

**Implementation of playful tools as a didactic strategy, for the process of training apprentices of the Agroindustrial Center – SENA Regional Quindío**

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### **Summary**

In this pedagogical experience, it was found that the apprentices of the Technologist in Integrated Management of Quality, Environment, Safety and Occupational Health highlight that their learning was didactic, as well as innovative, because it allowed to facilitate learning, to ground the concepts acquired, to improve the way of learning in an ingenious way and allowed to apply what was learned as the strategy advanced. In addition, the playful tool facilitated a better understanding of the knowledge of the learning outcome, on the other hand, the challenge established by the game required them to give the best of themselves, to achieve what was proposed in the strategy; In addition, in apprentices I encourage the development of qualities such as perseverance, patience, responsibility and commitment to fight and achieve the best result; and, finally, it favors to a high degree teamwork in the first place to the integration of the team, in addition to there also being an interaction between the work teams, since each member of the team must assume a specific role and each one plays an important role to achieve the proposed objective through the didactic strategy, where the students have clarity that they must achieve a purpose.

### **Keywords**

Strategy, Didactics, Learning, Playful, Learning, Teamwork, Companionship, Roles, Activity, Fun

### **Introduction**

The systematization of this pedagogical experience was based on the observation and analysis of how the training process has been with the groups of apprentices in the training area of the Technologist in Integrated Management of Quality, Environment, Safety and Occupational Health, seeking to establish the impact of the playful tool used in the training program, taught at the Agroindustrial Center of SENA Regional Quindío.

Rules have been established that are part of the strategy, so that apprentices acquire the skills, knowledge, and attitudes necessary to achieve the work skills necessary for performance in a company and achieve greater effectiveness and efficiency with their training in the practical stage, which makes them competent people and apprentices.

The information of these experiences was collected in several training groups and all the information was systematized that allowed a better understanding of how this pedagogical experience was conducted, it is important to remember that the tool arose from a question. What do I do so that students can learn better?

It is important to clarify that what will be systematized is how through the creation of a thematic didactic game corresponding to the learning result can be established a whole didactic strategy that allows to approach concepts, which will be applied in a practical way in the development of the pedagogical model of SENA, thus: Know, Know-Do and Being.

Who will systematize? It is necessary to recover the history of the different actors: The instructor recovers the initial history, then with the learners interested in giving a testimonial about how the didactic tool contributed to their training process.

- Time: for the collection of information will be one and a half months.
- Participants and/or Actors:
  - ✓ Instructor: Omar Goyes.
  - ✓ Apprentices: files 1695382 – 1695328 – 1441688 of the Technologist in Integrated Management of Quality, Environment, Safety and Occupational Health program

Why systematize? Have been conducted a reflection that allows to establish a theory about the development or the impact that the didactic tool has in the formative process, this reflection arises from the collective construction of the experiences of each learner and the experience by the instructor in the application of the didactic tool.

### **Methodology**

The systematization process was based on the model proposed by Borjas (2003), who developed the following elements:

1. Definition of the systematization team: a form was elaborated to collect the perception of 20 apprentices, where 6 questions were answered, which were sent by the institutional account @misena.edu.co

2. Review of the work to be conducted: the survey information was collected in Excel format by the @misena.edu.co account, in the following aspects: opinion, impact, teamwork and improvement.
3. Establishment of the structural components of the project: an analysis of the answers given was conducted and, thus, define the categories on which the systematization would be carried out.
4. Recovery from the point of view of the participants: through the answers given by the 20 apprentices, in the training experience of the Technologist course in Integrated Management of Quality, Environment, Safety and Occupational Health, groups that were in training between 2016 and 2020 were surveyed.
5. Categorization: through the Voyant Tools, the frequencies of the words in the answers given by the surveyed learners were analyzed to define the categories.
6. Conclusions: draw conclusions according to the information collected.

The research was conducted with 20 apprentices from different training forms of the same training program, from a population of approximately 200 apprentices trained in this technologist, the questions asked were the following:

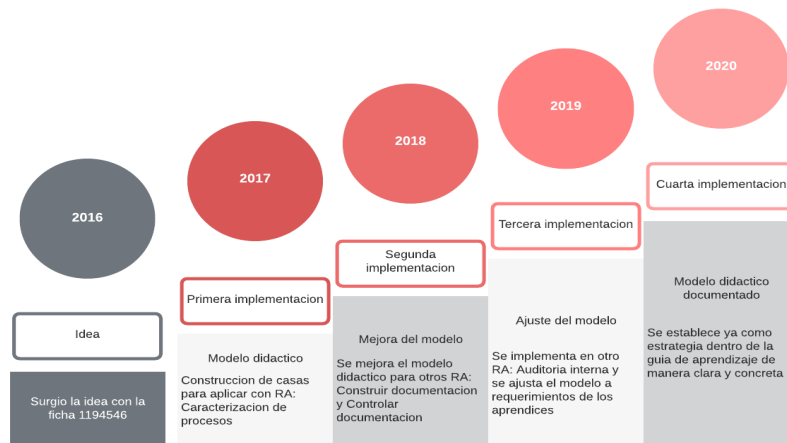
1. Tell us how you found the strategy?
2. What did the strategy bring to your training?
3. How did you bring the strategy to your peers?
4. Has teamwork strengthened the strategy?
5. What would you improve with the strategy?
6. Has the strategy contributed to achieving the learning outcome?

### Contextualization of the experience

The pedagogical experience was implemented from 2016 to 2020, as shown in Figure 1.

**Figure 1**

*Timeline of the pedagogical experience*

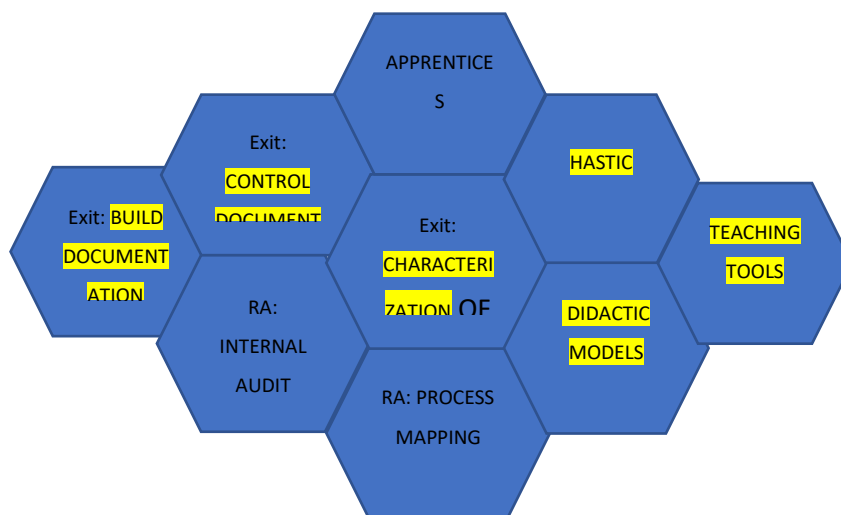


Nota: RA (Learning Outcome)

On the other hand, the tool's workspaces are shown in Figure 2.

**Figure 2**

*Areas of expertise of the pedagogical experience, (Patchwork quilt)*



Note: RA (Learning Outcome)

We work on the following thematic axes, presented in Table 1.

**Table 1**

*Thematic axes, used in the systematization of the pedagogical experience*

| <b>DIMENSIONS</b> | <b>APPROACH</b>   | <b>ACTIONS</b>   |
|-------------------|---|--|
| <b>STAFF</b>      | Specify the vital project and actively move towards its realization.                            | Stimulate divergent thinking in the resolution of problematic situations, identifying the creative capacity that we all have.    |
| <b>SOCIAL</b>     | Conduct initiatives that have an impact on improving the quality of life and common well-being. | To root the group experience through different techniques of humanistic depth, experiencing belonging and reference.             |
| <b>PRODUCTIVE</b> | Creation of wealth and prosperity in a sustainable and supportive framework.                    | Test situations in which aspects of the productive field are addressed, laying the foundation for the design of a business plan. |

Note: Source of this research, the dimensions and focus are the most important aspects to explain the impact of the playful tool.

The didactic tool based on the playful "Create a company that manufactures didactic games", was applied in a transversal way in each of the learning outcomes, thus achieving a sequencing in the activities based on clear objectives and considering the knowledge defined in the training program.

The planning of the strategy established a schedule based on the development of an integrative project that systematically coupled the workshops held, the apprentice at the end delivered the project and sustained it; The following is an example of some of the instruments mentioned above:

### **T1: Methodology for the implementation of a document system**

The trainee must make a summary in PowerPoint presentation or manuscript for the trainees who do not have a computer, of the document "Model of implementation of a quality management system according to ISO 9001", at the end of the session will deliver it. Remember that the content of the document will be considered in EC1 (Knowledge Evidence 1).

Coverage must meet the requirements requested by the instructor

## **Workshop No.2: Guidelines for the preparation of documentation of quality management systems**

The apprentice must form teams of 4 people and develop a didactic game where the theme of the Colombian Technical Guide GTC-ISO/TR 10013 is developed, which establishes the guidelines for the documentation of the quality management system.

The didactic game must be conceived, elaborated and applied to its peers; Those who win the game will have a rating of 5 and the other participants will have a rating lower than 4, and according to the methodology of the game if it has order of arrival tenths will be deducted in the order of arrival, and if the methodology gives a single winner the other participants who lost the game will have a rating of 3.7.

The games developed by each team will be passed to a team by lottery drawn by the instructor and each team will play it and the team will hand over the order of the winners or winners and losers or losers to register their qualification.

The game must meet the following requirements:

- The game should last between 50 and 60 minutes.
- It should have a striking name and according to the theme of the workshop.
- It should be tested and not improvised and lend itself to confusion.
- It should have instructions for use for those who play.
- It must have rules of the game.
- It must have if the design of the game establishes it: the board, chips, or everything the participant needs to be able to play it.
- It must clearly state who wins the game and who or who loses.

EVIDENCE:

Deliver a format with header and complying with the standards of development of the Quality Management System, according to ISO 9000:2005 is a management system to direct and control an organization; document will be called LOGÁCORRA DE ELABORACIÓN DEL

JUEGO, in this document they must put the names of the members, example header. (Goyes, 2018)

## **Integrator Project**

### **Construction Management System Documentation**

The apprentice must form teams of 4 people and prepare documents of a management system for a company that designs, manufactures, and markets innovative educational games throughout the country with themes of integrated management systems (quality, health and safety at work and environment), for the construction of the documentation must elaborate a map of processes. To build the documentation must be based on the standard GTC / ISO 10013.

The work team must form a quality committee and each team member with his specific role: manager, system leader and process leaders, the system leader will perform the functions of committee secretary. The documentation under construction must be submitted in manuscript to the instructor for approval and subsequent construction of the document in magnetic medium.

#### **EVIDENCE:**

1. Process map.
2. Process characterization.
3. Documented procedures.
4. Work instructions.
5. Forms and records.
6. Quality plans.
7. Quality manual (contains points 1 to 6 of the evidence, including: Quality policy, quality objectives, mission, and vision of the company □ Strategic platform).
8. Support of the integrator project + Prototype of the game packaged and ready for the market.



Deliver documents in magnetic medium with header and complying with standards of elaboration of the Quality Management System, according to ISO 9000:2005 is a management system to direct and control an organization; (Goyes, 2018).

### **Category approach**

#### **Learning by playing, from the perspective of the learner**

The learning process becomes more effective, since the students were able to improve their senses and their reasoning in the face of the proposed activity, according to Echeverri and Gomes (2009) point out that George Bernard, "states that playful environments enhance learning, considering that: we learn 20% of what we hear, 50% of what we see and 80% of what we do". Through the playful environment based on the methodology used, 80% of the learning capacity is enhanced, as stated by one of the trainees surveyed, as follows: "it was a very good strategy, because it allowed us to contextualize more how it works and the management system of a company is created, allowing us, as students, to understand the subject more." (Apprentice No. 10:2020)

According to Novak, (1998), "In the learning under construction, the concepts are embedded in the cognitive structure of the student; where he learns to learn by increasing his knowledge"; the above is evidenced in the following story: "super good, one of the best ways to learn is by doing didactic activities as in this case" (Apprentice No. 12: 2020). This is how the knowledge acquired becomes greater memory by the learner and manages to link the playfulness of the tool with ideas embodied in an object that was built by him.

#### **Motivation, based on playfulness**

According to Monsalve et al., (2016): "Through playfulness it can be given as a component that frames all attitudinal aspects of students in the learning processes, and that information is actively processed." This can be evidenced in what was expressed by the apprentices, as they express in their words: "I believe that in most of my training this strategy was the one that contributed the most in my technological career, as it allowed us to create and contribute with

ideas to make the company with all the requirements and minimum quality standards" (Apprentice 4:2020).

In addition, according to Monsalve and others, (2016), "The didactic interaction, having as focus of attention the knowledge and understanding of the sociocommunicative and multicultural dynamics that occur in the classroom". Based on the above, it can be established that the playful tool in the act of teaching-learning optimizes self-motivation, as can be evidenced in the following reports of the students: "He gave us all something good, including the effort to do a good job" (Apprentice 1:2020); "yes, because it helped me motivate and be interested in the class every day" (Apprentice 2:2020) and "yes, motivation to continue with recreational learning without stepping out of your line of learning" (Apprentice 3:2020).

### **Teamwork, with an ultimate purpose for the learner**

Taking into account, as stated by Tannenbaum, Bear and Salas (1992, p. 196) "A team is a characteristic set of two or more people who interact dynamically, independently and adaptively in relation to a goal, objective or mission, where each has specific roles or functions"; According to the above, it can be seen that the didactic strategy allowed the learners to assume roles, under a main responsibility that was to elaborate a didactic game, and fulfill what was required, as stated by some of the apprentices surveyed: "Yes, of course, the strategy served a lot to work in a team, because each one must play an important role to achieve the proposed objectives and achieve customer satisfaction." (Apprentice 17:2020).

It is perceived that the learners with the didactic strategy implemented, and with the formation of teams were in the need to interact, raise work models and resolve conflicts, to meet the proposed objective, they needed each other, as MC has called. Intyre and Salas (1995) "the sense of interdependence", and this situation is evidenced through research, when a learner states the following: "if, regardless of our differences, personalities achieve the purpose that was the game and all its components". (Apprentice 16:2020) and, on the other hand, "A lot, for it was up to the whole group to be able to present and sustain the process" (Apprentice 13:2020).

### **Learnings from the Executing Team**

The learning acquired is very enriching, because everything came up with the question: How can I do so that the students can learn in a better way and with more appropriation of

knowledge?; At the beginning of the implementation of the strategy generated a lot of expectation and uncertainty as to its usefulness, but it was necessary to take the risk, and so each time a new group entered training it was adjusted and improvements were developed in the didactic strategy, taking into account the above it is important to highlight that the most important learning is that through the process of playful training and teaching-learning-evaluation activities, They are much more consistent so that the learner acquires and is trained in its technical part with a greater degree of understanding of the knowledge and strengthening the attitudes of a person who will act in the work environment, such as responsibility and the achievement of objectives.

### **Conclusions**

From the systematization of this pedagogical experience emerge several conclusions; which are based not only on the study carried out, but on the experience that for approximately 5 years has been implemented in the training environments of the Agroindustrial Center of SENA – Quindío Regional; The acquisition of new knowledge by the apprentices was very didactic and facilitated so that they understood the knowledge established in the training program, in addition to presenting relevant evidence of performance and product and in a simulation very close to a work environment, as stated by the interviewees.

The playful tool was a challenge for the learners who were members of each work team and among the different teams this challenge became the one that would be the best, generating a degree of competitiveness, obviously always regulated by the instructor; This was motivating for the trainees, because in the development of the strategy they cooperated with each other to give the best of themselves, and in cases where this did not happen, some reluctant learners had to solve this situation with their peers, improving the participation of the group in the elaboration of the game and its subsequent support; which achieves self-motivation and a greater interest in the class session.

Finally, the playful tool, favors teamwork to a high degree in the first place, because it integrates each of the team members, in addition to there is also an interaction between work teams that supported each other collaboratively, being totally evident that as a team they made decisions where each team member must assume a specific role and became aware that each

one plays an important role to achieve the proposed goal through the strategy didactic, and are also clear that they must achieve a purpose.

### **Futurology**

This pedagogical experience faces the following challenges, in terms of replicability: of course it can be replicated in any training center, but it requires time for the instructor to adjust it according to his training program, since, as a dynamic subject of the strategy, he is responsible for the planning of teaching-learning activities and requires great support, Especially because it must be trained at an early stage in the implementation of the playful tool and a follow-up to adjust the strategy to the learning outcome that the instructor guides his learners.

As for sustainability, in the particular case of the Agroindustrial Center, it will continue to be applied in the different training programs that it enters, but if it were applied in other training centers, a program of transfer of pedagogical experience should be established and the recreational experience strengthened as a didactic strategy so that the training centers can implement it. And although in this sense the instructors have autonomy to develop the different strategies in the training process, which is possible to be well received by some instructors and by others not, which will affect sustainability.

On the other hand, relevance today is very necessary and, in the future, will be essential, because the use of tools based on applications or virtuality is already generating the use of gamification in the educational sector, where SENA at some point must migrate and design programs or plans that allow to establish as a didactic strategy within the training.

Finally, the impact it generates in training can be given in an integral way, in apprentices it will be possible to promote self-motivation in the face of the approach of challenges and the development of teaching-learning activities based on objectives that strengthen integral professional training.

### **References**

Ausubel, D. and Novak, H. (1998). *Educational psychology*. Trillas Editorial.

Borjas, B. (2003). *Educational management at the service of innovation*. Editorial: International Federation of Faith and Joy.

Echeverri, J and Gomes, J. (2009). *Theoretical framework of research on the playful dimension of the teacher in training*.

McIntyre, R. M., & Salas, E. (1995). *Measurement and Management of Team Performance: Emerging Principles of Complex Environments*. In R. A. Guzzo, & E. Salas (Orgs.), *Effectiveness of Teams and Decision Making in Organizations* (pp. 9-45). Jossey-Bass.

Monsalve, M., Foronda, R., & Mena, S. (2016). *Playfulness as a teaching-learning tool*. [Specialization Thesis, Los Libertadores University Foundation].

Tannenbaum, S. I., Barba, R. L., & Salas, E. (1992). *Team building and its influence on team effectiveness: an examination of conceptual and empirical developments*. In K. Kelley (Ed.), *Issues, theory, and research in industrial/organizational psychology* (pp. 117-153)