

New times, new practices: challenges in the training of occupational therapy

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ABSTRACT

Problem-based Learning PBL is a method of teaching and learning that is based on real or simulated problems focusing on knowledge, skills, actions, and values. Although several universities around the world have experimented with this methodology only a few studies present results on its use. **Objective:** This research seeks to describe the experience of PBL in the course of Occupational Therapy of the School of Medicine and Public Health of Bahia (EBMSP) in Salvador, state of Bahia. **Method:** This is a qualitative approach, involving seventeen students from the sixth semester of Occupational Therapy. A standard instrument was developed prior to the survey with seven questions. **Results:** Indicated the use of the Methodology was helpful in the training of occupational therapists, as well as challenging for the beginning student, but revealed the need for improved training of the teachers involved in this methodology. **Conclusion:** The uncertainty of the participants in managing their own knowledge, that is, the quality and need for what was learned - the "learning to learn, the learning to be, and the learning to do" - was also demonstrated.

Keywords: education, higher, occupational therapy, problem-based learning

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INTRODUCTION

The use of the Problem Based Learning method - PBL is nothing new. The precepts that guide this practice have been applied since the 1950s.^{1,2} Universities in various parts of the world have tried this philosophical and methodological concept of teaching and learning, which is based on real or simulated cases. The first PBL experience took place around 1970 at the McMaster University in Canada and was strongly influenced by theoretical case studies from Harvard University in the 19th century, followed by the Masstricht University in the Netherlands.² In Brazil, the Medical School of Marilia (FAMEMA) and the Londrina State University (UEL) were the pioneers in the use of PBL.

Health courses, specifically those in medicine, were the first to try PBL in Brazil. However, it is already possible to find different college institutions applying this method in their curricula. Many of them use it partially, applying it only for isolated subjects; others adjust it to their realities.²

In Salvador, in the state of Bahia, the School of Medicine and Public Health of Bahia (EBMSP) was one of the first schools that decided to face the challenge of implementing the PBL methodology. The implementation process of this new methodology was initiated in 2005, first in the medicine course, and later in the remaining courses of the institution, including Occupational Therapy. The PBL experience in Occupational Therapy courses has been disseminated in many countries, such as Canada, USA, England, Australia, and Chile.³

Problem Based Learning is a philosophical and methodological concept based on learning through problems, centered on the student, on learning to learn, on the integration of scientific contents, and on interdisciplinary knowledge.

This is a method whose main objective is to challenge the student to seek his own learning through the proposed problem-situations (cases).⁴ Skills such as reasoning, attention, and capacity to correlate ideas are very important in the development of studies in the PBL system.⁵

In its organization, PBL has a process systematized into steps and it is supported by a tutoring system. In this organization, the teacher becomes a facilitator/tutor, and is responsible for tutoring groups that may contain from 8 to 12 students. Along the process, students alternate different roles, such as coordinator and secretary.^{2,6}

Walsh⁷ describes the seven steps during the work with the tutoring group: identification of the problem; exploration of pre-existing knowledge; creation of hypotheses and possible mechanisms; identification of learning questions; individual study; re-evaluation and application of the new knowledge to the problem; and evaluation and reflection on learning.

There is still very little concrete data and few advanced studies that bring answers on the possible gains of this new approach-there are only isolated studies. It is noteworthy, however, that the implementation of this methodology in health curricula is an attempt to change the concept of teaching.^{2,8} PBL raises the possibility of breaking the hegemonic, discipline-based Cartesian paradigm, which fragments knowledge and tries to understand the whole by its parts.

PBL seeks to overcome this model, providing the interlocution between specialties and assuring the student with a vision of not only the dysfunctions, disorders, and diseases of man, but especially of man as a social being. Besides, with this methodology a pedagogical practice is favored, which deals with perception, cognition, and real-world practices, favoring the intellectual and professional autonomy of the student.⁹

Today a case study allows the understanding of situations that involve an individual, for example, who is a worker living in a community, and who seeks health assistance in the public health system. In this way, the student in health courses such as occupational therapy, medicine, or physiotherapy is motivated to understand health questions not only through the disease, but also through the living, economic, cultural, and environmental conditions of the patient from the beginning of his studies, already in the so called basic "disciplines". In this methodology, the student is motivated to experience the reality of his profession and to be able to relate theory and practice in a contextualized manner.⁹

OBJECTIVE

The main objective of this study was to describe the experience of students in the 6th semester of the Occupational Therapy course at EBMSP with their learning methodology based on problems. The specific objectives included: characterization of the PBL methodology from conceptual and procedural viewpoints; identification of positive and critical aspects

related to the use of the method by the Occupational Therapy students; and contribution to the discussion on the use of PBL in the education process of occupational therapists.

In this study, the decision to focus only on the concept of the students is due to the fact that this is the first group of Occupational Therapy students to go through the PBL method.

METHOD

This study is a qualitative approach that occurred between March and November of 2011. The subjects involved in the study were 17 of the 21 students who initially composed the Occupational Therapy class at EBMSP in 2009, the year the new curricula went into effect and in which this new method started being applied. The students considered illegible were those enrolled in and attending the course, who had experienced the PBL method, who also signed the free and informed consent form, and who accepted to participate in the study.

Characterization of the Research Scenario

The Occupational Therapy course at EBMSP has existed since 1972. In general terms, for the implementation of a curriculum that uses PBL, the following must be taken into consideration: modular composition, practical integration activities, specialized laboratories, and student socialization activities.⁹ Not all teaching institutions follow these criteria or fully apply this methodology in their courses. Some of them adapt their curricula and only use PBL in some curricular components.

The Occupational Therapy course at EBMSP is an example of this logic. The curricular design concept expressed in the new course matrix was organized along guideline axes that unfold into modules, which, in their turn, constitute thematic contents called "bundles" or "nets" of interdisciplinary contents that can be integrated. The Axes and Modules guide the selection of curriculum components, in conformity with the course's premise, which seeks to promote a continuous and growing deepening of knowledge to be reached for a coherent and consistent professional development.¹⁰ Therefore, a curriculum matrix composed of four axes was defined: Axis I - Human Being, Cycle of Life, and Context; Axis II - Human Being, Culture, Society and Health; Axis III - Occupational Therapy, Bases and Practices; Axis IV - Scientific Instruments.

Transversal contents such as ethics, bioethics, scientific instruments, and human occupation were integrated into the set of curriculum components, articulating them with the guideline axes.

The PBL methodology was adopted only in five curriculum components, whose choice was determined by the need to integrate various basic/biological disciplines with specified/applied disciplines. Thus, the following studies were integrated: the Body and Functionality module from Axis I, composed of biological disciplines, and the Occupational Therapy Module providing Integrated Health Care for Children, Adults, and the Elderly from Axis III, composed of specific disciplines such as mental health and worker's health, among others.¹⁰

As for tutoring and the formation of groups of students, various changes were observed along the process. Initially there were three groups, with seven students and a tutor for each group. The case studies were opened on Mondays and closed on Fridays. During the other days there were conferences and seminars. The evaluations were made as much in group as individually: for the first, instruments such as reports, conceptual maps and/or portfolios were used; for the second, a written activity was used. The reduction in the number of students, however, led to the reformulation of the process to adapt it to the new reality, with a consequent reduction in the number of groups and a longer case study opening and closing process.

Data collection

For the collection of data, an interview script was used, made prior to the study, and composed of seven open questions. The interviews were made by the researcher himself during the academic activities routine.

Data analysis

Data analysis was made through analysis of content with emphasis on the qualitative approach. From the questions in the instrument, the verbal responses of the people interviewed were grouped into three intertwined categories: understanding of the learning methodology based on problems; positive and negative aspects of the method; and contribution to the professional development of occupational therapy. The verbalizations were used to illustrate the discussion.

Ethical aspects

The study was appreciated and approved by the Ethics Committee of the School of Medicine

and Public Health of Bahia. All the participants signed the Free and Informed Consent form and their personal data confidentiality was assured, including their identities.

RESULTS

The results of this study indicated that the Occupational Therapy students understood the PBL as a methodology that promotes the search for knowledge on the part of the student, through an investigative process that is mainly motivated by solving case studies. The students also pointed out the importance of correlating theory and practice for professional development, since there is an experiential process of the teaching and learning situations. More than half of those interviewed described PBL as *"[...] an innovative methodology that unifies curriculum components and that stimulates the search for knowledge, bringing theory and practice together through the cases worked"*; and, also, *"When we learn from a case study, we can understand how the patient really is [...]"*. Nevertheless, they point out critical aspects such as difficulties to research bibliography, to select contents, and to understand the teacher's role, aside from the need to improve, on the part of the teachers, in order to apply the method appropriately; the time factor was also considered an impediment to fulfilling the activities.

The reading, research, and textual interpretation activities required by the method were referred to by the students as important experiences, and the ones that most contributed to their academic performance. In that respect they said: *"[...] through PBL I improved my reasoning, reading, and text interpretation [...]"*; *"with PBL I learn to search and deepen the contents studied, analyzing them critically to apply them with more confidence [...]"*; *"[...] PBL makes it possible to achieve autonomy, and creativity, as well as to develop critical and analytical thinking [...]"*.

Similar results were also found in a study made with occupational therapy students at the Federal University of Minas Gerais. Among them, the acquisition of autonomy and independence in the search for their own knowledge deserved emphasis, as did the development of reflective capacity and clinical reasoning. Aspects such as the capacity to synthesize and clarify ideas were also indicated by the students.³ According to Moraes & Manzi, the use of the PBL methodology is justified by the construction of knowledge, skills, attitudes, and values by the student, as well

as by its own dynamics, in which learning is centered on the student, on learning to learn, on integrating basic scientific and clinical contents, and on interdisciplinary knowledge.⁴

The tutoring system linked to group work and self-evaluation, which is fundamental for success in PBL,¹⁰ was mentioned by the students interviewed as a relevant aspect to their learning and professional development. According to one of the students, this methodology *"[...] favors the self-evaluation of the student, at the moment in which I commit to my learning, and the teacher becomes an orientator and facilitator of knowledge"*. And also: *"[...] with the PBL method, I improved my capacity to work in a group and my interpersonal relationships [...]"*.

The use of PBL was evaluated positively by the students regarding the development of an occupational therapist. They pointed out that aspects relative to understanding a person as a biopsychosocial being, to recognizing work in a group, and to offering full and humanized attention to the population, were competences and skills developed and learned during the practice of PBL. They added that, through the case studies, they could see beyond the clinical situation and consider the context in which people live, their occupations, the resources available to them, and the most efficient measures to be taken. In their reports, it was common to find data that justified these affirmations: *"[...] PBL allows the recognition of the person, of the patient as a whole, not only in his pathology, but this person in his various occupational roles [...]"*.

DISCUSSION

Although most of the interviewed students considered PBL as a methodology that allows a better relationship between theory and practice, and places the student at the center of the learning process, few of them defended expository classes and content-oriented practices as a more consistent model of learning. For them, even with the PBL gains, the method was considered a challenging process. They also considered that some aspects inherent to PBL demand maturity for more effective learning, though recognizing that the teacher has a direct participation in those situations. They mentioned the bibliographic research process and the selection of contents as points of major impasse among the students beginning their development process. They argued, finally, that this practice demands a more refined knowledge of the aspect in

question and frequent intervention of the teacher. One of the students reported: “[...] *many times we sought information, but we don’t know if we achieved what was expected, [...]*”. And also: “[...] *there is uncertainty whether the path taken by the student to solve the case is correct [...]*”. Similar results were also found in a study on the use of PBL by medical students. Indeed, the students expressed negative emotions for considering themselves self-taught. According to them, this practice generated a sense of loneliness,⁴ which may be related to the lack of definition of the role of the teacher and his ability to apply the method.^{2,4,11}

The time factor was the most critical aspect mentioned by the occupational therapy students. The excess of activities made the process tiresome and stressful, as justified by one of the students: “[...] *time was short, I couldn’t concentrate well [...]*”. For the students, there was not enough time to get questions answered, which, most of the time, led them to perceive the contents as having been done superficially. These results were also found in a study made with accounting students using the PBL method. For this public, PBL did not allow them to cover the contents totally, nor was its application compatible with all the subjects. These same students also indicated that learning with PBL takes longer, demanding more involvement of the group, which in fact seems like a problem, for it creates conflicting situations among the students.¹²

CONCLUSION

The results from the present study show that the PBL experience by the Occupational Therapy students is permeated by two aspects. On the one hand, the use of this methodology is seen as positive in the “learning to learn” process. On the other hand, it is

considered that the method brings insecurity and conflict, for the student must manage his own knowledge, and question the “quality” and “need” of what was learned, that is, “learn to do” and “learn to be”. These situations seem to be a reflection of the transition happening with the teaching-learning methodologies, in that there is an attempt to leave the fragmented, content-oriented model for a more integrating and inclusive version. However, as it is still a transitory model, it is possible to have both in some situations that, despite indications of advancement, many times seem contradictory.

It was observed that the teaching-learning process with PBL depends not only on understanding the method, but also on the improvement of the professionals involved, especially teachers. Various studies indicate PBL as a valuable method in the development of the health professional, with advantages regarding the traditional teaching method. Its implementation, however, requires a considerable institutional effort. Adaptations are needed such as changes in the form of evaluation and in how the role of the teacher in the teaching-learning process is viewed, investments in infrastructure, environmental adaptations, and improvement of libraries.⁴

The data in this study may be useful for a survey of future hypotheses, although it presented limitations, considering that the investigation took the perception of the students into account, making comparisons and inferences impossible.

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