

## Learning needs of Nursing students in technical vocational education

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### ABSTRACT

**Objective:** identify learning needs of students of Technical Vocational Education (TVE) in Nursing. Qualitative study conducted in a city of São Paulo state. **Method:** the subjects were students, teachers and coordinators of TVE and students of the bachelor degree who have had contact with TVE. Data collection was performed by questionnaire socioeconomic and cultural circles about the learning needs. For data analysis we used the content analysis. **Results:** it was found that students have difficulties contents not related to nursing as portuguese and mathematics, as well as introductory courses in the course of TVE which possibly may interfere negatively in learning specific content of nursing and the quality of health care. **Conclusion:** it is necessary to rethink the content taught and ways to teach from basic education, as well as the training of teachers who now works in the TVE.

**Key words:** Nursing; Vocational Education; Learning.

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## INTRODUCTION

In a research conducted by the Federal Nursing Council, in 2010, 1,449,583 nurse professionals were identified in Brazil. The nurse category represented 19.81% of the total, that is, 287,119 professionals; nursing technicians 625,862 (43.18%), nursing assistants 533,422 (36.80%), midwives 106 (0.01%) and 3,074 (0.21%) professionals who did not inform their professional category. That is, from the total, 1,159,284 (79.98%) professionals are trained by assistants and technicians, showing the representation of this workforce in health<sup>(1)</sup>.

Considering that the technical level of nursing workers make up the largest workforce and work in the Brazilian Unified Health System (SUS) it is necessary that training is permeated by the guiding principles of SUS, by the Law of Directives and Bases (LDB) and the National Curriculum Guidelines (NCG) for the Technical Vocational Education in the search for training ethical, critical, reflective professionals who are committed to the health system and its users.

However, the current situation shows that despite government and society initiatives, in seeking changes to meet these assumptions, many training courses still use closed curricular structures, unprepared teachers, teaching methods and teaching materials that do not stimulate thinking and reflecting, in order to create and propose changes.

The process of education of health workers is closely related to the quality of care provided, in other words, the professional training in a pedagogical proposal that favors teaching in a participatory and reflective learning process that can be a determining factor in improving health care, especially in the SUS network.

The World Health Report 2006 - Working together for health<sup>(2)</sup> pointed out some aspects of the crisis in the global health workforce, among which there is improper or inadequate training of nurses, poor access to information and knowledge resources and insufficient policies and practices for the development of workers.

Thus, the State has recommended that the formation and training of human resources in Nursing, especially at the technical vocational level, should receive the attention of the authorities with a view to the quality of services to SUS consolidation.

Then learning, in a reflective critical perspective, must necessarily be appropriate to the interests of the large contingent of Brazilian society in the pursuit of social transformation. The contents need to be inserted into the socio-political reality and the methods to encourage consistency between theory and practice, so that the student may have significant learning<sup>(3)</sup>.

Thus, the training focused here involves the need for the development of critical views of the reality, with understanding of the contradictions that move towards building a socially engaged professional practice, ethical and technically competent.

We still have to consider that, given today's technological progresses, knowledge advances in large steps, and must combine updated information with developing reflective critical consciousness, which is related to the review of pedagogical and methodological approaches and teaching resources.

In the information society, the educational model should advocate an education that considers the student as an active subject who is able to determine his/her learning processes and promoting experimentation, critical thinking, eliciting solutions for hypothesis with interactive and participative strategies. There is need for the teacher to break the information transmission approach, in which students take a passive role, concerned only in retrieving information when requested, and bridging the gap between theory and practice<sup>(4)</sup>.

Thus, it is believed that the Technical Vocational Education (TVE) should be built through the rupture of traditional pedagogical concepts. This refers to the forms of action/intervention in the classroom and provide the means to facilitate the construction of knowledge, with a strong component for favoring student motivation<sup>(4)</sup>.

In this direction, we were motivated to produce knowledge about the TVE students learning needs as a way to, in the future, support the teaching action with respect to the choice of methods, strategies and resources, including, the teaching materials for the TVE in Nursing.

This study is relevant as it identifies school as communities (students, professors and management) perceiving difficulties of student learning and contributing to the review of standard practices to allow teaching in order to promote autonomy for life and work in nursing.

We also add that through the understanding of the main difficulties of TVE students learning process, we can support the action of the scientific and academic community regarding the establishment of guidelines for teaching TVE and help the teacher in the planning process of Nursing education in the search for critical and reflective citizens.

It should be noted that this study is part of the research entitled "Development and validation of a digital learning object in technical vocational education in nursing" that aimed to develop and validate a digital object as an additional resource to the training of TVE students, from their educational needs.

## METHODS

Qualitative, exploratory descriptive study conducted in a city in the state of Sao Paulo. The subjects were students, teachers, coordinators of TVE and students from the eighth and tenth semester of the Bachelor's degree and teaching license of a public higher education institution where learners and professors have had contact with TVE in nursing, and who agreed to participate after signing the Consent Form. The study met the national and interactional ethical recommendations under protocol CAAE (0177.0.153.000-11).

We opted for including subjects that play different roles in the institution, in addition to the students of the course, because we believe that the identification of students learning needs come from multiple perspectives and will allow the recognition and construction of knowledge on social, economic, political, legal, management and educational issues involved in technical vocational education in nursing.

For data collection, we considered that the collective participation of students, coordinators and technical vocational

teachers could inhibit or suppress the free expression of the learners. Thus, culture circles were held in separate groups, that is, one with the students from the technical vocational course, another with the coordinators and teachers, and a third with undergraduate students. Prior to the participants circles a demographic questionnaire, with questions about how the use of teaching resources was done. The statements during the groups were recorded.

The activities were organized focusing on the definition of a priority for education, collectively and systematic organized, mediated by the researcher. Thus, participants indicated their subjects of interest, called thematic generators, which were grouped by thematic. The generator topic is the starting point for the construction of the discovery process. Since it emerge from the group, the main thematic were extracted from the work or life routine of the participants making them rethink their practice.

The recordings and notes from the cultural circles mediated group, as well as the instruments answered by the participants, were analysed in search for a core meaning, through content analysis<sup>(5)</sup>.

## RESULTS

The study included 103 students of TVE in nursing, three teachers and a coordinator of the technical vocational course, in addition 16 students from the higher education from the same institution. Among the students who participated in TVE, 87 (84.4%) were women and 16 (15.5%) men, with mean age of 24 years (range 17-50 years); 38.8% of students were over 30 years old; 65.6% studied in the evening. Regarding teachers and coordinators, two men and two women with nursing degree who had finished their bachelor's degree more than five years ago. All teacher participants underwent a pedagogical training to work as a teacher at the technical vocational school. Among undergraduate students, 11 (68.7%) were women and five (31.3%) men, with a mean age of 24 years (range 22-28 years).

From the data analysis, it can be seen that the greatest need of TVE students relates to the learning of initial training content, which are articulated to the other subjects of the curriculum and not directly related to nursing actions and contents. The majority (59%) of the subjects expressed that learning difficulties were related to anatomy and pharmacology.

*I was talking about this with them, because in fact, you want to teach all of them in the same way, but then over the course of months, you begin to realize this disparity ... that remains just like when he/she came from high school, right? only after that you realize how difficult it is form them are in terms of understanding... he/she cannot even understand the question (students), so how to answer a question you don't understand? Others students are able to do that [...]. (Teacher 1)*

It is also noted that teachers and course coordinator, as well as undergraduate nursing students expressed basic educational problems such as calculation, grammar, spelling and

interpretation of texts. This perception was observed by TVE students:

*Spelling errors, communication, not knowing how to behave, speak properly ... I realize that the methodology that the teacher is using does not contribute to student learning, because they did not have the basic [...]. (Undergraduate Student 2)*

Regarding how they would like to learn, through the use of technological resources, the subjects expressed video lessons, games and e-books as attractive teaching tools:

*I think the internet is extremely advantageous, you know, but then there's also another side for this story, encouraging students to attend classes... really using a website on the subject of women's health, which is a really exciting webpage... you realize that they understand a lot because that was attractive to him/her ... there's something they like, instructional video [...]. (Coordinator)*

*Simulation, preparatory stage for articulating everything they have ever seen. (Nursing technical vocational education student 43)*

*It would be nice to have games with the parts of the human body. (Nursing technical vocational education student 25)*

Regarding the use of the internet, 100% of subjects expressed using it at least three times a week, especially to access social networks (90.3%). No TVE student was among those who reported using the Internet for studies.

No participant reported a desire to learn from instruments that encourage interdisciplinarity and clinical reasoning from situations that simulate those that will be experienced during the professional performance.

## DISCUSSION

The quality of education in nursing can directly impact health actions, which depend mainly on nursing technicians. Data obtained by the Brazilian Federal Nursing Council (COFEN) in 2010 denote that almost 80% of nursing professionals are technicians.

With regard to training, the study data showed that the vast majority of TVE students work during the day and study in the evening. This may contribute to the dispersion during class due to fatigue and low student achievement, which cannot, however, be generalized.

The constant changes that reinforce the world demand for answers in the field of work and training for work, which in Nursing, go beyond technical-specialized skills. Thus, the production model requires flexible organizational patterns, improvement of technical and technological base and improvement of objects and tools<sup>(6)</sup>.

However, training Nurses when many of them have basic educational and learning needs is quite complex, which may interfere with training and consequently the quality of care.

It is common in TVE that the teacher receives students with fragmented and disconnected training from reality, which complicates the process of teaching<sup>(7)</sup>, even though the quality of basic education is provided for free and by law for the Brazilian Constitution, which is also extended to vocational education.

Study reported that many students had learning difficulties, especially in disciplines that depended on basic concepts of mathematics, logical and concrete reasoning, Portuguese language and grammar<sup>(8)</sup>.

In the learning process of anatomy, it is known that contents are fundamental to enable the nurse professional to recognize the signs and symptoms associated with individual human systems<sup>(9)</sup>, such as other Introductory disciplines. From the perspective of attention to basic human needs, interdisciplinarity allows the professional development of their activities in a competent, ethical and socially responsible way.

Regarding teaching of anatomy, from 29 nursing students, only five of them were able to check their heart rate correctly, although anatomy and other integrated initial disciplines are critical to the teaching of physical examination and techniques and procedures in Nursing. However it is observed that many students find it difficult to make nursing examination<sup>(10)</sup>.

Data presented allow us to think about difficulties arising from basic education interference with the learning of introductory nursing content which, in turn, influence the development of specific knowledge, that is, what happens is actually a chain of deficits.

Another finding observed is that no study participant spoke about learning content related to prevention, promotion and health education. From the reading of the Educational Programme of the Institution, which concentrates much of the curriculum in classes related to hospital area, one realizes punctual and fragmented hours. There is only one discipline related to public health and, depending on the professor, there is content approach related to specific public policies on women, children, elderly, among others, but with hospital-centered focus.

This may be related to the historical process of nursing education. It is known that over the years, the graduate profile is transformed, depending on the current political-educational model in the country<sup>(11)</sup>. Despite several transformative educational proposals, considering the strengthening of SUS and Primary Care, the focus of the teaching-learning process in the curative dimension persists today.

Anyhow, the NCDs for the Technical Vocational Education present a perspective of training beyond the technical dimension of care, involving actions for the biopsychosocial aspects of interdisciplinary and multidisciplinary teams<sup>(12)</sup>.

With regard to the teacher, despite noticing some changes in the way of teaching, that is, the student-centered learning, it is still possible to see that many teachers may be reproducing the practices of those who taught them, historically developed and guided in the hospital model.

It is known that the training of teachers for TVE is one of the barriers for improving the quality of education in Brazil. The profession is not socially recognized and few courses have

trained nurses to work as teachers in technical school.

There is difficulty in developing innovative learning models for training and qualification of health professionals, because teaching still suffer great influence of traditional teaching models where the teacher is the center and holder of knowledge, not taking into account the social reality and critical thinking of the students<sup>(13)</sup>.

The changes in care practices aimed at the construction of health promotion is still poor and have little visibility in the scenario of health practices, thus justifying the non-perception of this practice as a strategy for the transformation of both the teaching, management and social control<sup>(14)</sup>.

However, there is resistance in the education sector, the current public health policy in Brazil emphasizes health promotion as a change of strategy in technical care models, signalling the construction of other possibilities and the establishment of new knowledge and practices that expand alternatives for quality health and people's livelihood, understanding the health-disease as a social production. Teaching and learning concepts of health promotion, prevention and education may represent a strategy that will contribute to the transformation of the logic of health actions. A dynamic movement and permanent redefinition of knowledge is needed for the acquisition of skills and attitudes that make the most of students for life and work, assuming thus the critical-reflexive education<sup>(13)</sup>.

It is necessary to rethink a training in which the Education Programme may include more than biological and technical contents, focusing in the theory and practice articulation, understanding the health-disease process, and including spaces for the practice beyond the hospital setting. This way, the training will also focus on relational and political aspects, also the exercise of interdisciplinary practice<sup>(12)</sup>.

Thus, it is urgent to search for teaching tools that provide an interdisciplinary approach that may be nearer to our reality and meet the four fundamental pillars of education: learning to learn (acquiring broad general culture, highlighting the need of continuing education), learning to do (developing broad competences for the working world), learning to live together (cooperate with others in all human activities), and learning to be, which integrates all kinds of learning, favoring the individual to acquire autonomy and discernment<sup>(15)</sup>.

In the era of globalization, so that practical transformations of teachers may occur, it is necessary to establish a reflective process, problem-solving, mediated by dialogue, based on the preparation of scientific and technical knowledge. Such an attitude can lead to awareness and can change these practices, that is, the implementation of a proposal for a permanent education that permeates the whole educational process<sup>(16)</sup>.

NCD for Nursing undergraduate explain the need for the adoption of active teaching and learning technologies, the establishment of democratic horizontal and plural relationships among the actors of the educational process, etc<sup>(6)</sup>.

Nevertheless, NCDs for the Technical Vocational Education does not make reference to questions related to the learning process and give autonomy to educational institutions for the construction of its Political Pedagogical Project, which in



turn can lead to pedagogical choices that do not guarantee participation as an active student in the knowledge construction process. Note that technical vocational training in Brazil is guided by the principle of professional competence for the efficient and effective performance of activities required mainly for work.

The development of different skills for teaching and learning converge to critical and transformative teaching actions and to the use of tools and resources of educational technologies, modifying the existing educational paradigms<sup>(17)</sup>.

Another aspect observed in the study was the value of social networks, especially for leisure, which denotes the low interest in using technology for learning. The suggestions made by the participants of the study can help the learning process so that the development over technical course improve the training of critical and reflective professionals who are able to provide comprehensive health care.

It is necessary to select messages that motivate and have meaning for youth and adults. Messages can be given by speech (written, visual, ludic, expressive), by the attitudes and postures or other forms of contacts and exchanges, whether in real time or not, given the current student profile and the technical-technological developments in effect today<sup>(6)</sup>.

The researches demonstrate the importance of developing teaching strategies that use computer technology in vocational training and continuing education in nursing, because they may encourage collaborative work, facilitating the relationship between teacher and student, allowing access to information beyond time and flexibility for studying<sup>(16)</sup>.

The technology can be incorporated into the teaching-learning process in order to ensure the inclusion and motivation of students that has followed the technological evolution. Inclusion of classes mediated by technology can help the student build their own knowledge mediated by the teacher, making learning meaningful and enjoyable<sup>(16)</sup>.

According to LDB, the use of technology in the learning process can promote the achievement of other purposes described in Study #35, item IV: "Understanding the scientific

and technological foundations of production processes, linking theory with practice, when teaching every subject".

The use of technology in teaching does not replace the role of the teacher, however, can help them. Depending on how it is used, it can be considered a teaching strategy based in the active methodology, although it is still not widely used in the TVE in nursing.

It should be noted that this study has limitations related to the inability to generalize the results, since they express the reality of a private school in a city in the state of São Paulo. Despite that, from the discussion of the data we invite researches and health professionals to reflect in case of similar situations to those found in this study.

Thus, it is important to conduct further research to expand the findings of this study and investigate the relationship between basic education and TVE, considering the premises of LDB. Another relevant aspect, deals with the investigation of the impact of the difficulty or not in learning introductory subjects of the nursing course in initial training and the work of professional health institutions.

## FINAL CONSIDERATIONS

It is concluded that students have difficulties not related to Nursing content, but Portuguese and Mathematics, and also in other introductory course subjects, which may interfere with the learning of specific contents of nursing and quality of health care.

Thus, searching teaching tools that may provide an interdisciplinary approach is urgent, according to each reality and providing subsidies for teacher training to work in teaching TVE in nursing.

In the perspective of the training of technical vocational education in nursing who are committed to social, ethical, critical, reflective transformation and focused not only for curing diseases but also for prevention and health promotion, it is necessary to rethink the content taught and ways of teaching since basic education, as well as training for today teachers of TVE.

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