) conceptualized as the evolution of Information and Communication Technologies (ICT), where the concern for the accompaniment and inclusion of new technologies in the framework of learning processes lies. teaching - learning, that adhere to the appropriate and timely use of the question and allow to evolve towards multimedia literacy processes [4].

In the educational context, TAC (Learning and Knowledge Technologies) try to redirect ICT (Information and Communication Technologies) towards a more educational and pedagogical use. In this way, TACs go beyond learning to use ICT and allow us to explore these technological tools at the service of learning and the acquisition of knowledge [5].

On the other hand, the use of ICT in the classroom has been widespread for years. The education system is agree that its use favors student learning and adapts it to the times in which we live. However, by themselves they do not serve as an educational tool. Thus, the Technologies for Learning and Knowledge (TAC) arise [6].

Currently, it is not possible to think of the relevant training of a teacher without the presence of technology. Its implementation in educational spaces requires professionals equipped with methodologies, skills and abilities that facilitate its implementation employment for learning and apprehension of knowledge [7].

GROWTH

For the development of this research, it is directed to the supply chain group, of the Business Management Engineering career, evening shift, located in the Milpa Alta CDMX mayor's office.

On the other hand, an instrument validated by experts with a Cronbach's alpha of .85 was adapted. Its design and validation processes included: theoretical review, content validation and exploratory and confirmatory factor analysis, by which this instrument measures satisfaction of the use of the technological tool [8].

For the application of the survey, the following segment was made:

- Name
- Age.
- Gender.
- Matter.

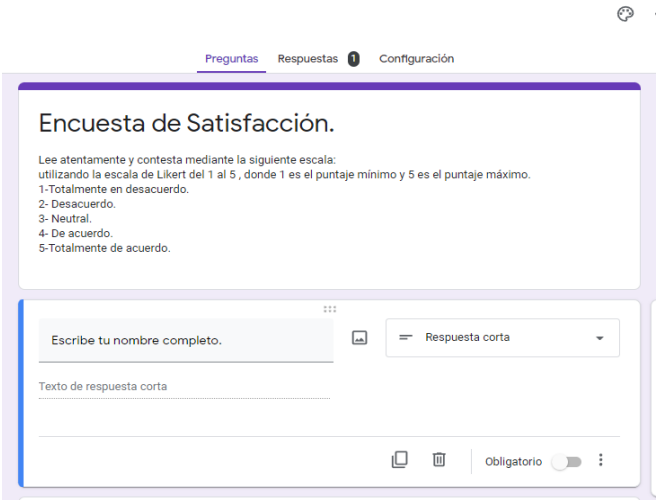

Image 1: Satisfaction survey
Source: Own elaboration (2022)

The previous image shows the skeleton of the satisfaction survey for the use of the kahoot tool, which is made up of 10 questions as shown below:

Questions that were adapted to measure student satisfaction:

Table 1: Satisfaction questionnaire

Questions
1-You consider that the use of ICT in the teaching and learning process leads to the development of new skills in your training
2-You consider that by using kahoot, you are more motivated towards learning.
3- You consider that the Kahoot tool favors collaborative work.
4-You consider that the Kahoot tool allows you to diversify teaching and learning strategies in the classroom..
5- You consider that kahoot optimizes the teaching-learning process.
6-You consider that Kahoot favors better pedagogical practices in the classroom
7-You consider that Kahoot is an interactive and practical tool
8-You consider that the Kahoot tool makes you value class activities better.
9- Based on your experience, would you recommend the use of the tool
10-You consider that the design of the Kahoot tool is easy to access.

Source: Own elaboration (2022)

The previous table shows the questionnaire to measure the satisfaction factors for the use of the "kahoot" tool, it must be remembered that the satisfaction for the use of some technological tool favors the improvement of the innovation of new technological products and services.

In recent years it has been shown that customers are more critical of the quality of the services received, which shows that a primary element in quality management and for the success of any organization is the satisfaction of needs and expectations. customer expectations [9].

DISCUSSION AND ANALYSIS OF RESULTS

Arriving at this last point of results, the following results were obtained from the implementation of the satisfaction survey for the use of the kahoot tool.

The following results are then displayed:

Of which the following graph shows the "age" segment, which indicates that 76.2% are between 20 and 25 years old, while 23.8% are between 26 and 30 years old.

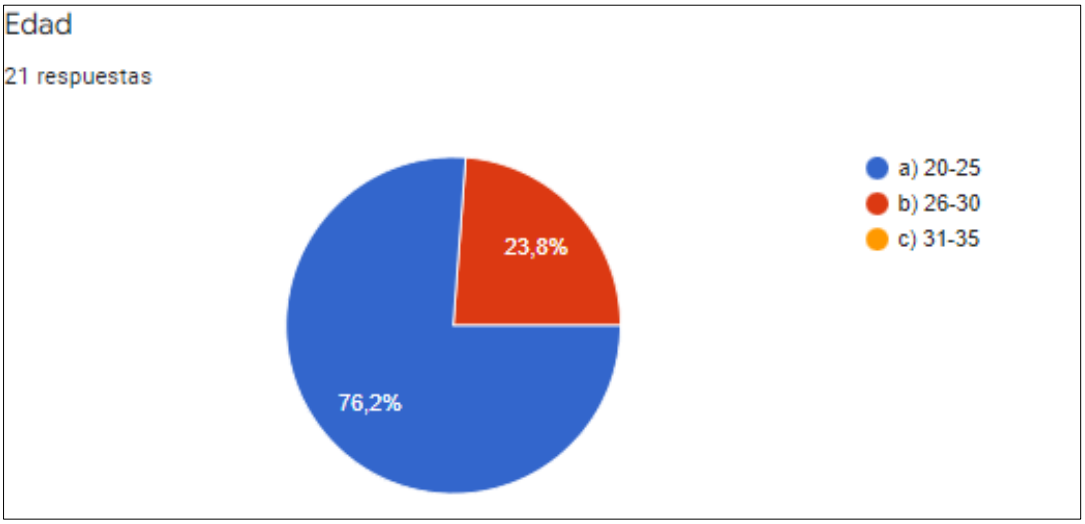

Figure 1: "Age segment"

Source: Own elaboration (2022)

The following figure shows the "gender" segment of which 65% is female, while 35% is male, as shown below:

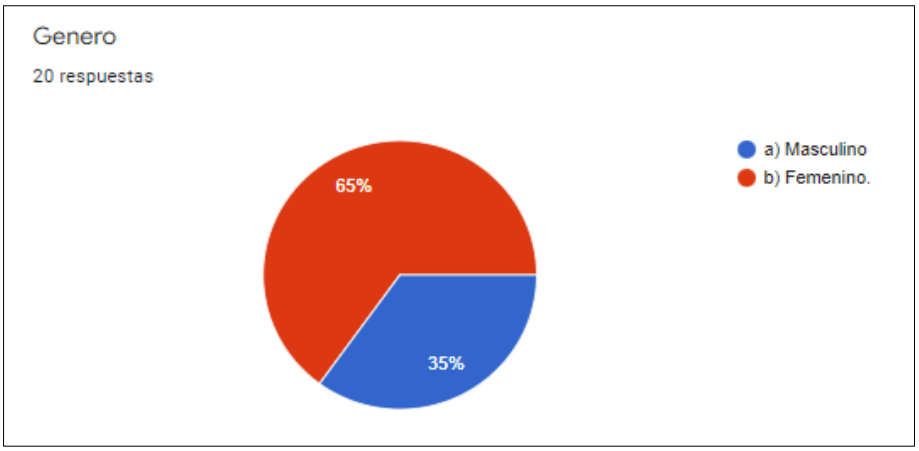

Figure 2: "Gender segment"
Source: Own elaboration (2022)

Figure 3 shows the first unknown. Do you consider that the use of ICT in the teaching and learning process leads to the development of new skills in your training:

1. Totally disagree 10%
2. Disagreement 0%
3. Neutral 10%
4. Agree 25%
5. Totally agree 55%

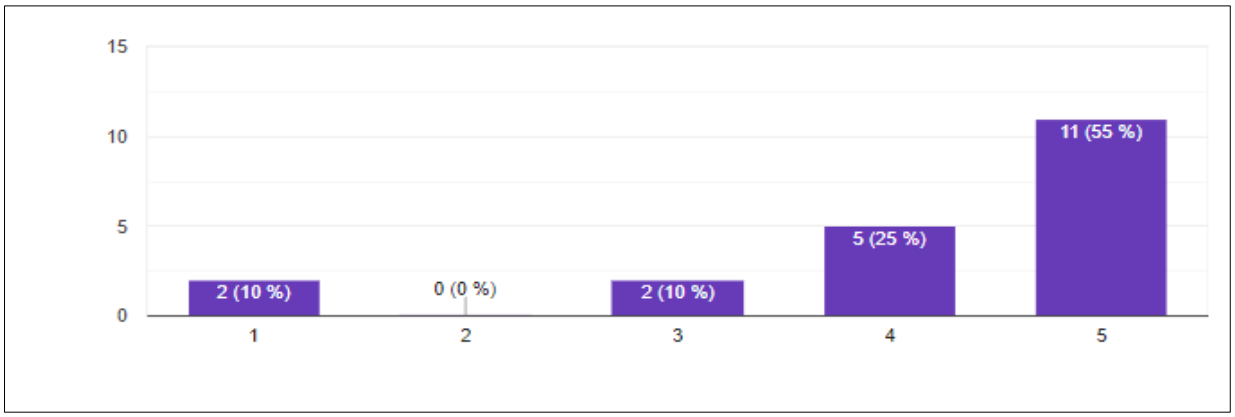

Figure 3: "Influence of the use of ICT in the teaching and learning process, in the development of new skills in your training"
Source: Own elaboration (2022)

In Figure 4, it says: You consider that by using kahoot, you find yourself more motivated towards learning. The results are shown below:

1. Strongly disagree 9.5%
2. Disagreement 14.3%
3. Neutral 33.3%
4. Agree 14.3%
5. Totally agree 28.6%

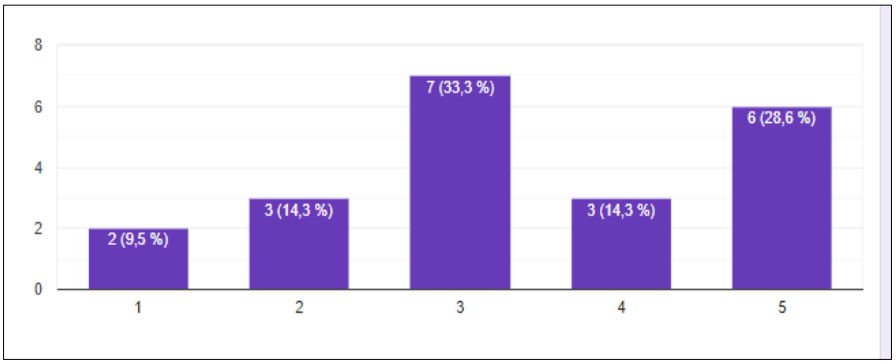

Figure 4: "Use of kahoot, as motivation towards learning"
Source: Own elaboration (2022)

For the following unknown, it says: you consider that the kahoot tool favors collaborative work, therefore, the following results were obtained:

1. Strongly disagree 9.5%
2. Disagreement 9.5%
3. Neutral 33.3%
4. Agree28.6%
5. Totally agree 19%

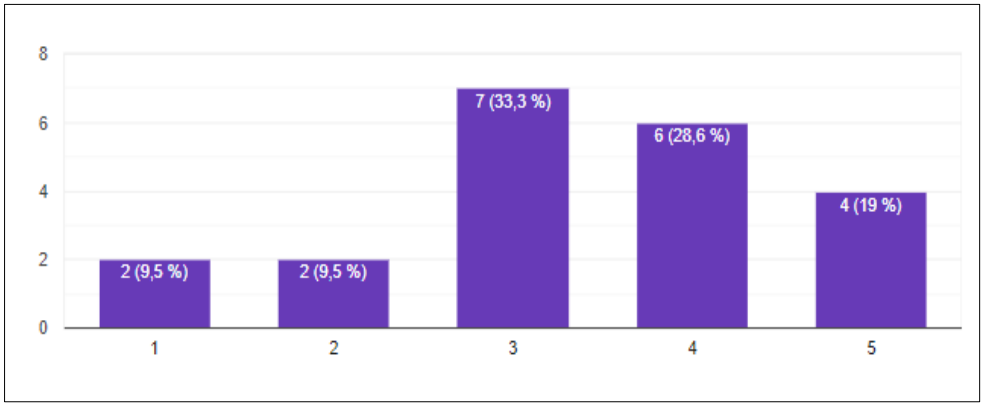

Figure 5: "Use of kahoot for collaborative work"
Source: Own elaboration (2022)

Next, the following unknown is shown: You consider that the Kahoot tool allows you to diversify teaching and learning strategies in the classroom.

1. Strongly disagree 4.8%
2. Disagreement 19%
3. Neutral 23.8%
4. Agree 23.8%
5. Totally agree 28.6%

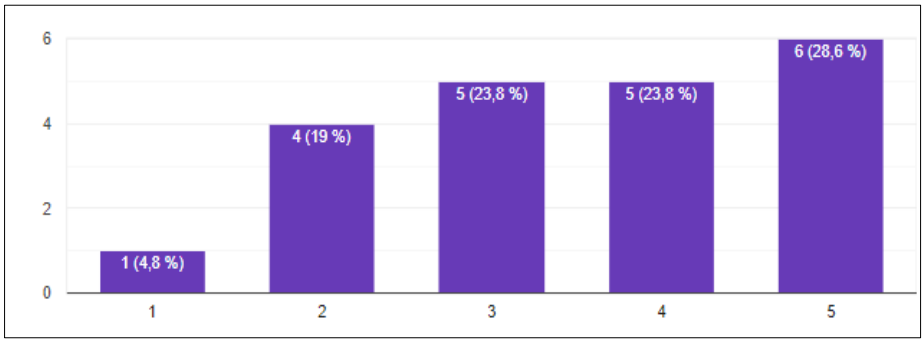

Figure 6: "Kahoot allow diversifying teaching and learning strategies"
Source: Own elaboration (2022).

The next unknown says: Do you consider that kahoot optimizes the teaching-learning process. The following results are then displayed.

1. Strongly disagree 9.5%
2. Disagreement 19%
3. Neutral 19%
4. Agree 23.8%
5. Totally agree 28.6%

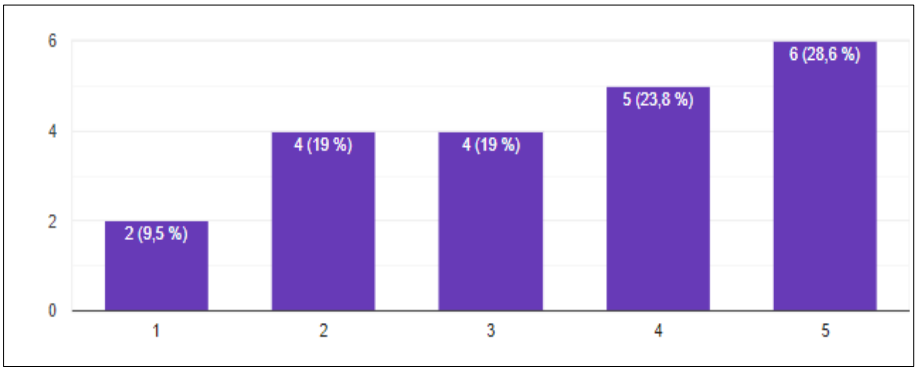

Figure 7: "Kahoot optimizes the teaching-learning process"
Source: Own elaboration (2022)

In the following unknown it says: Do you consider that in the classroom Kahoot favors better pedagogical practices. The results say the following:

1. Strongly disagree 9.5%
2. Disagreement 14.3%
3. Neutral 14.3%
4. Agree 28.6%
5. Totally agree 33.3%

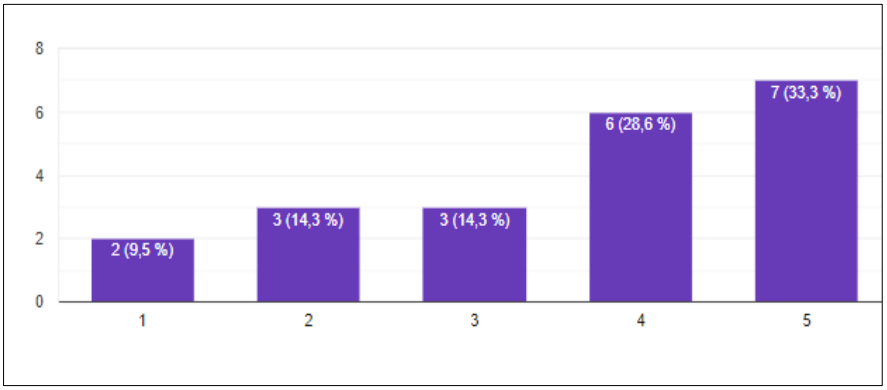

Figure 8: "Kahoot favors better pedagogical practices"
Source: Own elaboration (2022)

Then the next unknown: Do you consider Kahoot to be an interactive and practical tool. The following results were obtained:

1. Strongly disagree10%
2. Disagreement 5%
3. Neutral 10%
4. Agree 20%
5. Totally agree 55%

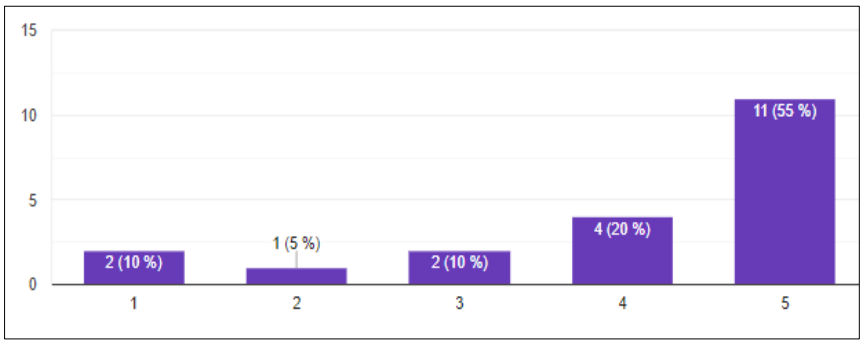

Figure 9: "Kahoot as an interactive and practical tool"
Source: Own elaboration (2022)

In the following unknown it says: Do you consider that the Kahoot tool makes you value class activities better. The following results were obtained:

1. Strongly disagree 0%
2. Disagreement 30%
3. Neutral 5%
4. Agree 30%
5. Totally agree 35%

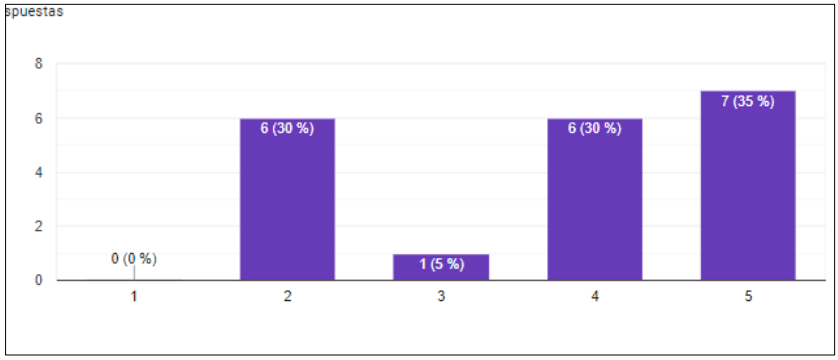

Figure 10: "Kahoot as a tool to better assess class activities"
Source: Own elaboration (2022)

In the next unknown it says: Based on your experience, would you recommend the use of the kahoot tool. For this, the following results were obtained:

1. Totally disagree 15%
2. Disagreement 10%
3. Neutral 10%
4. Agree 30%
5. Totally agree 35%

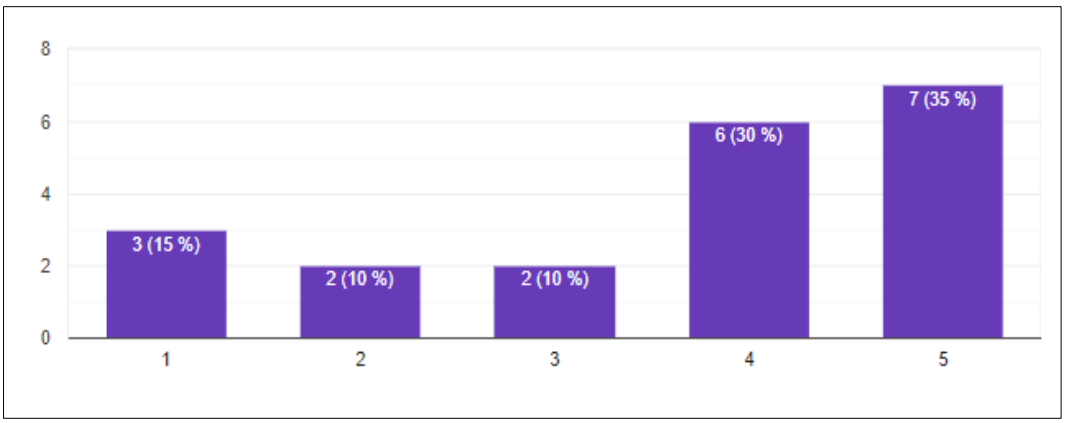

Figure 11: "Kahoot experience"
Source: Own elaboration (2022)

In the last question it says: You consider that the design of the Kahoot tool is easy to access.

1. Totally disagree 14.3%
2. Disagreement 4.8%
3. Neutral 14.3%
4. Agree 28.6%
5. Totally agree 38.1%

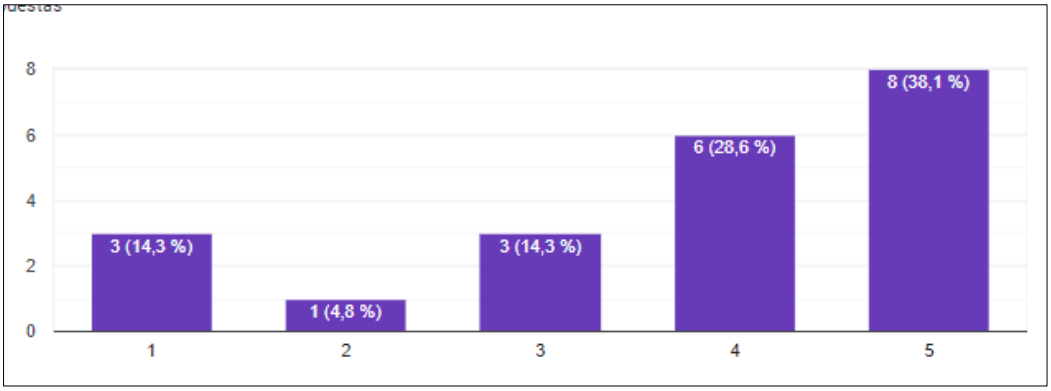

Figure 12: "Kahoot as an easily accessible tool"
Source: Own elaboration (2022)

Once the satisfaction survey was implemented, the answers were validated in the SPSS software.

Subsequently, the instrument was validated using the SPSS software. One of the computer programs that allows the geographic science professional to carry out multivariate analyzes is the SPSS statistical package for the Windows operating system [10].

Table 2: Cronbach's alpha

Estadísticas de fiabilidad

Alfa de Cronbach	N de elementos
.958	10

Source: Own elaboration (2022)

It should be noted in the previous table that through the SPSS software the results of Cronbach's Alpha were validated, which was obtained .958, which indicates that it is reliable, that is, the answers are aligned with the objective. On the other hand, it is evident that all the answers were answered with scrutiny. Finally, the minimum acceptable value for Cronbach's alpha coefficient is 0.70; below that value the internal consistency of the scale used is low. For its part, the maximum expected value is 0.90; above this value it is considered that there is redundancy or duplication [11].

CONCLUSIONS

Reaching the culmination of the investigation, it is concluded that the kahoot tool is functional and practical to strengthen the teaching-learning process, since it is a gamification tool that allows strengthening knowledge to create meaningful learning in a practical and fun way in addition to inciting the motivation to learn in students. Finally, this shows that the combination of technology, games and teaching are complementary and that, properly combined, they can bring great advantages to an educational sector that often seems inefficient in terms of performance [12].

THANKS

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