An Experiment on Drama Theory: Confrontation using Role Playing Drama as a Problem Structuring Method

Alvimar de Lucena Costa Junior, Mischel Carmen Neyra Belderrain

Instituto Tecnológico de Aeronáutica (ITA), São José dos Campos/SP – Brasil

Abstract – **Problem structuring methods (PSM) are a broad group of model-based problem handling approaches, many of these methods has a vocation to types of problem. Drama Theory (DT) is a PSM dedicated to arising insights and formulating new ways to model confrontation, collaboration and negotiation, although only few PSM papers are available in the subject. The objective of this paper is to highlight DT as a useful PSM to model those Messy Situations. To accomplish this task, the facilitator developed a case study using DT's tools to determine how an aviation accident messy situation could be better understood. The experiment revealed new insights and probable results to support decision makers, emphasizing the utility of method.**

Keywords. **Problem Structuring Methods, Drama Theory, Confrontation Analysis.**

I. INTRODUCTION

To deal with other person, or other groups, is the main engine of today's world progress. Social networks allowed anyone to spread to humanity his own opinions and, sometimes, prejudices. Anyway, the easiness on communicate to the world did not help on human conflicts, using this word in its broader sense.

Different people will see same object on different ways, based on their own *Weltanschauung*. Once each different view may be captured and organized, that's is not a problem, but, otherwise, an advantage, where dealing with many different views of the world conducts to a richer view of this same object.

Conflict and cooperation are distinguished on a very thin line, and a meeting forecasted to be a fight could end an agreement.

The objective of this paper is to highlight a Problem Structuring Method dedicated to model, prepare or mediate a confrontation, resulting on a more enlightened view of the world using multiple angles.

The second section presents a summary of the used theory. The third section presents the approached method for the case of study. The fourth section presents a summary of the experiment results. The fifth section presents conclusion and future work suggestions.

II. THEORY

According to Rosenhead [1], Problem Structuring Methods (PSM) are a class of methods based on the search for a model or a structure for a given problem. They are participative and interactive and operate both with groups and individual clients. Its definition as a branch of Operational Research begun in the 80's, as an issue discussed on some Operational Research texts and the term PSM was created on 1989 [2].

PSM are characterized by Systems Thinking, and for using primary qualitative models [2] and focus not on a specific process of optimization, otherwise, on the complete understanding of a situation or a problem. PSM offer OR access to a range of problem situations for which classical OR techniques have limited applicability, and each detailed Method has a vocation to help understand different types of Messy Situations.

One of the opportunities where classical OR techniques are limited is conflictual meetings, and Drama Theory is a PSM dedicated to this scenario.

We may say that Drama Theory is the "soft" version of Game Theory, a Hard OR classical technique. It searches on Game Theory its inspiration and develops an interactive method of analyzing cooperation and conflict among multiple actors [3].

Game Theory sees the world as defined by the players' fixed preferences and opportunities, and fixed rules and scores, Drama Theory happens on a dynamic world using dynamic rules, and is based on how the game may change itself, how the given game G may undergo on a transformation to another game G', which, in turn, may be transformed to a G'' version and on. [4][5]

Actors of a Drama Scenario have individual beliefs, where players on a Game Scenario may only follow game rules.

Drama Scenario is specific for every instance when it's run, where Game Scenario is considered perfectly defined.

Game Dilemma Resolution is based on the quantification of a victory and on the existence of a winner. Drama Dilemma Resolution does not require a winner, rather an agreement.

Drama Theory looks for the Dilemmas presented to the actors that lead to specific emotions and to rational arguments by which the game itself is redefined. Only when such successive redefinitions have eliminated all dilemmas the actors' joint problem is considered fully resolved. As many PSM, Drama Theory relies on Facilitators, that work with one (like a counselor) or both of the parties (like a mediator),

helping it to be more effective in the rational-emotional process of dramatic resolution.

One real-life example of where Drama Theory has been successfully applied is on modelling how to deal with OOTW (Operations Other Than War). Many War Schools in the world use Drama Theory to rearrange the basic Wargames models on the new situations Military High Staff Officers must face, like UN Peacekeeping Missions or Humanitarian Efforts during calamities.

Under Drama Theory, techniques and models are developed to accommodate the possibility that argumentation and dialectic may lead to a better understanding of the Messy Situation focused. Under these rules, confrontation, cooperation and negotiation may be used as synonyms.

The Role Play Drama is a specific technique under the Drama Method that is very similar to popular Role Play Game. It is based on the Immersive Drama [6], one variant of a set of methods that derive from the analytical framework of Drama Theory [4][5]. Briefly, the immersive drama approach is to cast people in specific roles – they become 'characters' – within a situation in which they are forced by the faced circumstances to interact with other characters, either to attain their own ends or to handle the impact of others seeking theirs. Characters may become allies or enemies, based on their own choices.

The structure of conflict/cooperation modelling comes from the Confrontation Analysis proposed by Howard [3]. Howard's work states a tableau model, where each confrontation is modeled separately, picking out and taking advantage of its special features. Fig. 1 exemplifies its approach.

Fig. 1. Confrontation Tableau model

On Fig. 1 example, the first two columns represent actor's positions on a negotiation ("R" for Rebel's intended position, "A" for Allied's intended position).

Each box means a possible position card, where a black box indicates a position card played and a white box, a position card not played.

A "card" is the representation of an action or decision to be considered by characters. May be played or not. When a card is played, it means that it turns to be known by the other(s) side(s) of negotiation.

A "position" is a kit of position cards that an actor looks to be accomplish after confrontation.

"Fallback Position" is an alternative position that may arise after an actor's first intended position is presented, and refuted.

"Threatened Future" is the set of Fallback positions that represents how would be the future in the case nobody accepts to negotiate. It's the "t" column on Fig. 1.

"Moment of Truth" is the frame together with positions and fallback positions for each party.

Using this model approach for a negotiation, it is possible to both prepare its own position, study other's side possible positions and decide in advance possible movements during a negotiation or confrontation.

Also, Howard describes six phases of confrontation, that allows a better understanding of Messy Situation and preparation for a negotiation. Each phase determines some actions and decisions, what permit simulation and modelling all discussions previously.

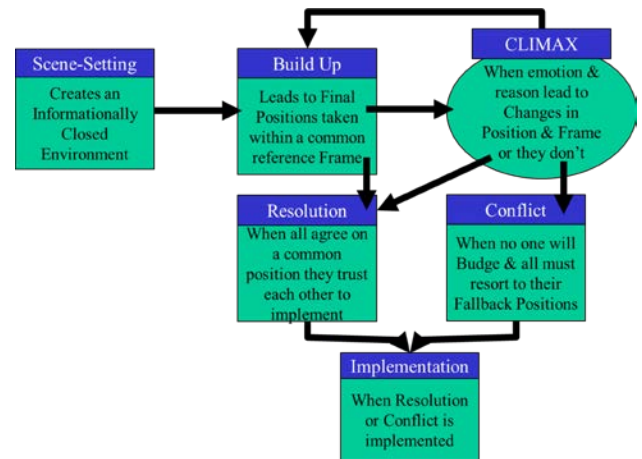Fig. 2 brings a scheme to this process.

Fig. 2. Confrontation Six Phases

First phase, Scene Setting, is related to setting up an Informationally Closed Environment. This concept is important. Issues between parties can be resolved only based on information available to them at the time, and this information must remain fairly stable during the course of negotiations. Resolution is impossible if new, relevant information continually upsets nascent understandings and commitments.

During Buildup phase, dialogue takes place between confronting parties, to bring them to full confrontation. That's how parties get to their Common Reference Frame, what means, when all parties understand not only their positions and concepts, but also share the other parties understanding.

After Buildup, parties may reach an understanding or some of the new visions presented alters the initial positions. On the understanding option, they follow to a Resolution, when they define what will be the Future Final Position for all parties. On the second option, when new visions are reached, during Climax, parties will make reason on agreement or mistrust, and the result may be going back to a new Buildup, reach a Resolution or arrive on Conflict. Climax is the point of the discussion when the model adheres to some behaviorism and emotion control procedures. However, emotion on its own is not as effective as when it is supported by rational arguments in the common interest, based on logic, and if possible, including the production of evidence.

Conflict is exactly the way all negotiations want to avoid. It is the opposition to the Resolution, in the way where what is finally defined is how to describe the threatened future.

The final phase, no matter related to a Resolution or a Conflict is Implementation. How the Agreements or the Threats will be implemented, when, and detailed descriptions are set on this phase.

Finally, taking Drama Theory as a role, a relevant characteristic of this method is that one of its products, that is, modelling and structure the discussion, comes in opposition to most of the negotiation and confrontation techniques disseminated, that are based on behaviorism, opponent's gestures and vocabulary, to guess their beliefs, their weaknesses and strengths.

III. METHOD

This section presents all procedures used to get to paper´s objective, that is, to highlight a Problem Structuring Method.

A class of eighteen students participated on the experiment, that simulated preparation and negotiation of an Aviation Market's decision. All screenplay is based on a scenario present on media during beginning 2019, when repeated similar accidents on a specific new model of transport airplane lead to a general commotion.

The preparation for the experiment begun with a lecture on Drama Theory to the intended actors. Lecture was given by the Facilitator, that was the paper's author. Facilitator, this way, is an aviation professional, with experience working as Civil Aviation Authority, Aviation Operator and third-part safety auditor. Class was already familiar with the subject of Problem Structuring Methods, and some of them (five) were professionally related to aviation. All other participants were very heterogeneous on their professional experience and academic grades, including psychologists, lawyers, environmental engineers and engineering undergraduate students.

At the end of the lecture, proposed scenario was explained to the group, where public opinion was pressing the Civil Aviation Authority and all participants on the market for a position, after two major aeronautical accidents with very similar characteristics and both involving same early certified model of aircraft. The proposed scenario had no intention to establish an alternate investigation on the accidents, but to use a very well reported aeronautical event, with lack of precise information available, that would imitate a circumstance presented repeatedly on Risk Assessment situations, where Public Authorities are forced to get to a safety position before all facts are clear.

Class was divided on four groups, each group representing a character: Civil Aviation Authority (CAA), Airplane Manufacturer (MAN), Air Transportation Operators (ATO) and a last group that was briefed to take notes and ask the other actors to adhere to the six-phase process of Confrontation Analysis. This last group was labeled "Sensors".

A week later, the experiment resumed, when all groups would enact a round table between the three characters, where a final safety position should be declared by the CAA.

At this point, each character was briefed on the Common Reference Frame, defining the Scene-Setting of the discussion.

Based on the Common Reference Frame, characters should prepare themselves to the negotiation to be conducted.

CAA's target was to enforce Safety on Aviation Scenario, remembering that the organization is also a part of a State where the aviation business is vital to the economy, both because of operations as of manufacturing. So, there´s a balance that should be pursued.

CAA's team should appoint a President (or CAA's high representative), a Certification team and a Risk Assessment team. Each team should conduct the preparation for the negotiation based on its characteristic.

Manufacturer's (MAN) target was to keep its reputation of trustable and safe aircraft manufacturer.

MAN's team should be composed like CAA's team, with a high representative and Certification and Risk Assessment teams.

ATO's targets were keeping operations running but raise public confidence, avoiding safety concerns. ATO's team should be composed by representatives of many Operators, all of them operating at least one airplane of the affected model. Team should choose two operators that operates a fleet exclusively of this affected model.

Participants were also briefed on Brazilian Civil Aviation System, so Brazilian Accident Investigation Authority (CENIPA) was excluded from exercise: on proposed scenario, if needed, CENIPA would take initiative with no confrontation possible.

The role of the Sensor Group was to take notes of every new insight for the Messy Situation provided by the simulation, and how the negotiation runs.

Documents about the discussed subject were also made available to participants, like journalistic videos and articles from newspapers.

During Scene-Setting, each character team shall:
- define the position cards that will made available for the confrontation;
- Suppose position cards of other sides of the negotiation, and the answer to these reverse positions;
- Define team's threats.

Establish Scene-Setting should take 60 minutes for all groups. Buildup, Resolution and Conflict (the negotiation itself) would be 60 minutes more. Implementation should take 30 minutes. Each group had its own room to discussions and no communication between groups was allowed during Scene-Setting phase.

IV. EXPERIMENT

During the Scene Setting phase, each team established its own negotiation strategy, based on a discussed final objective derived from simulation's defined targets.

Operators decided that they should not handle the cost of any action that would involve jeopardize regular operations and financial losses.

Manufacturer was not going to take the blame of accidents, once they were yet under investigation.

The CAA group defined that they would assume leadership of confrontation and would brief participants "before propose a temporary suspension on affected model's operations".

CAA group had to be reoriented by facilitator to understand what considered scenario and possible actions and positions was to be taken, once their original position was only to dictate how everything was going to be settle, instead of preparing themselves for sure discussion.

Operators group paralyzed on their discussions, once it was the most heterogeneous group. Most of them knew about aviation only as passengers. They were oriented by the facilitator, that gave them some examples of threats and types of negotiations between CAA, Manufacturers and Operators.

During Scene-Setting phase, ten position cards and five threats were produced by each group, on average, including some threats developed to deal with specific demands they supposed other groups would present. Operators were the team most afraid of losses.

After Scene-Setting phase, all groups came back to classroom, and the chosen representative take his place on the negotiations table.

All participants could speak and give opinions during the negotiation, but they were oriented to channel all information through the representative, so discussion could be organized.

CAA representative opened the discussion, asking for the other groups to present their suggestions and positions.

During this Buildup phase, each side take most of the time discussing their arguments and confirming their Common Reference Frame, but none of them showed interest in defining a position on the table.

After around ten minutes of negotiation, Manufacturer started to discuss technical data – present on distributed documentation – what triggered the Operators to show the first position card on table, that threat to stop operations on highly demanded airports.

After that, each side begun to show their position cards, one by one, as answering the last group with a position that had been studied and prepared.

This sequence of events showed that the proposed preparation was suited, once each side was prepared to most of the possible positions.

After 24 minutes of negotiation, a complete tableau was available over the table, including complete position of each side and threats each side was willing to take, composing the threatened future.

At this point, last position card was given by CAA, that showed as its main position an Operations Suspension for affected model.

After that, Manufacturer decided not to take any actions, but Operators refused to accept this as a final position, and used their threatened future as a menace: suspend model's operations would lead to a large scale dismissal, what would make even worst the country's economic recession.

At 40 minutes, CAA decided then to retrieve the "Suspension" card and replace this position to a "Limited Operation" set, including Safety Audits and closer surveillance from the Manufacturer.

This position was considered adequate by all participants and this would lead to the Resolution phase.

During discussions for the establishment of Resolution, some Operators asked for clarification on what "limited operation" would mean, and CAA explained that any airplane that could be considered suspect of having the issue that lead an accident risk would be suspended immediately, with no further notification.

Because of that, at 60 minutes of exercise, Resolution establishment was canceled, and Operators draw a position that demanded Reserve Aircraft be made available by the manufacturer.

That position was considered as "no deal" for the Manufacturer and the Operator draw many new threats, including judicialize the solution. The negotiation entered a Conflict phase and after 15 minutes of settling implementation of conflict experiment was considered ended by the facilitator.

V. RESULTS

It is very important to note that the objective of the exercise was not to reach an agreement during the simulation, but to present Role Play Drama technique using Confrontation Analysis tools as a means to structure the Messy Situation faced by the Civil Aviation System because of the accidents and the suspicion of problems on the recently certified model.

During the exercise, the Sensors Group oversaw these Problem Structuring insights and many important leads were captured.

For example, it became clear that on events that involve aeronautical accidents, some action must be taken, even when no results from official investigation have been accomplished. All sides of Aviation complex system demand that confidence be restored to operations, once this quality is irrevocably to the progress and survival of the system.

Another important note made is that any action that involves financial loss to operators could lead to a judicialization of the issue, a direction that tends to make the solution of the conflict least technical, and most of times, longer. If that is the case, a Risk Assessment study must be conducted and the stakes on aviation market standstill should be invoked by participants as an unacceptable threat, leading to a more coherent position.

On a real-life situation, discussions should take longer, and the people´s demand should force the participants to get to a final agreement.

All information gathered during experiment could be used by any real-life parts to get to a better final position, or to a faster resolution, for a similar confrontation scenario. For example, CAA would understand that although its Authority is unquestionable, a better solution could be achieved using other sides opinions. Operators would see that the judicialization of technical issues may lead to unsafe situations or to a stuck conflictual solution.

VI. CONCLUSION

The use of Drama Theory and its tools and methods, like the Role Play Drama (Immersive Drama) and the Confrontation Analysis, proved to be worthy on providing new insights and ways to deal with a Messy Situation.

The confrontation model allowed a better preparation for a negotiation, being a confrontation or a cooperation, once it permits that all parts model and interpret possible solutions and positions.

Using Drama Theory as a Problem Structuring method proved as an advantage over traditional negotiation methods, allowing preparation and insights to the Messy Situation were lies the studied confrontation.

The Role Play Drama, once attributes to teams the objective to think like different parties on a Confrontation, also brings light to new insights related to a specific character, that will be useful to predict negotiation circumstances and prevent negotiations to fall on conflict. The Drama Theory target, to model the confrontation, instead of finding ways to win a negotiation, like would be a Game Theory target, contributes to get a better understanding of all participants points of view on the same matter, and to a more profitable resolution of conflicts.

New experiments that could be conducted on same line of study includes comparing the results when using actors with deeper knowledge on the matter. Another type of confrontation model could be simulated using a fourth team representing public opinion.

REFERENCES

[1] E.A.J.A. Rouwette, "Encyclopedia of Operations Research and Management Science". Word: Problem Structuring Methods. December 2012. Available at < https://www.researchgate.net/publication/283311585_Problem_Structuring_Methods/references> Access on JUN 29, 2019.

[2] J. Rosenhead, J. Mingers "Rational Analysis for a Problematic World: Problem Structuring Methods for Complexity, Uncertainty and Conflict", 2nd edn, Chichester. John Wiley and Sons. 2001

[3] N. Howard "Confrontation Analysis: How to Win Operations Other than War". CCRP, Department of Defense: Washington, DC. 1999

[4] N. Howard "Drama Theory and Its Relation to Game Theory. Part 1: Dramatic Resolution vs. Rational Solution". Group Decision and Negotiation, 3:187-206. 1994

[5] N. Howard "Drama Theory and Its Relation to Game Theory. Part 2: Dramatic Resolution vs. Rational Solution". Group Decision and Negotiation, 3:207-235. 1994

[6] J. Bryant, J. Darwin "Immersive drama: testing health systems". Omega 31 127–136. 2003