

BUILDING SOCIAL COMMUNITIES AS A FOUNDATION FOR ENTREPRENEURSHIP: A GAME-BASED APPROACH

Juan Sebastián Zapata-Tamayo
Universidad EAFIT, Colombia
jzapat60@eafit.edu.co

Carlos Mario Zapata-Jaramillo
Universidad Nacional de Colombia, Colombia
cmzapata@unal.edu.co

ABSTRACT

Novel entrepreneurs have the strong need to build social communities. Concerning this need, entrepreneurship has been related to enterprise development, social capital, and other topics, whose teaching has failed in appropriately incorporating social community building. Games can help in this kind of teaching, since they are used in several aspects of entrepreneurship and management. In this paper, we propose a game for understanding the dynamics linked to the construction of social communities. The game was practiced with a group of master students from the Universidad Nacional de Colombia and the results are summarized. People tend to act in games as in real world, and this game helps to understand how social communities can be built.

INTRODUCTION

Several authors state the strong relationship between entrepreneurship and social community building. In fact, entrepreneurs are usually linked to several factors as enterprise development, social capital, community development, and innovation; such factors are also promoted to be catalyzers of the social community building. Consequently, in order to train novel entrepreneurs, the mechanisms for social community building should be clearly understood by the students, since they will be intended to be the motors of the social community development.

The need for active training of novel entrepreneurs is highlighted by some authors. Even though some effort has been devoted to teach the main concepts of entrepreneurship—e.g., elevator pitches, economic variables, and opportunities—, the social community building has been taught in a theoretical way, leading to misconceptions and low practice in this topic.

Active learning has been used in the managerial context for teaching some key concepts. In active learning, the student role changes from the receptor of the teaching strategies to the subject of his/her own learning. Gaming is one of the main strategies of active learning, supported by several facts: i) games are simulations of the real world and the students are intended to act in the games as they act in the real world; ii) no

real damages can be caused by games when trying to analyze a situation; iii) vivid situations can be experienced when we practice games.

A state-of-the-art review shows the usage of several games in management and entrepreneurship. Games like the prisoner dilemma, the negotiation game, and the trust game have been advocated to improve the managerial capabilities of the students. From the entrepreneurship point of view, some other games like entrepreneurship in action have been used for teaching the main skills needed by novel entrepreneurs. However, social community building is still outside the concern topics in this kind of games.

In this paper we propose a puzzle-based game intended to be played by entrepreneurship students as a way to practice in a simulated environment the main concepts of social community building. The dynamics linked to the construction of social communities is the main goal of the game. The game was played by a 19-master-student group belonging to the Universidad Nacional de Colombia and the results are summarized.

This paper is organized as follows: first, we present the fundamental concepts that support this work; then, we propose the game design; after that, we discuss the results of the game application; finally, we summarize conclusions and future work.

THEORETICAL FRAMEWORK

ENTREPRENEURSHIP AND SOCIAL COMMUNITY BUILDING

Entrepreneurship and social community building are intertwined concepts. According to Smilor (1997) entrepreneurship promotes community health and well-being, two important factors of community development. This fact is also supported by Lichtenstein *et al.* (2004), when they say that the economic development is closely linked to entrepreneurial community building. Also, Heilbrunn (2005) reinforces the strong relationships among entrepreneurship, social capital, and community development, even though Levitte (2004) establishes some obstacles posed by community relationships over entrepreneurship. Finally, Jackson (2004) recognizes social entrepreneurship as the leading force behind the innovation

process.

As a matter of fact, enterprise development, social capital, community development, innovation, community relationships, and several other factors are promoted by entrepreneurship when social community building is the focus. The community development starts with the social community building and novel entrepreneurs should recognize, practice, and understand the mechanisms linked to this dynamics, since they are intended to start several initiatives for developing social communities.

ENTREPRENEURSHIP TEACHING

According to Smilor (1997), entrepreneurship has to deal with four key success factors: talent, opportunity, capital, and know-how. When training novel entrepreneurs, such factors should be reinforced in order to support and accelerate the entrepreneurial process, and consequently the economic and social development of a community. Some other topics covered by entrepreneurship education are business plans (Honig, 2004) and the leading aspects to build the business plan like elevator pitches, economic variables, and opportunities. In Exhibit 1 we show the traditional vision of the entrepreneurship education (Honig, 2004). According to Ruskovaarava *et al.* (2011), some other non-technical, non-managerial concepts, like social undertaking and cooperative skills are taught in a theoretical way, so students can misunderstand the main concepts about social community development. In this way, Ruskovaarava *et al.* (2011) also recognize the strong need for active training of novel entrepreneurs, in the interest of overcoming the aforementioned misconceptions and lack of practice about social community development.

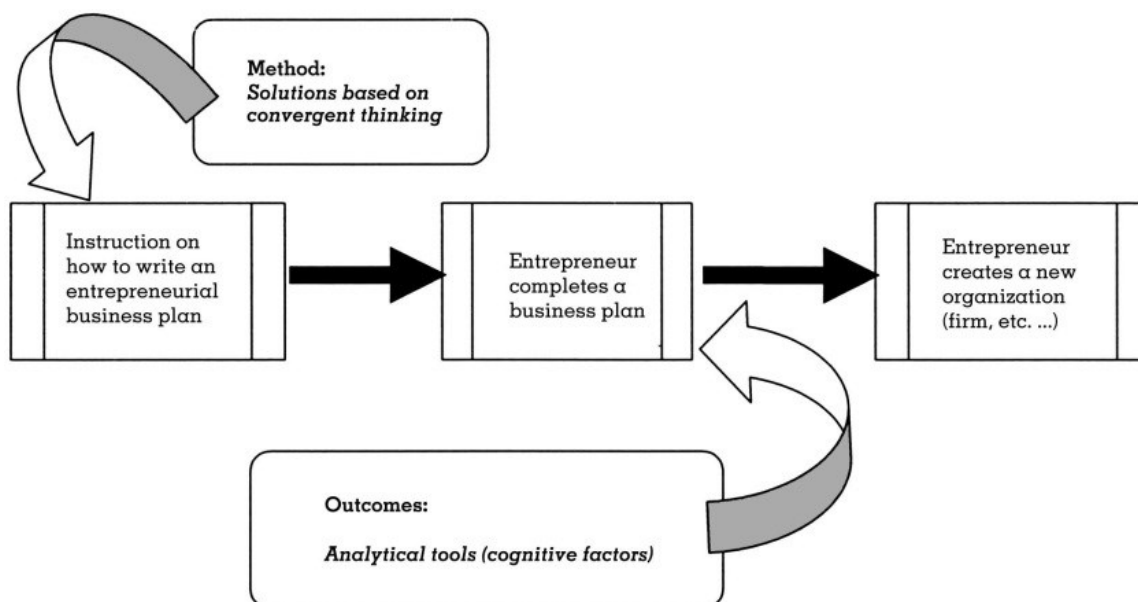
GAMES FOR TEACHING ENTREPRENEURSHIP

Active learning—and specifically learning-by-doing (Kober & Tarca, 2000)—is an approach for changing the role of the student in the learning process. In the traditional approach, the teacher is responsible for spreading the concepts and assuring the students understand them. In active learning, students are usually taught by means of some other strategies like peer interaction, making them aware about their own learning. Commonly, practice work is made in the classroom when active learning is the approach for teaching. Communications skills, teamwork, and other skills have been taught in the managerial context by using active learning. Games are recognized as teaching strategies oriented to the active learning approach.

Dempsey *et al.* (1996) cite the most accepted definition of gaming as an interactive activity directed to the replication of several conditions of the real world. In this definition, we recognize games as simulations of the real world, so practitioners are supposed to act in the games as they act in the real world; indeed, games are models of real world situations, and we can study the behavior of practitioners when playing a game. We can also assume from the gaming definition that simulations—games in this case—are safer than the real world, even though we can experience situations like we do in the real world. Baker *et al.* (2005) explore some other skills promoted by games like: development of critical thinking, communication skills, debate, and decision making. Consequently, games are ideal mechanisms for practicing the active learning approach.

From the managerial point of view, games have been used to practice several skills. Some of the most famous games are: the prisoner's dilemma (Axelrod, 1980), for teaching decision

EXHIBIT 1 ENTREPRENEURSHIP EDUCATION IN THE TRADITIONAL VIEW (HONIG, 2004).



making; the negotiation game (Roman, 2009), for practicing the insights related to negotiation; and the trust game (Berg *et al.*, 1995), for promoting social capital, trust, and reciprocity.

From the entrepreneurship education point of view, Wawer *et al.* (2010) advocate the usage of business simulation games for training students in entrepreneurial attitudes. Similar to this work, Tasnim and Yahya (2013) study the main implications of using traditional and new games for teaching entrepreneurship in a similar way to the managerial point of view. Regni and Anderson (2009) propose a simulation for entrepreneurs to create and operate a retail store. These are technical and managerial skills of entrepreneurs. Even though social

community building has been closely linked to the managerial skills needed by the entrepreneurship students, this skill has been outside the plans of entrepreneurship education, both in the traditional and the active learning approaches. For this reason, we propose a game for building social communities as the foundation for entrepreneurship in the next Section.

A GAME FOR SOCIAL COMMUNITY BUILDING IN ENTREPRENEURSHIP

The game we are proposing in the game is intended to solve the drawbacks identified in the previous Section, related

TABLE 1
DESIGN OF THE GAME

DESCRIPTION OF THE GAME		
I. SPECIFICATIONS		
Name	Building social communities	
Goal of the game	Players must solve puzzles with a number of pieces belonging to different puzzles. The goal of the game is to create the biggest, first community in solving the puzzle.	
Amount of players	At least 15. No upper limit.	
II. MATERIALS		
Name	Quantity	Description
24-piece puzzles	At least 3. Recommended: 4 to 5	Each player will have a specific number of pieces (depends on the number of players) of the puzzles (can belong to different puzzles).
Reward	At least 1	One big reward to motivate the game (chocolates, candies, and so on).
III. RULES		
N°	Description	
1	The game have 4 rounds, in each round we will change at least one puzzle.	
2	First, we will give each player at least 3 pieces belonging to different puzzles. Players cannot talk to each other or see their pieces before we start the game.	
3	When the round starts, players must search for players with pieces of the same puzzle. Communication is allowed from this moment. The remaining pieces of the puzzles are kept by the game director in some place called Community.	
4	All the player pieces should belong to the same puzzle, and every player of the finished puzzle should use all of his/her pieces on the puzzle.	
5	The players can change/negotiate his/her pieces with other players.	
6	The players can also change his/her pieces with the community.	
7	The round will finish when a community assemble the puzzle, each player on the community will receive a point.	
8	By the end of the four rounds, a discussion will be promoted by the game director in order to socialize the information about the behavior of the players.	
IV. WINNER SELECTION		
At the end of the game the winner(s) will be the player(s) with more points, <i>i.e.</i> the player (s) who (m) won more rounds. If two or more players are the winners, they must share the reward.		

EXHIBIT 2
4 PUZZLES WE USE FOR THE GAME.



EXHIBIT 3
THE GAME APPLICATION: STUDENTS COLLABORATING TO SOLVE THE PUZZLE.



to the social community building as a part of the entrepreneurship skills. To this extent, we created a puzzle-based game for promoting such skills. The puzzles we used can be seen in Exhibit 2. We use a template proposed by Gómez (2010) for establishing the main features of the game, as we show in Table 1.

RESULTS

The game was played by an 18-master-student group (14 women and 4 men) belonging to the Universidad Nacional de Colombia. In Exhibit 3 we show an image of the game application.

Feedback from the participants was obtained by conducting a 4-question survey: (i) what did you learn from the game?; (ii) what do you think you need to win the game?; (iii) what do you suggest in order to improve the game?; and (iv) what are the key concepts linked to social community building? Answers to the questions are summarized in Exhibits 4 to 7.

Related to the first question, cooperation is the main topic learnt by the students, since the first rounds were devoted to fight each other for solving the puzzle, but the last round was devoted to promote cooperation among teams. The other factors related to social community building exhibit some importance.

Related to the second question, the factors for winning the game are recognized by the students. Communication, shared vision, cooperation, and teamwork were the most voted factors.

Related to the third question, the distribution of the pieces was the most voted improvement to the game. Students recognized the possibility to see the others pieces before starting the round as one of the most critical factor to win the game, because they could start the negotiation early. The instructions were not completely understood from the beginning of the game and the first round was used by the students as a pilot for the rest of the game. Also, one of the factors affecting the result of the game was the similarity between the two blue puzzles, because they were always searching for the other puzzle (either the green or the red). They also voted for more puzzles to play the game—even one set of different puzzles

EXHIBIT 4
ANSWERS TO THE FIRST QUESTION.

Learning	Quantity	Percentage
Cooperation	12	41,4%
Create community	4	13,8%
Negotiation	3	10,3%
Teamwork	3	10,3%
Common welfare	3	10,3%
Communication	3	10,3%
Share	1	3,4%
	29	100,0%

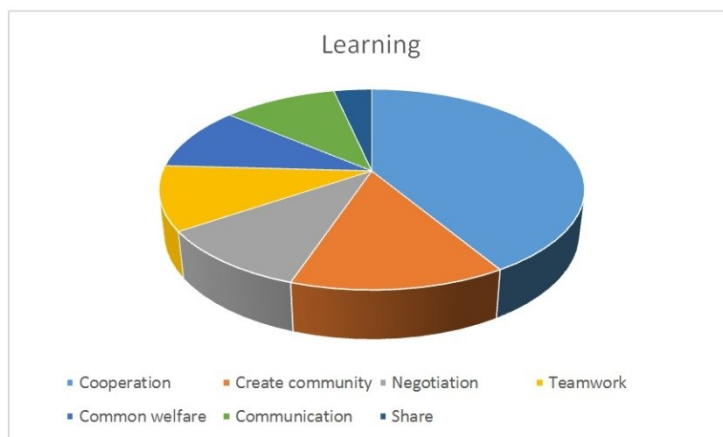


EXHIBIT 5
ANSWERS TO THE SECOND QUESTION.

Critical success factors	Quantity	Percentage
Communication	7	22,6%
Shared vision	6	19,4%
Cooperation	5	16,1%
Teamwork	5	16,1%
Strategy	4	12,9%
Negotiation	2	6,5%
Solidarity	1	3,2%
Leadership	1	3,2%
	31	100,0%



round by round.

Related to the fourth question, the summary of the main concepts of social community building has been established.

As the final step of the game application, we promoted a general discussion about the issues of the game. The main topics covered by the discussion are summarized as follows.

COMMUNITY

- Community was the mediator among the players; they need the community to find the missing pieces.
- By the end of the game, the players understood the biggest community as better solution for the game than individual and little communities.
- Players were trying very quickly to join in the communities; they were only thinking on the individual interest and totally forgot the rules. They pass the fact that most of the players can win if they create the biggest community.

COMMUNICATION

- Communication was the most important part of the game. The players always talk to each other as a way to find common pieces.
- Competition between communities was very hard. Sometimes the communities did not cooperate and communicate to each other. They were only fighting to find the missing piece.

NEGOTIATION

- Negotiation was necessary for completing the set of pieces a player will give to solve the puzzle.
- In order to solve the negotiation problems, players with more leadership skills were the mediators among communities; they were searching for the common welfare.

GAME MECHANICS

- Puzzles with same color were very difficult to solve, so players were negotiating to avoid such puzzles.

EXHIBIT 6 ANSWERS TO THE THIRD QUESTION.

Improvement suggestions	Quantity	Percentage
Better pieces distribution	6	33,3%
Better instructions	4	22,2%
Puzzles with different color	3	16,7%
More puzzles	3	16,7%
Different puzzles every game	2	11,1%
	18	100,0%

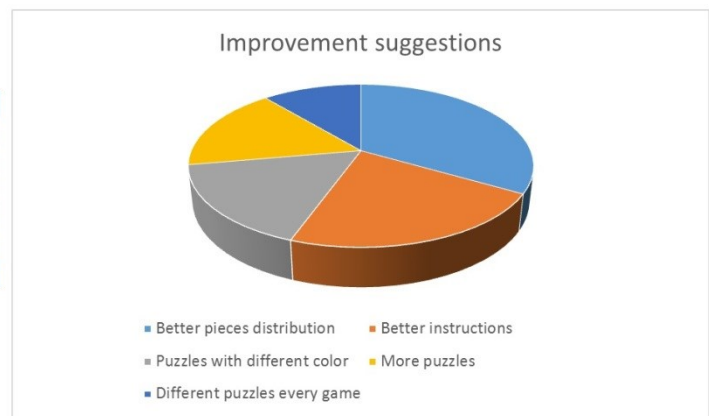


EXHIBIT 7 ANSWERS TO THE FOURTH QUESTION.

Concepts	Quantity	Percentage
Communication	10	18,2%
Cooperation	7	12,7%
Teamwork	5	9,1%
Shared vision	5	9,1%
Solidarity	5	9,1%
Negotiation	4	7,3%
Respect	4	7,3%
Integration	3	5,5%
Collaboration	3	5,5%
Interaction	3	5,5%
Integrity	3	5,5%
Trust	2	3,6%
Strategy	1	1,8%
	55	100,00%



- Players created strategies to win; they keep pieces with the color of another community puzzle, so at the end, they can negotiate.
- In some occasions, the players used unfair strategies to ensure the other community would fail to solve the puzzle.

CONCLUSIONS AND FUTURE WORK

Social community building is crucial for novel entrepreneurs, since it is one of the most needed skills in community development. Due to the fact that entrepreneurship has been taught by using traditional strategies and social community building has been outside the focus of entrepreneurship teaching, in this paper we proposed a puzzle-based game for practicing the main concepts of this important skill. The game was applied to a 18-master-student group belonging to the Universidad Nacional de Colombia.

Students recognized several factors as affecting social community building, e.g., cooperation, communication, shared vision, teamwork, and negotiation. In the first rounds, students tend to act in isolation, but the final rounds of the game are intended to promote collaborative work. In fact, in the final round of the game application, two puzzles out of three were solved, creating the biggest possible community in the game (16 out of 18 participants).

Several lines of future work can be defined from this game application: (i) applying the game to senior entrepreneurs, in order to validate the main features we discovered from the previous application; (ii) improving the game by accepting some of the suggestions made by the students, e.g., the distribution of the puzzle pieces was the main concern of the students, because the pieces can be seen by others before we start the round; (iii) applying the game jointly with other games promoting similar skills, e.g., the trust game and the prisoner's dilemma.

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