

Mind Steering Leadership Game

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Abstract. We report on a Game based learning system, in which players can freely explore consequential judgment and dynamic decision making tasks based on an inquiry learning paradigm. The simplified dynamic game model integrates and balances several game components allowing players reading and steering minds of in-game characters, and subsequently influencing game stories. We implemented parts of a leadership competency framework allowing players discovering and influencing key stakeholders in order to influence key outcomes.

Keywords: Game based learning · Storytelling · Inquire based learning · Leadership development

1 Introduction

People love telling stories; stories have great communicating value [1]. Telling stories also reveals how we think, reason, judge, or simply make sense out of ‘something’. If you are asked to tell how your day was, you probably end up making a first order perspective story that you will actively (re)construe based on gluing and blending several memorable situations, persons you met, relevant knowledge facts together into a plausible, however subjective epic. Stories can be told from the perspective of the storyteller, or just taken from another point of view, or from a third or gods view perspective. However, the stories people tell can also be viewed as a kind of rationalization or even justification of their behaviors. You might even build up and start telling stories to anticipate (social or expected) behaviors. Basically, a ‘story’ is a sequence of events and the concept of ‘narrative’ points to the ordering of events [2]. Therefore, the same old story can be told through various branching narrative structures from linear, elastic, concentric, branching, nodal to constellation narrative structures. Suppose we could create a playground for storytelling, then people have the opportunity to explore different narrative structures and storylines, and see pro and cons of their impacts. If we could combine this with personal feedback on how you told your story then we might

have created an interesting learning experience environment on how various behaviors lead to different stories, or how various stories can be explained by various type of behaviors. The Mind Matters game we present here is such a playground for game based learning and exploring ‘leadership’ competencies in terms of influencing tactics. The idea presented here therefore combines leadership competency development, serious gaming (where the meta-goal lies outside the game) and didactics. The outline of the (work in progress) paper is as follows. First, we start with discussing the influencing tactics. Second, we focus on the Mind Matters Game. Third, we dive into an inquiry learning paradigm, which provides an interesting paradigm for game based learning. We wrap up with some conclusions and our next steps. So, let the story begin.

2 Leadership Development

Leadership is crucial for business success but rather difficult to develop and maintain. Its has been argued that to be an effective leader, being able to influence others is key. Various influencing tactics have been studied. Here we adopt the taxonomy by [3]. These authors distinguish between hard and soft tactics. Hard influence tactics behaviors are perceived as more forceful and push the person to comply. Soft tactics are influence behaviors which are considered thoughtful and constructive. Hard tactics include: *exchange* (behavior makes explicit or implicit a promise that others will receive rewards or tangible benefits if they comply with a request or reminds others of a favor that should be reciprocated), *legitimizing* (behavior seeks to persuade others that the request is something they should comply with given their situation or position), *pressure* (behavior includes demands, threats or intimidation to convince others to comply with a request or to support a proposal), *assertiveness* (behavior includes repeatedly making requests, setting timelines for project completion or expressing anger toward individuals who do not meet expectations), *upward appeal* (behavior seeks the approval/acceptance of those in higher positions within the organization prior to making a request of someone), and *coalitions* (behavior seeks the aid of others to persuade them to do something or uses the support of others as an argument for them to agree). Soft tactics are: *personal appeal* (behavior seeks others’ compliance to their request by asking a “special favor for them,” or relying on interpersonal relationships to influence their behavior), *consultation* (behavior seeks others’ participation in making a decision or planning how to implement a proposed policy, strategy or change), *inspirational appeal* (behavior makes an emotional request or proposal that arouses enthusiasm by appealing to other’s values and ideals, or by increasing their confidence that they can succeed), *ingratiation* (behavior seeks to get others in a good mood or to think favorably of them before asking them to do something), and *rational persuasion* (behavior uses logical arguments and factual evidence to persuade others that a proposal or request is viable and likely to result in task objectives). For more information and complete definitions on these influence tactics, see [3]. Note that no one influence strategy works in all situations – or with all people. The key is to be aware of what you can do, and the impact it will have on the situation you are in. We will now describe the Mind Matters game that allow you to play with these influencing tactics, tell stories with them, and experience the consequences of your actions, and learn.

3 Mind Matters Game

The simplified dynamic game model [4] integrates and balances several game components [5]: *mechanics* (the procedures and rules of the game), *aesthetics* (how the game looks and sounds), *technology* (the tools and systems to implement the gameplay) and *story* (the narrative aspect of the game). The *story* should be plausible, realistic, valid with a high degree of fidelity from the player's point of view. To put it differently, the player should be able to mentally map his/her world to the in-game world and vice versa. Player agency – the perceived experience that you can influence the narrative and storyline – increases the user experience.

Within the Mind Matters game, the player assumes the role of junior researcher in a fictional company. Player's task is to try out a mind steering device (Fig. 1) by temporarily 'taking over' game characters and steer their behaviors. By doing so, the player influences the dialogue between game characters in the scene. With this intervention the player influences the storyline of certain characters, and subsequently the game narrative and overall story.



Fig. 1. Mind steering device.

As junior researcher you may choose one of three playing styles defining the in-game goals (Fig. 2).

- Play as a “Mad scientist” and read the minds of all game characters and push them hard;
- Play like an “Engineer” and choose the most appropriate character to steer;
- Play like an “Activist” focusing on increasing competence of all selectable characters.



Fig. 2. Choose your approach

We have implemented several business situations and defined case files for each in-game character. Case files describe the personal background of the game character as well as their competency profile (Fig. 3).

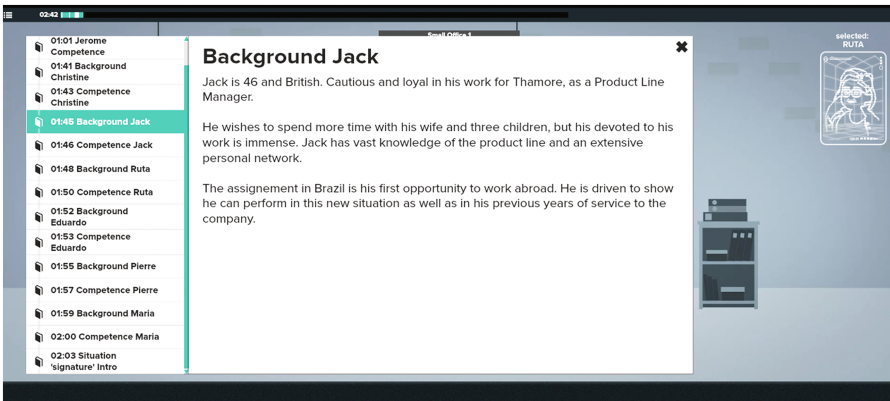


Fig. 3. Case files of game characters

Game characters are animated and having lively conversations in various business situations. Players can choose a situation from which it is immediately clear that leadership in terms of ‘influencing key stakeholders’ is required. The player is tasked to use

the mind-steering device and ‘take over’ one of the game characters in a scene, and continue the dialogue with the other game characters. The player cannot completely ‘take over’ a game character but the player can ‘influence’ his/her behavior steering him in a direction that fits the situation, dialogue and other game characters in the scene. Game characters are in various degrees ‘influence able’, depending on their profiles (Fig. 3). Thus, it is up to the player in which situations s/he likes to intervene by influencing game characters during the conversations. Players are provided an overview screen depicting the influenceable characters and their current state. These states in terms of personal background and competency development may change over the course of playing time.



Fig. 4. Current state of the influenceable game characters

Players are able to read & control the mind of the game character: reading minds shows situational and generic character related information, and writing minds, steers the game character in taking one of four allowed actions (Fig. 5).

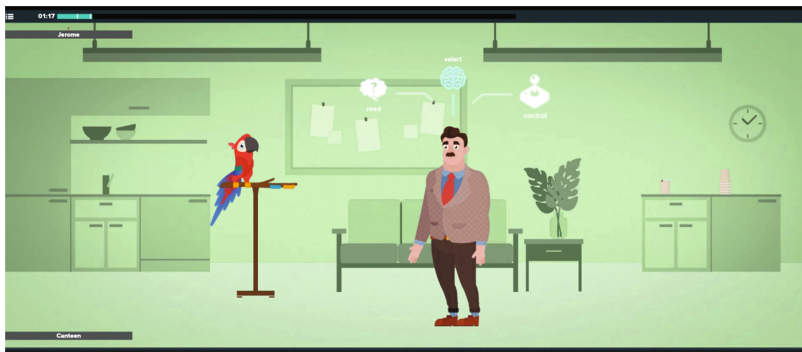


Fig. 5. Read and control the game character mind.

If you take over a game character you may adopt (a) a medium hard or (b) hard, or (c) medium soft or (d) soft influencing tactic. For this we clustered the influencing tactics [4] into these four categories: hard (pressure, assertiveness, legitimating), medium hard (coalition, exchange, upwards appeals), medium soft (ingratiating, rational persuasion, personal appeals), soft (inspirational appeals, consultation). Note that as a player you have no control over the utterances but merely over which type of influence tactics the game character will adopt. In addition, you have to ‘guesstimate’ if your choice has a positive, neutral or negative impact on the following key performance indicators: team spirit, customer relationship and publications.

- Team spirit, describes the overall mood of the “core team” - the six influenceable game characters;
- Customer relationship, describes the general quality of relationship between the core team and customer representatives;
- Research progress, in terms of publication outputs (Fig. 6).

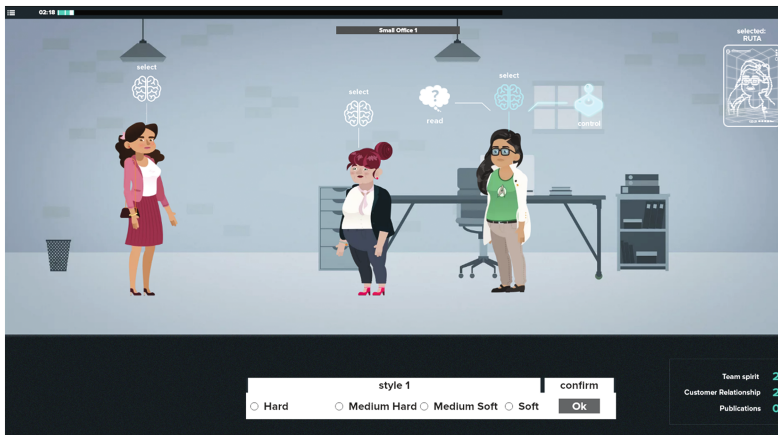
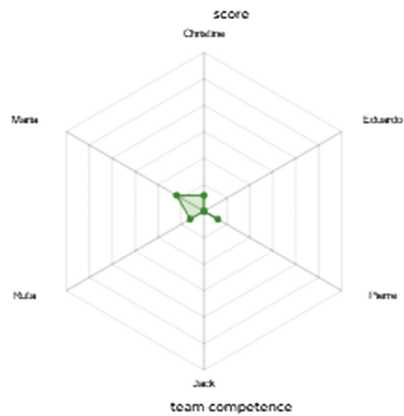


Fig. 6. Playing style and KPIs

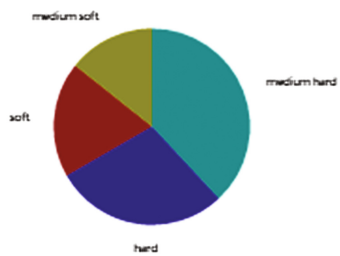
Each situation where player intervention is allowed is based on a conflict between the characters in the scene. This conflict can evolve (each action may require a different approach). Player choice defines how each conflict is resolved¹. It takes about 45 min to play the game.

The in-game feedback relates to the game goals you choose as a junior researcher. Thus, in-game feedback specifies your performance as a researcher and if you achieved the in-game goals (score on Team spirit, Customer relation & Research KPIs). You will also receive in-game feedback on the competence development of the game characters that you influenced over time depicted in the overview screen (Fig. 4). After or post-game feedback (Fig. 7) pertains to the meta goal of the game and provides

¹ More game mechanics are defined and implemented.



In the graph below the selected styles are shown.



graph 3: used styles

Soft: inspirational appeals, consultation.

Medium Soft: ingratiating, rational persuasion, personal appeals.

Medium Hard: coalition, exchange, upwards appeals.

Hard: pressure, assertiveness, legitimating.

graph 4: style over time

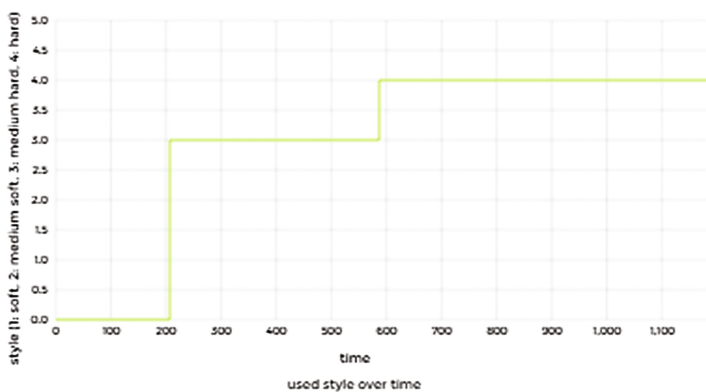


Fig. 7. Post game feedback.

feedback on how the player dealt with conflict situations: what was done vs. what was needed in terms of influencing, per scene. Additionally, the player is pointed to other educational resources for further own leadership competency development.

4 Inquiry Based Learning

The instruction how to play this game is inspired by an *inquiry based learning cycle*, which identifies five distinct phases: orientation, conceptualization, investigation, conclusion, and discussion [7]. In the first two phases of this cycle (*orientation* and *conceptualization*) students are asked to formulate hypotheses about a particular research question in need of investigation. During the *investigation* phase students check whether a hypothesis is correct or not by conducting (online) experiments. During the last two phases of the inquiry learning process (*conclusion* and *discussion*), students are linking their hypotheses with the evidence collected during the investigation phase. Students are also reflecting on their learning processes and outcomes, comparing and discussing them with other students. The question in the Mind Matters game is: Which leadership style (in terms of influencing tactics) yield positive or negative results in specific business situations? Students in this case are professionals with a medium business responsibility. During the investigation players are trying out different hard and soft influencing tactics and approaches in order to learn about their effectiveness and impact in different contexts and situations. Conceptually, our *conflict situational model* provides the frame of reference (Fig. 8).

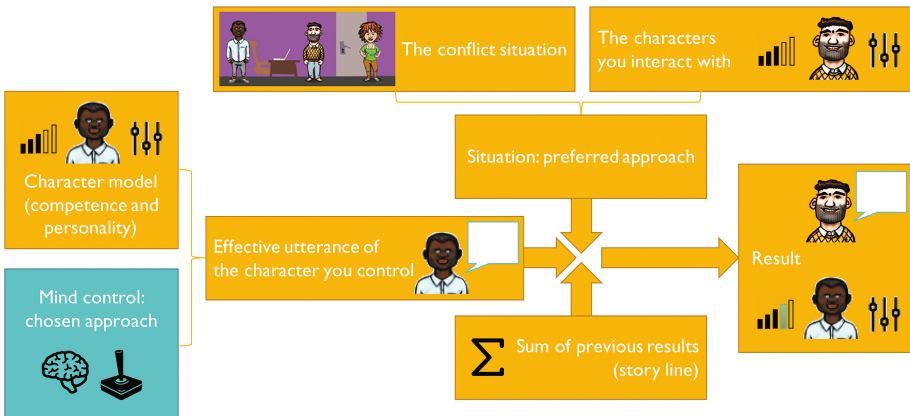


Fig. 8. Conflict situational model.

First, players are encouraged thinking about the influencing tactics (hard and soft), about the conflict situation, the game characters, and how they want to approach the situation. What do you want to achieve or want to avoid? Do you differentiate in who is saying what? Do you take a pro-active or a more reactive approach? Do you take into account the possible implications of decisions? This first phase resembles the orientation and conceptualization phase of the inquiry learning cycle. Secondly, you start investigating in several ways. In first instance you may play the game based on your own insights and frame of reference. You may also play the game focusing on getting a high score on one of the type of KPIs. Finally, in line with the last two phases of the inquire learning cycle, and based on the in-game and post-game feedback you receive, you are encouraged thinking and discussing about how you would explain your results based on the mental image you had initially and your assumptions regarding the factors that influence(d) them. In this way, this new type of learning experience helps you exploring the consequences of different influencing styles and learn from them.

5 Conclusion

This (work in progress) paper focused on the Mind Matters game as a game based learning instrument to explore the consequences of influence tactics in several business settings. The game provides a playground for storytelling and offers the possibility exploring various storylines and narrative structures. Influencing key stakeholders is an important leadership competency and our future activities are directed to implement other leadership dimensions as well, such as, perform through cooperation, and engage and develop teams, et cetera. Monitoring and analyzing how users (players, trainees) tell their story during game play will also shed light on the players' dynamic decision making [6] behaviors. These behaviors can be logged, monitored (even predicted) and analyzed post-game for trainee, instructor and organizational feedback purposes [8]. The game is currently running in a multi-national organization and played by a large number of people. In future papers we will report on the game analytics [9] we can derive from these game plays. In particular, we will be looking at influencing strategies [10] employed by large numbers of players. The latter is important, since player tactics are suggested as predictors regarding transferability from in game to out of game leadership behaviors [11].

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