

# Advanced nursing practice in child continence: the experience of creating an online course

*Prática avançada de enfermagem na continência infantil: experiência de criação de curso online*

*Práctica avanzada de enfermería en continencia infantil: experiencia de creación de curso online*

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## ABSTRACT

**Objective:** To report the experience of creating an online extension course, focusing on Advanced Nursing Practice in the promotion of child continence.

**Method:** An experience report on the creation of a course for nursing students, carried out in the second half of 2021 at a federal university in Brazil. It was based on the Meaningful Learning Theory, Instructional Design, and on the Digital Storytelling strategy.

**Results:** The course was planned to be offered online, including knowledge about childhood continence, Advanced Nursing Practice, urinary and intestinal symptoms, and nurses' work in the context of pediatric urology.

**Final considerations:** The authors proposed an innovative online course based on their experience to promote the teaching of child urological care in nursing education.

**Keywords:** Advanced practice nursing. Lower urinary tract symptoms. Child health. Education, nursing.

## RESUMO

**Objetivo:** Relatar a experiência de criação de um curso de extensão online, tematizando a Prática Avançada de Enfermagem na promoção da continência infantil.

**Método:** Relato de experiência sobre a criação de curso para estudantes de enfermagem, realizada no segundo semestre de 2021 em uma universidade federal do Brasil. Baseou-se na Teoria da Aprendizagem Significativa, no Design Instrucional e na estratégia Digital Storytelling.

**Resultados:** O curso foi planejado para ser ofertado na modalidade online, contemplando conhecimentos sobre a continência na infância, Prática Avançada de Enfermagem, sintomas urinários e intestinais, e atuação do enfermeiro no contexto de uropediatria.

**Considerações finais:** Evidencia-se a proposição de um curso online inovador a partir da experiência das autoras, com vistas a promover o ensino do cuidado urológico infantil na formação do enfermeiro.

**Palavras-chave:** Prática avançada de enfermagem. Sintomas do trato urinário inferior. Saúde da criança. Educação em enfermagem.

## RESUMEN

**Objetivo:** Relatar la experiencia de creación de un curso de extensión online, cuyo foco es la Práctica Avanzada de Enfermería en la promoción de la continencia infantil.

**Método:** Informe de experiencia sobre la creación de un curso para estudiantes de enfermería, realizado en el segundo semestre de 2021 en una universidad federal de Brasil. Se basó en la Teoría del Aprendizaje Significativo, en el Diseño Instruccional, y en la estrategia de *Digital Storytelling*.

**Resultados:** El curso fue planificado para ser ofrecido online, incluyendo conocimiento sobre la continencia infantil, la Práctica Avanzada de Enfermería, los síntomas urinarios e intestinales, y la actuación de los enfermeros en el contexto de la uropediatria.

**Consideraciones finales:** Se propuso un curso innovador basado en la experiencia de los autores, con el objetivo de promover la enseñanza del cuidado urológico infantil en la formación de enfermeros.

**Palabras clave:** Enfermería de práctica avanzada. Síntomas del sistema urinario inferior. Salud infantil. Educación en enfermería.

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## INTRODUCTION

Urinary symptoms in the context of pediatric care are usually associated with significant emotional embarrassment due to urinary incontinence and to the sadness of having to deal with the issue, in addition to the lack of knowledge and naturalization of this issue by many parents and children<sup>(1)</sup>. These symptoms take place due to an abnormal function of the inferior urinary tract, which is to be expected considering the age of the child. This leads to the inability of storing and eliminating urine in a coordinate way<sup>(1)</sup>.

In this situation, the nurse is clearly the best suited actor to demystify and promote health elimination habits, based on standard urotherapy, within a perspective of the Advanced Practice of Nursing (PAE), in order to generate positive outcomes of health for both the child and their family<sup>(2-3)</sup>. The PAE is the action of the nurse based on specialized knowledge, using complex abilities in the process of decision making and expanded clinical practice<sup>(4)</sup>.

In the context of pediatric urology care, the standard urotherapy is the first line of treatment for the management of children's urinary symptoms. This therapeutic approach can be understood as a PAE intervention due to the fact it is a conservative therapy based on information and demystification, instructions about how to resolve the symptoms, advice about lifestyle, record keeping of symptoms and urinary habits, in addition to support and encouragement<sup>(5)</sup>.

Literature has highlighted the unique role of the specialist nurse in outpatient urology services, since the leadership of these professionals and the broader scope of their practice in these services are presenting high rates of positive results and patient satisfaction, as well as showing potential in the reduction of waiting lines and providing high-quality services<sup>(6-7)</sup>.

For the nurse to work in the context of pediatric urology, the evidence-based expanded nursing practices are adequate, since, to be diagnosed with precision, these symptoms must be reported to the health professional by the child themselves or their guardian, making a broader understanding of the experience of symptoms necessary.

This clarifies the importance of providing learning experiences for students to develop or improve their ability to empathize and provide attentive listening, also increasing their knowledge and raising their awareness for pediatric urological care. The first contact with PAE, in graduation, can be a strategic ally to the movement of recognizing and incorporating advanced practice nursing in Brazil, due to its potential of action in the Unified Health System, specifically in Primary Health Care (PHC), a pertinent field to promote child urinary continence<sup>(2-4)</sup>.

In regard to education, on-line teaching has been officially regulated by the structuring of Distance Education (DE), employing information and communication techniques so educational activities can be developed in several places and at different times<sup>(8)</sup>. Among the possible resources, the pedagogical approach of Digital Storytelling stands out.

Digital storytelling is the use of short videos where a story is narrated. It can be seen as an innovative educational strategy to be employed with nursing students. This pedagogical approach can contribute to learning, being recognized as a tool that foments communication, interaction, and the sharing of emotions and values<sup>(9-10)</sup>. Furthermore, it can be used as a strategy to develop empathy through the presentation of the experience of having the symptoms for patients and their families. Also, the elaboration of these digital stories can be an exercise for health students<sup>(9-10)</sup>.

As a result, the creation of an on-line extension course is justified by the importance of the PAE in the promotion of child continence in the context of PHC; the need to form nurses who can provide urological care based on standard urotherapy techniques; and, especially, by the implementation of the role of PAE in the Brazilian setting, in order to increase access to health services.

In addition, the on-line nature of extension courses using digital storytelling as a pedagogical strategy also has benefits, such as the reduction of geographical and time limitations, in addition to the development of empathy and digital literacy among nursing students through creative and innovative teaching, based on the perspectives of PAE.

Therefore, the objective of this work is to report the experience of creating an on-line extension course based whose topic is PAE in the promotion of child continence.

## METHOD

This is an experience report about the creation of an on-line extension course to nursing students, carried out in the nursing department of a Brazilian federal university. The university can receive more than 8,400 students, in 150 different graduation courses. One of them is the nursing course, to which this research is related. It has an average of 400 regular students<sup>(11)</sup>.

The research was approved by the Research Ethics Committee, under opinion No. 4.369.666. The structure of the extension course was created in the second semester of 2021 and is associated with the PhD dissertation "Advancing the practice of nursing in child continence: developing and validating an on-line course for nursing students", which is ongoing in the postgraduation nursing program in the

institution. The work team (WT) for the creation, design, and development of the course was formed by one PhD nurse with post-doctoral studies, one MS in nursing, and one PhD in education.

The theoretical framework used in the creation of the course was David Ausubel's Theory of Significant Learning. Its methodological framework included the Instructional Design (ID) stages related to the ADDIE movement: Analysis, Design, Development, Implementation, Evaluation<sup>(12-13)</sup>. To produce the materials and offer the course, the pedagogical strategy of digital storytelling was used as the main structure, using resources from the Virtual Learning Environment (AVA)<sup>(9-10)</sup>.

Chart 1 shows in detail the use of ID stages in the creation of the course.

Thus, the course was developed by the WT, who produced the materials, linked AVA resources, and projected the on-line course to nursing students of the institution. Since this is a descriptive study, our results report the experience of creating the course, which was divided in two categories: Course Conception; Course Structure. The first discusses the context in which the idea for the course was conceived; the second addresses aspects related with the course structure, detailing its objective, its modules, its pedagogical proposal, and its type of evaluation.

ID stages	Development of the course
Analysis	Identification of learning needs: getting to know the PAE in the promotion of child continence <sup>(1-7)</sup> ;
	Target audience definition: nursing students;
	Determination of institution strengths: AVA, web design labs, and access to the target audience;
	Determination of institution limitations: lack of funding, need for approval from the institution to offer the course.
Design	Early design and course syllabus elaboration.
Development	Use of the Significant Learning Theory with the pedagogical strategy of digital storytelling, adapted to produce and adapt didactic resources and materials of the course <sup>(8-10)</sup> .
Implementation	The course was offered as an on-line extension course in nursing through the AVA.
Evaluation	Reflective evaluation process as guided by the researchers. During the whole process of development of the course, to identify where there could be improvements;
	Validation of the course by specialist judges.

**Chart 1** – Stages of ID to develop the course. Brasília, Federal District, 2022

Source: authors, 2022.

## ■ RESULTS

To better understand this experience, our results were structured in two topics: Course Conception, and Course Structure.

### Course conception

The first author of this work came close to the topic of child urological health care as she participated in the Continuous Action Extension Project (PEAC), known as PAE

in uropediatrics, a project associated with the nursing faculty of the Universidade de Brasília<sup>(2)</sup>. During her education in this project, she met the second author of this report, who is the founder of PEAC and has academic and clinical formation in pediatric urology in nursing, in addition to life experience in the subject. The third author is an MS and PhD in education, being a specialist in distance education (DE) who works directly in the creation of on-line courses and disciplines, being an expert in ID. The second and third authors are the advisor and co-advisor of the doctorate thesis of the author, which consists on the creation of the on-line extension course.

In the PEAC, the uropediatrics PAE, the first author grew very fond of the topic, as she provided care as a volunteer preceptor nurse while developing the MS dissertation "Knowledge About Bladder and Bowel Dysfunction in Children from the Perspective of Family", which was approved in 2019 and whose results have been published in the form of an article<sup>(3)</sup>. Therefore, during the development of an MS research and the reading of international studies, the main author noted that there is little knowledge on pediatric urology, showing how often urine elimination issues are neglected by health workers, particularly by nurses.

In this context, it became clear how necessary it is for nurses to be trained to work in the context of pediatric urology. As the main author entered the PhD program of the Post-Graduation Nursing Course, she began developing research aimed at that goal.

## Course structure

The course was planned to be developed in the on-line modality through the ID, using the ADDIE model<sup>(13)</sup>. Based on the Significant Learning Theory, we decided to use digital storytelling as a way to produce a potentially significant material, also associated with the need to develop critical thought and for nurses to expand their practice as PAE attributes<sup>(4,9-10,12)</sup>.

As a result, the structures of the course are the metaphorical and learning goals, the modules that form it, the pedagogical proposal, and the evaluation method. The metaphoric goal of the course is to provide the nursing student with an immersion in the world of PAE to promote child continence, through a virtual trip.

The learning goals, in turn, are three: 1) promoting an approximation between nursing students and the topic of PAE in the context of promoting child continence; 2) promoting

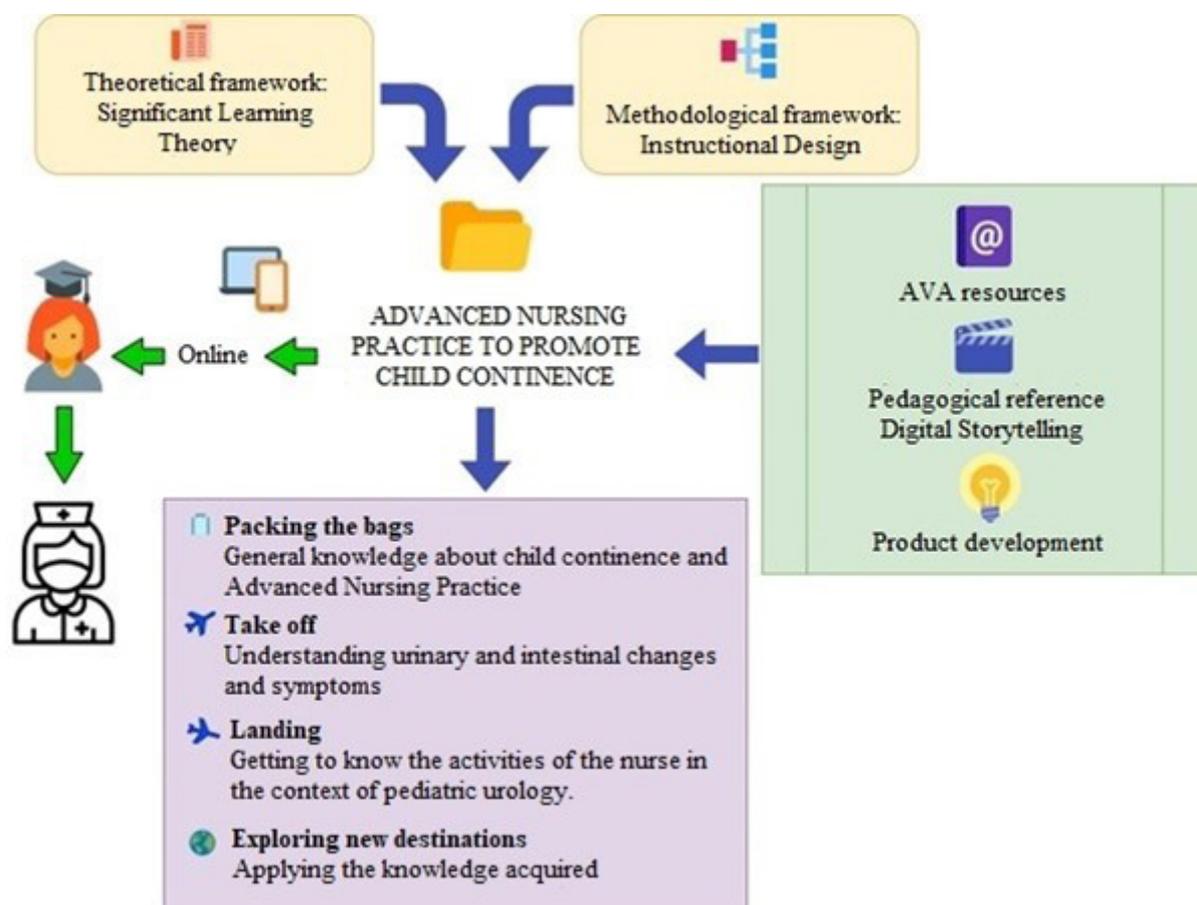
digital literacy for students who participate in the course; 3) promoting the development of empathy, active and attentive listening, and providing a deeper understanding of the experience of urinary and intestinal symptoms in childhood.

The total length of the course was 60 hours, divided in four modules. The first module, "Packing the bags", addressed general knowledge about continence in childhood and PAE, addressing the following central axes: anatomy and physiology of the urinary and intestinal system; the development of continence in childhood; and PAE. The second module, "Take Off", seeks to provide an understanding of the changes and urinary and intestinal symptoms related with the following axes: morphological changes in the urinary and intestinal systems; urinary and intestinal systems; bowel and bladder dysfunctions; and standard urotherapy principles.

The third module, "Landing", addresses in more detail the work of the nurse in the context of the PHC in uropediatrics, including the systematization of nursing care, the expanded practice based on the diagnoses proposed by the International Children's Continence Society (ICCS), and outpatient consultations by nurses with PAE abilities. Finally, in the last module, "Exploring new destinations", the students are encouraged to apply the knowledge they acquired in the production of their own digital story, reporting how they understood care to child urological care in the PHC and evaluating the structure and content of the course. Therefore, the structure of the pedagogical proposal of the course can be observed in Figure 1.

It stands out that the course is evaluated through the development, by the students, of a product – their own digital storytelling activities in the fourth module. This is carried out to encourage applicability and engagement, the mobilization knowledge, and the development of empathy, reflected on the learning experience.

The expected result of the course promotes, in addition to an approximation between the students and the topic of pediatric urology in PHC, the improvement and development of empathy and qualified listening abilities. It also contributes to develop competences in digital literacy. Therefore, after the conclusion of the course, the students will be able to identify and manage the main urological conditions and symptoms applying conservative techniques from standard urotherapy, using the essential attributes of PAE care anchored on the abilities of empathy, attentive listening, and an in-depth understanding of the experience of symptoms, in addition to improving their digital literacy.



**Figure 1** – Structure of the innovative pedagogical proposal. Brasília, Federal District, 2022

Source: The authors, 2022.

## DISCUSSION

Currently, due to the COVID-19 pandemic, there is a growing demand for synchronous and asynchronous distance activities. The successful experience of the PEAC and the PAE in urology pediatrics is an example, as it conducted virtual nursing consultations and the activities of our research group (urological health care in the life cycles), mostly developed in DE. Furthermore, developing and improving competences and abilities in digital literacy is an essential component of the work process of nurses in the 21st century, particularly as they have to access, interact with, and process information that comes from many different media.

We also note that the knowledge about urological care through the life cycles is scarce, including about issues and practices to promote child urological health that can be handled timely in the PHC. In this context, it is necessary to incorporate PAE principles, with the aid of in-depth clinical

abilities, in health care, education, research, and in leadership by trained nurses<sup>(4)</sup>.

Regarding the guidance about how to promote child urological health, the symptoms should be explained by addressing healthy elimination habits based on standard urotherapy practices, in addition to educational actions in the search for attention in case of abnormalities<sup>(3,5)</sup>.

Therefore, families, after receiving this type of guidance, would have more knowledge on the subject and, as a result, dysfunction in children and adolescent resulting from living with bladder and bowel symptoms could be prevented or minimized, as families would search for attention in a timely manner and would understand the nature of the emergence of the symptoms<sup>(3,5)</sup>.

Thus, the relevance of an on-line course about PAE in the promotion of child continence is even greater. In this case, it is also innovative, as it employs the pedagogical strategy of digital storytelling. Particularly, the theoretical framework

used considers that learning a significant material takes place through human movement towards the acquisition and retention of a large amount of ideas and information belonging to a field of knowledge in the cognitive structure, through the acquisition of abilities<sup>(12)</sup>.

Significant learning, therefore, can be verified in the relationship between a student's newly acquired knowledge and the knowledge they already possessed. As a result, this process gives meaning to the knowledge acquired by the students, as well as it changes the meaning of previous knowledge<sup>(12)</sup>. As a result, in the process of creation of the course, we used digital storytelling to produce potentially significant material, which could generate meaning for the students, collaborating with their learning.

Through the employment of essential PAE attributes in the course syllabus, students will be sensitized to the professional role of a nurse when it comes to a broad understanding of their practice, especially in PHC targeted at guiding children and family in order to promote their urological health<sup>(14)</sup>.

In addition, the evaluation based on producing digital stories for storytelling will have an important connection with the theoretical references adopted, in addition to fomenting the applicability and the engagement with the content of the course, allowing the students to mobilize their knowledge and improve and/or develop their empathy, as they reflect on their learning experience through experimentation (production of digital stories)<sup>(9)</sup>. The innovative nature of this course proposal is manifest in the articulation of its theoretical and methodological framework with the topic and the target audience of the discourse, in addition to the format being offered and the pedagogical strategy being used.

Therefore, in the future professional activity of the student, they will be better trained to interact with teaching-learning digital tools and to act in the urological pediatric care in PHC, as they will be able to apprehend the experience of children with urinary symptoms and their families. Furthermore, they will be apt to propose interventions sensible to the socioenvironmental context of the child and their family, according to the scientific knowledge assimilated.

## FINAL CONSIDERATIONS

This experience report describes in detail the creation of a proposal of an on-line extension course whose topic was the PAE in the promotion of child continence. Its main contribution is the innovative application of the Significant Learning Theory theoretical framework and the ID methodological framework. We used the pedagogical strategy of digital storytelling as a way for students to produce potentially significant content, encouraging the development

of abilities and competences connected to the role of the PAE in the PHC.

Limitations of this study include the scarcity of studies addressing the teaching of urological care in nursing graduation, as well as the lack of preliminary data associated with the validation of the course applied, which is still being developed and implemented. We would also like to highlight the challenge represented by the high cost of producing the materials for the course, coupled with the few sources of funding for research targeted at technological development in the context of DE.

Finally, this work is the proposal of an innovative on-line course that emerged from the experience of its authors, seeking to educate undergraduate nursing students in regard to child urological care. When nursing students acquire knowledge about PAE in the promotion of child continence, they become able to spread this knowledge, and better instructed to work in different contexts that involve pediatric urology and, especially, its use in PHC.

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