



## PREPARATION AND VALIDATION OF CONTENTS CONCERNING THE USE OF PRESERVATIVES

### ELABORAÇÃO E VALIDAÇÃO DE CONTEÚDO ACERCA DO USO DO PRESERVATIVO ELABORACIÓN Y VALIDACIÓN DE CONTENIDO ACERCA DEL USO DEL PRESERVATIVO

Marks Passos Santos<sup>1</sup>, Anny Giselly Milhome da Costa Farre<sup>2</sup>, Leilane Barbosa de Sousa<sup>3</sup>

#### ABSTRACT

**Objective:** to describe the process of elaboration and validation of content about the use of the condom for the application in health education, in the context of problem - based learning. **Method:** this is a qualitative, descriptive, methodological study developed with nine professionals with expertise in health and problem-based learning. The data was tabulated in the Excel® program and the results were presented in tables. **Results:** it was verified that, in the content validation process, all items obtained the Maximum Content Validity Index (= 1), except for the item "comprehensiveness" of problem one (CVI = 0.77) and the item "language" of problem three (CVI = 0.88). The following changes were made to include the female participation in the use of the condom and the clarification of the technical term "ejacular", in order to contemplate the suggestions indicated for these items. **Conclusion:** e-mail validation, with an odd number of evaluators and using the Content Validity Index, is a practical and effective strategy. It is recommended that further studies be developed, including validation by the target audience. **Descriptors:** Validation Studies; Problem-Based Learning; Health education; Adolescent; Sexual Education; Nursing.

#### RESUMO

**Objetivo:** descrever o processo de elaboração e validação de conteúdo acerca do uso do preservativo para a aplicação na educação em saúde, no âmbito da aprendizagem baseada em problemas. **Método:** trata-se de um estudo qualitativo, descritivo, metodológico, desenvolvido, com nove profissionais com expertise na área da saúde e na aprendizagem baseada em problemas. Tabularam-se os dados no programa Excel® e apresentaram-se os resultados em tabelas. **Resultados:** verificou-se que, no processo de validação do conteúdo, todos os itens obtiveram o Índice de Validade de Conteúdo Máximo (=1), exceto o item "abrangência" do problema um (IVC=0,77) e o item "linguagem" do problema três (IVC=0,88). Realizaram-se, para se contemplarem as sugestões indicadas para estes itens, as seguintes alterações, respectivamente: a inclusão da participação feminina na adesão ao uso do preservativo e o esclarecimento do termo técnico "ejacular". **Conclusão:** aponta-se a validação via e-mail, com um número ímpar de avaliadores e com a utilização do Índice de Validade de Conteúdo, como uma estratégia prática e eficaz. Recomenda-se que outros estudos sejam desenvolvidos, incluindo a validação pelo público-alvo. **Descritores:** Estudos de Validação; Aprendizagem Baseada em Problemas; Educação em Saúde; Adolescente; Educação Sexual; Enfermagem.

#### RESUMEN

**Objetivo:** describir el proceso de elaboración y validación de contenido acerca del uso del preservativo para la aplicación en la educación en salud, en el ámbito del aprendizaje basado en problemas. **Método:** se trata de un estudio cualitativo, descriptivo, metodológico, desarrollado con nueve profesionales con experiencia en el área de la salud y en el aprendizaje basado en problemas. Se tabularon los datos en el programa Excel® y se presentaron los resultados en tablas. **Resultados:** se verificó que, en el proceso de validación del contenido, todos los ítems obtuvieron el Índice de Validez de Contenido Máximo (= 1), excepto el ítem "alcance" del problema uno (IVC = 0,77) y el ítem "lenguaje" del problema tres (IVC = 0,88). Se realizaron, para contemplar las sugerencias indicadas para estos ítems, las siguientes alteraciones, respectivamente: la inclusión de la participación femenina en la adhesión al uso del preservativo y la aclaración del término técnico "eyacular". **Conclusión:** se señala la validación vía correo electrónico, con un número impar de evaluadores y con la utilización del Índice de Validez de Contenido, como una estrategia práctica y eficaz. Se recomienda que se desarrollen otros estudios, incluida la validación por el público objetivo. **Descriptor:** Estudios de Validación; Aprendizaje Basado en Problemas; Educación en Salud; Adolescente; Educación Sexual; Enfermería.

<sup>1</sup>Master, Federal University of Sergipe / UFS. Lizard (SE), Brazil. Email: [enfer\\_marks@hotmail.com](mailto:enfer_marks@hotmail.com) ORCID iD: <https://orcid.org/0000-0003-1180-404X>; <sup>2</sup>PhD, Federal University of Sergipe / UFS. Lizard (SE), Brazil. Email: [annygiselly@hotmail.com](mailto:annygiselly@hotmail.com) ORCID iD: <https://orcid.org/0000-0002-0676-4090>; <sup>3</sup>PhD, University of International Integration of Afro-Brazilian Lusophony / UNILAB. Redenção (CE), Brazil. Email: [leilane@unilab.edu.br](mailto:leilane@unilab.edu.br) ORCID iD: <https://orcid.org/0000-0003-0266-6255>

## INTRODUCTION

It is known that the complexity of the health situation-problems has required of the nurse new ways of doing the health education, above all, through methodologies that involve the direct participation of the target public. In this scenario, the active methodologies are configured as an effective strategy, promoting critical thinking, discussion and sharing of knowledge in different settings in the health field.<sup>1</sup>

The different types of active teaching methodologies are identified, and problem-based learning (PBL) differs from the others by allowing the target audience to define and establish, through the active search for knowledge, the necessary learning objectives to develop your understanding of a particular case or problem.<sup>2</sup>

It is understood that the process occurs through a small group of people, thinking together in search of solving a problem, in which a facilitator directs the group to reach the learning objectives inserted in a problem.

The problem is defined as a story that can be experienced in the real world. Through the investigation of the components of the problem, the group seeks the meaning of unknown terms, reflecting on what to do, how to do and when to do it in practical situations. It was obtained, through the discussion about the problems, not only the knowledge, but also the skills and attitudes necessary to face the problem situations.<sup>3</sup> It is a way of experiencing in advance a situation that may present itself.

It is argued that, considering their applicability in predicting situations that may occur, problems must be elaborated in order to integrate different types of knowledge, according to the contents that the participants of the group need to know and in a language that motivates the search for knowledge. It is worth noting that in the problem-solving process, the group members identify the problem, explore different approaches, evaluate the solution and consolidate the contents learned.<sup>4</sup>

It is an educational strategy based on a non-impulsive oriented reasoning that, when used through a well-designed problem, allows the acquisition of knowledge and skills necessary to face complex problems and situations.

It is pointed out that a well-designed problem must be built by professionals who have knowledge about the issue to be worked on and the language needed to spark interest

and reasoning in the context of the PBL; In this sense, the validation process can be an essential step in the elaboration of effective problems.

It is known that validation consists of measuring in order to assess whether something is or is not applicable to the purpose for which it is intended. It should be emphasized that evaluators should therefore have experience in the area of interest of the object of analysis to identify whether there is representativeness or relevance.<sup>5</sup> It should be noted that, in relation to the problems used in the PBL, no references were identified about elaboration and validation methodologies.

Therefore, there was a need for research that indicates ways for the elaboration and validation of problems, so that they are constructed in order to promote effectiveness in the educational process, considering not only the content to be addressed but, language for problem-based learning.

## OBJECTIVE

- To describe the process of elaboration and validation of content about the use of the condom for the application in the health education, in the scope of the learning based on problems.

## METHOD

It is a methodological study that is based on the elaboration and validation of an instrument that can be used for research and / or educational practices in health.<sup>6-7</sup> The research was developed in two stages: elaboration and validation of the problems.

Problems based on "knowledge, attitudes and practices about condom use" were developed and based on the active methodology called "Problem-Based Learning" (PBL), which places the participant in the teaching-learning process as the protagonist and subject of the search for knowledge.<sup>8</sup>

The problems, after elaboration, were submitted to validation, which aimed at the adequacy of the problems to the proposed educational objectives, as well as to the methodology of the PBL. For this purpose, evaluators with expertise were selected to analyze the relevance and representativeness of each item on the concept to be measured.<sup>9-10</sup>

It is pointed out that nine evaluators participated in the validation. This quantitative was adopted based on recommendations from authors that suggest a minimum of six evaluators, as well as an odd number of participants, in order to guarantee

the representativeness of the sample and the possibility of tie-breaking in the validation process.<sup>11-2</sup>

The criteria set out in figure 1, adapted, were considered for the choice of the evaluators,<sup>9,13</sup> so that those that reached a minimum of five points were selected.

Selection criteria	Score
Master's in Nursing / health area	3 points
Teacher in PBL methodology for at least two years	2 points
Have developed dissertation in the area of interest *	2 points
Have a recent professional practice (clinical, teaching or research) of at least two years in the area of interest *	1 point
Be a specialist in Nursing, public health or related fields	2 points

Figure 1. Criteria for selecting specialists to validate problems. Redenção (CE), Brazil, 2018.  
\*Adolescent Health; Sexually Transmitted Infection (STI); Sexual and Reproductive Health; Health Promotion..<sup>9,13</sup>

The problems were validated by sending the form via e-mail using the Likert scale. It is described that, for each text, the evaluators punctuated values for the criteria "Language" (respectful and adapted to the target public?); "Clarity" (is the message clear and understandable to the target audience?); "Relevance" (does the text contemplate the proposed theme/subject?); "Comprehensiveness" (text covers learning objectives?) And "Relevance" (text is important for research?) through items with values from one to four. For the classification of evaluations, the calculation of the Content Validity Index (CVI) was obtained by dividing the number of responses "3" and "4" by the total number of responses. It should be noted that the Likert scale ranges from one to four, and the value considered adequate was CVI = 0.80.<sup>6</sup>

The items that had the CVI equal to one (without suggestion of changes) were considered adequate and unmodified; those with CVI less than 0.80, necessarily, were altered. Subjects with CVI greater than or equal to 0.80 and less than one were also altered, but received suggestions for changes. The data was tabulated in the Excel® program and the results were presented in tables.

The research was approved by the Research Ethics Committee of the University of International Integration of Afro-Brazilian Lusophony (UNILAB) under the Certificate of Presentation for Ethical Assessment (CAAE) nº 60565216.8.0000.5576.

RESULTS

◆ Elaboration of problems

It is noted that the process of elaboration of the problems followed the following steps: definition of the objective of the educational proposal; identification of learning objectives; delimitation of the number of problems required for learning objectives and choice of problem situations.

It is pointed out that the general objective of the educational proposal was to "promote knowledge, attitudes and practices favorable to the use of condoms by adolescents". In this context, specific objectives were considered, aspects related to what adolescents know about condoms, what they think about their use and how they behave / behave in practical situations.

The following learning objectives were listed for each variable present in the purpose of the proposal: Variable Knowledge - 1. Know the male / female condoms; 2. List the reasons for using the male / female condom; and 3. List three necessary precautions for the correct use of the male/female condom; Variable Attitude - 1. Discuss the need to use the male / female condom in sexual practices (oral, vaginal and anal) and Practical Variable - 1. Discuss condom use practice.

It was opted to elaborate a problem for each variable; the situations to be worked on in the problems were inspired by the text of the theatrical play entitled "The Self of the Condom", written by José Mupuranga, which emphasizes the passion of Nicanor for Lionor and his doubts about what is a condom, what is it for? how to use. In this way, the problems are presented in figure 2.

**1. Nicanor’s confusing story**  
Nicanor, a country man, dates Lionor, the city’s exquisite woman. Many days ago, he has been trying to spice up his relationship and decided to call Lionor to finally establish the long-awaited sexual relationship. She went on to say that she only had sex with a condom. The hillbilly Nicanor did not know what a condom was, and he wondered: what would a condom be? Where would you put it? And what was it for? So he went out and asked for information from everyone he knew, because that was the only way he would have Lionor completely. Finally, he found his godmother who knew what a condom was as much as the present, or with one, but soon told Nicanor to take proper care of the correct use of the condom.

**2. Nicanor’s Contentment**  
Now yes! Soon, Nicanor thought, all happy to have won a condom from his godmother, who still taught him where to put it. Certainly he still did not have how to use it, but what mattered at that moment was that he had the condom. Gladly, run to the city to find his beloved. There was nothing to stop him from spending the night with his girlfriend, but something still worried Nicanor because he did not know if it was necessary to use the condom in all kinds of sexual practices (oral, vaginal and anal).

**3. Time to do it!!!**  
Finally, Nicanor and Lionor are together to spend the first night, a very special occasion for Nicanor. The romantic mood was taking care of the night. The dinner was under the candlelight. After dinner, they walked into the bedroom, between kisses and hugs, but something took the tranquility of Nicanor: he did not know if he had to use the condom from the beginning of the sexual practice or if it had to be placed only when he was close to ejaculating. Lionor, then, expects him to have the attitude to carry on that night and, in the end, everything worked out.

It should be noted that the choice of the work as inspiration for the situations to be worked on the problem was due to its association with the intended theme, cultural aspects and everyday language of the target audience, since the story of the play script is happening in a city in the interior of Ceará similar to the reality of the adolescents to whom the problems are destined.

◆ Validation of problems

It is recorded that of the nine evaluators who answered the questionnaire of this study, seven were nurses and two, nutritionists;

about the maximum degree, six had a master's degree and two had a doctorate. It is known that the majority had been in the area for three years or more, and the training time ranged from six to 12 years.

Each of the three problems was evaluated according to the language's suitability to the target audience, the comprehension of the content and its objectives, the pertinence to the proposed theme, the comprehension of the problem and the relevance to the educational process in health.

Criteria	Problem 1		Problem 2		Problem 3	
	N	CVI	N	CVI	N	CVI
Language		01		01		0.88
Very suitable	03		03		04	
Proper	06		06		04	
Little adequate					01	
Understanding		01		01		01
Very understanding	03		04		04	
Comprehensive	06		05		05	
Relevance		01		01		01
Very relevant	04		04		03	
Relevant	05		05		06	
Scope		0.77		01		01
Very embracing	01		04		04	
Embracing	06		06		06	
Not comprehensive	02		-		-	
Relevance		01		01		01
Very relevant	02		03		03	
Relevant	07		06		06	

Figure 3. Assessment of the content of problems one, two and three according to language, comprehension, relevance, comprehensiveness and relevance. Redenção (CE), Brazil, 2017.

It is pointed out that most evaluators classified the language, understanding, relevance and relevance of the problem as a very adequate or adequate one, resulting in a CVI, in these criteria, equal to one.

The scope was considered to be very broad (01), comprehensive (06) and not very comprehensive (02) and, therefore, the CVI for this criterion was 0.77, lower than the minimum acceptable level; thus, the

evaluators suggested changes, according to the following statements.

*I suggest to the authors that the condom options be described in some way in the text and that the choice of which type should be shared. [...] if the objective is to educate, break some paradigms and stimulate co-responsibility. (A1)*  
*The text does not lead to thinking about the female condom (first objective); at the beginning, you can put an excerpt that*



*implies that as much as he can use / take, example: let's take and there we decide which one we use [...]. (A4)*

*After reading the problem and realizing the learning objectives, such as the use of the condom, it would place in the problem, a doubt of it between the masculine and feminine to be trustworthy with the objective. (A9)*

It was understood, through the suggestions, the need to broaden the issue of condom use in order to emphasize that it is a shared decision. It was also highlighted in this context the emphasis on the option for the female condom as a situation to be inserted in problem one. The problem was amended to include the following excerpt: Lionor also went in search of the female condom.

It is shown in the following table, through the evaluation of problem two, that all the evaluators understood that the problem was adequate or very adequate.

It is scored that all criteria of problem two obtained the maximum CVI. Some reviewers have, however, suggested changes to make the text clearer and more comprehensive, in accordance with the following remarks.

*It was not very clear the part that says: 'Surely he still did not have how to use' [...]. It would not be: 'Sure he still did not understand how to use it?' Or 'Sure he still did not know how to use? (A2)*

It was rewritten, considering the recommendation of the evaluator A2, the excerpt as follows: Certainty did not yet have how to use, but what mattered at that moment was that he had the condom.

Most evaluators rated the comprehension, relevance, comprehensiveness, and relevance of problem three as very adequate or appropriate, resulting in a CVI in these criteria equal to one.

The language was rated by an evaluator as not adequate, resulting in an CVI of 0.88; although acceptable, since it was higher than 0.80, the recommendations made by the evaluators.

Some suggestions were made regarding the participation of the Lionor character in the use of condoms and the emphasis on the female condom, according to the following reports.

*I reinforce the idea that Lionor should have a more active role in this relationship. This way of portraying the woman places her in a submissive and secondary role in the relationship and we know that in this*

*conduct lies the root of various problems of a sexual, perhaps social, cultural, etc. character". (A1)*

*I believe that, in the text, I should have a brief and objective dialogue with Nicanor and Lionor, more specifically, she asking him about these same situations, such as: 'Do you need to use the condom all the time, Nicanor?' And then he answers, too. (A2)*

*Emphasize more the female condom, in this case, so that this discussion empowers women in the use, too, and do not get some responsibility only male. (A9)*

It should be noted that these recommendations have already been addressed in problem one, which deals with the thematic knowledge about the use of condoms. In other comments, the need to substitute a technical term for another one of better understanding by the target public was emphasized, according to the following suggestions.

*Replace the expression 'ejaculate' with a term that is more closely / used in the target audience. Closer to reality. (A5)*

*[...]will the word 'ejaculate' become too formal? I am questioning this, because I realized that the construction of their cases is easy to read and written colloquially, for the intended population. (A9)*

The term "ejaculate" was thus maintained, but with the meaning of the term for adolescents inserted in parentheses, as follows: [...] he did not know whether to use condoms from the beginning of sexual practice or whether he would have to put it on only when he was about to ejaculate (enjoy). Considering the recommendations of the evaluators, the version presented below, in figure 4, is presented, and the recommendations are suggested and accepted in bold and underlined.

1. Nicanor’s confusing story

Nicanor, a country man, dates Lionor, the city’s exquisite woman. Many days ago, he has been trying to spice up his relationship and decided to call Lionor to finally establish the long-awaited sexual relationship. She went on to say that she only had sex with a condom. The hillbilly Nicanor did not know what a condom was,

and he wondered: what would a condom be? Where would you put it? And what was it for? So he went out and asked for information from everyone he knew, because that was the only way he would have Lionor completely. Lionor was also looking for the female condom. Nicanor, to the end, found his godmother who worked at the health clinic, who either knew what a condom was like the one he gave her or with one, but then went straight to Nicanor to take proper care of the correct use of the condom.

## 2. Nicanor's Contentment

Now yes! Soon, Nicanor thought, all happy to have won a condom from his godmother, who still taught him where to put it. Surely he did not have how to use it, but what mattered at that moment was that he had the condom. Gladly, run to the city to find your beloved. There was nothing to stop him from spending the night with his girlfriend, but something was still troubling Nicanor because he did not know if it was necessary to use condoms in all kinds of sexual practices (oral, vaginal and anal).

## 3. Time to do it!!!

Finally, Nicanor and Lionor are together to spend the first night, a very special occasion for Nicanor. The romantic mood was taking care of the night. The dinner was under the candlelight. After dinner, they walked into the bedroom, between kisses and hugs, but something took the tranquility of Nicanor: he did not know if he had to use the condom from the beginning of the sexual practice or if it had to be placed only when he was close to ejaculating (enjoy). Lionor then took the action and showed Nicanor the right time to put on and take the condom off. In the end, everything worked out.

Figure 4. Final version of the problems, before being submitted to validation. Redenção (CE), Brazil, 2018.

The problems were then classified as valid, ready for use by the target audience.

## DISCUSSION

It is required, through social, economic and technological transformations, that health education strategies, especially when directed towards adolescents, are in line with language, the media and environments of interest to this public. It presents the problem-based learning in this scenario as an educational philosophy consistent with an active methodology that can promote the protagonism of the young person in the path of knowledge construction.

It is possible for the PBL to acquire not only knowledge, but also cognitive skills and competences that promote the change of attitudes, since, through a systemic approach, the target audience is involved in a process problems consisting of complex texts aimed at assimilating content effectively.<sup>14</sup>

It is pointed out that the elaboration of problems is an important process, essential for the achievement of the learning objectives proposed in a teaching methodology that proposes to use the philosophy of the PBL. It was proposed, through this study, to elaborate problems with clear content, in accessible language and with realistic topics that promote the motivation of the target audience in order to seek knowledge about the proposed theme.

It should be emphasized that, during the elaboration of a problem, attention must be paid to its association with "real world" situations, and this includes a clear and objective textual description of the problem, the creation of content that arouses the interest of the target audience and predicting a viable path to solving the problem.<sup>15-6</sup>

Another aspect considered during the elaboration of the problems was the

association of the content with the local culture, emphasizing beliefs, habits and customs, such as the questioning about the responsibility of the man for the search of the condom and the lack of knowledge about the female condom.

It is noted that the look on the human body and health should not be limited to the scientific knowledge and the vision of the health professional; the complexity of the human being demands that his life experiences, his environment and his cultural representations about the health-disease process be considered in the elaboration of strategies of health education, in order to touch on the subjective dimension, responsible for the true change in attitude and behavior.<sup>17</sup>

Despite the consideration of the appropriate methodological language for an active teaching-learning methodology and cultural aspects of the target audience, the writing of problems is an individual act, which can be misleading because it is limited to the writer's eyes, who carries with him his world view, his own language and his personal perspective on what the PBL is.

The problems were submitted, in order to reduce the possibility of content failure, to validation by health professionals who have experience in applying the PBL strategy. It is noted that, among them, the majority were nurses and had at least a master's degree, with three years or more of performance and six years or more of training. It is important to emphasize the importance of the validation of health content to be carried out by people with proficiency in the desired issues, especially with practical experience and improved training in the area in which it operates.<sup>18-9</sup>

It is pointed out that there is no consensus regarding the content validation method.<sup>20-1</sup> Based on this, the validation method was based on e-mail, based on an odd number of evaluators and on the CVI's consideration. It is a practical, cost-effective and efficient method that has enabled the efficient identification of convergent opinions and the measurement of what might be considered adequate or inadequate. It was emphasized that all items reached the maximum score of the CVI, except for the item "comprehensiveness" of problem one (CVI = 0.77) and the item "language" of problem three (CVI = 0.88).

The item "coverage" of problem one with a CVI less than acceptable was evaluated, and, according to the evaluators' indication, the content increased the responsibility for the use of the condom, rather centered on the male character, to include partnership participation and to search for information about the female condom.

In a study developed with 3,482 individuals older than 18 years of age in the city of Caraúbas (RN), in the interior of Northeastern Brazil, adherence to condom use is directly related to gender conflicts in which women, many are often excluded from the decision, and it is up to health professionals to disclose the importance of using this method of prevention through health education.<sup>22</sup>

It is noted that the item "language" of problem three reached an acceptable CVI, but two evaluators suggested the clarification of a technical term. The suggestion was made in order to make the language of the problem accessible to the target audience and to reduce the possibility of misinterpretation which would lead the reader to error. It is assessed that the interdisciplinarity in the construction of knowledge results in the need for the subjects involved to share the same domain of knowledge, even abandoning the comfort of technical language in favor of a domain that is understood by all.<sup>23-4</sup>

It is verified that, after the suggested changes were made, the content was rewritten and considered validated. It is noticed that the inclusion of the female character in the process of adherence to the use of condoms and the adequacy of the technical term to the language of the target audience were essential for the expansion of the situation addressed and the understanding of the proposed content.

## CONCLUSION

It is concluded that the elaboration of the didactic content to be used in the PBL methodology by professionals with experience in active methodologies favored the coherent writing between the content of the problems and the learning objectives. It is essential, in this sense, to know the culture of the target audience to direct the content to realistic situations that, in fact, can happen in the daily life of the readers of the problems.

It is observed that the validation via e-mail consisted of a strategy that facilitated the participation of the evaluators that were far from the place where the research was carried out, allowing the analysis of professionals with expertise, but who could not attend a face-to-face evaluation. It is emphasized that the option for an odd number of evaluators and the use of the CVI allowed the quantitative identification of convergent and divergent opinions, as well as the measurement of what could be considered adequate or inadequate from an objective perspective.

It is noteworthy that, although validated by professionals with expertise in health and the PBL methodology, it is not yet known what the impact of the problems is from the perspective of the adolescents, the target audience for which the content was elaborated. In view of this limitation, it is recommended that other studies be carried out focusing on the validation of problems in PBL, also, by the target audience.

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#### Corresponding Address

Marks Passos Santos  
Povoado Conselho, 314  
Zona Rural  
CEP: 49525-000 — São Domingos (SE), Brazil