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THE POSITIVE TEAMING GAME: DEVELOPING A BOARD GAME FOR MANAGEMENT EDUCATION

JOSÉ MARIA NETO CLARA DE ALARCÃO E SILVA

Student #23811

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Miguel Pina e Cunha

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Abstract:

This paper presents the development of the Positive Teaming Game. A board game created for management education, to teach current and future managers about positive leadership, psychological safety and other principles derived from the positive organizational scholarship, as well as the benefits of implementing them in their organizations. Existing literature on gamification and engagement was used to create a better learning experience. Finally, the game’s effectiveness as a management education tool is discussed. Although a focus group’s participants reported an engaging experience, and showed proficiency of the concepts presented on the game, further empirical research is needed to confirm this.

Keywords: Positive, Teaming, Leadership, Gamification

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Introduction

Ever since it became clear that game elements could be used beyond the scope of entertainment, to create more engaging products and experiences, gamification has become increasingly popular (Kim, 2015). This paper describes how of these ideas were used to create a management education board game.

The Positive Teaming Game main purpose is to help current and future managers become better leaders. As summarized by the trendy acronym “VUCA”, we live in a rapidly changing environment (Bennett & Lemoine, 2018), and managers have become increasingly worried about their employees’ psychological well-being. For instance, in 2019 employee burnout was identified as one of the top five biggest concerns among managers (Mercer, 2019). This game aims to enrich managers’ leadership practices with principles derived from the Positive Organizational Scholarship (POS).

The first part reviews existing literature on gamification and engagement. It compiles research on how and why are games effective for acquiring and retaining knowledge, and which theories should game designers consider to generate optimal learning experiences. The second part addresses the theoretical underpinnings of the game, which were derived from the POS. It reviews existing literature, and discusses its foundations, as well as the reasons that have led to its increasing popularity among managers and organizations. The third part of this paper introduces the Positive Teaming Game. It explains how the principles presented in the previous chapters were incorporated into the players’ gaming and learning experience. It also describes how the game is played, and presents a few of its components. The fourth and last part discusses the results obtained from a questionnaire, answered by HR managers, C-suite and management students about the Positive Teaming game questions, and the observations made during a focus group. It also dissects the limitations of these results, and contains suggestions for future research.
I. Games in Management Education

Humans have combined education with entertainment for hundreds, if not thousands of years. Recently, after being popularized by Walt Disney when launching the first educational short film (Disney, 1954), edutainment (education with entertainment) has become increasingly popular. In 2009, a public school in New York City gamified its entire curriculum (Kim, 2015). Between 2010 and 2015, more than 350 businesses launched major gamification projects, and several consulting firms, e.g. Deloitte, Accenture and Capgemini started to target Fortune 500 companies to create tailored gamification projects (Kim, 2015). The call-center services company, Live Ops, was able to increase customer satisfaction by 9%, while saving 2 hours of weekly training per employee with the development of a gamified training platform (Byl, 2013).

Although most of this popularity has been attributed to digital education platforms, video games and other forms of edutainment, board games still play an important role. In fact, we are seeing a steep recovery of tabletop games (Jolin, 2016), especially those which involve teamwork, maybe fueled by a vintage desire for human interaction. Total market value in the US was $2.05bn in 2018 (Statista, 2019).

Gamification

Gamification is the application of game elements (e.g. awards, game levels, badges, competition) outside the scope of entertainment to create optimal learning experiences. One theory that may explain why are these elements so engaging, and thus useful for management education is the Perceptual Control Theory. It states that people continuously compare their existing experiences to their desired experiences, and act accordingly, to achieve the desired experiences (Powers, 2016). This means that players will keep pushing further to overcome the obstacles they are presented with, so that what they are experiencing is more in line with their desired experiences (receiving awards, finishing game levels, wining against other players), and
will make sure they can keep having those desired experiences, regardless of any changes that may happen (increased difficulty, setbacks, losing rounds against competing players).

**Mood**

Research has also shown that the mood that people typical experience when playing games is ideal for acquiring, and retaining knowledge. Games spark joy and interest (Lieberoth, 2014), incentivizing exploratory behaviors. Teams, especially those with psychological safety, work as an echo chamber for these emotions. Joy, interest and love form the “broaden-and-build” mindset, that contrasts with narrower mindsets that people typical experience in contexts of formal or informal evaluation and exposure, which result in fight-or-flight responses. It broadens the players’ scope of attention and cognition, enables flexible and creative thinking, and builds resilience (Fredrickson, 2004). Resilience is also of the utmost importance when acquiring a new skill. It helps apprentices deal with the numerous failures and frustration, which are inevitable in the learning stage.

**Dealing with Failure**

Learning something new requires embracing failure as part of the journey to mastery. Researchers have found that management education games motivate students to participate more actively in the learning process and encourage teamwork (Azriel, 2005). Although this research doesn’t address the connection between the student’s willingness to participate and the psychologically safe environment that is provided by a game setting, I would argue there is one. In a game setting, students can test their knowledge without the exposure that comes with formal or informal classroom evaluation, because ultimately “it’s just a game”. Moreover, players belong to a team that has a common goal, which provides the right context to speak up (actively participate). Students may debate their ideas freely, before making a team decision. Then, if the answer is wrong, the team takes the blame collectively. This sense of collective support makes it
easier for students to accept their failure. Naturally, not all teams may be able to achieve this level of camaraderie. However, I would argue it is more likely to be seen in a playful context.

**Flow**

Another argument for using games in education is that game designers can leverage gamification to improve apprentices’ attention, engagement, intrinsic motivation, resilience, and learning (Miller, 2019), by applying the flow theory to their games. Flow has been described as a state of mind of total absorption when performing a certain task (Csikszentmihalyi, 2008). In order to get players in the flow, educators must tune the difficulty of the game to strike the right balance between challenge and mastery. Additionally, progress must be visible, and there must be an effective feedback mechanism that helps players improve their skills.

In fact, I would argue games can be especially useful when it comes to developing leadership and management skills. Progress for these skills cannot be easily measured, thus it is difficult to leverage the flow principle in traditional management education. While a surfer can clearly experience the progress, and thrill, that come with sanding up and surfing the first wave, leaders cannot experience the impact of promoting psychological safety in their team while attending a lecture, as brilliant as it may be.

**Progress Principle**

The progress principle (Amabile, 2011) can also be leveraged by game designers to build optimal learning experiences. Amabile has studied the impact of perceived progress in employee’s performance, creativity and satisfaction. After a decade long research, which included a meticulous analysis of diaries kept by employees, she concluded that making progress was the single best motivator for employees on the day-to-day, especially knowledge economy workers. Progress improved performance, creativity and employee satisfaction.
Gamification in the Positive Teaming Game was built in a way that favors movement, or progress (more about this on chapter “Game Format”). Teams will move more or less on the game board, depending on the effectiveness of the leader’s action they choose. Nevertheless, they will always progress, as long as they avoid harmful leadership behaviors.

II. Game Theoretical Background: POS

The Positive Teaming board game was developed to teach players about several Positive Organizational Scholarship (POS) theories and notions of teamwork and leadership. The framework that encompasses these ideas is referred to as the Positive Teaming Framework, and it was adapted from the work of several scholars, namely Amy Edmonson, Carol Dweck, Laura Delizonna, Miguel Pina e Cunha and Teresa Amabile. In order to understand the importance of the POS to the current business environment, one must understand its foundations, as well as its adoption by managers and organizations, and growing popularity.

Positive Organizational Scholarship: Foundations

Historically, Toyota is responsible for many innovations in management, namely the just-in-time production system, *Kanban* (continuous improvement) philosophy and lean manufacturing. Among these innovations, there is one which is particularly interesting for Organizational Psychology – the Andon cord. Attributed to W. Edwards Deming, the Andon cord could be pulled by any worker on the production line, and it would effectively halt production, should any error be detected. Since then, there have been many adaptations of this principle in very distinct industries, namely in Pixar Animation Studios (Catmull, 2014).

It was the first time after the Industrial Revolution that a massive manufacturing company was noticeably empowering its employees to take more decisions. It broke-away radically from Taylorism, which focused on reducing the likelihood of human error and relied on the notion of simple, controllable employees. In the old factory model, managers used the “carrots and sticks”
approach, derived from the pleasure principle (Freud, 1922), where good behavior (higher individual output) was rewarded with carrots (more pay) and low performance was punished with sticks (less pay or the threat of unemployment). This strategy was successful for a long time, but it created an undercurrent of fear (Edmonson, 2008). If companies were giving employees the ability to “pull the cord”, they also needed to create an environment where employees were comfortable to “pull the cord”, or the equivalent in a knowledge economy, to speak up.

The term Positive Organizational Scholarship (POS) was first coined by Kim Cameron in 2003. POS’ purpose is to promote virtuous behaviors (that intend to produce social or personal good) in and through organizations (Cameron, 2003). Positive, because it is the application of the emerging field of Positive Psychology to the organizational context. Scholarship, because of its foundations in academia, and to emphasize the importance of empirically validated results. As Cameron put it, “Unless there is a scholarly foundation and research, things tend to be a fad” (Bremer, 2015). However, it is equally important to understand how, and why did organizations start adopting the POS principles, because ultimately its impact on our society will be dictated by its acceptance outside of academia. There are several economic and social reasons that explain the growing adoption of these principles by managers and employees.

**Positive Organizational Scholarship: Adoption**

Firstly, we have moved from a manufacturing-dominated economy, to a knowledge economy. This means that there was a sharp rise in the number of knowledge-based organizations, and that intellectual property represents an increasingly large proportion of the value created in the world (Edmonson, 2008). Therefore, ideas and critical information, which may come from anywhere in the company, must arise quickly to the decision-makers. This can be done in one of two ways, ideally combining both: shifting part of the decision-making to the workers (“pull the cord”); and creating an environment where everyone feels safe to speak up, one of the key aspects in the POS. Secondly, the world has become increasingly complex and ambiguous (“VUCA
Due to these characteristics, most of today’s work has to be accomplished by a network of employees from many different fields and backgrounds. Coordination and collaboration among these employees have never been so crucial for organizations, and even more so, since these groups of people are constantly changing to respond to different challenges and changing external circumstances, disrupting the traditional concept of teams (explained in chapter “Teaming”). Finally, it is increasingly difficult to measure the contribution of each individual to the final outcome, making the “carrots and sticks” approach obsolete (but not its underlying principle).

From a social point of view, people are increasingly worried about their mental well-being. Psychology, neuroscience and many of its adjacent fields have become increasingly popular, and workers are demanding more from their employers on that regard. The POS also highlights the importance of individual psychological well-being to the success of organizations. Additionally, workers are increasingly looking for organizations that can combine a sense of meaning (through their values and purpose), a sense of belonging (healthy and balanced work environment), and a sense of enjoyment (fun, challenge and progress) (Cunha et al., 2020). Organization that are able to combine these dimensions were named authentizotic organizations (Vries, 2001). Other stakeholders, such as investors, consumers and local communities are also becoming more aware of the importance of these dimensions, and weighting them on their decisions. Lastly, in a world that is increasingly volatile and uncertain (“VUCA”), concepts like psychological safety have become increasingly important, contrasting the support and protection that a team must provide to its members, with the uncertainty of the external circumstances that surround them.

Positive-Negative duality

Historically, there has been an inclination towards the “repair shop” logic in the field of organizational psychology (Keyes & Haidt, 2003). The POS perspective distinguishes itself for having a balanced focus on the positive. It explores and endorses human and organizational
excellence, instead of focusing on the weaknesses (“affirmative dynamics”, Baker & Nelson, 2005), and it advocates for an ethical stance and virtuous purpose to achieve success.

However, that does not mean that a positive organization is one that eradicates the negative (i.e. fear, anxiety). On the contrary, it is one that “incorporates the negative in the process of building positivity” (Cunha et al., 2020). An ancient Taoist symbol, the Yin-Yan, captures this idea perfectly. The positive and the negative are two sides of the same coin. While there is good and evil, positive and negative, the seeds of positivity can be found in the negative (e.g. fear of failure can generate excellence), and the seeds of negativity can be found in the positive, because too much of a good thing can have negative consequences for an organization (e.g. a very cohesive team can engage in groupthink, explained in the next chapter).

**Groupthink**

One example of the positive-negative duality that was used in the Positive Teaming Game is groupthink. This is a phenomenon that happens typically in very cohesive teams, when its members engage in irrational or dysfunctional decision-making, due to a desire to overprotect team harmony (Janis, 1982 and Esser, 1998). Consequently, the team depreciates dissenting views, and isolates itself from external influences, ignoring alternative courses of action. Some of its symptoms include: pressure on the dissenters; self-censorship; illusion of unanimity; and stereotypes about the outsiders (Cunha et al., 2020).

**Teaming**

As mentioned before, work in the 21st century is changing. It is increasingly being accomplished by groups of experts from different fields, who are assembled temporarily to identify untapped opportunities, and tackle unexpected problems (Mortensen & Haas, 2018). Moreover, a growing number of employees is working on different projects, taking part in several of these fluid, cross-boundary teams that have different goals, processes and boundaries over time.
(Cunha et al., 2020). Teaming is the new type of teamwork to respond to the current work challenges. It deals with the creation, development and leadership of these teams (Edmonson, 2012a and Edmonson 2012b), and it gives name to the board game that is being presented.

**Psychological Safety**

One of the most prominent researchers in the POS is Amy Edmonson, who popularized the term psychological safety. While researching medical teams, Edmonson observed that contrary to her initial hypothesis, the best performing teams reported more mistakes, than poor performing teams. Further research indicated that these teams were actually committing less mistakes, however they were admitting and discussing them more often, creating the illusion that they committed more mistakes. According to Edmonson, these teams had in common a higher degree of psychological safety, which she concluded was the best predictor of team performance (Edmonson, 1999). Similarly, an extensive two-year study on the best performing teams at Google revealed that they had one thing in common: a high level of psychological safety (Delizonna, 2017). Consequences of its absence were also studied, as one of the main reasons behind the Volkswagen emissions scandal (Jung, 2017), and led to a profound cultural change at Japan Air Lines, after a crash of one of its flights, on the 16th of January 1977 (Cunha et al., 2020).

Psychological safety is the belief that it is safe for team members to take interpersonal risks. These include admitting mistakes, speaking their minds, behaving as themselves, being vulnerable, asking questions, giving and receiving feedback. “[It occurs] when team members both trust and respect each other, and it produces a sense of confidence that the group won’t embarrass, reject or punish someone for speaking up” (Cunha et al., 2020). Psychological safety goes beyond interpersonal trust: it involves not only trusting a colleague or boss with the truth, but also having the confidence that there will be no punishment for speaking up; and it characterizes the group as a whole, as opposed to the particular relationships among different
team members (Edmonson, 2011). Its absence or abundance fundamentally change how a co-worker’s brain perceives a provocation from a boss, an interaction with a competitive colleague, or a dismissal in the team (Delizonna, 2017). As noted previously, 21st century work requires a higher degree of collaboration, which can be improved by promoting a wider range positive emotions. Problem-solving, resilience, motivation and collaboration can be fostered by promoting emotions such as trust, curiosity, confidence, inspiration and the sense of safety (Fredrickson, 2004).

In psychologically safe teams, people are more likely to: acknowledge ignorance; ask for help; speak up, even when that means going against the status quo; share ideas, thoughts and suggestions; admit fallibility; engage in experimentation; embrace failure; and learn from mistakes (Edmonson, 1999; Edmonson 2008; and Cunha et al., 2020). Tasks are seen as learning opportunities. When team members fail, they support each other, while paying attention to what went wrong, and understanding how they can prevent it from happening again. Psychological safety allows managers to set the right tone of openness, humility, curiosity and humor.

When promoting psychological safety in a team, the signals sent by the nearest boss are the most influential. Even within organizations known for having a strong culture, psychological safety levels vary significantly from team to team (Edmonson, 2008). Leaders can promote it, by behaving humbly, acknowledging ignorance, or expressing doubt in uncertain situations. This encourages team members to also display vulnerability and humility, creating a ripple effect on the team. Additionally, leaders can ask more questions. It is an act of inclusivity, and shows curiosity and interest on the team members’ inputs, incentivizing them to speak up in the future.

Moreover, team members with higher levels of proactive personality, emotional stability, openness to experience and learning orientation are more likely to experience psychological safety. Therefore, organization may recruit individuals with those traits. However, contextual
characteristics, such as a high degree of autonomy, role clarity, a supportive work environment, and good-quality relationships are essential to building psychological safety (Cunha et al., 2020).

**Psychological Safety and Accountability**

“Some managers might argue that fostering psychological safety can make it difficult to hold people accountable” (Edmonson, 2008). As explained by Edmonson, the idea that promoting interpersonal bonds, not punishing mistakes, and admitting ignorance/fallibility as a leader, may create a sense of impunity that would hinder performance is wrong, and dangerous. Psychological safety is not about promoting complacency. On the contrary, it’s about creating an environment, where teammates are comfortable giving and receiving tough feedback, speaking up against the status quo, or in disagreement with their leaders. More so, these behaviors are incentivized.

Retrieving the topic of the positive-negative duality, psychological safety and accountability should work as different sides of the same coin. A healthy organization sets ambitious targets and high-performance standards, while recognizing that certain areas of uncertainty require a high degree of debate, flexibility and continuous experimentation. It encourages execution and efficiency, while incentivizing its employees to frequently review and improve processes. It inspires hustle, without shutting down inquiry.

On the other hand, organizations that focus on accountability without psychological safety can originate a variety of dysfunctions in their work environment. Namely, critical information may not arise to top-management, employees may avoid experimentation and reflection, they may become fearful and anxious, and innovation is severely hindered (Edmonson, 2008).

**III. The Positive Teaming Game**

Positive Teaming is a teamwork board game. Each team acts as a leader in an organization, and must make everyday decisions to create a successful culture. The key in winning the game is
to promote an open and insightful debate within the team, and apply the Positive Teaming Game framework (presented in chapter “Positive Teaming Framework”) accurately.

**Purpose of the Game**

The main purpose in creating this game is to develop a learning tool to teach knowledge workers, about the practical applications of the Positive Teaming framework. This includes learning about psychological safety, how to promote it in their teams, and how to complement it with accountability, through practical decisions that leaders have to make every day, or their responses to unexpected events. As a plus, it is expected that players can develop their leadership skills, practice problem-solving and teamwork, as well as experiencing a psychologically safe environment.

The name Positive Teaming was intended to convey the game’s foundations in the POS, and to emphasize that it deals with 21st century teamwork. In fact, even within the context of the game, teams are assembled temporarily to solve a “problem” that they have never encountered before, remember the teaming definition provided in chapter “Teaming”. In order to win, teammates must manage the interactions between each other, and promote an insightful and inclusive debate. The more people feel comfortable speaking up, the closer the team will be to respond correctly to the situation they are presented with. Simultaneously, they have a very clear competitive framework, as other teams are trying to reach the end of the game before them. So, these interactions must also be focused on the ultimate goal.

The game framework is built into its format. Psychological safety gives the teams the ability to discuss openly the options without neglecting dissenting views or antagonizing teammates, while the accountability is provided by the game’s competitive framework. Teams that best apply the game framework to themselves will be closer to winning the game.

In the center of the game board, there is a group of co-workers trying to assemble a giant jigsaw puzzle, consisting of the Yin-Yan symbol. This image was intended to represent duality,
between the positive and the negative, between psychological safety and accountability, between playing and competing.

**Game Format**

The format of the game is purposely simple, so that the emphasis is on the content of the question cards and the debate within teams. Each team has a pawn, which starts the game on the “GO” space on the board, and the goal is to be the first team to reach the “FINISH” space. Pawns move according to how teams answer the question cards in each round. Every question card has 4 possible answers, and each answer is awarded a number of moves on the board between +2 and -2 (the pawn moves backwards), with an emphasis on forward moves (as explained in chapter “Progress Principle”). Some examples of the questions and possible answers are provided in chapter “Game Questions”, while examples of the moves’ distribution can be found in chapter “In-Game Feedback”. The number of moves awarded to each possible answer depends on which quadrant of the Positive Teaming framework it belongs to (Learning, Comfort, Anxiety and Apathy, as explained on chapter “Positive Teaming Framework). The objective is to provide a simple framework that through repetition can be assimilated by the players.

In order to motivate players into a flow mindset (definition from chapter “Flow”), this simplicity is complemented by the complexity of the questions. This was possible, due to the actual complexity that involves leading a team, and managing human interactions, but also by leveraging the most common misconceptions about the POS and psychological safety, as well as personal experience, and the readings that have been mentioned. Some of these misconceptions (or biases) include: opting for political communication to promote psychological safety, instead of honest feedback; sugarcoating the truth to avoid confrontation; promoting competition among team members to increase performance; and engaging in micro-managing behaviors, when the team starts showing signs of poor performance. The results of this approach will be discussed in chapter “Implications & Limitations”.

Ultimately, it is expected that players have fun playing the game. As previously discussed, this is crucial to ease participants into the right mindset, and to provide an optimal learning experience.

**Positive Teaming Framework**

As mentioned previously, the Positive Teaming Game framework was adapted from the work of several POS researchers. It characterizes teams’ environment based on 2 dimensions: psychological safety; and accountability. Teams’ objective on the game is to answer question cards in a way that promotes both psychological safety and accountability, pushing them to the Learning Zone. During the game, players have access to a handout that summarizes its main ideas (Figure 1).

![Positive Teaming Framework](image)

*Figure 1 - Theoretical framework handout, from the Positive Teaming Game*

A team in the Learning Zone regularly reflects on, experiments with, and improves processes. Leaders provide the right balance between challenge and support. People are comfortable speaking up, asking for help and admitting mistakes. Feedback is sought and it is 360º (leaders-to-employees, employees-to-leaders and peer-to-peer). Conflict is dealt with in a constructive way, and contributes to the team’s psychological safety. It provides an antidote for
groupthink (definition from chapter “Groupthink”), and it increases the team’s range of perspectives and options to deal with problems.

A team in the Anxiety Zone is characterized by low psychological safety and a high degree of accountability. Employees fear speaking up, and tend to hide mistakes. They are wary to experimentation, and fear failure. People in these teams are often anxious and burnout is a common phenomenon. In moments of hardship, collaboration is severely hindered, and employees often blame external circumstances for their mistakes.

A team in the Comfort Zone has a high level of psychological safety, but low accountability. In these environments the pressure to perform is lower. Complacency often forms among workers, and employing the minimum effort necessary is the norm. Leaders have difficulty creating any sense of urgency, and organizations typically experience incremental growth and minimal learning.

A team in the Apathy Zone is characterized by low psychological safety and low accountability. Employees are often de-motivated, and disconnected from the organization. There is little or no interest for the work being developed, instead teammates are constantly jockeying for positions.

Leaders can promote psychological safety, for example, by: praising team members for taking interpersonal risks (e.g. admitting ignorance, asking for help and speaking up); showing that all feedback and suggestions are valid and worth their attention; backing opposing views, especially when they are contrary to the status quo; incentivizing experimentation and reflection; behaving humbly; admitting fallibility; and promoting interpersonal bonds.

Leaders can increase accountability, for example, by: setting ambitious, actionable and clear goals, and reviewing them frequently; leveraging meetings to discuss progresses and setbacks, or inertia; being more assertive regarding the level of effort they expect from team members; being
more demanding regarding quality standards; clarifying team roles and tasks; and emphasizing the importance of deadlines.

**Game Question Cards**

Questions cards are crucial to the success of this board game. As mentioned before, they must strike the right balance between challenge and progress, and be explicit and detailed to describe complex teamwork problems. Additionally, these questions must sound familiar to the players. They must sound real, about real people problems, and real leadership choices. Once again, the key is in the dichotomy. There is a detailed theoretical framework that matches each possible answer with a different quadrant of the framework: Learning; Anxiety; Comfort; Apathy. However, the options must sound anything, but theoretical.

Firstly, because it’s completely different to be playing a game about a theoretical framework, or playing a game about leadership and teamwork, knowing there is a theoretical framework behind it. The second is more effective in sparking the intended emotions, such as joy and curiosity (definitions from chapter “Mood”). The more questions resemble familiar workplace events, the more engaged players will be. Secondly, because in order to prove the usefulness of the framework, it’s necessary to provide a clear picture of which moments to apply it, as well as incentivizing reflection on the implications of different leadership behaviors. Lastly, the combination of these 2 principles (playful experience and practical application of the framework) optimizes players’ learning, (chapters “Gamification”, “Mood” and “Flow”).

In order to accomplish this, different strategies were used: creating fictional characters that personify different problems, and generate empathy; leveraging personal experience, and the knowledge absorbed from different readings to address some of the most common negative experiences at work; using exclusively non-technical language; and avoiding general answers that may be theoretically accurate, but lack clarity on their practical application. Examples of the game questions cards are provided next (Figure 2).
In-Game Feedback

After discussing and selecting an option (A, B, C, or D) from a question card, teams open the Solutions Booklet on the section that corresponds to that card. The sections on this Booklet contain: the number of moves on the board that the team is awarded, depending on the answer they selected; the solution to the question card; and the reasoning as to why each of the remaining options was not the best response. This is a crucial moment for the game designer. These small de-briefings comprise the in-game feedback mechanism.

They are essential to keep players engaged, especially when they answered a question card incorrectly. If players were to perceive any sense of unfairness or inconsistency that would
jeopardize their learning experience. This is an additional reason as to why there are always 4 possible answers that correspond to the 4 quadrants of the Positive Teaming framework. It highlights the consistency of the de-briefings and distribution of the moves awarded to each possible answer.

Lastly, this feedback mechanism must help teams improve their knowledge about the application of the Positive Teaming framework. The more question cards they answer, the better should they grasp its underlying principles, and the more questions they should be able to answer correctly. Some examples of these de-briefings are provided next (Figure 3 and 4), corresponding to the 3 question cards presented in the previous chapter.

The correct answer is C). Especially in a changing environment, high performance requires openness and flexibility to allow employee evaluations to reflect learning and growth. Employees gain the autonomy to learn new tools without being punished, and leaders have a mechanism to appraise learning, while keeping performance standards.

A): High performance standards can and must co-exist with learning, as explained above, especially under changing or complex conditions.

B): Makes learning a trade-off between appeasing the leader and receiving a higher bonus. Choosing either option creates anxiety, due to the foregone alternative.

D): Ignores feedback about an explicit problem, and maintains a system that disincentivizes learning new tools.

The correct answer is A). In order to reach the best decision, the leader must create an environment where everyone feels safe to speak up, especially when they have an opinion that goes against the status quo.

B): Overlooking Sean's comments may lead the team to an incorrect decision and sends the signal that speaking up against the status quo is not a desirable behaviour.

C): May lead to a correct decision, if Sean is able to expose his arguments or if he was indeed biased in the first place. However, the leader loses the opportunity to incentivize teammates to speak up.

D): Sean may be able to expose his arguments and lead the team to a better decision. However, the leader risks making him feel as an outsider who is putting the team's harmony at risk, negatively affecting the teammates willingness to speak up in the future.
IV. Implications & Limitations

During the development of the Positive Teaming Game, there were 2 major opportunities to test its effectiveness as a management education tool. The first consisted of a questionnaire, to be answered individually, that contained several questions. It was intended to mimic the process of answering game questions and receiving feedback, repeatedly, to test the difficulty and interest of the questions, identify improvement opportunities, and experiment different styles of feedback. Additionally, it provided data about the respondents’ learning, as they progressed in the questionnaire. These results, however, ought not be interpreted as evidence of the learning curve experienced by players of the Positive Teaming Game. It was not conceived for that purpose.

This questionnaire had 4 versions (A, B, C, or D) to which respondents were randomly allocated. Each of these 4 versions contained 6 to 7 randomly assigned game questions. The versions were static, meaning that all respondents assigned to the same version answered the same questions, in the same order. Additionally, there were 2 control questions. These were repeated in 2 different versions of the questionnaire, in different positions. In total, 25 unique game questions were tested, by 52 respondents. Among these, there were management students, HR managers, middle and top executives, and other knowledge economy workers. However, for the purpose of this analysis, only the overall population was considered, due to the insufficient...
number of respondents in each category, and the risk of the screening question not being sufficient to allocate respondents into each corresponding group.

On average, 56% of the answers given were best-possible answers, i.e. belonged in the Learning Zone of the Positive Teaming framework. In order to assess the respondents’ learning, game questions were divided into 3 categories: those addressing mainly the lack of psychological safety; those addressing the lack of accountability; and those about groupthink. The percentage of best-possible answers to the first question about a certain topic was 49%, on the second question about the same topic it increased by 25%, and on the third by 14%. As for the 2 control questions, the percentage of best-possible answers increased by 19% and 23%, between being the first and the third question about their topic. This seems to indicate that respondents improved their knowledge about a topic, as they answered more questions. However, this result may be biased by the initial random allocation of the questions. Repeating the same experiment for different question allocations, and higher number of respondents should yield more trustworthy results. Nevertheless, the second experiment, which is explained posteriorly, is more adequate to validate the effectiveness of the game for education, since it reproduces the setting in which it is played. Lastly, respondents were asked to rate on a scale of 1 to 5, “How interesting was the previous question?”, after reading the question feedback, rating the questions at 3.9, on average.

The feedback collected during this experiment was essential to improve the game questions. Some of these were dropped, most of them were significantly changed, and all the de-briefings were re-written in the format presented in chapter “In-Game Feedback”.

The second testing opportunity consisted of a focus group, which was organized to observe management students playing the Positive Teaming game, and to collect their inputs regarding that experience. Concerning the game’s adequacy for education, 3 main observations were made. First, players were quick to grasp the game mechanics, and started playing immediately without any intervention from the facilitator. Game-related actions became an
almost unconscious effort, centering players’ attention around the content of game. Second, immediately after playing one round, players started associating the quadrants of the Positive Teaming framework with common expressions, such as “too nice” (for the Comfort Zone) and “too harsh” (for the Anxiety Zone). This was their first approach in trying to comprehend the Positive Teaming framework, and it evidences the teams’ determination to make the game principles and vocabulary familiar to them. Third, teams became progressively more proficient in answering question cards correctly. On the first round none of the 3 playing teams identified the option corresponding to the Learning Zone of the game framework, by the third round 2 teams had done so, at least once. On the fourth round, 2 teams responded correctly to their question cards, and the other team chose the second-best option. The game was concluded after that round to give time for discussion. Overall, players reported that playing the game was a “fun” and “engaging” experience. They felt they had mastered the application of the theoretical framework. They understood the concept of accountability, and described psychological safety by the type of behaviors they would expected in a psychologically safe team.

This seems to indicate that there was a heightened eagerness to learn about the practical application of the framework, possibly driven by the gamification elements, and the players’ desire to win. However, these results may be biased, due to the players’ perception of the experience, and the facilitator’s interpretation. In order to draw such conclusions, further research is necessary. It should aim at evaluating the players’ knowledge, as well as its application to practical work examples, before playing the game, immediately after, and a few months later, and compare it to other teaching methods. Additional research can leverage a more observational approach to assess the players’ mood during the game. Scoring emotions such as joy, pride, support, and embarrassment may help study how these emotions affect the players’ learning experience. As the fields of neuroscience and biology evolve, it is likely that new research will further unveil why are games so addictive, and how gamification affects our brains.
References


