



# Immersive RPG Elderly Health: A New Possibility for Constructing Health Learning?

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## Abstract

**Objective:** To assess the applicability and effectiveness of a game incorporating Roleplaying Game (RPG) elements as a pedagogical tool for health education. **Method:** The study population comprised undergraduate and postgraduate students in the health field at the Universidade Federal do Rio Grande do Sul, Brazil. This qualitative research was conducted between April and June 2018 in two stages. Initially, the RPG was implemented with the involved classes, followed by Focus Group interviews conducted a week later to gather information, with volunteers from these classes who willingly participated in the research. Information analysis was grounded in aspects of Grounded Theory (GT). **Results:** The analysis yielded the following categories: 1) Game creation, 2) Impact of the experience on teaching and learning, 3) Reflection on the game. The results demonstrate that the use of RPG-influenced games holds significant untapped potential in the health education process. This innovative method remains underutilized within the health domain, necessitating adherence to specific premises for its potent application. **Conclusion:** In this context, it is understood that the game contributes to health education, enhancing knowledge and skills through a challenging and reality-connected experience.

**Keywords:** Older Adults' Health. Health Education. Universities. Experimental Games. Learning.

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There was no funding for the execution of this work.

The authors declare that there is no conflict in the conception of this work.

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Received: September 14, 2023  
Approved: January 08, 2024

## INTRODUCTION

Contemplating the university from a complex perspective necessitates breaking away from the hegemony of traditional education marked by specialization and the fragmentation between theory and practice<sup>1</sup>. Despite recent advances in teaching, one of the foremost challenges in this domain pertains to constructing effective and interprofessional learning that fosters reflection and attitudinal change. These factors are pivotal in the training of healthcare professionals, constituting a significant hurdle for the implementation and fortification of healthcare attention within the Unified Health System (Sistema Único de Saúde - SUS)<sup>2</sup>.

Certain institutions of higher education have invested in reshaping professional training by implementing the National Curricular Guidelines (Diretrizes Curriculares Nacionais - DCNs) for health courses from 2001, with integrality serving as a guiding axis for education<sup>3</sup>. The DCNs for health courses signify a significant advancement resulting from collective construction emerging from the Sanitary Reform movement<sup>4</sup>.

Resolution number 569/2017 from the National Health Council reaffirms the constitutional prerogative to regulate the training of healthcare professionals. Notably, clause VII emphasizes the use of teaching methodologies that foster collaborative and meaningful learning, as well as methodologies that prioritize student participation and autonomy, integration across curricular content, and educational proposals grounded in interdisciplinary practices<sup>5</sup>.

Within the Brazilian context, a relevant yet frequently overlooked theme/content in undergraduate health courses pertains to population aging. Given the rapidity of this demographic shift, it brings forth crucial considerations for managers, researchers, and healthcare professionals<sup>6</sup>.

Considering the significance of the information addressed in the National Education Plan (2000) and the Resolution of the National Health Council (2017), it is imperative to develop and implement teaching approaches in line with contemporary needs and realities. Furthermore, assessing their effectiveness as tools for teaching and learning is essential.

Thus, one of these underexplored technologies is the utilization of games with Roleplaying Game (RPG) elements as a tool for health education. Particularly challenging is its directed application to learning associated with the development of empathy towards older individuals and their health issues. Immersive is a role-playing game, with its primary feature being interactivity and collaborative group work. This game was devised by incorporating certain features from a narrative RPG known as Fiasco<sup>7</sup>.

Immersive aims to narrate stories based on everyday scenarios, simulating complex themes and challenging decisions involving the health of the older population. Its objective is to generate a discussion from a participant's empathetic perspective. In this game, participants assume the persona of a character created within the game, complete with relationships and interests. The game unfolds through scenes and dialogues managed by randomly determined constructs employing a pre-established methodology, facilitated by the use of cards and dice to ensure unpredictability. This study aimed to propose and evaluate a game with Roleplaying Game (RPG) elements as a pedagogical tool for health education.

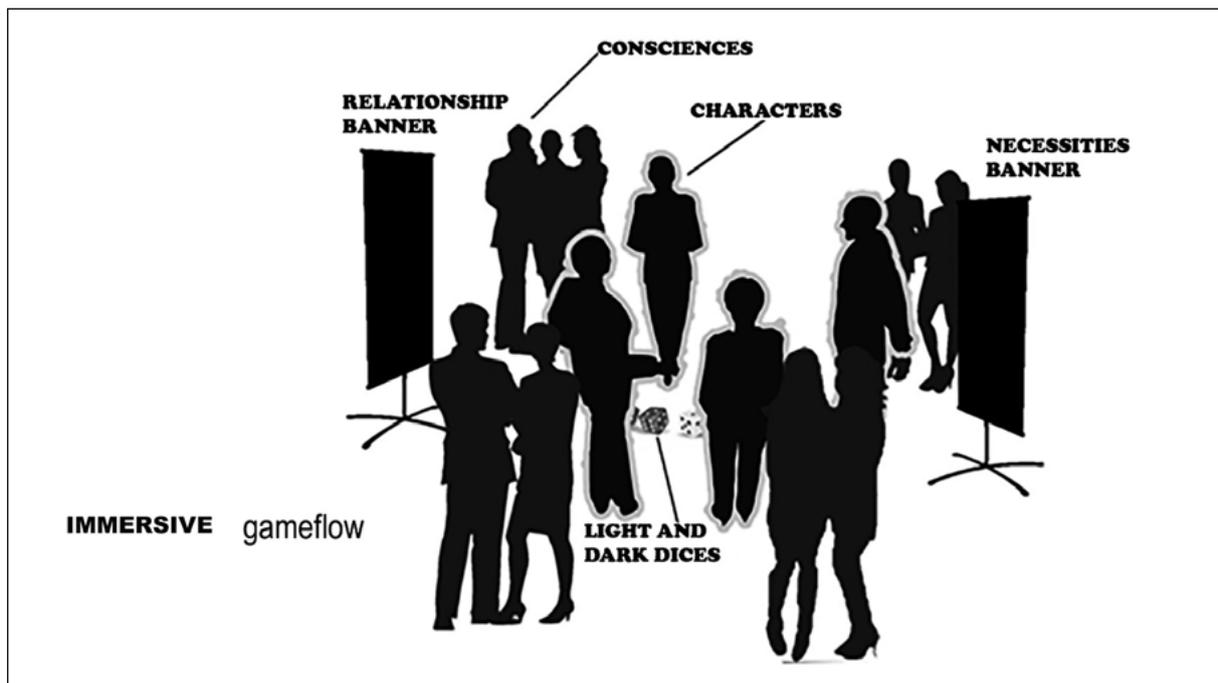
## METHOD

This qualitative study used Grounded Theory (GT) method, with a Focus Groups (FG) approach<sup>8</sup>. It is an intervention study, commencing with the implementation of RPG with the involved classes, followed by FG interviews a week later to gather information, involving volunteers from these classes who willingly participated in the research. The study was conducted in two phases between the months of April and June 2018.

Participants in this study were undergraduate and postgraduate students in health-related courses at Federal University of Rio Grande do Sul (UFRGS), specifically those with content/disciplines related to older care/family health in their curricula. Prior contact was established with faculty members from the Dentistry, Public Health, and Speech-Language Pathology courses, wherein the study's objectives were explained.

In the initial phase, the developed activity through the Immersive Elderly Health game was implemented as a pedagogical component of the courses. This cooperative game structure eliminates the presence of winners or losers, with each participant assuming a character in an imaginary adventure within a real physical setting. Participants

take on the persona of a character crafted within the game, complete with relationships and interests. The game encompasses three character types: the healthcare professional, the user, and the older person. It also anticipates the involvement of a minimum of four participants, along with a facilitator.



**Figure 1.** Explanatory Flowchart of the Immersive Elderly Health Game. Porto Alegre, Rio Grande do Sul, 2023. Source: Authors (2023)

There exists a rule system, and the creation of characters and the story occurs randomly through the utilization of six-sided dice (Figure 1). The faces refer to the six physical sides of a die, each inscribed with potential outcomes (commonly known as a six-sided or six-faced die). These faces denote different result possibilities, ranging from one to six. The narratives for each character are shaped when the player simultaneously rolls their four dice. The faces of the dice symbolize the diverse possibilities for constructing outcomes.

The presence of a facilitator is deemed essential to stimulate participants and assist in resolving impasses or conflicts (Table 1). In the second stage, students were invited to partake in a FG conducted one week post-game application.

The FG had a duration ranging from 45 to 60 minutes; the discussions were recorded and stored in digital media. To instigate the discussion in the FG, a semi-structured script was devised. The FG interview was conducted by the researcher in a tranquil environment, allowing enough time for a preamble where participants could articulate their questions regarding the interview, its structure, and content before its commencement. The interview dynamics were mutually agreed upon beforehand between the researcher and the FG. Furthermore, all participants were assured that they could withdraw from the interview at any point without facing discomfort. Confidentiality of information was ensured, guaranteeing that any potential publications derived from this material would not involve the identification of participants.

**Table 1.** Explanatory Flowchart of the Immersive Elderly Health Game. Porto Alegre, Rio Grande do Sul, 2023.

1 - The facilitator introduces the dynamics and discusses the "Rule of Yes."
2 - Randomly distributes <b>Character Cards</b> to 3 to 5 individuals.
3 - Divides the remaining students into groups for each character. Each group is further divided into 2, and each "side" receives a different <b>Consciousness Card</b> .
4 - Each character takes 4 dice (2 light and 2 dark) and rolls them in the center to generate various random results.
5 - The first player selects a die (result, color does not matter) and chooses a Relationship topic on the <b>Relationship Banner</b> . Selects another character to be their relation. The chosen character picks a new die and details the relationship on the list of possibilities for the chosen topic based on the selected die. The facilitator encourages the creation of the story of the relationship between the characters by asking questions. Repeat until all characters have two relationships with other characters.
6 - The first player chooses a new die (result, color does not matter) and selects a Need topic on the <b>Needs Banner</b> . Chooses another die to detail their need on the list. The facilitator stimulates with questions to create the story of their need and how they will achieve it in the game. Repeat until all characters have detailed their need.
7 - The first player selects another character to create the first scene and draws a <b>Location Card</b> where the scene will take place. He or she initiates the dialogue, attempting to meet their need through the relationships they have with the other character. The consciences of each character involved in the conversation can and should provide ideas and help in the dialogue.
8 - When the facilitator believes the dialogue is well-developed, he/she asks the other consciences, excluding those of the character who initiated the scene, to throw either a light or dark die on the ground. If there are more light dice, the character achieved their need; if more dark, they did not.
9 - Each character takes turns initiating a scene. At the end of this round, everyone takes a break, and the facilitator turns over a <b>Turn Card</b> .
10 - Together, characters and consciences define how the story of their characters concludes, considering the turn.
11 - Once they reach a consensus, the facilitator concludes the activity and can begin the reflection on the scenes and dialogues that occurred.

Source: Authors (2023)

The FG interviews were transcribed in full by the principal researcher (ARR). In addition to information derived from the transcriptions, research diaries and memos, crafted by the principal researcher based on her experiences during the RPG interventions and FGs, were utilized. To facilitate the organization and analysis of information, transcripts were processed using Microsoft Office Word® software and imported into NVIVO® software.

The analysis of information was grounded in aspects of Grounded Theory. Constant comparison, the development of codes for organizing categories, the definition of thematic categories and their relationships, and the formulation of a theory based on evidence generated in the study were employed<sup>9</sup>.

For this study, saturation was determined as the point at which the FG interviews concluded. It

became apparent, through the analysis of the fourth FG, that responses to the interview were becoming repetitive, and both the codes and categories were adequately explained based on the obtained and analyzed information.

## DATA AVAILABILITY

The dataset is not publicly accessible due to information that compromises the privacy of the research participants.

## RESULTS AND DISCUSSION

The participants in this study comprised 58 students from undergraduate programs (Dentistry - evening program, Speech-language pathology, Public

Health) and postgraduate programs (Integrated Residency in Oral Health) at UFRGS that incorporate older people healthcare into their curricula. The focus groups involved the participation of 38 students (65% of participants). Those students who did not participate cited a lack of time or interest in joining the interview. The focus groups were conducted one week after the game application, as we believed that within this timeframe, students could reflect upon and evaluate the activity.

From the analysis of information and codifications, three analytical categories emerged, underpinning the theory termed "Utilizing the game as a tool."

Playful activities are still underexplored in health education, and the creation and implementation of the game allowed us to perceive how a different tool can stimulate student reflection and participation in the classroom. The results will be presented here, accompanied by excerpts from participant statements to illustrate the evidence provided by the study. The theories that facilitated the analysis of each category will be discussed within the context of the following paragraphs.

### Starting to Play

The category **Starting to Play** outlines the development of the activity/pedagogical practice involving the use of "Immersive Elderly Health." The subcategory **Identifying the peculiarities of the game** is expressed through dialogues, wherein students articulate their unfamiliarity with RPG. This observation is evident in comments such as:

"I've heard of it, I've seen it, I've heard of it, I've never played..." (FG\_3).

In the 1980s, the first RPGs circulated in Brazil, brought by young students engaged in exchange programs. Although there are specific events that gather thousands of enthusiasts, showcasing practical experiences of its functionalities<sup>10,11</sup>, RPG remains relatively unexplored and less widespread<sup>12,13</sup>.

In traditional RPG, the role of the master is indispensable<sup>12,13</sup>. However, in crafting the tool, we

opted for the role of the facilitator – someone who did not take a stance in the discussion but assisted the group of students in navigating the experience. The following dialogue illustrates the importance of the facilitator:

"I understood well, like [...], as things progressed, someone was explaining well, [...], do this now, [...] this is what happens..." (FG\_1).

In RPG games, a system of rules is established to facilitate gameplay. In the proposed game, the basic rules included the "rule of 'yes'," meaning that when a player said something about their character, all other players would accept it as truth in the narrative, without contradiction.

"What complicates the creation of the story the most, creating an unfolding that we never imagine, is the rule of 'yes'" (FG\_2).

The rules have the ability to establish the context that will be experienced, imposing limits and possibilities on the players. The settings constructed by the game rules lead to diverse realities that require players to adapt to them<sup>11,13</sup>.

The **construction of characters** by the students took into consideration the characteristics of real people and examples observed in their everyday lives.

"I really embodied the character, you know? [...] I thought about stories; there are indeed people who go through this [...] I began to imagine all the possibilities of what I had experienced!" (FG\_3)

The selection of characters was highly creative and playful. This is a crucial moment, as each student defines characteristics of their characters, fostering a greater sense of identity with the created personas. It is also the most time-consuming and challenging phase, involving the participants' expectations regarding the commencement of the game.

One of the objectives of the game was to expose the students to challenging situations that required decision-making, communication, and teamwork. This exercise is crucial for acquiring competencies and skills advocated in the DCNs for health courses.

The DCNs for health courses advocate for the development of a critical-reflexive professional, a transformative agent of social reality, and committed to public health. However, the curricular contents are often directly linked to the hegemony of the medical-curative care model, guiding professionals towards technician, curative, and less dialogical practices, similar to those triggered during the use of "Immersive." In this context, the game proved to be potent in awakening students to actions that required them to reinterpret content and experiences<sup>15</sup>.

According to Prager<sup>16</sup>, the story is never complete. It will always transform based on the actions carried out by the players' characters. As was evident:

"It may be that I was the instigator, but I found it interesting because she died, but she spent the whole time saying: so I'm going to kill myself, so I'm going to kill myself, and no one did anything because she was just the annoying old lady who complained and... Damn, she killed herself!" (FG\_2).

From the above dialogue, it is evident that the students can make analogies with practice and understand that often behind users' complaints lies a plea for help. In this context, the game "Immersive Elderly Health" can provide the teacher with insights into areas of weakness in training, such as patient care and person-centered approaches.

Any game comprises various mechanisms that serve as tools to guide the player through the experience designed for the game. Through these mechanisms, players make choices to solve micro-problems with the aim of addressing a larger issue<sup>15</sup>.

Another relevant aspect was the randomness of the game, prompting participants to make choices and decisions under pressure, as often occurs in life. According to Morin (2011)<sup>17</sup>, we tend to position ourselves securely with our theories and ideas and struggle to embrace the new, the unexpected, that continually arises. It is necessary to unite various forms of knowledge that we have access to so that we can comprehend that the future remains unpredictable.

The game was designed for characters to experience difficult choices, demonstrating to the

student that there are no optimal choices, but rather, choices. Decision-making doesn't always fit into protocols; it is influenced by the duality of rational/irrational and objective/subjective elements. There are no correct answers for all the complex situations we encounter<sup>18</sup>.

### The Impact of the Experience on Teaching and Learning

The impact of the experience on teaching and learning is expressed through dialogues, wherein students convey their surprise at the use of RPG in education and the reflections constructed from the experience.

There is a concern with teaching and learning methodologies as they are not uniform in terms of both theoretical and methodological assumptions. There are various models and strategies for their operationalization, each with different benefits and challenges<sup>19</sup>.

Building a professional profile that is free, secure, and cooperative is unattainable within a training program that induces alienation rather than reflection. Involvement in the game's plot allowed the exploration of unpleasant or unfavorable feelings seldom discussed in other situations. Students reflected on the character's situation, the game's outcome, and the importance of analyzing situations from various perspectives before making decisions:

"I think what sticks with us the most is that we spend so much time deciding whether to say yes or no, and in the end, there is no choice left, and the shocking ending" (FG\_4).

"We deal with emotions every day, wanting to take actions that, if there were no reason, we would commit atrocities" (FG\_3).

It is important to emphasize that content is not neutral; it has political implications<sup>20</sup>. The role of the educator is to encourage a critical reading of reality; one must recognize the principle of rational uncertainty: "rationality constantly runs the risk, unless it maintains vigilant self-criticism against falling into rationalizing illusion"<sup>7</sup>.

In the subcategory **experiencing situations similar to those observed in everyday life**, it became evident how the intervention was able to stimulate students toward critical thinking. When compared to a traditional lecture, the students made the following statements:

"We are used to it, we are in the 5th year, we are used to sitting and listening to someone lecturing, you know?" (FG\_4).

"Suddenly, if a teacher were to present this on a slide, maybe we wouldn't even remember cases like that" (FG\_3).

Based on the statements above, it is evident that the traditional teaching model prioritizes the transmission of information; students assume a passive role in receiving theories, and the teacher takes on the primary role. However, it is necessary for educators to explore new teaching methodologies that encourage student protagonism, foster autonomy, motivation, and the exercise of empathy.

The use of the game "Immersive" as a powerful teaching tool can be observed in the ease of recalling certain cases influenced by their complexity or tragic endings, as well as the consequences of players' actions. As evidenced in the statements below:

"And this reflection that we do afterward, it stays with us much more. After I left here, I was reflecting on what happened and situations of people that we know..." (FG\_4).

Also noteworthy are the statements of the students regarding their **unpreparedness to handle various situations** encountered in daily life. It is apparent that our society has become increasingly complex in terms of knowledge production. Among other objectives, university education is linked to the exchange of knowledge and a focus on theoretical/practical issues. However, what is observed is a significant difficulty in providing methodologies that foster such discussions and experiences:

"When we arrive, there are situations that we don't know how to handle, and there is no one to teach us, and we have to deal with it and figure out a

way on our own to solve some problem or get out of some situation, you know?" (FG\_1).

It is worth noting that one of the fundamental characteristics attributed to the game is the stimulation of **decision-making skills**. Each character has autonomy to make decisions they deem correct or convenient. The decision will depend on the ability to experience the story and the possible solutions envisioned.

"I found all the decisions difficult, even those of my classmates. I put myself in their shoes, if I were to make these decisions" (FG\_1).

Furthermore, the stories constructed in each intervention had elements similar to those found in our daily lives. These elements allowed students to **compare the story with real life**.

"[...] We have to have a fictitious experience like we had in the game to then deal with real people. In reality, we can't do anything wrong in the moment" (FG\_4).

The construction of the story involved elements such as vulnerability, trafficking, violence, loneliness, addiction, among others. By comparing with real situations, the students had the opportunity to approach situations similar to those experienced in practice.

"I think these experiences make us think about what we will encounter in health services [...]. And we, as healthcare workers, will deal with this sooner or later" (FG\_3).

## Reflection on the Game

This category addresses the main strengths and weaknesses of the game. It is interconnected with the others and highlights characteristics that make RPG a powerful pedagogical tool for health education.

The subcategory **perceiving the strengths and weaknesses of the game** addresses the perceptions experienced by the students throughout the intervention.

Throughout the interventions, it was observed that the students initially showed surprise and difficulty in understanding, but in no group was there disinterest or discouragement. The majority became **engaged with the story**, as seen in the comment:

"I think it's not easy not to get involved with the story; I saw few people staying out of it!" (FG\_2).

One of the initial concerns was whether the intervention would be able to provoke reflection and learning while also being enjoyable. Throughout the activity, it was possible to observe that fun and learning can go hand in hand, as demonstrated below:

"I think I found it more interesting[...] at first, it seemed like just a themed group play, we were going to talk and everything, and then as we went along, we were building the character, you put that reflection of that person in your context, that I found amazing..." (FG\_1).

Throughout the focus groups, through the students' statements, **a criticism of the education system** was identified, including the format in which classes are presented and a fear of expressing thoughts and positions.

"Our object of study is people, and we don't have people; we have slides and people lecturing in front of us." (FG\_4).

The constant changes in our society have demanded changes in university education. It is necessary for the teacher to be willing to reflect on their practice, problematize it, and seek new knowledge in their field of expertise. Additionally, it is essential to investigate whether other factors may interfere, reducing the student's motivation to attend classes, such as daily fatigue, occasional health problems, pending tasks, and financial condition, among others<sup>21</sup>.

"And to say that we are in a night course[...] we see classes totally dark, the room, people almost sleeping, like... Very difficult..." (FG\_2).

Despite all the difficulties, it is crucial for the teacher to use strategies and techniques complementary

to traditional lectures, creating a motivating and stimulating environment. In this regard, the students highlighted the **power of the game** in terms of the possibility of **visualizing various scenarios, practicing, and experiencing theory in practice**, as seen in the following comments.

"It's the issue of praxis; you take all the theory that you've been bringing throughout the course, and here is the moment to apply it! It's in practice that you really..." (FG\_3).

Complexity presupposes changes in the education system, based on a disciplinary, fragmented curriculum that values hyper-specialization. It does not provide a holistic view or dialogue between different fields of knowledge. Morin (2011)<sup>17</sup> advocates for a new practice, which is transdisciplinarity. The debate on the relationships woven between disciplines should be constructed around a unified knowledge, guided by a holistic perspective and taking into consideration the aspects of the whole<sup>18,20</sup>.

It is observed in the highlighted excerpts below that the students approached one of the central skills sought through the game, which was the exercise of **empathy and empathy with older person**.

"The game, I think in this aspect, is a very positive point. It is much easier to be empathetic when we assume a reality or a story, put ourselves into it" (FG\_1).

Based on the students' reports, it is evident that the game provided an experience of empathy towards the elderly person. According to Silva et al<sup>18</sup>, "Empathy presupposes the ability and, above all, the willingness to understand the other and put oneself in their place."

Regarding learning, it is necessary to reflect on the teaching practice offered in our training institutions: often, we work disconnected from previous experiences, making it meaningless. Reflecting on teaching methodologies in health, two important concepts stand out: autonomy and meaningful learning.

In this sense, it is worth considering that no student is a blank page, especially when thinking about empathy and aging. Empathy should be developed/stimulated from an early age, and aging is intrinsic to human existence; we experience it in our families and social groups.

At the end of the games, a round of conversation was held to conclude the class. Perhaps this was the richest moment of the interventions. It became clear that the interventions deal with the unexpected, unpredictable, and chaotic, as there is no pre-selection of themes but rather a commitment to the story created by the students.

In this context, the game can be seen as an innovative learning tool that stimulates the autonomy of the student and the coexistence with uncertainties, doubts, challenges, and improvisations. The success of the game is centered on dialogue, as each student confronts their values within certain worldviews<sup>19</sup>.

Among the limitations of this study, it is necessary to mention that the researcher who applied the game was the same one who conducted the interviews, which could generate bias in the analysis, as well as responses that corroborate with the researchers' expectations. The use of Grounded Theory and Focus Group interviews, due to the sensitivity of the method and the rigor with which they were employed, represents strengths in this study.

## CONCLUSION

In this study, it was possible to observe limitations involved in the teaching-learning process about

aging when using traditional teaching methods. The use of the game facilitated the learning process as participants engaged with alterity, developing empathy towards elderly individuals and their health problems by placing themselves in the shoes of the elderly person as the protagonist.

The use of games with RPG elements is a new perspective with important potential in health education. This game is an effective didactic-pedagogical tool, based on experimentation, subjectivity and the capacity for experience of each player. Applications of this tool in practice involve its use in the teaching-learning process for teaching in the area of aging, as well as in other areas of the field of Health.

## AUTHORSHIP

- Aline Rodrigues Reser - conception, design, analysis, and interpretation of data; responsible for all aspects of the work.
- Renato José De Marchi - conception and design, critical review, approval to be published.
- Aline Blaya Martins - conception and design, critical review.
- Julio Cesar de Matos - conception, analysis, and interpretation of data.
- Paula Suseli Silva de Bearzi - conception, analysis, and interpretation of data.

Edited by: Marquiony Marques dos Santos

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