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CASE REPORT ARTICLE

NURSING AND ENVIRONMENTAL HEALTH: PORTFOLIO AS MEDIATOR FROM THE HISTORICAL-CULTURAL PERSPECTIVE

ENFERMAGEM E SAÚDE AMBIENTAL: O PORTFÓLIO COMO MEDIADOR NA PERSPECTIVA HISTÓRICO-CULTURAL

ENFERMERÍA Y SALUD AMBIENTAL: EL PORTAFOLIO COMO MEDIADOR BAJO LA PERSPECTIVA HISTÓRICO-CULTURAL

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ABSTRACT

Objective: to describe, by means of concepts of the historical-cultural theory, authors' experience on the use of a portfolio within the environmental health field. **Method:** this is a descriptive study, with an experience report design, conducted by means of concepts of the historical-cultural theory (zone of proximal development, mediation, and language), from authors' perspective, who are students and professors at the undergraduate Nursing course, within the environmental health field. **Results:** the portfolio enabled mediating knowledge and organizing content and information both on the part of professors and students at the undergraduate Nursing course. **Conclusion:** we found out that the portfolio, under the aegis of the historical-cultural approach, provided a creative and pleasurable mediation in environmental health, showing to be in line with the new proposals of Higher Education in Brazil. **Descriptors:** Nursing; Nursing Education; Environmental Health; Pedagogical Practice.

RESUMO

Objetivo: descrever, a partir de conceitos da teoria histórico-cultural, a experiência dos autores acerca da utilização de portfólio no âmbito da saúde ambiental. **Método:** trata-se de estudo descritivo, do tipo relato de experiência, realizado a partir de conceitos da teoria histórico-cultural (zona de desenvolvimento proximal, mediação e linguagem), sob a perspectiva dos autores, que são alunos e professores de graduação em Enfermagem, no âmbito da saúde ambiental. **Resultados:** o portfólio viabilizou a mediação de saberes e a organização dos conteúdos e das informações tanto por parte de professores como de alunos de graduação em Enfermagem. **Conclusão:** constatou-se que o portfólio, sob a égide da abordagem histórico-cultural, proporcionou uma mediação criativa e prazerosa em saúde ambiental, demonstrando estar em consonância com as novas propostas do Ensino Superior no Brasil. **Descritores:** Enfermagem; Educação em Enfermagem; Saúde Ambiental; Prática Pedagógica.

RESUMEN

Objetivo: describir, desde conceptos de la teoría histórico-cultural, la experiencia de los autores sobre el uso de portafolio en el ámbito de la salud ambiental. **Método:** esto es un estudio descriptivo, del tipo informe de experiencia, llevado a cabo desde conceptos de la teoría histórico-cultural (zona de desarrollo próximo, mediación y lenguaje), bajo la perspectiva de los autores, que son alumnos y profesores de grado en Enfermería, en el ámbito de la salud ambiental. **Resultados:** el portafolio hizo posible la mediación de conocimientos y la organización de los contenidos y de las informaciones tanto por los profesores como los alumnos de grado en Enfermería. **Conclusión:** se constató que el portafolio, bajo la égida del abordaje histórico-cultural, proporcionó una mediación creativa y placentera en salud ambiental, que demuestra estar en línea con las nuevas propuestas de la Educación Superior en Brasil. **Descriptores:** Enfermería; Educación en Enfermería; Salud Ambiental; Práctica Pedagógica.

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INTRODUCTION

Nursing, as a profession historically and ideologically rooted in clinical principles, regards teaching as a way to reframe the culture of caring. We believe that, through the opening to new pedagogical practices that facilitate the development of knowledge, skills, and attitudes, it is possible to change the graduated nurse's profile, impacting on clinical reality. However, we notice that the current teaching and learning paradigm – often expository and vertical – hinders an active action by the student as leading character of her/his learning.

Since the implementation of modern Nursing teaching in Brazil, in 1923, several changes took place in the curriculum, in order to adapt the graduated nurse's work to the production of health care, in line with the labor market.¹ However, more recently, due to the proposal of new teaching practices, the need for going beyond the interests of the labor market was identified, and the university must train critical reflective nurses, able to bring changes to the health care system.²

We must understand education, with its pedagogical practices, as a historical-cultural artifact that contributes to construct citizenship: inducer of new research themes and practices and conveyor of outcomes and applications of scientific studies.³ Through Resolution 03/2001, from the National Health Council, the National Curriculum Guidelines for the Undergraduate Nursing Course were approved. They highlight the need to organize the pedagogical project of courses on a collective basis, focused on the student as a social subject that constructs knowledge through the professor's mediating and facilitating action, having action-reflection-action as the guiding principle.⁴

In the light of the cultural-historical theory, teaching is not transferring knowledge, but an interactive and mediated process where development occurs by exchanges between social partners. In this approach, the higher mental functions (perception, memory, thought) are developed through the actual relationships between individuals, leading external processes (interpersonal) to be introjected by the mediation of signs, thus becoming internal processes (intrapersonal).⁵ From this perspective, seeking to overcome the traditional teaching approach, in which contents are fragmented and detached from a political, social, economic, and environmental

sense, the discipline Environmental Health, within the undergraduate Nursing course, adopted a feasible and transformative approach, based on principles of the historical-cultural theory⁵, by using the portfolio.

With an Italian origin, the term *portafoglio* (folder for wrapping paper) was initially used in the visual arts, where the professional, by selecting various contents neatly arranged, expressed her/his work.⁶ In line with the new proposals of Higher Education, the portfolio can be established as a guiding principle, going beyond the old exercise of conveying knowledge and the unilateral and exclusionary evaluative methods.⁷ Thus, it was shaped to fit education as a teaching-learning-evaluative instrument, enabling a reflective and problem-solving teaching practice. In Nursing, it emerges as a strong instrument for pedagogical action, able to mobilize and organize knowledge, as well as an indicator of developing skills.

It is important to move forward in discussions about new pedagogical practices. Thus, the experience report presented here can add knowledge to the field of Nursing education and contribute to pedagogical practice.

OBJECTIVE

- To describe, through concepts of the historical-cultural theory, authors' experience on the use of a portfolio within the environmental health field.

METHODOLOGICAL ROUTE

Through key concepts of the historical-cultural theory (zone of proximal development, mediation, and language)⁵, we conducted an experience report from the authors' perspective, who are students and professors involved with knowledge construction in the discipline Environmental Health. This discipline is offered at the fifth semester of the undergraduate Nursing course of a public university in the southeastern Minas Gerais, Brazil.

Initially, for applying the portfolio, it is of fundamental importance establishing a co-accountability – between student/professor and student/student – that enables supporting knowledge on a collective production basis.

In the first class, professors introduce the discipline's objectives and explain the portfolio methodology. In this sense, the discipline has some goals to achieve: relating the health-illness process to environmental

health; conceptualizing the key terms that delineate nursing actions in environmental health; describing nurse's work, preparing the diagnosis, and outlining proposals for environmental health actions; using educational process, health surveillance, and biosafety as an instrument for intervention in this work field.

The next step is introducing the portfolio structural shape, which follows a system consisting of instrumentation, apprehension, and evidence. In instrumentation, the professor starts from the student's previous knowledge, mediating the acquisition of key contents. Circles of debates or lectures are held in order to drive the student to the next step: apprehension. This – perhaps the most important part of knowledge construction – aims to stimulate the conceptual enrichment process, by means of the multiple possibilities that stimulate creativity, reflection, and autonomy as mainsprings of competence. At this time, it is up to students looking in scientific sources for the theme concerned and attaching to a binder the articles or texts regarded as pertinent, and they must always be accompanied by a critical review of the subject.

The last step consists in highlighting what has been constructed and learned, through discussions about what is attached to the portfolio for supporting knowledge, as well as through reviews that are read in class and handed in to the professor. In the end, students can report their strong and weak points, exposing what motivated or demotivated them the most. It is up to the professor, in this process, acting as a moderator of debates, as well as explaining and prompting proper questions, since only the professor who facilitates understanding and interpreting what is concealed will be able to drive the student from data to wisdom and, thus, change the quality of teaching.⁷

RESULTS

Innovative with regard to its methodology, the portfolio applied from the historical-cultural perspective enabled knowledge construction, by mediating kinds of knowledge that were constructed in professor/student and student/student interactions. Initially, this challenging perspective seemed to be uncertain, considering that driving the learning process did not depend only on the professor, but on a procedural, dialogical, bidirectional, and often dialectical way. This initial uncertainty is related to the usual forms of conveying knowledge expressed by

exposing contents where the student is a mere spectator.⁸ However, as the process unfolds, we notice to have on our hands a valuable problem-solving instrument that gave rise to the social and socializing nature of teaching, constructing meanings on concrete contents.

The portfolio allowed organizing contents and information, prompting the student and professor to knowledge production. In this sense, we notice that the student, gradually, becomes instrumented for developing competences, and that the professor mobilizes and renews her/his knowledge.

Grounded in the concepts zone of proximal development, mediation, and language of the sociocultural theory⁵, we obtained the following outcomes with the portfolio: the zone of proximal development (ZPD) is the distance between the actual developmental level, i.e. level determined by the capacity to solve problems in an independent way, and the potential development level, marked by the ability to solve problems with the aid of a more experienced partner.⁵

ZPD would be the way to go so that the potential functions become consolidated functions at the actual development level, separating the individual from a development that is close, but it has not been achieved, yet. Thus, it is related to a process being developed, which is about to be consolidated, involving the participation of another more experienced person. Actual development concerns what the individual, at her/his current level, can do without any help of others, while the potential development level refers to functions that have not matured and they are in a latent state, but they, with the interactive process, can be developed and turn into the actual and consolidated dimension.⁹

Nursing education, in view of the possibility to achieve the ZPDs, tends to stimulate numerous internal processes that have not been matured in the student, yet. These processes, when sensitized, allow internalizing knowledge that is effectively apprehended. In this sense, the portfolio was applied mediating an interactive and planned contact and appreciating the student's prior knowledge. This way, we envision the students' technical and scientific maturity, they have become more confident in the discussions, and this is evidenced by means of proposals for intervention in environmental health that were often presented by the group. This fact is due to the possibilities that conscious and directed interaction can provide, bringing out a flexible and

interdependent set of general concepts and strategies for intervention.¹⁰

In mediation, actual knowledge always comes true in a context of historical-cultural interaction.⁵ In the mediation process, determinant for the individual's contact with the physical, social, and cultural aspects, we use elements having different natures, named *instruments* and *signs*. The first are elements external to the individual, such as, for instance, the portfolio with its contents, which is interposed between the student and knowledge related to environmental health. Thus, in our experience, the portfolio as a working instrument became a social object for interaction, enabling the assimilation of scientific knowledge by the student. Subsequently, by means of an internalization process in which the subject is discussed, thought through, and settled, the student can rely on signs to interpret and intervene in a unique way in the environmental health processes. Such as, for instance, after the class on biological hazard in health care services, when several articles and papers were brought about for debate, emphasizing the use of personal protective equipment (PPE).

In the debate, students described the barriers used for infection control (glove, bonnet, apron, mask) that were not present as objects, but which were already assimilated as signs that mediated memory processes. As a consequence, by abstracting, they established an analogy to PPE as instruments for controlling infection. This way, signs are psychological instruments that help the individual remembering what has been learned through mnemonic representations instead of rote memorization. The student who needed, at first, mediation, taking advantage of professor's action and of the portfolio, started, in an independent way, developing her/his reasoning and discussion activities through signs, demonstrating to use resources organized internally by the very mental processes.

Language, in turn, is regarded as the most important mediator in the individual's education and development. It is a qualitative leap, since this represents a symbolic system observed in all human groups, which use it to interact.⁵ Its primary function is social contact and thought organization (generalizing thought). Both find unicity in word meaning, because meanings will determine a symbolic mediation between the individual and the world, allowing us to understand events. However, it is worth stressing that meaning is

not something static, it undergoes constant changes, either determined by cultural and historical aspects or individual experiences.

Meaning and its relation to thought and language have a special highlight in the historical-cultural approach, since it is in word meaning that thought and speech become verbal thought.¹¹ The latter, influenced by personal and social meanings, have speech as its major expression as a means of exposing what has been mentally designed and planned to, *a posteriori*, be executed in the real world.

Based on what was mentioned above about language, the application of portfolio, in our experience, showed to be an appropriate methodology for developing academic contents, considering the thought and language development processes. Students, through the initial reports brought out on their life experiences, during classes, by arranging the portfolio and the intense and heated discussion processes, could reflect on the meanings initially established on environmental health and expand their conceptions, often determining a redefinition for an effective health intervention.

The use of portfolio allowed us to find out that pedagogical nursing practices cannot be based on activities merely expository and verticalized, in view of the great importance of dialogue for constructing mental processes that enable the assimilation of contents through an active action of the student as leading character of her/his learning.

During the development of portfolio, we noticed the conceptual transformation of students who, by gradually exposing their reasoning, demonstrated to apprehend contents. These assimilated contents had meanings already defined socially and scientifically; however, we realize that, in the knowledge construction process, many other meanings were exposed and constructed. Thus, we witnessed what is called *nursing language in environmental health*, having particular characteristics, but always open to the construction of new health-based knowledge.

FINAL REMARKS

Portfolio, in our experience as students and professors, by being applied from the historical-cultural perspective, showed to overcome the traditional teaching approach, something which resulted in the development of a dialogical and problem-solving reasoning, with, on the one hand, the student who investigates, organizes pertinent content,

thinks, and shares her/his findings and opinions with the group, and, on the other hand, the professor who mobilizes, proposes, and increases her/his knowledge. However, despite the professor and students seek, in a singular way, contents to provide debates with grounding, it was at the interactive group time that knowledge production took place more clearly, full of meanings.

We believe that the portfolio, under the aegis of the historical-cultural approach, provided a creative and pleasurable mediation to the acquisition of knowledge in environmental health, in line with the new proposals of Higher Education in Brazil.

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