Phenomenographic Study on the Teaching-Learning of Entrepreneurship through the use of Role Playing Games

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ABSTRACT

In this article we establish the contribution of a role playing game in teaching entrepreneurship by using a phenomenological approach, for identifying and describing the different ways in which a group of people experience a particular phenomenon. We present the findings in a statement of results with referential and structural aspects, indicating what and how the students learn, respectively. With the game we manage to strengthen, among other things, collaborative work, decision making, strategy, and the identification of types of entrepreneurship, as well as the recognition of the actors of the ecosystem and their relationship.

INTRODUCTION

The educational environment of the entrepreneurship has been imbued with various anecdotal and lightweight considerations (Fayolle, 2013). Its rapid growth has been widely documented, showing how the subject, which was initially focused on the management of small businesses in the United States, has been extended to many contexts and countries through disciplines in academic settings, permeating the levels of training of undergraduate, graduate, and even PhD degrees (Fayolle, Verzat and Wapshott, 2016; Katz, 2003; Pittaway and Cope, 2007b).

Fayolle *et al*. (2016) highlight that business education must: (a) reflect a better understanding of the skills and abilities it intends to create; (b) provide more effective methods to evaluate educational pedagogies; and (c) undertake more rigorous studies of its educational effectiveness.

In this sense, we should consider -although the concepts related to entrepreneurship can be easily appropriated- entrepreneurship teaching has a high attitudinal component based on the skills and competences of the students. Not surprisingly, **the teaching of entrepreneurship requires experiential components for increasing its effectiveness** (Rasmussen and Sørheim 2006; Haase and Lautenschläger 2011; Neck and Greene 2011; Rideout and Gray 2013).

During the last years, the Entrepreneurship Program of EAFIT University has worked on the development of didactic resources for contributing to the implementation of new teaching methodologies, in order to offer students the possibility to learn in a different way and achieve a greater appropriation of knowledge.

Currently, the area has four books; 18 cases of entrepreneurs of the Institution written in different narrative formats; seven videos and three educational games, two of them aimed at the field of innovation and a role playing game aimed especially at teaching entrepreneurship, called Villa Innovadora ("Innovative village"), whose "teaser" is available at the following link: https://www.youtube.com/watch?v=X5dSF4H_AM4&feature=youtu.be

This game was developed by a group of teachers and students of the University, in order to test the teaching of entrepreneurship by using games in the "Iniciativa y cultura empresarial" (Initiative and Business Culture) subject. It is important to note that, in addition to reinforcing concepts around the venture with Villa Innovadora, the intention was to take advantage of the dynamics of this role playing game to assess students' competencies and attitudes.

This is how this research addresses a problem that is summarized in the following question: **What and how do students learn at the Iniciativa y cultura empresarial course at EAFIT University, after participating in a role playing game?**

THEORETICAL FRAMEWORK

Crawford (cited by Gómez, 2010) indicates that "a game constitutes a closed formal system that subjectively represents a subset of reality". In addition, it is possible to obtain new versions of the story each time it is executed. According to Kasvi (cited by Gómez, 2010), "this final result depends on the global conditions of the game, as well as the characteristics of its participants and their interaction."

The teaching of entrepreneurship, meanwhile, has developed different learning methods, some more used than others in the university areas. Some of the main methods are established in exhibit 1.

EXHIBIT 1
TABLE 1. LEARNING METHODS. CONSTRUCTION OF THE RESEARCHERS.

Method	Source
Action learning	(Leitch and Harrison, 1999).
Role playing games of new enterprise	(Clouse, 1990; Kelmar, 1992).
Serious games	(Hindle, 2002; Low, Venkataraman and Srivatsan, 1994).
Development of real enterprises	(Haines, 1988).
Courses based on abilities	(Ulijn, Duill and Robertson, 2004).
Role playing games in video	(Robertson and Collins, 2003).
Experience learning	(Daly, 2001; Sexton and Upton, 1987).
Tutorials	(Stewart and Knowles, 2003).

According to the statements of DeNeve and Heppner (1997), a role playing game is considered in university education as an active learning technique with an increasing potential demand among teachers and students as opposed to passive learning techniques such as lectures or master classes, especially for the possibility of combining new knowledge with previously acquired information.

Similarly, Barbato (1999) states that "the playful activity allows the player (student) an organization of ideas in such a way that they can extract those considered fundamental to relate them to other situations, making the learning meaningful", a situation that offers a very important opportunity for the teacher to expand teaching-learning strategies and didactics that contribute to a more comprehensive professional training, in which the main beneficiary will be the student.

The educational potential of the game is expressed in intentionally edifying interaction with other people. This is how Bandura (1977) states, by observing and imitating other individuals or the symbolic characters represented in the game and toys, the human being acquires new patterns of behavior.

In general, the features making games a valid tool in teaching and learning, according to several authors cited by Gómez (2010), are:

Motivation: Games generate entertainment in their practitioners, who choose to play them motivated by the desire to have fun (Jensen, 2006; Lee *et al*., 2004; Dibona, 2004).
Representativity: It is possible to simulate a part of reality through games (Kasvi, 2000).
Interactivity and dynamism: Besides representing a part of reality, it is possible to interact with it (Kasvi, 2000).
Security: It is possible to recreate a part of reality, but without any danger of damage to health or integrity (Kasvi, 2000).

RPGs (Role playing games) contribute to the teaching and learning process as far as they allow, support or help in what Ambrose, *et al* (2010) have called the seven principles of learning:

1. The prior knowledge of students can help or hinder learning.
2. How students organize knowledge influences how they learn and apply what they know.
3. Student motivation determines, directs and sustains what they do to learn.
4. For developing mastery, students should acquire skills, practice their integration and know when to apply what they have learned.
5. Targeted practice coupled with targeted feedback improves the quality of student learning.
6. Students are not only intellectual beings, but also social and emotional.
7. For becoming self-directed learners, students should learn to control and adjust their approaches to learning.

Games, as tools for achieving a significant experience in an educational process, not only help in what is learned, but also in how young people learn. This is closely related to the approaches of Bloom *et al* (cited by Owen, 2018), who indicate after having completed a learning process, a person should acquire new skills and knowledge, in accordance to the three domains of educational activities worked by these authors respectively: the cognitive, the affective, and the psychomotor.

Role playing games contribute to the education and attitudes of students, given they enhance creativity, unexploited skills, and the imagination of people; promote reading and allow access to knowledge in a meaningful way turning absurd information into relevant. In addition, they contribute to the development of empathy and tolerance, and foster mutual support and the relationship of

equality.

Well planned and directed RPGs stimulate, educate, and allow for exercising faculties in real life are constrained or oppressed by the environment and circumstances. The practice of RPGs often provides learning, dexterity, and a legitimate evasion very similar to happiness (Pérez Reverte, 1994).

RESEARCH METHODOLOGY

This research arises from the design of a module of the Iniciativa y cultura empresarial subject, in the EAFIT University, under the active learning methodology. The work was carried out in the second semester of 2017 with 8 out of the 27 groups of the subject, led by 4 teachers. In the pilot we modify the third module of the subject, by incorporating in it the game Villa Innovadora.

This role playing game, with hidden identities, aims to reinforce skills and values associated with entrepreneurship, socializing in a fun way basic concepts around the entrepreneurial ecosystem, so that students know the different actors that compose it and the roles of these.

We have 27 cards with seven key characters: Entrepreneurs (traditional, cultural, social, and technological), "Creaticidas" (Creativity killers), Mentor, Innovator, Networker, State, Investor, CEO of the Multinational and Indecisive Entrepreneur.

Guided by a narrator, students assume the roles of such characters, facing situations arising in real life: analysis of problems, decision making, generation of ideas, among many others. In this way, they experience the dynamics of the entrepreneurial world.

The experiment consisted of selecting 320 students out of the 940 who studied the Iniciativa y cultura empresarial course at that time. On a platform, students were able to consult the game guidelines and watch a video for explaining its dynamics.

With the purpose of validating the game, an instrument was designed to specifically investigate perceptions of its use in the classroom. The questionnaire was answered voluntarily by 112 students and then it was complemented with 21 interviews made to different students of the eight groups.

The research method used for this work is the phenomenographic, which aims to "identify and describe the qualitatively different ways in which people experience (understand, perceive) phenomena of their environment. Experiences are not considered as physical or mental entities, but as a relation between object and subject "(González-Ugalde, 2014).

According to Bowden (2000), the interview is, in general, the main means of data collection in the phenomenographic studies. "The analysis, in turn, aims to build the results space that represents the variation in the ways of experiencing or understanding a phenomenon by a group of people" (González-Ugalde, 2014)

Participants

The empirical material consisted in interviews to students of the Iniciativa y cultura empresarial subject of the EAFIT University, belonging to the Systems Engineering, Process Engineering, Civil Engineering, Mathematical Engineering, Mechanical Engineering, Finance, Political Sciences, Social Communication, and Business Administration programs.

The total sample was 21 students, which is considered broad enough to reveal most of the possible variations and thus allow a defensible interpretation (Trigwell, 2000). The young people were randomly selected once a session of the Villa Innovadora game was held in all the groups.

Collection and analysis of data

The data collection was carried out by using semi-structured interviews with the scope of an open structure. Each interview lasted between 10 and 15 minutes. All communication was recorded, transcribed and subjected to qualitative analysis.

The transcripts were analyzed and categorized qualitatively, in order to establish similarities and differences in the ways of experiencing and understanding the phenomenon of the use of a role playing game in the teaching of entrepreneurship.

The *initial phase* of the analysis consisted of familiarization with the results of the interview. Afterwards, several compilations and reductions were made by, identifying verbatims or expressions in each interview, and then by making comments for analyzing and summarizing the answers; finally we build a table indicating the student name, gender, age, undergraduate program and the semester, the teacher in charge, the questions of the interview, the verbatims with their answers and the comments of the researchers about the latter.

The results were used to reveal characteristics or distinctive aspects of each statement and relationships of these statements with the object of the study. Likewise, those allowed to visualize common elements and differences within the responses of the interviewees. This phase could be called a *comparison phase*. Subsequently, the analysis continued with the grouping of the responses with similar characteristics.

The third phase could be called *articulation or categorization*, in which some categories were identified and described, showing their unique qualities related to the phenomenon and also the internal relations within the category analyzed. This allowed us to appreciate how the learning experience led to two major divisions: the first one shows some **referential aspects**, which consist of what the students think they are learning; and a second that links **structural aspects**, which refer to how students approach their learning (the way they study or learn).

RESULTS

The 21 interviews conducted show a state of results where the referential aspects cover categories such as **knowing, doing,**

and being. A table is displayed in exhibit 2 with the categories and concepts perceived from the students of the subject.

EXHIBIT 2
TABLE 2. REFERENTIAL ASPECTS EMERGED. CONSTRUCTION OF THE RESEARCHERS.

Category	Lessons learned
Knowing	Ecosystems, roles of the actors of an ecosystem, and types of entrepreneurship.
Doing	Analysis of problems, generation of ideas, strategy, creativity, and decision making.
Being	Innovative skills, communication, alliances (teamwork), leadership, self-knowledge, listening, and self-control.

The use of the Villa Innovadora game also evidenced the way in which students learn. Thus, three categories emerged corresponding to the structural aspects: **understanding, application, and analysis of roles**.

EXHIBIT 3
TABLE 3. STRUCTURAL ASPECTS EMERGED. CONSTRUCTION OF THE RESEARCHERS.

Category	Explanation
Understanding of roles	The student understands the role of an actor of the entrepreneurial ecosystem, reflected in the game by using a role.
Application of roles	The student appropriately uses the properties or attributes corresponding to the role of an actor in the entrepreneurial ecosystem.
Analysis of roles	The participant manages to establish pros and cons by playing the role of the characters he was able to represent in the game.

The Villa Innovadora game and its contribution to knowledge

In this part, what is linked to the perceptions students had about learning is presented. To find out, we are based on questions such as: **What topics do you think we wanted to reinforce with the game? Do you think it worked? What were the challenges you found on it?** This allowed us for establishing the perceptions regarding what the students learned.

After playing Villa Innovadora, the students declared to have learned about the entrepreneurial ecosystem, the obstacles to be found on it and the actors included. In addition, some of them related the experience in the game with real life. The following statements summarize what the students learned:

- "[Among the issues that I think they wanted to reinforce is] take into account the entrepreneurial ecosystem we are in, where obstacles are found, people who do not contribute, others who do."
- "[Regarding the challenges I found in the game] I resembled it to real life. There are many entrepreneurs, but also many people who do not want us to move forward, so one challenge I found was to find more people to support you to put aside the people who do not want you to grow up. "
- "I found the roles very interesting, the entrepreneurs, the State and the Creaticidas, because it shows what happens in real life, how entrepreneurs have certain obstacles and how the State intervenes".
- "[Among the issues that I think they wanted to reinforce is] the role of the entrepreneur in an innovative system and the obstacles that exist when innovating. I think it's contextualizing for when you're going to be an entrepreneur. "
Another contribution generated by the use of the game is related to learning about the types of entrepreneurships and abilities of the students. This is shown in the following two comments:
- "[Within the issues that I think they wanted to reinforce are] the types of entrepreneurship and the part that one can exercise."
- "[Among the issues that I think they wanted to reinforce are] types of entrepreneurs and the skills each one has to take advantage of them".

The Villa Innovadora game and its contribution to doing

The Villa Innovadora role-playing game also achieved the students of the Initiative and Business Culture subject develop

competencies in doing. Identifying, analyzing and reflecting on the problems of a context were elements of learning provided by the game. The following comments demonstrate this:

- "[One of the challenges I found in the game was] to offer quick solutions to problems."
- "[One of the issues that I think they wanted to strengthen is the generation of] solutions to current problems to apply in the future."
- "[One of the issues that I think they wanted to reinforce is] the rapid analysis of problems and solutions."

With regard to decision-making, the students stated the following:
- "It is very difficult to make that decision of getting rid of the other teams."
- "[One of the challenges I found in the game was] analyze each one and make the decision."
- "[One of the challenges I found in the game was] thinking very fast the best solution."

The following phrases denoted an important contribution of the game to the development of entrepreneurial spirit, since it showed how playing Villa Innovadora helped students to learn strategies:
- "[The game] I liked it a lot because it's a matter of thinking about the movements that you do, to avoid giving yourself away, and to be very aware of other people".
- "[One of the challenges I found in the game was] create strategy to know what to know and what team to eliminate."

Specifically, some of the interviewed students pointed out the way in which the game contributed to the creative process of the entrepreneur, given that it allowed the development and promotion of creativity in favor of the generation of ideas and, in turn, of entrepreneurship in general. The testimonies presented below give an account of this:

- "[The game] can be an element to develop creativity and entrepreneurship."
- "It is an entertaining game that encourages creativity".
- "[One of the challenges I found in the game was] to generate more ideas to launch myself to be a better entrepreneur".
- "[The game] helps generate entrepreneurial ideas."

The Villa Innovadora game and its contribution to being

In relation to being, the Villa Innovadora game allowed students for being aware of the following learning: communication, teamwork and alliances, leadership, self-knowledge, listening, self-control, and integrity.

Regarding the communication aspects, students highlighted topics such as: verbal and non-verbal expressions, public speaking, persuasion or conviction when communicating and arguing. Following are several extracts showing this situation:

- "You learn to read the expressions of others."
- "[One of the issues that I think they wanted to reinforce is] oral and corporal expression."
- "[One of the challenges I found in the game was] being able to convince or defend myself."
- "[One of the challenges I found in the game was that] you have to be very convincing in a very short time."

The students also expressed evidence of aspects such as teamwork and alliances:

- "[One of the issues that I think they wanted to reinforce is] know how to make alliances".
- "[One of the challenges I found in the game was] teamwork."
- "[The game] was more about group strategy than about applying the concepts of the subject".

The self-knowledge provided by the tool showed how the students detected situations as simple as closing their eyes caused discomfort, or working with others affected them in their decision-making and preferred to play alone.

EXHIBIT 4
TABLE 4. LESSONS LEARNED. CONSTRUCTION OF THE RESEARCHERS.

Category	Lessons learned
Knowing	Ecosystems, roles of the actors of an ecosystem, and types of entrepreneurship.
Doing	Analysis of problems, generation of ideas, strategy, creativity, and decision making.
Being	Innovative skills, communication, alliances (teamwork), leadership, self-knowledge, listening, and self-control.

- "I found [The game] interesting to explore facets of oneself. Each character gives the possibility to explore something of oneself ".
- "Very interesting [the game] because you can get to know yourself better, your colleagues and your entrepreneurial capacity".
- "My character was very protagonist, but I was limited to being a couple because we had to agree, it would have been better to play alone".

As a synthesis, the great learning achieved by the Iniciativa y cultura empresarial students in terms of knowing, doing and being at the time of playing Villa Innovadora is presented.

As indicated previously, **structural aspects** also emerged from the analysis of the experiment. The main findings are presented below. This will explain how students approach their learning (the way they learn and assume the act of learning).

The answers evidenced on the part of the student an understanding of the role he/she had to assume in the game were categorized under the label "**understands the role**". Likewise, those responses indicated the student was appropriately using the attributes corresponding to the character or actor of the ecosystem he was representing were considered within the "**applies the role**" category. Finally, in the category "**analyzes the role,**" the answers were placed indicating the participant was able to establish pros and cons of a character by representing it in the game.

The Villa Innovadora game and its contribution to the understanding of the role

The students of the experiment showed, by their answers, their way of learning or assuming the act of learning was linked to the role played in the game. The questions were the following: **What was your role? How did you think? What role would you have liked to play? What decisions could you make in the game under your role?**

Once the students understood their role in the Villa Innovadora game, they were able to use it in their context and generate results on positive occasions for their team and on other less favorable ones.

The fact of wanting to try a different role in future games is a proof of understanding of the role, since the student manages to interpret facts, distinguish roles, and associate these two factors.

- "[My Indecisive Entrepreneur role seemed to me] nice, I would have liked to play with the CEO because he has absolute power".
- "I really liked [my role of Creaticide] because you could know who the characters were, I would have liked to play with the Mentor".
  Understanding the roles in the game involves students being attentive to their attitudes and those of their peers. Additionally, they must move from passive to more active positions, depending on the role they wish to play. That is the case of those who had the letter of the Indecisive Entrepreneur, because they had to decide whether to be an Entrepreneur or Creaticide.
- "Being an Indecisive Entrepreneur seemed entertaining because I had to choose whether to be an Entrepreneur or Creaticide".

The game Villa Innovadora and its contribution to the application of the role

Some students demonstrated their ability to discover and examine alternatives, experiment with potential future roles and build possible scenarios with other players in the game, which indicates they were able to apply the role.

- "It was great [to be a Mentor] because I could discover who was who. I liked the Mentor very much, but suddenly in another game it would be good to be the Networker or the Investor ".
- "I liked it a lot [being Innovator], especially because you have to do strategies. I would have liked to play with the Networker to put together a subgroup. "

The Villa Innovadora game and its contribution to the analysis of the role

In the game some students went beyond understanding and applying the role; They analyzed not only their role, but the situation, their "opponents", and the arguments they used to defend themselves in the trials. Such students were able to show how the power of the roles can be transferred to the role of some actors in the ecosystem in real life.

- "I found the roles, Entrepreneurs, the State and the Creaticides very interesting because it shows what happens in real life, how entrepreneurs have certain obstacles and how the State intervenes".
- "I really liked [my role as Creaticide], but at a general level it affects the Villa a lot, I would have liked to be the State".

DISCUSSION

This research has focused on establishing what and how the students of the Iniciativa y cultura empresarial course at the EAFIT University learn after using the Villa Innovadora role-playing game. The findings result in categories of analysis for the

referential aspect that account for what students learned by using the game. Some aspects are related to knowing, doing and being.

Additionally, structural aspects are identified corresponding to how the students learned by using the established experiment. Three components were identified: understanding the role, applying it, and analyzing it.

Initially, we will discuss the elements related to the referential aspects (knowing, doing, and being) resulted after analyzing the experiment under the phenomenological approach. Regarding the first of them, it was possible to demonstrate how the students learned about the actors of an entrepreneurship ecosystem, their roles, and the types of entrepreneurship. The students emphasized how the role play allowed them to see or simulate what happens in real life, indicating it contextualized them about the world of entrepreneurship and how to take advantage of the skills of an entrepreneur.

This is related to the approaches of Betancourt Morejón, *et al*. (1997) about how games provide new ways to explore reality and different strategies to operate on it.

Role playing games help students to find their own meaning within society by solving their dilemmas (which are usually interpersonal conflicts) with the help and assistance of the group, investigating feelings, attitudes, values, and problem-solving strategies, aspects mentioned by Shaftel and Shaftel (1967), who considered role plays as teaching models to help students study their own social values and reflect on them.

With regard to the above, Kasvi (2000) considers games a valid tool for teaching and learning based on the possibility of **representation**: the possibility of simulating a part of reality. Similarly, Gee (cited by Gómez, 2010) says the games allow "a direct interaction of the player with the environment that is simulating" and he calls this **interactivity** and **dynamism**.

We found the following findings related to the dimension of doing: the role play contributed to the student learning about problem analysis, generation of ideas, strategy, creativity and decision making.

Fripp (cited by Gómez, 2010) points out that the role playing game "favors experiential learning, since it allows to see the consequences of the decisions made". Likewise, Zapata and Awad (2007) see the role playing game as an educational strategy for developing critical thinking, communication, discussion, and decision making from practice to complement the theory.

Understanding the context and then knowing what decisions make are essential aspects in an entrepreneur, who at some point in his process of transforming ideas into business initiatives should identify in which places to install his project and decide with whom or how to exploit his initiative. This training by using a game is very well linked to the approaches of Kasvi (cited by Gómez, 2010), who in this regard points out RPGs manage to "recreate a part of reality, but without any danger of physical damage to health or integrity, "a concept he calls **security**.

It is important to point out the decision making can be evidenced in the game, since this is understood as an activity between two or more people capable of deciding on reaching some objectives within a limited context made up of rules (Zyda, 2005). However, the literature avoid specific evidence of how a role play can contribute to the analysis of problems, the generation of ideas, and creativity; however, Michael and Chen (2006) point out games in general "complement the structure of man's thinking and language, stimulate creativity, reduce aversion to risk and failure." The central idea to teach by using games within the classroom is to promote creativity.

This allows people to have the full freedom to experiment with different solution alternatives to an established challenge, with tools and skills for facilitating the solution of problems put into practice. Students can learn by observing the results of the games, to the extent they are participants in the design and implementation of games (Abt, 1987).

Regarding the last dimension of the referential aspects is the being, which showed different findings on the part of the students, among which stood out those related to the skills of the entrepreneur, those related to communication, leadership, self-knowledge, listening, self-control, and integrity. This is alined with what was presented by Krain & Lantis (2006), who consider simulation exercises, such as role play, "improve the educational experience since they promote critical thinking and analytical skills, offering to students a deeper level in the dynamics of political exchange, the promotion of oral and written communication skills."

Zapata and Awad (2006) consider games allow for developing critical thinking, group communication, debate, and decision making. In the same way, Abt (1987), state games "help in identifying different types of specific non-verbal skills, solving cognitive problems, social negotiations, organizing and communicating skills." This is why Díaz (1999) recognizes role playing games, socio-dramas, among other participatory techniques, are effective in developing attitudinal competencies, elements important for developing entrepreneurial spirit in a university which is entrepreneurial.

Role playing games "allow teaching, focusing on communication, emotionality and learning" (Kober and Tarca, 2000). Precisely, communication is one of the most indicated concepts by the students as a result of the use of Villa Innovadora, given verbal and non-verbal expressions come out in the realization of the activity.

RPGs, and specifically Villa Innovadora, contribute to students for adopting specific behaviors, because as indicated by Bandura (1977), in games and toys, the human being, by observing or imitating of other individuals or symbolic characters, acquires new patterns or ways of behaving.

Villa Innovadora also contributed to the way students learn. This is how three components linked to the structural aspects of the state of the results under the phenomenological approach were identified: **understanding of the role, its application, and its analysis**.

By using Villa Innovadora role-playing game, students were able to experience the meaning of each character of the game (Undecided Entrepreneur, Cultural Entrepreneur, Creaticide, the State, etc.) and transferred the knowledge they had about the types of entrepreneurs to a new simulated context achieving, in some cases, predicting the consequences of their actions according to the seven principles that underlie effective learning according to Ambrose *et al* (2010).

Once the students understood their role in the game, they were able to use it in their context and generate results on positive occasions for their team and in others disgagreeable. The above is closely related to what Low *et al*. (1994) indicate about serious games: "In a field where much learning occurs through doing, games and simulations that provide realistic business experiences have the potential to be of enormous benefit."

The results given by the use of the role-playing game Villa Innovadora "Iniciativa y cultura empresarial" class show the aspects of the level of application raised by the taxonomy of Bloom *et al* (cited by Owen, 2018), where a person learns to apply

when he makes use of information, uses concepts, theories in new situations or solves problems using skills or knowledge.

However, it is important to indicate that RPGs, unlike other methods, allow learning through the experience of the other, that is, based on what another person uses or applies, generating a kind of self-reflection or feedback with the actions of others.

In relation to what Bloom *et al* (cited by Owen, 2018) raise about the category of analysis, which seeks to find patterns, organize the parts, recognize hidden meanings and identify components, it was evidenced in the role playing game Villa Innovadora emerged power, an element students associate with certain roles and make them want or yearn to have such role in an upcoming game.

CONCLUSIONS

The teaching of entrepreneurship, by using subjects such as Iniciativa y cultura empresarial (ICE), brings with it an important challenge involving the methodologies implemented in the classroom. Teachers in management schools and entrepreneurship courses face a scenario in which "they intend to develop the trainee's mind, raising people's awareness of the phenomenon of entrepreneurship, giving them keys to their personal development and professional orientation, and giving it an incentive to act entrepreneurially "(Fayolle, 2007).

In that sense, the Villa Innovadora role playing game, as a pedagogical instrument, favors experiential learning due to the simulation of aspects of the real world of entrepreneurship, elements Gee (2003) calls interactivity and dynamism, submerging the student in decision making and in the definition of strategies in an environment of uncertainty, which helps them to understand aspects related to the assumption of risks and the confrontation of failure. In addition, the game allows them for acquiring, and reinforcing knowledge about types of entrepreneurship, actors of the entrepreneurial ecosystem, and their roles.

Another of the great contributions of Villa Innovadora in the teaching-learning process around entrepreneurship is related to the awareness of students about their entrepreneurial attitude, leading them to take on challenges in a creative way, through the generation of ideas. Additionally, the game allowed them for seeing the consequences of their actions and strengthening their leadership skills, teamwork, listening, verbal and non-verbal communication, among others.

Promoting interactions and collaboration among peers, conducting discussions, as well as expressing cravings and desires for power, perceiving attitudes, interests and values among peers, are elements of the Villa Innovadora role-playing game for making it a valuable educational strategy to develop critical thinking and communication skills, according to the approaches of Zapata and Awad (2007).

Issues such as the relationship of role-playing games with power, with ethics, with the assumption of risks and with the failure of the enterprises, among others, are welcome work for the future approach by other researchers.

The game allows meaningful learning from previous knowledge, the result of interacting with others, and playing active roles. In general, the game constitutes a very valuable element in university education, and in life itself, as the poet Pablo Neruda states in the following reflection:

"A child who does not play is not a child, but the man who doesn't play has lost forever the child who lived in him and who he will miss terribly."

REFERENCES

Abt, C. (1987). *Serious Games*. New York: University Press of American.

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., and Norman, M. K. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching* (1st ed.). San Francisco: Jossey-Bass.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Betancourt Morejón, Julián y otros (1997). *La creatividad y sus implicaciones. ¿Por qué, para qué y cómo alcanzar la calidad?* La Habana: Editorial Academia.

Bowden, J. (2000a). *Experience of Phenomenographic Research: A Personal Account.* En Bowden, J., and Walsh, E. (eds.). *Phenomenography*. Melbourne: RMIT University Press.

Crawford, C. (1984). *Art of Computer Game Design*. United States: McGraw-Hill.

Daly, S. (2001). Student-operated internet businesses: True experiential learning in entrepreneurship and retail management. Journal of Marketing Education, 23(3), 204-215.

Díaz, F. (1999) *Estrategias Docentes para un aprendizaje significativo: una interpretación constructivista.* Bogotá, Colombia: Editorial McGraw-Hill.

Fayolle, A. (2007). Essay on the Nature of Entrepreneurship Education. EMLYON.

Fayolle, A. (2013). Personal views on the future of entrepreneurship education. *Entrepreneurship and Regional Development*, 25(7-8), 692-701.

Fayolle, A., Verzat, C., and Wapshott, R. (2016). In quest of legitimacy: The theoretical and methodological foundations of entrepreneurship education research. *International Small Business Journal*, 34(7), 895-904.

Fayolle and Klandt. (2006). *International Entrepreneurship Education*. Northampton: Edward Elgar Publishing Limited.

Gee, J. (2003). What Video Games Have to Teach Us About Learning and Literacy. *ACM Computers in Entertainment.* 1(1). 1-4.

Gómez, M. (2010). *Definición de un método para el diseño de juegos orientados al desarrollo de habilidades gerenciales como estrategia del entrenamiento empresarial*. Msc Thesis. Universidad Nacional, Medellín, Colombia.

González-Ugalde, C. (2014). Investigación fenomenográfica. *magis, Revista Internacional de Investigación en Educación*, 7(14), 141-158.

Haines, G. H. Jr. (1988). The ombudsman: Teaching entrepreneurship. Interfaces, 18(5), 23–30.

Kasvi, J. (2000). Not Just Fun and Games: Internet Games as Training Medium. In: Cosiga – Learning With Computing Simulation. Helsinki University of Technology. 22- 33.

Katz, J. A. (2003). The chronology and intellectual trajectory of American entrepreneurship education 1876–1999. Journal of Business Venturing, 18(2), 283–300.

Krain, M. & Lantis, J. (2006). Building Knowledge? Evaluating the Effectiveness of the Global Problems Summit Simulation. *International Studies Perspective Journal,* 7 (4), 395-407.

Marton, F. (2000). The Structure of Awareness. En Bowden, J., & Walsh, E.(eds.). *Phenomenography*. Melbourne: RMIT University Press.

Michael, D. & Chen, S. (2006) *Serious games: Games that educate, train, and inform.* Boston, MA.: Thomson Course Technology.

Owen, L. (2018). *The Second Principle.* Retrieved from: https://thesecondprinciple.com/instructional-design/threedomainsoflearning/

Pérez Reverte, A. (1994). Homo Ludens. *El Semanal*, 26 of june of 1994.

Pittaway, L., & Cope, J. (2007b). Entrepreneurship education: A systematic review of the evidence. International Small Business Journal, 25(5), 477–506.

Sexton, D. L., & Upton, N. B. (1987). Evaluation of an innovative approach to teaching entrepreneurship. Journal of Small Business Management, 25(1), 35–43.

Shaftel, F., Shaftel, G. (1967). *Role Playing of Social Values*. Prentice Hall, New Jersey.

Trigwell, K. (2000). A Phenomenographic Interview on Phenomenography.En Bowden, J., & Walsh, E. (eds.). *Phenomenography*. Melbourne: RMIT University Press.

Zyda, M. (2005). *From visual simulation to virtual reality to games*. Article: Computer magazine of the IEEE Computer Society.