

ROLL THE DICE! AN EMPIRICAL EXPERIENCE TOWARD THE USE OF BOARD GAMES IN IR CLASSROOMS¹

Roll the Dice: uma experiência empírica sobre o uso de jogos de tabuleiro para o ensino de Relações Internacionais

Mario Afonso Lima²

Leticia Simões³

Rodrigo Martins⁴

Pedro Araujo Tostes⁵

¹A previous version of this paper was presented at 2014 ISA Annual Convention in Toronto, Canada.

²Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brasil. **E-mail:** marioafonsolima@gmail.com. **ORCID:** <https://orcid.org/0000-0001-8020-2136>.

³Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, RJ, Brasil. **E-mail:** leticiacordeirosimoes@gmail.com. **ORCID:** <https://orcid.org/0000-0003-0265-3665>.

⁴Escola Superior de Propaganda e Marketing (ESPM), Rio de Janeiro, RJ, Brasil. **E-mail:** diguins@gmail.com. **ORCID:** <https://orcid.org/0000-0003-0391-0539>.

⁵Escola Superior de Propaganda e Marketing (ESPM), Rio de Janeiro, RJ, Brasil. **E-mail:** pn_araujo@hotmail.com. **ORCID:** <https://orcid.org/0000-0002-2003-3569>.

ABSTRACT

Seeking new ways to stimulate students into learning the dynamics of international relations in a long lasting way, this paper is the result of an experience, of teaching International Relations using board games to assist the learning process. The extra-curricular course with undergrad students, proposed to work in a partnership with a traditional course, explored concepts such as Grand Strategy, the anarchic nature of the international system, among others. During the project, four board games were used to let the students feel the hardships of the decision-making, the subtleties of diplomacy and the insecurity of an anarchic system. The chosen games are: Supremacy, Senji, Eclipse and A Game of Thrones. The evaluation was through a series of interviews and essays with the participants to measure the impact of using board games in the learning process.

Keywords: Board Games; International Relations; Active Learning.

RESUMO

Buscando novas formas de estimular os alunos a aprenderem dinâmicas das relações internacionais de forma duradoura, este trabalho é resultado de uma experiência de ensino de Relações Internacionais utilizando jogos de tabuleiro para auxiliar o processo de aprendizagem. O curso extracurricular com estudantes de graduação, proposto para trabalhar em parceria com um curso tradicional, explorou conceitos como a Grande Estratégia, a natureza anárquica do sistema internacional, entre outros. Durante o projeto, quatro jogos de tabuleiro foram usados para deixar os alunos sentirem as dificuldades da tomada de decisões, as sutilezas da diplomacia e a insegurança de um sistema anárquico. Os jogos escolhidos são: *Supremacy*, *Senji*, *Eclipse* e *A Game of Thrones*. A avaliação foi através de uma série de entrevistas e ensaios com os participantes, como forma de medir o impacto do uso de jogos de tabuleiro no processo de aprendizagem.

Palavras-chave: Jogos de Tabuleiro; Relações Internacionais; Active Learning.

INTRODUÇÃO

Board games have been one of the most common leisure options throughout childhood, teenage and adult's years and it is part of our society, some predating literacy. With a huge market share, the board games industry has been modernizing itself and every year launches new products to a faithful and increasing audience. In spite of competing directly with video games and online massive multiplayer games, board games continue to attract a wide public due to the diversity of rules, difficulty, themes, number of players not to mention that reunites friends and family.

In Political Science, especially in International Relations, a board game that has been recurrently debated is Diplomacy. The link between this game and the area is obvious, since it depicts Europe before World War I and the developments that led to war. The use of a known

event and geography makes Diplomacy a great example of how a board game can be used to illustrate the IR, but The Roll the Dice Project has a broader view. Instead of using a single game that has a direct link to IR, the project opted to choose several board games themed from fantasy and sci-fi to war games, instigating undergrad students to forge the links between board games and concepts previously studied by them.

This paper reunites the experience of the Roll the Dice Project since its beginning, describing board games selection, passing by the pedagogical proposal that underlies the idea, reaching practical results with undergraduate students and our impressions of what we did right and wrong.

THE ROLL THE DICE PROJECT

The Roll the Dice Project emerged while we (the authors) played a match of Fantasy Flight's "A Game of Thrones" board game. Throughout the game deployment, several concepts from political science and International Relations, such as prisoners' dilemma and stag hunt, were noted. Since several players were not familiarized with such concepts, they were explained through game examples. The success of the explanation was astounding and so we began to develop a way to use board games in classrooms to aid undergrad students to understand such concepts.

It was perceived that there were several other board games that could be used in classrooms, so a game selection was made to establish a course during 2013 fall semester at Unilasalle-RJ University. This course would take place on Saturdays and attendance was not compulsory, but it was highly encouraged by professors. The course was structured to have 6 encounters: Course presentation and Grand Strategy concept; 4 Board games encounters; and a Re-run of their favourite board game.

The Roll the Dice Project was developed to help undergrad students to simulate decision-making problems that would have a real impact of their actions. Understanding the concept of Grand Strategy and how their actions affects the game, students were able to live Prisoners' Dilemma, influence of power and negotiation in a way that simulations – such as UN simulations – sometimes failed to achieve. In this sense, the Roll the Dice Project has a key element that other pedagogical tool lacks, a Winner. The project's idea is to instigate students to forge links themselves, using a ludic way of teaching. In this sense, what we hoped to achieve with this first run was the students' capacity of dealing with path dependence, the weight of their own decisions and strategic calculus to achieve a greater goal.

PEDAGOGICAL PROPOSAL

The project has a clear pedagogical proposal: to create a ludic environment making possible for students to experience stressful situations similar to the ones faced by policy makers. To do so, our main goal is to help students to understand concepts, such as Grand Strategy and

learn how to recognize and apply other concepts of IR and political science, in a long-lasting way, through situations lived during the board games experiences.

To achieve those conditions, we use board games where there can be only one winner, forcing the students to compete and sometimes cooperate among themselves against a common enemy. The dynamics of the chosen games helped us in this sense, since most of them had a focus on strategy. The order setting mechanism – a game mechanism in which each player sets order to each of their territories, without the other players knowing – allows creating an atmosphere imperfect information, allowing the students to experience the hardship responsibilities of the policy maker.

Putting the students as decision makers is a *frame shifting*, a change in the point of view that helps students better understand some positions and actions that from the perception of a student would be hard to understand. In this way, the student perceives the hardness embedded in the power relations and that all actions affect the other actors/players, even if in a psychological level. *Frame shifting* also aids the students to perceive how their actions, as a policy maker, can have long lasting effects (Jaff, 1986).

By living the role of decision makers, students would be able to perceive and apply concepts of political science and IR, creating new cognitive maps speeding up the learning process. There are at least two paths to learning: the information process – more traditional – and the model of experimental learning. Coleman states that the information process of learning is divided into four steps: receive information; assimilate and understanding; infer particular applications; use the principles to act accordingly. For the model of experimental learning, the process is inverted, giving a greater focus to the two last stages – use of the principles, and inferring applications – leaving the first ones to a later stage (Coleman, 1974 in Dorn, 1989).

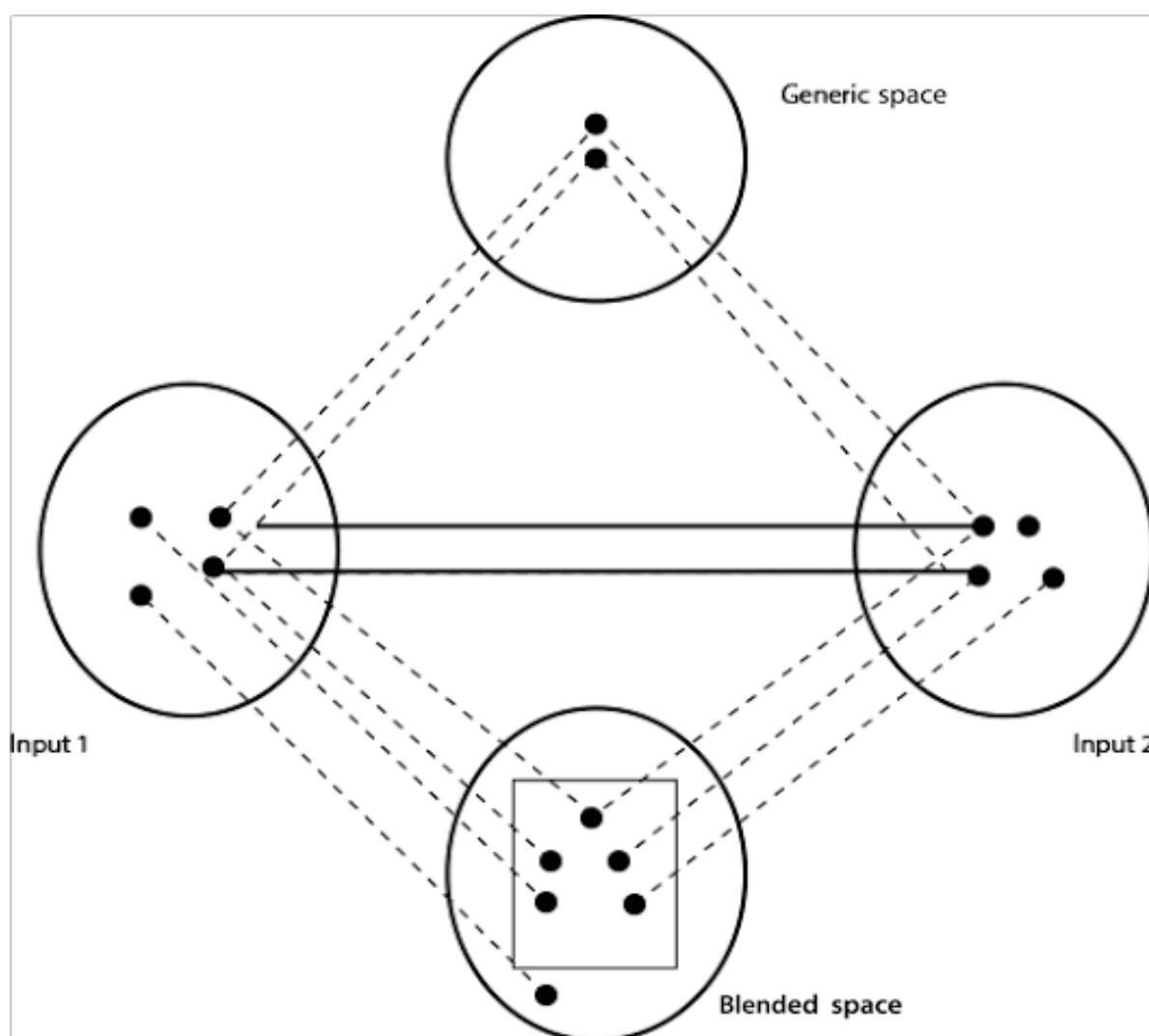
This change on the learning process happens because the student acquired knowledge by living a situation and experiencing the concept. In this sense, the student isn't a passive part of the learning process, he's an active, and fundamental part of it. The incentive on learning tends to happen during third and fourth steps, making the information process less appealing than the experimental. The Roll the Dice Project uses experimental learning model as a tool for fixating known concepts and introducing new to students.

Another key factor for our project is that the students understand threshold concepts from IR. A threshold concept is a core concept that after understood, changes how the whole area of knowledge is perceived. According to Meyer & Land (2006), it has five distinct characteristics: it is transformative, irreversible, integrative, bounded and troublesome.

The transformative characteristic means that after students learned the concept, it changes how they perceive the subject. The fact that the concept becomes irreversible is due to its transformative power, making it unforgettable. Integrative means that after the threshold concept is understood, it exposes relations that were previously hidden to the student. Bounded

means that the concept is normally attached to a notion that all knowledge has a frontier, and the threshold concept seeks to expand it. Due to all of these characteristics, the threshold concept is troublesome to be understood (Meyer & Land 2006).

The threshold concept that we sought students to understand is the difference between *Tactics*, *Strategy* and *Grand Strategy*. By understanding this, students perceive that throughout history, several policies and actions performed by states, that sometimes seems worthless or illogic, were actually part of a greater plan that spans through decades.



Graphic 1: The Blending Process. **Source:** Fauconnier & Turner, 2002.

According to Fauconnier & Turner, there is a neurological path towards the development of learning called *Blending*, in which every knowledge is created after a blend between a previous

knowledge, the new concepts presented and a generic space⁶. The result of this mixture is more than a simple sum of all factors. As shown in Graphic 1, a *blending* tends to be imbued by previous knowledge (Input 1), the new concepts that are presented (Input 2), a set of values that are common (Generic Space), creating a new set of concepts and connections between the previous inputs (Blend).

The project's playful environment aided the students to feel at ease improving their capacities of forming links between the games and the concepts, as well as made them more comfortable arguing about the concepts and situations that turned up during the games, even if they were not sure about them. This atmosphere eventually ended to promote even more the learning process, making students longing for participating even further.

Each encounter was organized in five stages: Greetings and rules explanation; first part of the game; "IR Moment" (in match debate); second part of the game; final debate. Thinking on pedagogical terms, the division of our meetings were constituted of two game parts, in which we used the logic of frame shifting, and the debates helped the students to understand the new concepts presented, or how these concepts were unfolded during the game, creating a blend between a theoretical and an empirical example, and showing them how to react to that situations. During the debates, especially on the second, we also instigate the students to analyse the Grand Strategy of each player, showing them how the strategy of each turn was created. Our method of leading the meetings tends to change students' cognitive maps and develop a long lasting knowledge, due to their active participation on knowledge formation.

ABOUT GAME SELECTION

To create an immersive environment using board games to teach, we selected several different games based on what aspects of International Relation we expected to find, game mechanics, playing time, number of players and complexity.

As a result, the following games were selected:

Supremacy

Supremacy is one of the most common games used for teaching political sciences, alongside with Diplomacy, since its world war theme is of easy assimilation for students. In the game, each player controls a great power during a world war and an arms race scenario, in a competition to become the next hegemony. In order to do so the players have to manage several aspects of a State seeking to achieve the ultimate goal, world domination. Supremacy caught our attention due to its similarity to the Cold War conflict.

⁶ Generic space is a set of previous knowledge and concepts that are common to society and imbue in every one of us.

Senji

Senji puts players as chiefs of Japanese clans. Their goal is to become the next Shogun overcoming other players in battles and at the same time hold respect of the other clans by honouring hostages and alliances. One of Senji's characteristic that caught our eyes from the beginning was the fact that every attack comes with a cost; a player will always lose troops when involved in combat. This cost reflects the strategic calculus that every decision maker face when considering entering in combat. Another key concept noticed in Senji was Hegemony. The player who has more honour points will host the Emperor and have his power, choosing which actions will occur first, being able to shape the game according to his own interest.

A Game of Thrones

A Game of Thrones is a strategy board game based on the best-selling *A Song of Ice and Fire* series of fantasy novels written by George R. R. Martin. Players control one of the great houses of Westeros, as they try to control the throne using both diplomacy and warfare. The mechanic that makes its use of diplomacy so unique is that every turn orders are secretly assigned to every unit on the board and all are revealed at the same time. This emphasizes diplomacy (secret and public) and preferences, since every player must decide if he can trust any agreements made or if it's time to betray and attack, planning likewise. The most striking feature is the total anarchy that the game is placed upon. There are no consequences to betrayal and alliances break down, although there are moments where the players must cooperate in order to survive.

Eclipse

In Eclipse each player controls a vast interstellar civilization, competing for success with its rivals. The goal is to be the most remarkable race in the galaxy, which can be achieved in a manner of ways: exploring new star systems, researching technologies, building spaceships to wage war with or monuments to represent your greatness. The many forms of winning Eclipse allow to elaborate an interesting analogy, you only create an enemy/ally if you want. In this sense it is possible to perceive a co-constitution between players.

The following table was created in order to summarize the information of the games, such as playing time, number of players and the cost of each game. The idea is to help other teachers or students to play the best game available to their needs. In this table we also highlighted several concepts that students perceived and we didn't, proving their ability in forging links between the board games and IR and political science concepts. Eclipse was a very pleasant surprise, because students were able to identify two concepts that were not debated during the project: big stick diplomacy and total war. This is a changeable table once we incentive the colleagues that by somehow know the games, or other games, or would like to play them with students, to help us engender the Table to become as complete as possible.

	Number of players	Average playing time	Price Range	Rules complexity	Main International Relations concepts noticed by the Authors	Main International Relations concepts noticed by students ⁷
Supremacy	2 to 6	150 minutes	\$40 - \$85 (preowned only)	Light	Secret diplomacy; Resource shortage; Prisoners dilemma; Balance of power; Mutual Assured Destruction; Trade specialization; Supply and demand; Arms Race; Anarchical nature of the system; Alliances; Grand Strategy, Strategy and Tactics; Economic Crisis; Geopolitics; Hegemony.	Secret diplomacy; Resource shortage; Balance of power; Mutual Assured Destruction; Trade specialization; Arms Race; Alliances; Grand Strategy, Strategy and Tactics; Bull market and Bear market; Economic Crisis; Geopolitics.
Senji	3 to 6	90 minutes	\$25 - \$42	Light	Secret diplomacy; Psychological Warfare; Dissuasion; Opportunity cost; Strategy; Anarchy; Security Dilemma; Prisoners' Dilemma; Balance of power; Interdependency; Centre-periphery; Hegemony.	Secret diplomacy; Dissuasion; Opportunity cost; Strategy; Anarchy; Security Dilemma; Prisoners' Dilemma; Balance of power; Pax Armada; Interdependency;.
A Game of Thrones	3 to 6	180 minutes	\$40 - \$45	Medium	Stag Hunt; Prisoners dilemma; Continuous prisoners dilemma; Balance of power; Self-help; Secret diplomacy; Cooperation; Persuasion; Arms race; Anarchy; Information Asymmetry.	Stag Hunt; Prisoners dilemma; Continuous prisoners dilemma; Balance of power; Secret diplomacy; Cooperation; Persuasion; Arms race; Anarchy;.
Eclipse	2 to 6	120 minutes	\$68 - \$100	Medium	Diplomacy and secret diplomacy; Relative Gain; Prisoners dilemma; Hegemony; Coercion; Arms race; Co-constitution; Resource shortage; Anarchy; Opportunity Cost.	Diplomacy and secret diplomacy; Relative Gain; Big stick diplomacy; Self Help; Prisoners dilemma; Hegemony; Coercion; Arms race; Total War; Resource shortage; Anarchy; Opportunity Cost.

Table 1: Game Information. **Source:** Authors' own data.

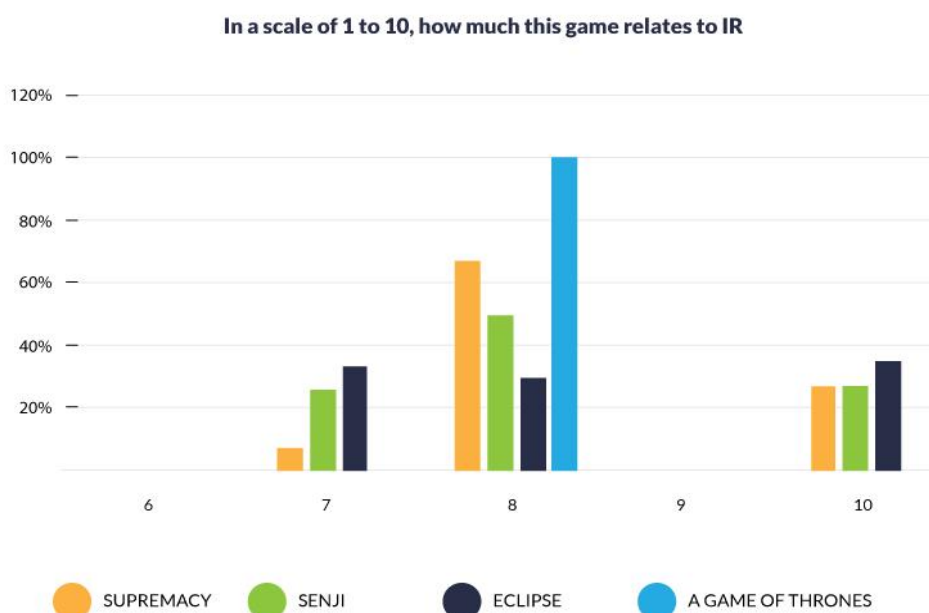
QUESTIONNAIRES RESULTS

Seeking to improve itself and researching on students' preferences we developed a series of questionnaires to be answered by the students on two specific moments of the project: On their first encounter and after each board game match. Throughout the project about 30 students of

⁷The authors did not previously perceive concepts marked in red.

IR, from first to last year, attended to the program. For all of them, the games we selected were novelty.

On the Questionnaire A, the students were asked before start participating on the project, what was their opinion about board games. While most of them affirmed like to playing it, a small amount said they play it often. Also asked about what were their knowledge about Grand Strategy and Strategy and which field could they relate to it, only 15% of the student demonstrated a previous knowledge of the concepts, 50% said they had any knowledge about it and 35% tried to guess what Grand Strategy and Strategy were. Asked if they had already played a board game with complex rules such as the ones selected to the project and if the answer were 'yes', which were the complex games played by them, half of the answers were 'no'. Among the students how answered 'yes' there were three different answers: Risk, Risk II and Chess.

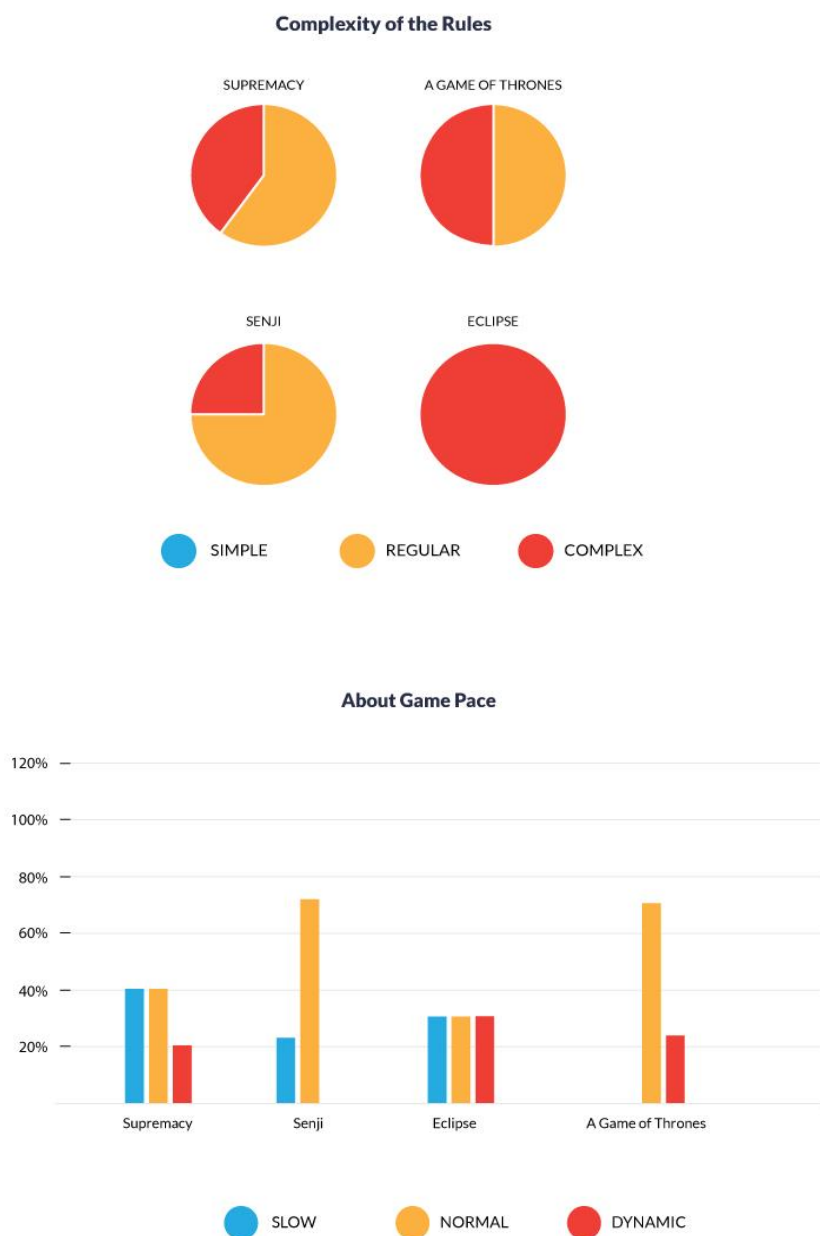


Graphic 3: IR perception **Source:** Authors' own data.

It is possible to notice that the perception of IR in each game varies a lot, and no game has achieved a unanimous perfect score of 10. It is quite impressive that a game like Supremacy, where the board helps the connection to IR - due its board resemblance to the world map - achieve the lowest average score among the board games. An explanation to this can be the fact that Supremacy was the first game played, and maybe because of that the students could not be ready to identify connections to IR as they were when played the last game.

Another remarkable feature about this chart is the unanimous answer for the game "A Game of Thrones" on the level 8. This was the only game in which the students reached a common agreement. In this sense, the level 10 notes on "Eclipse" show us that the students managed to

perceive a lot of IR in a sci-fi board game. “Eclipse” was also the game that had the most balanced answer and the most complex rules.



Graphic 5: Complexity of Rules & Game Pace **Source:** Authors’ own data.

Those graphics allowed us to perceive what are the most likely games to be re-run on a next run because we could analyse which game allied more fun, better pace, less complex rules and more relation to IR concepts according to the students. Although it is not possible to measure if the students improved their knowledge about IR and Political Science concepts and theories by

the questionnaires analysis, it is possible to see that they could perceived IR on the games, learning how to apply some concepts of IR while having fun. Those Graphics together with Table 1 showed we could somehow reach our main objective during the project: to allow students to understand the implications of a decision making position and to perceive the *Grand Strategies* and its implications to IR and its concepts.

OUR IMPRESSIONS

Roll the Dice project was our first Active Learning project, we were expecting some difficulties and wrong steps during the experiment. In the same way we could identify potential problems and unproductive strategies, recognize positive steps and even good surprises along the months we run the project. One of the first mistakes we perceived was the selection of Saturdays. Our intent was not to disturb the classes in the University during the week but the problem was that few students normally goes to the university during the weekend. Because of that we didn't have a great quorum during the event days. To deal with that we proposed to have at least one encounter in a week day during the class time where we had a much greater quorum running more than one game simultaneously generating a much more interesting debate after the end of the matches.

Another wrong step we could rectify was the freshmen restriction to participate on the project. As the project was not a part of an official discipline, it was an extra-curricular activity, we thought that we would need the students to know at least the minimum of the IR theories and basic political science concepts; that's why we excluded on the first moment the freshmen students. But when we discovered, by the professors, that the freshmen were very enthusiastic with the project and they wanted to participate, we let them join us. They started going to the meetings on Saturdays and then we could also have a whole class during the week with a freshmen class. They surprised us and had an intense participation during the project.

But the most complicated was the fact that the students did not read the games' rules previously as demanded, which made us spend a long time explaining the rules to start the activity. Our perception of this made us try to summarize the rules so the meetings could become more dynamical, but unfortunately as the rules of most of the games were very complex we were not able to do in a short period of time.

We also had distinct problems with "Supremacy" as it was our first practical meeting, we let the students play the board game without any interference and after the match we asked if they had perceived any connections from the game to IR theories and concepts. As the game was long and the students were deeply emerged on the competition they were not paying attention on connections, but only on the result. This situation induced to a shallow debate led by us pointing to some of the concepts we identified and giving examples from the board game that had just finished. Our initial idea was that this role of identifying concepts and theories should have been done solely by the students and not by us.

To rectify this first issue we introduced a pause (one or more than one) during the matches that we called “IR Moment”. During this moment we asked each student to give a concept/theory she/he could identify at that point of the match. The solution we came up for this problem was one of the most positive points on the project as we could see students making a great number of connections, some unknown by others, that were easily explained by the example on the game.

We also had positive issues during the project that improved our experience making it more complete than we thought initially. One of the highest points on the project was to realize that great part of the students was actually immersed during the matches. Instigated by the competition, the students were able to assume the role of the decision maker, occasionally taking long time thinking on strategies and Grand strategy in order to make the best move during his turn. Although in a friendly and playful environment, the disposal to win the match made classmates cooperate only when strictly necessary, and act according to a strategic calculus. The “IR moment” when students could get an advantage if identified the best connection to IR concepts or theory was also very positive, because reunite a wide number of concepts some of which, we did not think in the first moment but that were identified by the students and then incorporated to the project.

A very positive fact was the possibilities each different game gave us to explain decision making and a wide range of concepts and theories. “Eclipse” and “The Game of Thrones” required an overexertion because the boards were not widely known by all players; in the case of Game of Thrones, the board was a replication of the Westeros map, the kingdom where the saga unfolds, but in the case of “Eclipse” the board doesn’t have a fixed shape, it is built during the match, what forces the students to rethink core concepts of IR, as the concept of State, Sovereignty and Power.

At the same time the games enable us to debate and explain established concepts and theories of IR as the games are at some point a reflect of the positivist concepts, we could also perceive other important concepts from IR theories as the perception of agent-structure co-constitution and the identification of the “Self” and the “Other” in the figure of the player and it’s enemy or ally. In this sense after the understand that each player is a potential ally or enemy, we can think of the enemy/ally as the “Other”, created only after the interaction with the player, the “Self”, in a co-constitution relation.

The debate in the middle of the match was strategic, providing them the opportunity to reflect on the situations created by each different game. The debates after the matches were important to introduce other concepts and to rethink and relive situations without spoiling player tactics and strategies.

It was possible to notice the students’ evolution not only on their abilities of understanding the different rules of different games and playing them, but also on perceiving concepts that they were unable on previous games. After the first session, the students were able to understand better the games’ dynamics and rules, making the sessions much swifter. We also noticed that

after their second encounter, when the students got used to the debates, they were able to perceive more complex concepts, illustrate, and even analysing the game, through the eyes of a decision maker, better. A clear evolution was perceived in the students that played all the games, being able to plan their decisions ahead and foreseeing complications that his actions would lead.

CONCLUSÃO

The Roll the Dice project has brought to students and authors, a very fresh, new and pleasant perspective about teaching and learning IR. By using new board games with complex rules that included fantasy or sci-fi content to explain basic concepts of IR and Political Science was a challenge we found out possible.

The project had a very positive feedback from the IR faculty at La Salle-RJ University. Even though it is still early to claim the project's efficiency in teaching long-lastingly, it is possible to connect the benefits of our proposal to learning mechanisms as the creation of new cognitive maps, frame shifting, blending and threshold concepts.

In this sense we were able to witness, students speeding up the learning process and creating new cognitive maps when felt the burden of choose between invest on warfare or science and technology, being in the shoes of the policy maker while seeing his neighbour build a vast army just by his side and understand that his neighbour's will was the same as his; also, we could participate on the understanding of new concepts by the students or even on the better comprehension of already known concepts while they faced challenges of trust in short and long turn adapting their strategy to the ever changing panorama and getting experienced on how to react to this kind of situation. Those are only some examples of what we experienced during the project.

All these new possibilities were not only channelled to students. What we can conclude after the experience of the project's first run and after putting the ideas together in this paper is that active learning, and more specifically, teaching IR and Political Science with board games, has a wide range of possibilities and none of them are boring.

Some time has passed since the project's first run and it was possible a new run with an improved structure for undergrad students. Part of the authors gathered in October 2018 to run boardgames, and card games at the 13th International Relations Week at Unilasalle-RJ, which had as a general theme IR Learning through ludic and active methodologies. On that occasion, three games were introduced: Pacific Armada, a prototype Wargame from Law Professor João Bosco, that recreates the Battle of Midway; Coup, a strategy card game from Indie Boards & Cards; and Soberano, also an strategy card game by Trio Jogos, a game enterprise owned by one of the authors from this paper.

Answering to a questionnaire applied by the IR course coordination seeking to evaluated the 13th International Relations Week at Unilasalle-RJ activities, and more specifically the game

event, 97,4% of the students evaluated the activities as fun; 100% said they would participate again; 94,6% answered they applied several concepts learned on disciplines to the activities; and 100% said they enjoy Active Learning methodology. This initiative was presented at the 7th ABRI Annual Convention in a paper entitled “Aprendizado Ativo nas Relações Internacionais: um estudo empírico sobre o papel do lúdico no processo de aprendizagem” written by Fernanda Nanci (Unilasalle-RJ’s Head of IR Department) and Leticia Simões (Associated Professor of IR Department at Unilasalle-RJ) as part of the panel “Caminhos e Possibilidades para o Ensino e Extensão em Relações Internacionais”, as a way to spread activities and methods towards other professors, researchers and professionals interested in this area.

Following the good performance of this second run, it was created the University Research Laboratory in Active Learning Practices at Unilasalle-RJ⁸ (LUPPAA-LaSalle) under the supervision of one of the authors from this paper, and now a professor at this institution. A new run will occur in the 14th International Relations Week at Unilasalle-RJ in 2019 by students’ request. However, from this year on, Scientific Initiation students from LUPPAA-LaSalle will supervise the activities.

As we choose the selection of four games, and later on 3 more, we encourage professors, graduate students and even undergraduate students to pick up a board game they like or would like to play, gather with some colleagues and try to play the matches thinking on IR and Political Science theories and concepts already known by them. By doing so we hope to spread the experience and hear about similar projects with new and wide scopes that could even launch other endeavours.

REFERÊNCIAS BIBLIOGRÁFICAS

Duque, P. H. & Costa, M. A. (2012). *Linguística Cognitiva: em busca de uma arquitetura de linguagem compatível com modelos de armazenamento e categorização de experiências*. EDUFRN.

Fauconnier, G. & Turner, M. (2002). *The Way We Think: conceptual blending and the mind's hidden complexities*. Basic Books.

Ferrari, L. (2011). *Introdução à Linguística Cognitiva*. Contexto.

Hart, L. (2011). *Strategy of Indirect Approach*. Nabu Press.

Jaff, J. (1986). Frame-Shifting: an empowering methodology for teaching and learning legal reasoning. *Journal of Legal Education*, volume 36, pp 249-267.

Meyer, J. & Land, R. (2007). *Overcoming Barriers to Student Understanding: threshold concepts and troublesome knowledge*. Routledge.

⁸In Portuguese, Laboratório Universitário de Pesquisa sobre Práticas Ativas de Aprendizado no Unilasalle-RJ.

Suchman, L. (2007). *Human–Machine Reconfigurations: plans and situated actions*. Cambridge University Press, Second Edition.

BOARD GAMES

Asmadee (2008). *Senji*.

Asmadee (2011). *Eclipse*.

Bosco, João (Tbp). *Pacific Armada* (Prototype)

Fantasy Flight Games (2006). *A Game of Thrones: the board game*.

Indie Boards & Cards (2012). *Coup*.

Grow (1984). *Supremacia*.

Trio Jogos (2018). *Soberano*.