

Tabletop Role-Playing Games for Teamwork: A Pilot of a Methodology for Developing Socio-emotional Skills

Abstract: The rapid growth of the Information and Communication Technologies (ICT) sector in Chile has highlighted the need for workers to develop “soft skills” beyond their technical knowledge. These soft skills, including teamwork, empathy, adaptability, and leadership, are essential for professional success and societal well-being. However, the Chilean education system has been identified as insufficient in incorporating soft skills into formal education, leaving many ICT sector applicants lacking these crucial abilities. BS&G Taller de Innovación has implemented role-playing game workshops to address this issue and enhance the soft skills of participants.

This exploratory study involved 80 hours of role-playing games with 10 teams, primarily from the Information and Communication Technologies sector. The results indicate statistically significant changes in task, production, and adaptability, as well as in two items related to entrepreneurial leadership self-efficacy. Empathy did not show significant changes, but some trends were observed. The role-playing game workshops provided participants with a unique opportunity to develop social and emotional skills in a cooperative and engaging environment, strengthening interpersonal relationships and communication within teams.

While the logistics and execution of the workshops were successful, there were several considerations for improving the methodology in the future, such as adjusting the time commitment, providing clearer instructions for newcomers, incorporating audiovisual material, and enhancing interactivity. Overall, the study demonstrates the potential of role-playing games as a viable, attractive, and unconventional method for developing soft skills in the ICT sector and beyond.

Keywords: game-based learning, experiential learning, social-emotional skills

Felipe García-Soriano

Universitat d’Alacant, Spain

figs1@alu.ua.es

Francisca Faret Moreno

Universidad de Chile

franciscafare@gmail.com

Daniel González Cohens

Tampere University, Finland

dandresgc@gmail.com

1. INTRODUCTION

In this article we present the results of a pilot for a methodology for fostering the development of social and emotional skills based on tabletop role-playing games (RPGs), which was tested on workers in the Information and Communication Technologies (ICT) sector.¹ A tabletop RPG is a type of game in which participants assume the roles of characters and, through them, create a story. Participants determine their character’s actions based on their characterization, and their actions may or may not succeed as determined by the use of a game ruleset.

¹ **Editorial note:** This article is a translation of a peer-reviewed version originally published in 2023 in *La Revista de Estudios sobre Juegos de Rol y STEAM* (English: *Journal of Roleplaying Studies and STEAM*). Special thanks to the journal’s Editor-in-Chief, Cristo León, for doublechecking the translation.

Despite the lack of extensive evidence that can help establish the effectiveness of tabletop RPGs in the transmission and incorporation of social and emotional skills in the workplace, there is evidence of their effectiveness in other contexts (Clarke et al. 2018), as well as of other game-based methodologies in work settings (Calabor, Mora, and Moya 2018).

Additionally, the Information and Communication Technologies sector has been singled out as featuring a significant gap in workers' socio-emotional skills (Observatorio Laboral Metropolitano 2019). Given that workers in this sector have similarly-aligned personal interests, they may be particularly receptive towards a game-based methodology that helps in developing said skills (Yukio and Cunha 2019).

This methodology aimed to be a focalized and experimental intervention, as well as an innovation in the deployment of new training methodologies. With this objective, we worked with 10 teams of professionals, mostly within the ICT sector, coming from 6 different companies in Santiago de Chile, during the year 2021. We measured the participants' social and emotional skills both before and after the intervention to verify the effect of the intervention and evaluate its effectiveness.

The main goal of this research was to evaluate the results of the tabletop RPG-based methodology for the development of skills related to teamwork in ICT workers and their teams. The secondary goals were the following:

- Study the effects of a methodology based on tabletop role-playing games in the development of skills related to empathy, conflict resolution, adaptability, and leadership.
- Deploy and refine the tabletop RPG-based methodology towards the development of skills related to teamwork.
- Promote the relevance of recreation, play, and leisure in the workplace.

2. CONTEXT

2.1 Soft skills

According to the Metropolitan Labor Observatory (Observatorio Laboral Metropolitano, o OLM por sus siglas en español) (2019) of the Chilean Ministry of Labor and Social Security, one of the main issues faced by workers and applicants in the ICT sector in Santiago is a gap in the development of their so-called "soft skills," which leads to an over-prioritization of their own technical skills. Addressing this gap is urgent, given that it has been identified as a strategic productive sector by key stakeholders both within it and across other areas of the economy.

In the case of the ICT sector, there is an observed consensus among employers and educators regarding the desirability of socio-emotional skills in new hires, which even outrank technical skills and knowledge (Aasheim, Li, and Williams 2019). This is doubly relevant since, over 10 years ago, Chile was identified as one of the nations with the highest expected growth in the ICT sector within the region, which would improve local business profitability (Godoy 2006), provide a better chance of insertion in the globalized world (Instituto Español de Comercio Exterior 2011), and enhance entrepreneurship and governance within the country (Gobierno de Chile 2015).

By "soft skills," we refer to a wide set of capabilities and knowledge such as personal attitude, skills, habits, and practices that can be combined to maximize the effectiveness of one's own work. In this context, they are considered equally or more important than traditional qualifications and technical skills for achieving professional success (Matturro 2013). Specifically, according to the OLM's report on national skill gaps, they are considered essential for "dealing with clients, since it helps with developing trust, identifying customer needs, adapting potential solutions, and providing higher-quality service" (Observatorio Laboral Metropol-

itano 2019, 33). Informants in said report identified four key aspects to be developed: leadership, teamwork, empathy, and adaptability.

The incorporation of soft skills in the curriculum for formal education is an unresolved issue in Chile, where deficiencies have been identified at the preschool level (Arzola and Camhi 2013), throughout mandatory education (Busso et al. 2012), and reaching university-level training in the case of teachers (Ruffinelli 2013; Vera 2016). The chances of an applicant in the ICT sector having developed these skills before joining the workforce are so unlikely that companies are forced to either contract or create workplace training programs that address this gap. This problem has been identified previously in other productive sectors by the National Productivity Commission (2018), which extends the relevance of addressing the gap towards the rest of the economy.

Prior research suggests that a person's success does not only depend on their academic skills and acquired knowledge (Jones and Doolittle 2017), but also that social and emotional skills play an important role in their lifetime achievements (Chernyshenko, Kankaraš, and Drasgow 2018). The development of these skills shows an effect on individuals' wellbeing, as well as that of the rest of society (Chernyshenko, Kankaraš, and Drasgow 2018). Ongoing social transformations demand that individuals develop new ways of thinking and relating to each other, as well as the flexibility and capacity for adapting to change as they occur (OECD 2018).

Another factor is that, at the time this intervention was designed and deployed, the legal maximum hours a full-time employee could legally work for was 45 hours (International Organisation of Employers 2024). In the face of high work loads and extensive working hours, the risk of worker burnout increases (Ramírez Pérez and Lee Maturana 2011), which directly impacts company productivity. This risk increases in institutions where workers engage with constant digital stimuli (Arias Gallegos and Masías Salinas 2014).

In response, over the past 20 years there has been an ongoing push towards overcoming the leisure-business dichotomy and towards inverting the colonization of leisure time by the logic of labor, offering increased space for leisure in the workplace instead (Rul-lán 1997). This would benefit the wellbeing of individuals and teams through the introduction of learning-oriented play spaces in the workplace, which would additionally serve to reduce time dedicated to distracting activities (Miquilena Colina 2011).

2.2 Tabletop Role-Playing Games and skill training

On its own, role-play – as a playful practice based on participants taking on the roles of fictional characters (Bowman and Lieberoth 2024) – is a well-known tool for developing soft skills in fields such as occupational therapy (Marchetti and Petersen 2019) and medical training (Nestel and Tierney 2007). Tabletop role-playing games, however, remain underutilized as tools for learning (Hammer et al. 2024).

A Tabletop Role-Playing Game is a kind of game in which participants assume the roles of characters and, through them, collaboratively tell a story. Participants determine their characters' actions based on their own characterization, which may or may not be successful as determined by the use of a game ruleset. Within the boundaries collectively enacted by the rules, participants may improvise freely. One of the participants is the Game Director, with the responsibility of managing the process of play, giving form and direction to player action (Zagal and Deterding 2024).

One important advantage that tabletop RPGs hold over other kinds of game is that every player interprets a unique character, with particular characteristics and personality, which remains consistent throughout play according to player interest, game elements, and the guidelines provided by the Game Director. This allows participants to engage with their own characters in a focused and consistent manner, and safely explore an alternate identity that is as familiar or as foreign as desired (Bowman and Schrier 2024).

This happens in the context of players pursuing a common goal during play, where effective collaboration and coordination are essential. Therefore, the characters enacted by the players may complement each other; some may excel in physical skills and capabilities, others in intellectual or social approaches, and, if the game allows for it, some may even display mystical abilities such as magic. Being in touch with the other participants' interests and goals during play, as well as their social cues and reactions, is an integral part of achieving the group's goals and a good play experience (Bowman 2024).

The most popular approach towards skill development using games has historically been that of Serious Games (Calabor, Mora, and Moya 2018), in which education is the objective instead of entertainment (Romero, Usart, and Ott 2014). In this context, games offer participants a space for learning based on simulating real-world situations, allowing for practicing skills with reduced consequences for failure (Hammer et al. 2024), and focusing their attention towards relevant information as part of the designed game experience (Cutting and Deterding 2024).

With all of the above in consideration, tabletop RPGs have caught attention for their potential in implementations beyond entertainment across different fields (Arenas, Viduani, and Araujo 2022; Daniau 2016). However, while examples of using tabletop RPGs for the development of soft skills do exist (Chilana 2022; Lee et al. 2018; Veldthuis, Koning, and Stikkolorum 2021), there are few cases that specifically focus on the workplace. Most of the instances of skill development found center on workshops or mentorship and coaching processes (Porrás Velásquez 2016), which are proven methods that have inspired our research design. However, our research tries to argue that play on its own terms, practice, and design can enhance the development of soft skills in participants, promoting personal development and localized social change in their environment (Bowman et al. 2024).

3. METHODS

3.1 Research Focus

We carried out our research focusing on workers in the Information and Communication Technologies sector. Prior research has shown that people that choose career paths that lead into this sector usually do not focus on developing their social skills, and that their chosen formal education tracks rarely help to correct on that issue (Marcos and Cavero Barca 2003). At the same time, multiple reports (Comisión Nacional de Productividad 2018; Observatorio Laboral Metropolitano 2019) emphasize the importance of soft skills in this sector. On the other hand, an important proportion of ICT workers are young adults, an age segment where cultural consumption focuses on television series, movies, video games and, most relevant for our analysis, board games, with a noticeable preference towards fantasy fiction (Yukio and Cunha 2019).

Previous research has demonstrated the efficacy of experiential learning experiences where the construction of knowledge is promoted through a process of reflection and experience-focused meaning-making. We argue that the simulation enabled by tabletop RPGs is a good way to develop soft or social and emotional skills.

This methodology aims to ensure that the tools for the development of soft, or transferable / transversal, skills defined here serve to train Information and Communication Technologies workers in particular. While there already are methodologies that address this same issue, they do not specify productive sectors as part of their target audience. Consequently, this research aimed at making the tools and methodology developed available to all stakeholders who wish to explore their potential.

Based on the report of the Metropolitan Labor Observatory (2019), we chose the key variables to be studied: teamwork (understood to be the central concept throughout this research), empathy, adaptability, and leadership. The definition of each of these constructs, which were developed based on three psychometric

scales validated in the Chilean labor context, are provided below. These are presented in greater depth in the instrument description section.

This study was exploratory in scope, since our decision to use an innovative and emerging methodology meant that we would not have points of comparison to other alternatives. Our approach combined quantitative and qualitative methods. The following sections present the sample and the description of the instruments used in both cases.

Table 1: Definition of variables. Own production, based on Madrid, Díaz, Leka, Leiva & Barros (2018); Madrid (2020); Moriano, Topa, Molero, Entenza, & Lévy-Mangin (2012).

Variable	Definition
Teamwork	Communication, coordination, cooperation and support skills. Leadership in the context of the dynamics between team members.
Empathy	Concern and compassion for other people, understanding of opinions and points of view different from one's own.
Adaptability	Individual orientation for fostering effective task resolution, resilience against changes in the workplace, and a proactive attitude when proposing new ideas and innovative solutions.
Leadership	Ability to create and lead teams from a collaborative approach; to create innovative environments that foster the expression of ideas, self-efficacy and autonomy; to face unexpected challenges and provide a perception of success in projects, in addition to celebrating the team's achievements.

3.2 Information Production

This research was carried out throughout the year 2021 in Santiago, Chile. We conducted tabletop RPG play sessions in an online and synchronous context. The initial design of our intervention intended for play sessions to be carried out in-person. However, before we could begin, the COVID-19 pandemic occurred, which forced us to re-design our intervention with the nation-wide quarantines in mind. The play sessions were carried out by the consulting firm "BS&G Taller de Innovación". The sample comprised a total of 49 participants distributed in ten work teams, from six different organizations. Five of them were companies in the ICT sector of various sizes, and the last organization was a municipal administrative body. The ages of the players ranged from 25 to 57 years old.

Additionally, to obtain an expert opinion on the design of the workshops, we invited four professionals, whose areas of work are related to ludic methodologies and Game-Based Learning approaches, to participate in the experience. This "expert panel" constituted the tenth team in the sample. This panel contributed to the research from their professional perspective, but also as a team participating in the workshops, going through the same play experience as the rest of the teams. While the experts were integrated as players, in order not to distort the results, they were not considered for the quantitative data analysis.

The production of information for the general teamwork construct was carried out using qualitative techniques with open-ended questions in self-administered questionnaires pre and post-intervention. In addition, group conversations were held once the teams reached the end of the game module in order to reflect on the overall experience. All conversations were recorded and subsequently transcribed.

On the other hand, the concepts of empathy, adaptability, and leadership were worked on quantitatively by deploying measuring instruments pre- and post-intervention. We then analysed the differences and

evaluated the success of the methodology in its objective of developing soft skills in professionals of the Information and Communication Technologies sector. This information was collected using self-applied questionnaires in Google Forms.

3.2.1 Ex Ante Measurement Instrument

Each participant answered an initial questionnaire prior to the start of the workshops using the Google Forms platform, which was designed to take no more than 10 minutes to complete. It should be noted that all participants enrolled in the workshops completed the questionnaire (n=49).

After a brief section of characterization questions, the instrument consisted of two sections. The first one contained six open questions, in which participants were asked about their strengths and weaknesses when working in teams; what contributions they considered that the incorporation of collaborative game dynamics in the workplace could provide; their evaluation of previous tabletop RPG play experiences regarding learning effectiveness and potential improvements, if applicable; and their expectations about the implementation of the workshops with BS&G.

The second section was designed to measure the skills of each participant in relation to the three proposed skills: empathy, leadership, and adaptability. The scales used for measuring these variables and verifying the results of the workshop were taken from the methods of the following studies:

- Task, Production, and Adaptability Scale (Madrid et al. 2018);
- Empathy, Work Performance Scales in Spanish (Madrid 2020);
- Self-efficacy for Entrepreneurial Leadership Scale (Moriano et al. 2012).

The resulting leadership scale has twelve items, the empathy scale has six, and the adaptability scale has nine. All items are Lickert scales, where the informant self-reports their agreement with a given statement on an ordinal scale, where the lowest value indicates lowest agreement, and the highest value indicates highest agreement. The items were scored between 1 and 5 for the first two scales, and between 1 and 7 for the last.

3.2.2 Ex Post Measurement Instrument

33 of the 49 initial participants completed a post-workshop questionnaire using the Google Forms platform. Just like the initial questionnaire, it was designed to take no more than ten minutes to complete and was similar in content.

After a section of characterization questions, the first part of the instrument consisted of three open-ended questions, in which participants were asked about what they learned from playing tabletop RPGs together with their co-workers; about the aspects they believe can still be improved in their teamwork; and about recommendations, suggestions and improvements for future workshops of this nature.

The second part of the questionnaire had the purpose of contrasting the responses of each participant in the previous questionnaire in the Empathy, Leadership, and Adaptability Scales, in order to account for changes or stabilities in these three dimensions rooted in teamwork, after having completed the workshops and participated in the experience. The Adaptability scale consists of the same nine questions of the previous questionnaire, the

Empathy Scale has the same six statements and finally, the Leadership Scale has the same twelve items.

Regarding the group conversation at the end of the workshops, we structured the conversation around three final questions, as a guideline to invite participants to reflect on the experience. As in the final questionnaire, they were first asked about the lessons they take away from the experience; secondly, about their opinion

regarding the incorporation of playful spaces or dynamics in the workplace; and finally, to complement the information gathered from the questionnaire, about the elements that they would improve in the workshops for future implementations.

3.3 Analysis Strategies

The technique used to analyze the information produced was a qualitative content analysis, specifically for the group conversations and reflections. The transcribed material was processed using the Atlas.ti v8 software.

The quantitative dimension of the research was carried out using the SPSS 23 software. We observed the behavior of each item in both questionnaires, as well as the dimensions that made up each scale, to establish whether there was a statistically significant change in them after the workshops.

For this analysis, we performed a comparison of related sample means. It was therefore necessary to establish the appropriate test for each case, examining whether the difference between the two results (pre- and post-) in each variable were normally distributed or not. The Kolmogorov-Smirnov test was used to establish the normality of this difference.

In the cases in which the condition of normal distribution was met, we used Student's t-test for two related samples. In those where normal distribution was not observed, we used the Wilcoxon test. In this way, we determined whether the change between the two moments was statistically significant, or, in other words, whether it was possible to establish with certainty that participation in the role-playing sessions was what produced the change.

Finally, to measure the specific effect in each category, Cohen's d test was used to obtain the magnitude of the change, which is calculated by dividing the difference between the Ex Ante mean (M_1) and the Ex Post mean (M_2) by the category's pooled standard deviation (S_p), as follows:

$$d = (M_1 - M_2) / S_p$$

This means that the direction of the effect is inverted: a positive d signals a decrease in the Ex Post measurement, and a negative d, an increment. The effect size was interpreted as follows:

Table 2: Cohen's d interpretation guide (Ventura-León 2018)

Cohen's d	Interpretation
0.20	Small effect size
0.60	Medium effect size
0.80	Large effect size

4. INTERVENTION DESIGN

The intervention approach was based on experiential learning, which focuses on the importance of the role played by direct experience in the educational process. It promotes the construction of knowledge through a process of reflection and "making sense" of experiences.

David Kolb (1984) focuses on exploring the cognitive processes associated with approaching and processing experiences, identifying and describing the different ways this is done. According to this author, for effective learning to take place, one should ideally go through a process that includes four stages:

1. An activity is performed, having a concrete experience.
2. The experience is reflected upon, establishing a connection between the activity and the results obtained (reflective observation stage).
3. From these reflections, conclusions or generalizations are articulated, understood as general principles referring to a set of circumstances broader than the particular experience (abstract conceptualization stage).
4. Finally, the conclusions obtained are tested in practice, using them as a guide to orient action in future situations (active experimentation stage).

The role-playing methodology proposed in this research consisted of an intervention over two working sessions carried out in two half-days, comprising an initial thirty-minute long introductory module, followed by three game modules of approximately ninety minutes each for the first session, and a game module of two hundred and forty minutes in duration for the second session, followed by a closing period of approximately thirty minutes.

We used the structure proposed by Kolb, building a narrative focusing on teamwork as a transversal aspect, and the concepts of empathy and conflict resolution, adaptability, and leadership in the central sessions.

The game used for this intervention was *Dungeons & Dragons 5th Edition* (Wizards of the Coast 2014) (*D&D 5e* hereafter), where players take the roles of heroes in a world based in the genre of high fantasy, where magic and mythological creatures are real, in a period similar to medieval times. This game was chosen due to a number of factors:

- *D&D* has a greater presence in academic research, more than any other published tabletop RPG.
- It is the most popular tabletop RPG system, both throughout the history of the hobby, and at the point this research was carried out, it was experiencing a new peak in popularity (Whitten 2019).
- This rise in popularity has coincided with renewed interest in *D&D* by popular media, shown in appearances in television series such as *Stranger Things*, *Riverdale* and *Gravity Falls*.
- *D&D* also allows for its game rules and systems to be used for the development of new products and projects, thanks to a document known as the Open Game Licence (OGL). This has fostered the production of large quantities of free-to-use material, which benefits our model by preventing the need of acquiring licensing rights for the content used.²
- The game system is relatively simple. Players declare they want to do an action, the narrator tells them what skill they must use and sets a difficulty, the player makes a roll with a 20-sided die and adds a number that represents their skill to the result. If they exceed the target number, they succeed. Else, they fail, and must adjust to the new scenario.

Play was carried out online on Roll20, a Virtual Tabletop (VTT) platform, accompanied by a group video call carried out on Zoom.

²It bears mentioning that this research was designed and carried out years before the 2023 leak of a revised version of the OGL that could have potentially made these legal permissions stricter and less friendly to our research goals. While D&D's parent company has since pedalled back on these changes, it led to a decrease in relevance of the game in particular during the last few years.

4.1 First Session

4.1.1 Opening Module: Diagnosis and Defining Expectations

At the beginning of the first session, the following actions were taken:

1. The narrator introduced themselves to the group and introduced the game to be played. They then asked the team to introduce themselves and to tell the group something about themselves. As questions to motivate conversation, we asked:
 - a. What do you imagine when we talk about role-playing games?
 - b. What was the last game you played?
2. The narrator then asked the group what each participant's expectations were. Each participant was encouraged to write down their answer on a sheet of paper and then discuss it with the group.

4.1.2 Game Module 1: Character Creation and Introduction to the System

In the first game module, the following actions were performed:

1. The participants each received a character sheet and the narrator presented the initial premise of the story. The narrator explained that the participants would be creating their own character, that they would all begin playing as level one warriors, and that their characters would increase in power, or level up, as the sessions proceeded.
2. The following steps were followed during character creation:
 - a. Depending on how they imagined their character, each participant had to define their base attributes (Strength, Dexterity, Constitution, Intelligence, Wisdom, Charisma) by assigning one of the following bonuses to each one: +3, +2, +2, +2, +1, 0, -1. Participants were told that a higher bonus meant the character was more proficient in that attribute. The participants then filled in the chosen bonuses in their character sheets, both in the attribute section and in the related skills.
 - b. The participants then filled in the Hit Points (HP) of their characters, which were explained to be their health. Participants were told that, if their characters were hurt, they would lose HP, and if it ever reached zero, their characters would be knocked unconscious. The HP formula used was 10+ their Constitution bonus.
 - c. Participants decided on a background for their characters, answering the following questions:
 - i. Where was your character born?
 - ii. Who is part of your character's family?
 - iii. What did your character do before leaving on an adventure?
 - iv. Did your character know any other of the characters in the group? Based on the answers to these questions, they selected a skill on their character sheet that represented something their character would know thanks to their life experiences. For each chosen skill, they added 2 to their current bonus, which showed they have a special handle on them.
 - d. Participants were then prompted to think of three items their characters would have left home to go on an adventure. These items could not be weapons nor armor.
 - e. The participants were told to verify their choices, and change up whatever they didn't feel sure about. After this, they were told that their decisions so far would be final, and from that point on, all choices would have to be taken as a group.

3. The narrator took out the adventure deck, a small deck of cards. Each card in the deck contained the description and game information for several different objects and abilities the participants' characters would be able to obtain during the adventure.
 - a. First, the narrator drew as many random Armor cards as participants were present. Each Armor card contained a suit of armor with its respective Armor bonus, and participants were told that the higher the bonus, the harder it would be for opponents to harm them.
 - b. Secondly, the narrator drew as many random Weapon cards as participants were present. Each Weapon card contained a weapon with both an Attack and Damage bonus. Participants were told that the higher these bonuses, the easier it would be for their characters to harm their opponents in combat, and the more damage they would do with a successful attack, respectively.
 - c. The narrator then explained that each character had to receive one Armor and one Weapon, and that they had to choose who got what. This led participants to begin managing resources as a group.

4.1.3 Game Module 2: Empathy and Conflict Resolution

In the second game module, the following actions were carried out:

1. This module introduced the logic and rules of the role-playing game to the participants. The initial scenario was designed to provide participants a chance to test the mechanics of the game, and to explore the space of possibility within the tabletop RPG play experience. To achieve this, participants were presented with a simple challenge in order to familiarize them with the means and tools they would have at their disposal.
2. Once this initial challenge was solved, the narration of this module proceeded to the central problem: in this case, they were involved in a conflict between two villages, and had to decide which would be the best course of action to take in order to solve it.
3. Once the narration of this module was completed, the participants took a brief break. After this, the narrator asked them what were the main lessons they learned from the session so far, what their expectations for the future of the workshops were, and what they would improve in the following modules.

4.1.4 Game Module 3: Adaptability

In the third game module, the following actions were carried out:

1. At the start of the new module, the narrator explained to the participants that, just as we all grow and specialize, so did their characters. The narrator then presented them with a set of possible specialization paths called Classes, which would unlock better combat capabilities, better use of skills, and even magic powers, depending on the choice. The participants were prompted to choose a Class for their characters. This choice also aimed to encourage participants to think of their characters as a person separate and different to them, and as such, encouraging them to put themselves in the shoes of another "person". As part of this choice, the group had to decide which tactical roles each character would take within the team.
2. The plot of this module placed the participants' characters inside the labyrinth of a crazy magician, and challenged them to find a way out. The participants were constantly pressured to make decisions, using their skills in creative and innovative ways, thus encouraging them to work together. The narrator paid attention and took care to reward innovative decisions.

3. At the end of this module, the narrator invited participants to talk about the recently played session. The conversation paid special attention to the moments in which decision making was crucial, what the strategies for decision-making had been, what elements the participants considered, how they used the resources they had, and how they personally experienced the game module. Finally, the narrator asked for any other final reflections from the participants.

4.2 Second Session

4.2.1 Game Module 4: Leadership

In the fourth game module, the following actions were carried out:

1. The second session began with the narrator telling the participants that their characters were still learning, which meant that they would now gain access to new abilities. The new abilities were assigned depending on each characters' class progression.
 - a. In this module, which mainly focused on leadership, resource management would be a relevant skill, so they did not only receive improvements or new abilities at the beginning of the module, but also would have to find them throughout the game world during the session. The players were not aware of this at the beginning of this stage.
2. Before the game began, players were given a moment to reconnect with the narrative by collaboratively summarizing what happened in the previous session. The narrator rewarded participants who provided important information for the team's mission during this phase with additional details that they could not have found out otherwise.
3. In this module, the characters were tasked with exploring the crazy magician's castle, where they were presented with challenges that required the specialized leadership of different characters with the help of the others.
4. The exploration of the castle eventually led to a final confrontation with the crazy magician. This encounter could be resolved in multiple different ways, and was one of the focal points of the final conversation.

4.2.2 Final Module: Closure and Expectation Assessment

Once the narration of the previous module was finished, the final discussion of the entire workshop took place. The narrator led the group of participants through the following conversation topics:

1. First, we talked about each participant's personal process and final takeaways throughout the entirety of the workshop. Following this, we asked the group to reflect about their collective experience.
2. We compared the initial expectations of each participant, and their perception of the resulting experience.
3. Finally, we asked the group about their opinion regarding the integration of games and play in the workplace.
4. We requested participants for their consent for this final conversation to be recorded, with the aim of analysing the results of the experience, what to improve in its design, and what potential they perceived in it.

5. RESULTS

The tabletop RPG-based workshops we conducted resulted in over 80 hours of play with ten different work teams, most of which belonged to the Information and Communication Technologies sector. After analysing the experience as a whole, we drew several insights regarding the methodology and its relationship with the development of key socio-emotional skills.

First, we will characterize the effects of tabletop RPG play on the development of the proposed skills, i.e., empathy, adaptability, and leadership. We observed that statistically significant changes -- or very close to significant -- were found in one item in the Task, Production, and Adaptability Scale (Madrid et al. 2018), and in two items and one entire dimension -- a set of survey items, which as a whole allow measuring more complex ideas -- within the Self-Efficacy for Entrepreneurial Leadership Scale (Moriano et al. 2012). The Empathy Scale (Madrid 2020) did not present any statistically significant changes, but a couple of items showed small changes that could indicate potential trends.

Regarding the Task, Production, and Adaptability Scale (Madrid et al. 2018), the item that had a statistically significant change was "Has ensured that his/her work activities are adequately completed," which corresponded with a decrease of a small effect size (Cohen's $d = 0.44$, Mean variation = -0.28) which could be generalized to less than 58% of the participants. The decreasing effect is interesting, since the question is phrased in a way that implies an exercise in identifying the completion of one's own tasks. This could indicate an increased awareness of work not done, and how it affects the team. As discussed earlier, tabletop RPG play encourages the division of work into differentiated roles, and as such, a change in this type of subject matter is coherent.

In the case of the Self-efficacy for Entrepreneurial Leadership Scale (Moriano et al. 2012), two notable results were obtained in the items:

- "Be flexible in the face of internal and external changes in the environment" (Cohen's $d = 0.68$, Mean variation = -0.13); and
- "Create the perception of early success as a project gains momentum" (Cohen's $d = -1.91$, Mean variation = 0.44).

The former showed a decrease, and the latter, an increase. As mentioned above, a decrease may indicate heightened visibility of the issue, which breaks the sense of security with respect to the problem and therefore opens space for improvement. On the other hand, the item on creating a perception of early success speaks about an increase in positive communication in the team, aiming to approach the construction of a project from the point of view of success.

Likewise, the dimension within the Self-efficacy for Entrepreneurial Leadership Scale (Moriano et al. 2012) that showed a significant increase (Cohen's $d = -0.35$, Mean variation = 0.23) was the Innovative Environment dimension, which includes items that relate to autonomy, feelings of safety to express ideas, and freedom. Despite the modest effect size, it is a relevant find, considering that the dimension relates to areas of action that are explicitly called upon and fostered in tabletop RPG play.

Finally, when analysing the Empathy Scale (Madrid 2020), it is noteworthy that the greatest fluctuations were observed in questions referring to imagining being someone else and putting oneself in their position, a practice that tabletop RPG play greatly emphasizes.

A secondary aim of this study was to evaluate the process of carrying out the tabletop RPG-based workshops. From the point of view of the design of the workshops and the logistic aspect of making them work, it is possible to affirm that there were no major inconveniences and they were carried out satisfactorily.

However, since this was an exploratory study based on a pilot experience of a hybrid analog-digital game, we can also raise a series of considerations to improve the methodology for future uses.

In practical terms, the issue of the length of the sessions and them fitting into the workload of the involved companies was revealed to be of utmost importance. In terms of total time, the workshops were planned to last eight hours, which were to be spread over two or four sessions, depending on the case. This meant that the participants effectively spent a full day of their working hours in the workshops. It is necessary to rethink the length of the sessions, making modifications according to the weekly availability of the teams, thus adapting them to their workload. This could be done either by increasing the number of sessions while shortening their duration, or by introducing time-saving changes such as the creation of characters based on pre-arranged types, or using audiovisual material for the induction to the role-playing game to allow more time to be devoted to the game itself.

A second aspect is the emphasis given to the ultimate purpose of the workshops and to the instances of reflection among participants for enhancing learning about teamwork. The information regarding the purpose of the tabletop RPG should be made clearer, and it should not bias the participants as to how they should behave during the game. Likewise, although there was a moment of group reflection at the end of the workshops, the teams suggested the need to include these spaces constantly across all game sessions, in order to develop a better and fuller analysis of the experience. The Panel of Experts also noted this issue, recommending that during the reflection sessions the participants could identify their personal skills together, and reflect on the importance of their role within the team.

Another important aspect to consider is that most of the participants had never played tabletop RPGs before, so the rules, rhythm, and dynamics of the game were sometimes complex to follow. This led some of them to feel confused on how to proceed, to struggle to identify what actions they could or could not perform, or to forget some important elements and definitions of their characters. Therefore, for future workshops, it is advisable to incorporate audiovisual material that shows demonstrations of tabletop RPG play, as well as written material within reach of each participant with explanations and important descriptions in case it is needed during the game.

Among other recommendations, it was suggested that the used digital tools could be more interactive, or that we could evaluate the use of better platforms altogether. It was also suggested that we introduce changes in the module scripts with the aim of increasing interactivity, such as facilitating crossover stories with other teams, including recorded sounds for the fantastic creatures met, and even thinking about other tabletop RPGs with different theming. On the other hand, the facilitating teams should give great importance to the previous motivation of the teams and the way in which they are invited to participate in tabletop RPG. Both are key to counteracting the possible resistance that a game-based training programme may generate in participants.

Regarding the valuation of spaces for recreation, play, and leisure in the workplace, we find that tabletop RPGs have the potential to strengthen teamwork, presenting them as a viable, attractive, and cost-effective alternative to traditional methodologies for workplace training. The collaborative nature and purpose of the game was highlighted both by the participant teams and by the Expert Panel. Both groups highly valued that the workshops gave them a chance to get to know their coworkers in a playful way and in a different environment, and to recognize each other's skills and find out how to complement them to work as a team and solve the challenges proposed by the game. To reflect this situation, in the reflection sessions and also in the conversation with the experts, we spoke of synergy, which, in addition to collaboration, implies coordination and complementarity.

The incentive to think creatively was also a highly valued aspect of the experience, both in the process of creating characters and throughout the game itself, since the participants found it necessary to come up with ingenious solutions to the problems and opponents they faced as a team. In this way, tabletop RPGs

allow working on inventiveness and creativity together with the ability to adapt to circumstances, through the search for new possibilities of action and alternative solutions.

Another potential of the methodology lies in the strengthening of workers' interpersonal relationships. Getting to know their colleagues better during the game and thinking together about creative solutions also leads to the development of trust and closeness within the team. For the same reasons, the experience also strengthened effective communication, thanks to it fostering empathy and respect when listening to each participant's ideas and input during decision-making. This aligns with participants' expectations of the activity, where one of the most important, besides having fun and having a good time, was to get to know their peers better and to strengthen their relationships as co-workers.

Before starting the workshops, participants mentioned improving their communication skills, their capacity for self-reliance and adaptability, cooperation and work climate, and strengthening leadership as their main challenges to overcome when developing teamwork as a skill. All these aspects emerged as lessons learned from the experience, although the statistical data were not conclusive. Once the workshops were over, they also pointed at leadership and communication as skills that they consider they should continue to work on. The games carried out during this research have shown that such competencies can continue to be promoted through tabletop RPG play, considering their benefits both at the individual and the collective level, which becomes more obvious when reminding that, for most participants, this was their first experience in tabletop RPG play.

6. CONCLUSIONS

In light of the results of the *ex ante* measurements and the responses obtained *ex post*, and also considering the experience as reported by the participant teams during the workshops, the importance given by the participants to getting to know their co-workers and connecting with them from the professional, the relational, and the emotional point of view, becomes clear.

Likewise, entertainment and relaxation, far from being a distraction from the teams' workload, is re-signified: fostering interpersonal closeness, communication, and establishing relationships of trust and respect in the workplace becomes a key element in individual and team performance. tabletop RPG play, then, becomes an attractive option by how it prioritizes these dimensions of teambuilding in organizations and companies.

At this stage of the analysis, it is possible to affirm that the implementation of tabletop RPG play sessions in the workplace stands out as a proposal for innovation at the professional, interpersonal, and organizational culture levels. It invites us to re-evaluate how work relations are constructed, and how collaboration is defined towards the achievement of an objective, highlighting the fact that a team is more than the spatial co-presence of people around a project.

A work team is characterized, among other things, by the active collaboration of all its members, as the skills of each individual are valued as complementary to each other in order to complete a task or face a challenge, and where the development of good internal communication is of vital importance. All this is put into practice when professionals participate in a tabletop RPG play experience, so it is promising to think about the results and potentialities that its incorporation into the work routine on a regular basis would bring. In addition, we observed improvements in the following elements: Responsibility and awareness about performing one's own tasks, putting oneself in the other's place when making criticisms, flexibility when changes occur at work, and maintaining optimism and a sense of success when starting a project. The initial hypotheses of the project, about positively affecting empathy, adaptability and leadership, are therefore confirmed.

Along with this, and standing out from the other results compared, in the Self-efficacy for Entrepreneurial Leadership Scale, an improvement was observed in a dimension understood as “Creating an innovative environment.” This means that, thanks to participating in the tabletop RPG experience, participants are more likely to have attitudes that promote innovation within their workgroups. This point is an unexpected positive externality of the project, which should be analyzed in future in-depth studies as it can be a valuable contribution to encourage a culture of innovation in organizations.

As future avenues for further research, there are opportunities to deploy tabletop RPG-based interventions over several months with weekly workshops focused on specific skills and a shorter duration. Additionally, expanding the scope to other productive sectors beyond the Information and Communication Technologies sector could be a worthwhile effort.

We should emphasize that, as a playful and relaxed space, tabletop RPG play can help mitigate the effects of stress and exhaustion produced by intense workloads on workers, thus taking care of their mental and emotional health. It is vitally important to redefine the meaning of play in adult and working life, and to abandon the idea that it is unproductive and exclusive to children. Fun and recreation are not incompatible with the world of labor; performance and learning become more effective when methodologies such as this one are integrated, whose focus is on self-observation as a team, synergy among peers and play as the driving force of fundamental skills for teamwork.

ORIGINAL ARTICLE REFERENCE

García-Soriano, Felipe, Francisca Faret Moreno, and Daniel Gonzalez Cohens. 2023. “Juegos de Rol para el trabajo en equipo: Pilotaje de una metodología de desarrollo de habilidades socioemocionales.” *Journal of Roleplaying Studies and STEAM 2* (1): Article 3. [Link here](#).

REFERENCES

- Aasheim, Cheryl L, Lixin Li, and Susan Williams. 2019. “Knowledge and Skill Requirements for Entry-Level Information Technology Workers: A Comparison of Industry and Academia.” *Journal of Information Systems Education* 20 (3): 349–55.
- Arenas, Daniel Luccas, Anna Viduani, and Renata Brasil Araujo. 2022. “Therapeutic Use of Role-Playing Game (RPG) in Mental Health: A Scoping Review.” *Simulation & Gaming* 53 (3): 285–311. [Link here](#).
- Arias Gallegos, Walter L., and María Alejandra Masías Salinas. 2014. “Ocio Cibernético En Trabajadores de Instituciones Públicas y Privadas de Arequipa.” *Ciencia & Trabajo* 16 (50): 88–92. [Link here](#).
- Arzola, María Paz, and Rosita Camhi. 2013. “Educación Preescolar: Evidencia y Desafíos Para Chile.” *Liber-tad y Desarrollo*. [Link here](#).
- Bowman, Sarah Lynne. 2024. “Immersion and Shared Imagination in Role-Playing Games.” In *The Routledge Handbook of Role-Playing Game Studies*, edited by José P. Zagal and Sebastian Deterding, 393–408. London: Routledge.

- Bowman, Sarah Lynne, Elektra Diakolambrianou, Kjell Hedgard Hugaas, Josefin Westborg, and Josephine Baird. 2024. "Chapter 2: Transformative Role-Playing Games: Types, Purposes, and Features." In *Transformative Role-Playing Game Design*, edited by Sarah Lynne Bowman, Elektra Diakolambrianou, and Simon Brind, 49–79. Uppsala University Publications.
- Bowman, Sarah Lynne, and Andreas Lieberoth. 2024. "Psychology and Role-Playing Games." In *The Routledge Handbook of Role-Playing Game Studies*, edited by José P. Zagal and Sebastian Deterding, 261–79. Routledge.
- Bowman, Sarah Lynne, and Karen Schrier. 2024. "Players and Their Characters in Role-Playing Games." In *The Routledge Handbook of Role-Playing Game Studies*, edited by José P. Zagal and Sebastian Deterding, 409–24. Routledge.
- Busso, Matías, Marina Bassi, Sergio Urzúa, and Jaime Vargas. 2012. *Desconectados: Habilidades, Educación y Empleo En América Latina*. Banco Interamericano de Desarrollo.
- Calabor, María Sol, Araceli Mora, and Soledad Moya. 2018. "Adquisición de Competencias a Través de Juegos Serios En El Área Contable: Un Análisis Empírico." *Revista de Contabilidad* 21 (1): 38–47. [Link here](#).
- Chernyshenko, Oleksandr, Miloš Kankaraš, and Fritz Drasgow. 2018. "Social and Emotional Skills for Student Success and Well-Being: Conceptual Framework for the OECD Study on Social and Emotional Skills." 173. OECD Education Working Papers.
- Chilana, Harjas Kaur. 2022. "Role for SEL: Using Dungeons & Dragons® to Promote Social-Emotional Learning with Middle-Schoolers." ProQuest Dissertations and Theses. O.T.D., United States -- Massachusetts: Boston University. [Link here](#)
- Clarke, Samantha, Sylvester Arnab, Luca Morini, and Lauren Heywood. 2018. "Remixing Dungeons and Dragons: A Playful Approach to Student Self-Reflection." Paper presented at *European Conference on Games Based Learning*, 872-875, XI, XIV.
- Comisión Nacional de Productividad. 2018. "Formación de Competencias Para El Trabajo En Chile." [Link here](#).
- Cutting, Joe, and Sebastian and Deterding. 2024. "The Task-Attention Theory of Game Learning: A Theory and Research Agenda." *Human-Computer Interaction* 39 (5–6): 257–87. [Link here](#).
- Daniau, Stéphane. 2016. "The Transformative Potential of Role-Playing Games—: From Play Skills to Human Skills." *Simulation & Gaming* 47 (4): 423–44. [Link here](#)
- Gobierno de Chile. 2015. "Agenda Digital 2020." [Link here](#).
- Godoy, Sergio. 2006. "El Potencial de Las TICs En Las Empresas Chilenas y La Necesidad de Armonizar Con El Entorno: Resultados Del Proyecto WIP/BIT Chile." *Revista Colombiana de Telecomunicaciones* 17 (42): 62–67.

- Hammer, Jessica, Alexandra To, Karen Schrier, Sarah Lynne Bowman, and Geoff Kaufman. 2024. "Learning and Role-Playing Games." In *The Routledge Handbook of Role-Playing Game Studies*, edited by José P. Zagal and Sebastian Deterding, 299–316. Routledge.
- Instituto Español de Comercio Exterior. 2011. "El Mercado de Las TICs En Chile." Estudios de Mercado. Oficina Económica y Comercial de la Embajada de España en Santiago de Chile.
- International Organisation of Employers. 2024. "Chile: Law Introducing 40 Hours Working Week Entered into Force." IOE-EMP. July 16, 2024. [Link here](#).
- Jones, Stephanie M., and Emily J. Doolittle. 2017. "Social and Emotional Learning: Introducing the Issue." *The Future of Children* 27 (1): 3–11.
- Kolb, David. 1984. *Experiential Learning: Experience as the Source of Learning and Development*. Prentice Hall.
- Lee, I-Jui, Chien-Hsu Chen, Chuan-Po Wang, and Chi-Hsuan Chung. 2018. "Augmented Reality Plus Concept Map Technique to Teach Children with ASD to Use Social Cues When Meeting and Greeting." *The Asia-Pacific Education Researcher* 3 (27): 227–43. [Link here](#).
- Madrid, Héctor. 2020. "Escalas de Desempeño Laboral En Español." [Link here](#).
- Madrid, Hector P., Maria T. Diaz, Stavroula Leka, Pedro I. Leiva, and Eduardo Barros. 2018. "A Finer Grained Approach to Psychological Capital and Work Performance." *Journal of Business and Psychology* 33 (4): 461–77. [Link here](#).
- Marchetti, Emanuela, and Camilla Petersen. 2019. "Steering Forces in Learning and Role-Play: The Case of Occupational Therapy Education." In *Proceedings of the 13th International Conference on Game Based Learning*, ECGBL 2019, edited by Lars Elbaek et al., 478–85. Academic Conferences International Limited. [Link here](#).
- Marcos, Esperanza, and José María Cavero Barca. 2003. "Enseñando Inteligencia Emocional a Ingenieros En Informática." In . Cádiz: Universidad de Cádiz, Departamento de Lenguajes y Sistemas Informáticos. [Link here](#)
- Matturro, Gerardo. 2013. "Soft Skills in Software Engineering: A Study of Its Demand by Software Companies in Uruguay." In 2013 6th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), 133–36. [Link here](#).
- Miquilena Colina, Dionielvy. 2011. "Recreación Laboral: Su Efecto Motivacional En Los Trabajadores." *Observatorio Laboral Revista Venezolana* 4 (8): 37–51.
- Moriano, Juan, Gabriela Topa, Fernando Molero, Ana Entenza, and Jean-Pierre Lévy-Mangin. 2012. "Autoeficacia Para El Liderazgo Emprendedor. Adaptación y Validación de La Escala CESE En España." *Anales de Psicología* 28 (1): 171–79.
- Nestel, Debra, and Tanya Tierney. 2007. "Role-Play for Medical Students Learning about Communication: Guidelines for Maximising Benefits." *BMC Medical Education* 7 (1): 3. [Link here](#).

- Observatorio Laboral Metropolitano. 2019. “Brechas de Capital Humano En La Región Metropolitana.” [Link here.](#)
- OECD. 2018. “Social and Emotional Skills: Well-Being, Connectedness and Success.” [Link here.](#)
- Porras Velásquez, Néstor Raúl. 2016. “Pensar Los Conflictos Organizacionales Desde La Perspectiva Del Coaching Ontológico.” *Revista Latinoamericana de Psicoterapia Existencial* 13.
- Ramírez Pérez, Mauricio, and Sau-Lyn Lee Maturana. 2011. “Síndrome de Burnout Entre Hombres y Mujeres Medido Por El Clima y La Satisfacción Laboral.” *Polis (Santiago)* 10 (30): 431–46. [Link here.](#)
- Romero, Margarida, Mireia Usart, and Michela Ott. 2014. “Can Serious Games Contribute to Developing and Sustaining 21st Century Skills?” *Games and Culture* 10 (2): 148–77. [Link here.](#)
- Ruffinelli, Andrea. 2013. “La Calidad de La Formación Inicial Docente En Chile: La Perspectiva de Los Profesores Principiantes.” *Calidad En La Educación*, no. 39 (December): 117–54. [Link here.](#)
- Rul-lán, Gaspar. 1997. “Del Ocio al Neg-Ocio... y Otra Vez al Ocio.” *Papers* 53:171–93.
- Veldthuis, Marcella, Mathijs Koning, and Dave Stikkolorum. 2021. “A Quest to Engage Computer Science Students: Using Dungeons & Dragons for Developing Soft Skills.” In CSERC ’21: Proceedings of the 10th Computer Science Education Research Conference, 5–13. Virtual Event Netherlands: Association for Computing Machinery. [Link here.](#)
- Ventura-León, José. 2018. “Otras Formas de Entender La d de Cohen.” *Revista Evaluar* 18 (3): 73–78.
- Vera, Fernando. 2016. “Infusión de Habilidades Blandas En El Currículo de La Educación Superior: Clave Para El Desarrollo de Capital Humano Avanzado.” *Revista Akademèia* 7 (1): 53–73.
- Whitten, Sarah. 2019. “‘Dungeons and Dragons’ Has Found Something Its Early Fans Never Expected: Popularity.” CNBC, March 16. [Link here.](#)
- Wizards of the Coast. 2014. “D&D Player’s Handbook.” Hasbro.
- Yukio, André, and Clayton Cunha. 2019. “Um Estudo Sobre a Cultura Nerd e o Consumo de Board Games.” *Revista Fatec Sebrae Em Debate: Gestão, Tecnologias e Negócios* 6 (10). [Link here.](#)
- Zagal, José P., and Sebastian Deterding. 2024. “Definitions of ‘Role-Playing Games.’” In *The Routledge Handbook of Role-Playing Game Studies*, edited by José P. Zagal and Sebastian Deterding, 21–55. Routledge.

Felipe García-Soriano is a sociologist from the University of Chile and a PhD candidate in Economy, Business and Society at the University of Alicante. He works primarily as a consultant and designer of non-formal learning experiences, with a focus on organizational development, civic engagement, and systems thinking through tabletop role-playing games (TTRPGs) and participatory methodologies.

Francisca Faret Moreno is a sociologist from the University of Chile, with diplomas in Gender Theories, Development and Public Policies, and in Quantitative and Qualitative Methodologies for Design and Social Research. She is currently pursuing a Master's in Gender and Cultural Studies with a mention in Social Sciences at the University of Chile, and works as a methodological consultant and research assistant in the field of gender and higher education in Chile.

Daniel González Cohens is a Master of Sciences in Game Studies from Tampere University, project coordinator, and social science researcher. He has over seven years of experience in project proposal design within public regulatory frameworks, methodological design, and project management and coordination. As a researcher, he is interested in learning about play as a collective social practice, shared imagination, and particularly tabletop role-playing games. He specializes in problem-solving, creativity, organizational skills, and willingness to work in multi- and interdisciplinary teams.