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SPECIAL ISSUE

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Development of a board game on older adult health for nursing education

Desenvolvimento de jogo de tabuleiro sobre saúde da pessoa idosa para a formação de enfermeiros[a]

Desarrollo de un juego de mesa sobre la salud de las personas mayores para la formación de enfermeras

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ABSTRACT

Objective: To develop and validate an educational technology as an auxiliary tool for teaching undergraduate nursing students about the health of the elderly. **Method:** Methodological research with a psychometric approach, using a quantitative and descriptive design on the development and validation of the content, design and playability of an educational technology, in the form of a board game, carried out in four stages: literature review; development of card content and game rules; construction of the board and card design; validation of content and design by experts and validation of playability by nursing students. **Results:** A board game with 120 cards about older adult health was developed. Validation among experts indicated that the tool was appropriate for the students' needs (CVI 0.94) and that it used key aspects that are relevant and should be reinforced in teaching (CVI 0.92). In validation with students, the educational technology obtained significant results in the items evaluated, with the highest average being 9.7. The students positively evaluated the game's engaging nature and its ability to motivate learning. **Conclusion and implications for practice:** The developed game has the potential to bring innovation to traditional teaching processes, responding to the needs highlighted in the Nursing Curriculum Guidelines and Framework Law.

Keywords: Education, Nursing; Health Education; Nursing; Teaching; Educational Technology.

RESUMO

Objetivo: desenvolver e validar uma tecnologia educacional como ferramenta auxiliar para o ensino de alunos de graduação em Enfermagem sobre a saúde da pessoa idosa. **Método:** pesquisa metodológica com interface psicométrica, abordagem quantitativa e caráter descritivo sobre o desenvolvimento e validação de conteúdo, *design* e jogabilidade de uma tecnologia educacional, no formato de jogo de tabuleiro, realizada em quatro etapas: revisão da literatura; elaboração do conteúdo das cartas e das regras do jogo; construção do *design* do tabuleiro e cartas; validação do conteúdo e *design* por especialistas e validação quanto à jogabilidade pelos discentes de Enfermagem. **Resultados:** foi desenvolvido um jogo de tabuleiro com 120 cartas sobre a saúde da pessoa idosa. A validação entre os especialistas apontou a adequação da ferramenta com as necessidades dos estudantes (IVC 0,94), e a utilização de aspectos chaves que são relevantes e devem ser reforçados no ensino (IVC 0,92). Em validação com discentes, a tecnologia educacional obteve um resultado significativo nos itens avaliados, sendo a maior média de 9,7. Os discentes avaliaram positivamente a capacidade lúdica do jogo e com capacidade de gerar motivação no aprendizado. **Conclusão e implicações para a prática:** o jogo desenvolvido apresenta-se como potencial para incorporar as necessidades de inovação dentro de processos tradicionais de ensino, respondendo às necessidades destacadas na Lei de Diretrizes e Bases Curriculares da Enfermagem.

Palavras-chave: Educação em Enfermagem; Educação em Saúde; Enfermagem; Formação Acadêmica; Tecnologia Educacional.

RESUMEN

Objetivo: desarrollar y validar una tecnología educativa como herramienta auxiliar para la enseñanza a estudiantes de pregrado de enfermería sobre la salud de las personas mayores. **Método:** investigación metodológica con interfaz psicométrica, abordaje cuantitativo y carácter descriptivo sobre el desarrollo y validación del contenido, diseño y jugabilidad de una tecnología educativa, en formato de juego de mesa, realizada en cuatro etapas: revisión bibliográfica; desarrollo del contenido de las fichas y de las reglas del juego; construcción del diseño del tablero y de las fichas; validación del contenido y del diseño por especialistas y validación en términos de jugabilidad por estudiantes de enfermería. **Resultados:** se desarrolló un juego de mesa con 120 cartas sobre la salud de las personas mayores. La validación entre expertos mostró que la herramienta era adecuada a las necesidades de los estudiantes (CVI 0,94), y que utilizaba aspectos clave que son relevantes y deben reforzarse en la enseñanza (CVI 0,92). En la validación con estudiantes, la tecnología educativa obtuvo resultados significativos en los ítems evaluados, siendo la media más alta de 9,7. Los alumnos valoraron positivamente el carácter lúdico del juego y su capacidad de generar motivación para el aprendizaje. **Conclusión e implicaciones para la práctica:** el juego desarrollado tiene el potencial de incorporar la necesidad de innovación en los procesos tradicionales de enseñanza, respondiendo a las necesidades destacadas en la Ley de Bases y Orientaciones Curriculares de Enfermería.

Palabras-chave: Educación en Enfermería; Educación en Salud; Enfermería; Enseñanza; Tecnología Educacional.

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INTRODUCTION

Given the demographic changes taking place worldwide, in which the elderly population has increased because of life expectancy forecasts, teaching topics related to this issue has become a challenge in undergraduate nursing and health courses, which need to adapt to changes in society.[1]

Still in the context of health, greater attention has been directed toward the monitoring and adequate treatment of major diseases, including Chronic Noncommunicable Diseases (CNCDs), which have a greater impact on this population.[2] CNCDs are responsible for almost 70% of the causes of death worldwide. Among them, Systemic Arterial Hypertension (SAH) and Diabetes Mellitus (DM) stand out, causing cardiovascular and brain complications.[3,4]

Given the demographic and epidemiological transition, there is a challenge to adapt the new reality to the topics studied in the classroom, reinforcing knowledge about specific health care for the elderly. The implementation of auxiliary tools, such as Educational Technologies (ET), can assist in the teaching-learning process of undergraduate students.[5]

ET plays a crucial role in the teaching-learning process in health, offering new ways to acquire knowledge and skills. The main technologies used include virtual, augmented, and mixed reality, problem-based learning tools, Information and Communication Technologies (ICTs), computational tools, and board games. The literature points out that the use of other resources enables greater student involvement and interaction in their learning process.[6,7]

The implementation of games in the training of nursing students has shown promise, as demonstrated in a study that developed a board game for teaching diagnostic reasoning to nursing students and concluded that the ET developed was an effective tool for knowledge acquisition. [8] Chang et al. also demonstrated the effectiveness of using board games in nursing education by comparing traditional teaching with the use of games in teaching about medications. The results showed that the group that underwent the intervention had greater knowledge retention in the tests, as well as greater satisfaction with the learning method.[9]

For technologies to be effective teaching tools, materials must be developed based on the demands of the target audience, and the proposal must undergo a validation process.[10] Board games are a low-cost educational tool that can help students build knowledge by motivating them and sparking their interest in learning.[11]

Higher education in health courses has currently implemented and disseminated this theme.[12] However, nursing education still lacks further studies on the development of ET, especially on topics involving the health of the elderly. This is because, in the practical context of care, it is the nursing professional who acts directly in the prevention and control of diseases in this population, with a leading role in Primary Health Care (PHC), according to Law No. 7,498, of June 25, 1986, which provides for the professional practice of Nursing.

It is well known that educational games are capable of sparking students' interest because they are fun and engaging, creating debates and clarifying doubts in a dynamic and interactive way. [13] Thus, given the need to improve knowledge about aging, the objective of this study was to develop and validate an educational technology, in the form of a board game, as a tool to assist in the teaching-learning process of undergraduate nursing students on the topic of older adult health.

METHOD

This is a methodological study with a psychometric interface, quantitative approach, and descriptive character, on the development and validation of content, design, and playability of a board game, developed from January to June 2021, at the University of Brasília, Faculty of Ceilândia. This type of study aims to develop, evaluate, and improve an instrument or strategy.[14,15] To guide the methodology, the guidelines of the Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) tool were followed.[16]

The research followed the ethical precepts involved in research conducted with human beings described in Resolution No. 466/2012 of the National Health Council (CNS), considering respect for human dignity and the special protection due to participants in scientific research involving human beings. The project was approved by the Research Ethics Committee (REC) of the Faculdade de Ciências da Saúde at the Universidade de Brasília (UNB), CAAE number 21864619.0.0000.8093.

The game was developed in four stages, as shown in Figure 1: theoretical framework through literature review; development of card content and game rules; design of the board and cards; validation of content and design by experts and playability by nursing students.

Stage 1 – Literature review for theoretical foundation

The first stage of developing the ET consisted of constructing the theoretical framework through a comprehensive literature review. This process began with a precise definition of the thematic scope, focusing on the health of older adults and the development of technologies for nursing education. A bibliographic survey was conducted, which included consulting relevant scientific databases, such as LILACS, SciELO, MEDLINE/PubMed, and CINAHL. In addition, official documents, such as guidelines and publications from national agencies, were consulted to complement the search. The keywords used in the search included terms such as "older adult health," "aging," "chronic noncommunicable diseases," "educational technology," "educational games," "geriatric nursing," and "nursing education," as well as their combinations and synonyms in Portuguese and English.

The references were selected based on criteria of relevance and timeliness, prioritizing studies, manuals, and guidelines that addressed population aging, CNCDs prevalent in the elderly, pharmacology, physical examination practices, healthy

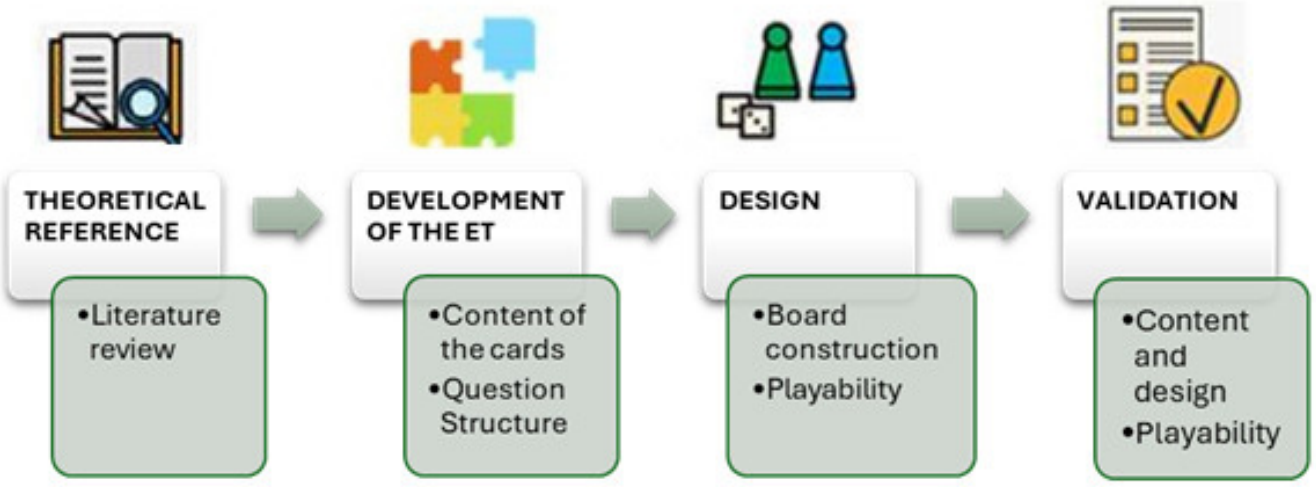

Figure 1. Stages in the educational technology development process.

habits, and the use of ET in higher education. The selected material was critically read and indexed to extract the main concepts, recommendations, methodologies, and findings. This analysis allowed the identification of convergences, divergences, and gaps in existing knowledge on the subject. The information was then synthesized and organized to provide the scientific basis necessary for the subsequent development of the content of the cards and rules of the educational game "GerontoCare." This rigorous survey ensured that the ET content was scientifically accurate, up-to-date, and relevant to the training of nursing students.

Stage 2 - Development of educational technology

The second stage of the work consisted of developing the ET. In the first version of the board, the initial layout of the squares was designed to be refined later. It did not yet have graphic elements to create a context for the elderly person, and it used dark, contrasting colors. After discussions with the research group and notes on the important elements for the development of the game, changes were made, such as the insertion of graphic elements that illustrate the city and the context in which the elderly person is inserted. Thus, throughout the board game, the participant passes through places such as food markets, centers for physical activities, pharmacies, community gyms, and a Basic Health Unit (BHU).

Stage 3 - Content and design validation

The content and design were validated by 56 experts, who were considered: professors and researchers selected through an active search among the faculty of public and private undergraduate and graduate institutions in the health field. To improve this search, authors with publications on this topic were selected. The panel of experts was selected based on the criteria proposed by Fehring.[17] The inclusion criteria for this group were: being a health professional, having professional experience, being a specialist or working in the field of older adult health and/or ET development, thus achieving a score > 5 according to the method. Experts who did not perform the ET assessment promptly and who had direct participation in the study were excluded.

The experts were invited by a letter sent via email, which contained the presentation of the research and a link to the questionnaire, available on the Google Forms platform.

The first section contained a presentation of the game developed, including the design of the board and cards, and the Free and Informed Consent Term (FICT). The second section contained questions about the sociodemographic data and professional profile of the specialist, as a characterization. The third section consisted of the questionnaire questions to analyze whether they were compatible with the target audience.

The questionnaires were divided according to the categories of the game. Each questionnaire consisted of 30 questions, which should be evaluated in terms of content, indicating whether the question was appropriate, partially appropriate, or inappropriate. They were also analyzed for semantics, indicating whether the options were understandable, partially understandable, or incomprehensible.

At the end of the questionnaire, in the fourth section, the experts responded to the Adapted Galdino Instrument,[18] composed of items that evaluated the objectives, structure, presentation, and relevance of the developed technology. The experts had 15 days to respond to the questionnaire. After the deadline, a reminder email was sent to inform the invitees again about the importance of responding to the survey, and the deadline was extended for another 10 days.

Step 4 - Playability validation

The validation of playability with the target audience was carried out in person, with the participation of 31 undergraduate nursing students from the Universidade de Brasília. These students had to be enrolled in the Adult and Older Adult Health course. They were invited by email posted on social networks and had to be present at the time of validation. The inclusion criteria for students were being enrolled in the Adult and Older Adult Health course or having already taken the course in previous semesters. The exclusion criteria were students who had a relationship with the research conducted and who expressed no interest in participating.

For this stage, the Game Recreative Capacity Assessment Instrument adapted from Mariano,[19] was used, which consists of 23 questions divided into the following categories: game specifications, content requirements, and intrinsic motivation; subcategories: game mechanics, functionality, accessibility, theoretical-methodological coherence, concepts and information, challenge, fantasy, curiosity, and interpersonal motivation.

At this stage, participating students were informed about the research procedure and duly signed the FICT. Subsequently, they were organized into groups and instructed that understanding the rules of the game and playability was part of the validation. Students had 30 minutes to read the rules and play the game. After the game ended, participants answered another questionnaire (post-test) also related to the theme of the game.

RESULTS

Result of stage 1 - LITERATURE review for theoretical foundation

After reviewing the literature, the most relevant references were selected to develop the questions to be used in the game, such as relevant articles, Ministry of Health booklets, guidelines from Brazilian societies, such as the Brazilian Society of Cardiology (regarding Systemic Arterial Hypertension), and international guidelines, such as those of the World Health Organization (WHO) and the American Geriatrics Society (Chart S1).

Result of stage 2 - Development of educational technology

The board game developed was named "GerontoCare," a term in English that refers to caring for the elderly. The game consists of a board with 45 spaces (squares), four pawns, with a starting and finishing point, which simulate the journey from the hospital to the elderly person's home. The player's goal is to follow the path that the elderly person takes after being discharged from the hospital to return home with the correct guidelines regarding their therapy. The winner is the participant who reaches home (the final destination) first. A total of 120 cards were created and divided into four categories: pharmacology, physical examination, healthy habits, CNCDs, and Metabolic Syndrome (MS).

During the game's development, soft colors were chosen to create a pleasant design. In the technology development process, four other versions were created before the final version, illustrated in Figure 2.

Four different card designs were developed (Figure 3) to compose the game, each one referring to a category. Each card contains information related to the game's theme, which the player must determine whether it is a true or false statement. The content of the cards was developed based on a bibliographic survey of research related to the game's theme. The design contains an illustration related to the category to make it more attractive. For example, the pharmacology category contains the image of a medicine capsule; healthy habits contains healthy foods; physical examination illustrates the moment of the examination; and CNCDs contains a representation of patients and cells. The design was

Figure 2. Final version of the GerontoCare game.

Figure 3 - Final version of the game cards containing question 1 (Q1) for each category.

established to contain questions with up to 572 characters, due to the size of the card.

Result of stage 3 - Content and design validation

The Content Validation Index (CVI) was used to validate the game's content and semantics with experts. The validation data were computed in tables using Microsoft Office Excel software. The CVI calculation consists of summing the items with positive evaluations and dividing by the total number of responses.[18] The formula is: *Content Validation Index* (CVI) = number of positive responses/total number of responses.

The validation of an instrument occurs based on the proportion of items classified as relevant or representative, by the items that received a negative evaluation. In the form, the following items were considered relevant: adequate, partially adequate, understandable, and partially understandable. Items with lower

ratings were inadequate and incomprehensible. The acceptable value for the validation of an instrument in general is at least 0.80, which was adopted as a reference by this study.[20]

First, all CVIs for each item were calculated, and then the CVI for each category of the game was calculated. Finally, the total CVIs for this educational technology were calculated, which represents the average of the CVIs obtained, adding up all the CVIs calculated separately and dividing by the number of items considered in the evaluation.

The content and design were validated by a panel of 56 health professionals, most of whom were nurses (91.1% of the sample), but also included pharmacists, physical therapists, nutritionists, and occupational therapists. The sample was composed mainly of professionals aged 40 to 45 years (28.57%), most of whom (85.71%) were female. The results are described in Table 1.

All items evaluated obtained a CVI value greater than 0.80. After analyzing the items of the instrument individually, a broader analysis was performed, calculating the CVI of each of the game categories as well as the overall CVI of the educational technology (Table 2). The CNCD category obtained a CVI of 0.97. The Healthy Habits category obtained a value of 0.98, and the Physical Examination and Pharmacology categories obtained a CVI equal to 0.98. The overall CVI of the ET developed was 0.98. The CVI of the categories and the game in general was positive, demonstrating adequate validation of the technology.

Two questions obtained a CVI lower than 0.80, i.e., not reaching the value considered ideal for validation. However, these values are justified by an error in the construction of the validation form with the experts, where the questions presented a writing error, but were corrected after validation.

Result of step 4 - Validation of playability

In the validation with nursing students, the data were computed in tables in Microsoft Office Excel software, separately from the data from the validation with experts. In this stage, descriptive statistical analysis was performed and presented by calculating the mean and standard deviation of the responses.

The instrument consisted of questions that should receive a score from 0 (zero) to 10.0. After analyzing the items in the instrument, the mean value of the responses and the standard

Table 1. Experts' responses according to the instrument adapted from Galdino et al.[18] and CVI[1] (n= 56). Brasília (DF), Brazil, 2024.

	Partially Adequate		Adequate		Totally Adequate		CVI
1. OBJECTIVES	**n**	**%**	**n**	**%**	**N**	**%**	
1.1. Are they consistent with the needs presented by the target audience?	3	5.35	41	73.21	12	21.42	0.94
1.2. Does it have the potential to change behavior and attitudes related to the learning process?	6	10.71	48	85.71	2	3.57	0.89
1.3. Can you circulate in scientific circles in the field of Gerontology?	5	8.82	35	62.5	16	28.57	0.91
2. STRUCTURE AND PRESENTATION							
2.1. Is the educational material appropriate for addressing the topic?	5	8.82	34	60.71	16	28.57	0.89
2.2. Are the messages presented clearly and objectively?	11	19.64	27	48.21	18	32.14	0.80
2.3. Is the information presented scientifically accurate?	7	12.5	31	55.35	17	30.35	0.85
2.4. Is there a logical sequence in the proposed content?	9	16.07	33	58.92	13	23.21	0.82
2.5. Is the material appropriate for the educational level of the target audience?	4	7.14	33	58.92	19	33.92	0.92
2.6. Is the information well-structured in terms of agreement and spelling?	11	19.64	32	57.14	13	23.21	0.80
2.7. Does the writing style match the target audience's level of knowledge?	6	10.71	32	57.14	18	32.14	0.89
3. RELEVANCE							
3.1. Do the themes portray the key aspects that need to be reinforced?	5	8.82	33	58.92	18	32.14	0.91
3.2. Does the material encourage students to acquire knowledge about the process of guiding elderly patients?	6	10.71	33	58.92	17	30.35	0.89
3.3. Is it appropriate for use by any healthcare professional in educational activities?	9	16.07	36	64.28	11	19.64	0.83

[1] Content Validation Index.

deviation were obtained, as shown in Table 2. As demonstrated, the highest mean achieved was 9.7. The lowest mean value was 8.5, in an item related to understanding the language used in the game.

When asked, 29% of students said they had previously had contact with other ETs, such as Kahoot, an online game-based learning platform, for example, and responded that they were comfortable with the use of educational games in nursing.

DISCUSSION

This study carried out the process of developing and validating a board game with satisfactory results among experts and students. The steps were detailed and well described, enabling the reproduction of this method. After the entire creation process, the validation processes by the participants followed the methods already used in the literature.

Some nursing studies sought to develop ET in the form of board games, as they are a more accessible way of implementing ET and do not require a specific physical structure for their implementation, meaning they can be used outside the classroom.[21,22] A board game validated with the objective of promoting health education about syphilis for incarcerated women is an example of the broad accessibility that the use of these technologies provides.[23] Thus, the game produced by this study has a printed physical structure, with dimensions similar to existing games.

Table 2. Student responses according to the Game Recreational Capacity Assessment Instrument adapted from Mariano (2014) (n=31). Brasília (DF), Brazil, 2020.

Questions assessed	Median	Standard deviation
Are the instructions clear, explaining how to start, achieve the objectives, and finish the game?	9.0	1.6
Are the rules easy to understand?	9.1	1.4
Are the components (game book, board, pins, rules, and cards) easily recognizable?	9.3	1.3
Are the components easy to handle and allow you to perform tasks and commands in the game?	9.2	1.6
Is the writing style appropriate for reading?	8.5	2.2
Is the language used to describe the content understandable?	8.7	1.9
Are the game components (game book, rules, and cards) understandable?	9.2	1.4
Does it allow for interaction between players?	9.6	0.8
Does it enable discussion and reflection on the topic?	9.7	0.7
Did it contribute to your knowledge building?	9.7	0.9
Does it present information about the topic in a coherent and contextualized manner?	9.3	1.2
Is the information relevant to your work as a nurse?	9.6	0.9
Does it present challenges that stimulate the player?	9.3	1.4
Is the degree of difficulty compatible with your profile?	9.3	1.8
Does the dynamic provide a meaningful learning experience for the player, to the point of generating excitement and anticipation to overcome (answer) the questions?	9.5	1.1
Does it spark your imagination about reality in light of the proposed content?	9.1	1.4
Does playing it provide benefits for everyday experience?	9.3	1.2
Did it spark your curiosity?	9.4	1.3
Is interest maintained and controlled by the expectation of future situations in the game?	9.3	1.5
Do a player's successes and mistakes serve as an incentive for others to learn?	9.7	0.8
Would you play the game again?	9.6	1.1
Would you recommend the game to other students?	9.7	0.7

The creation of ETs is an auxiliary strategy in the teaching-learning process, since it is important to consider that different students have different ways of learning and retaining knowledge.[24,25] GerontoCare sought to meet the needs presented by students in terms of knowledge about the health of older adults, as well as the results obtained in other studies that were approved by the same audience,[24] which in turn reinforces the importance of creating artifacts to be used in teaching.

For ETs to be successful tools, their development must involve a detailed process ranging from prior analysis of the context, theoretical basis of content, use of appropriate design and playability, and must also undergo validation processes.[26]

The validation of ETs is a fundamental process to ensure greater methodological rigor in their application, as it assesses possible inconsistencies and allows for expert review before distribution to the public.[27] Content and appearance validations are the most frequently used in methodological studies,[21] as observed in studies that developed and validated ETs in nursing education.[21,23,28]

GerontoCare was consistent with the needs listed by the target audience, as well as relevant to the educational and training process, according to the experts' assessment. It also demonstrated that the mechanics of the game can generate curiosity and challenge students in their search for knowledge, as pointed out by the instruments. The interaction and collaboration provided by the game enable the development and strengthening of interpersonal skills, such as communication and teamwork.

The topics covered in the game were chosen due to the importance of addressing CNCDs in older adults, as they are among the most frequent in this population. Among them, SAH and DM stand out, responsible for cardiovascular and brain complications,[29] which, together with changes that occur with aging and factors such as genetic predisposition, sedentary lifestyle, and poor diet, favor the onset of MS.[30]

Pharmacology is also a relevant topic concerning aging, as some studies show a significant increase in the chronic use of medications due to health problems that occur with advancing age.[31] The use of drugs by the elderly requires greater attention, as they may present differences in their metabolism, requiring greater professional knowledge to avoid unwanted reactions.[32]

ETs, such as board games, are important teaching tools for undergraduate students. A systematic review pointed out that a wide variety of active methodologies are used in undergraduate nursing programs, making professionals more independent and prepared to work in teams and engage with social reality.[33]

The successful application of games in teaching is related to student engagement with technology, which needs to have an interesting storyline and playability, associated with educational content, to spark student interest. [34] Thus, the game sought to encourage students, through engagement, to build knowledge and make decisions, which, as reported in other studies, is more effective in the learning process when compared to the traditional teaching model.[35,36]

Autonomy in the pursuit of knowledge is one of the pillars of active teaching methodology, thus making the student the main actor in their educational process. Therefore, it is important that technologies enable self-learning and interactive learning.[37] Board games can stimulate critical thinking through interaction and the exchange of experiences between players, enhancing learning.[38]

However, some challenges dominate the scenario of this development, such as the high cost of development and high-quality materials, the time required for application, the specific number of participants needed to play the game, the need for a moderator, and others.[39]

The search for improvements in health education on aging is current and addresses the needs of society, considering active aging through health promotion. There are developed and validated gerontechnologies that target older adults, their families, and caregivers. One example is the study that created a board game focused on healthy aging, applied to the elderly, which resulted in improvements in the group's health maintenance.[40] However, there are still gaps in the development of technologies aimed at undergraduate students that address this theme.

CONCLUSION AND IMPLICATIONS FOR PRACTICE

The results allow us to affirm that the board game developed in this research has been validated and may contribute to improving the teaching-learning process of students and assist in the nursing care of these future professionals, who will later enter the job market. The contributions provided by the specialists improved the quality of the game, making it possible to achieve the objective.

The development of this ET proved to be an important step in the construction of alternatives to traditional teaching, reinforced by the panel of specialists who emphasized the need to create and validate new technologies in teaching and congratulated the methodology used. This work has the potential to incorporate the need for innovation into traditional teaching processes, responding to the points highlighted in the Nursing Curriculum Guidelines and Framework Law, which emphasizes critical, reflective, and practice-oriented training.

It is important to highlight as a limitation the difficulty in obtaining responses from the people who made up the panel of experts when contacting them, since they were selected individually based on their professional profile, which caused a delay in data collection, as the invitations were sent by email, and many experts did not respond even after reminder emails were sent.

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None.

DATA AVAILABILITY RESEARCH

The contents underlying the research text are included in the article.

SUPPLEMENTARY MATERIAL

The following online material is available for this article:

Chart S1 - Main references used as a theoretical framework for creating the questions on the game cards.

CONFLICT OF INTEREST

No conflict of interest.

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