



Technical schools of the Unified Health System: an analysis of nursing education*

Escolas técnicas do Sistema Único de Saúde: uma análise da formação em enfermagem
Escuelas técnicas del Sistema Único de Salud: un análisis de la formación en enfermería

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ABSTRACT

Objective: To analyze nursing education in the Technical Schools of the Unified Health System in the Northeastern region of Brazil. **Method:** A documentary study with a qualitative approach, having its locus as Technical Schools of the Unified Health System in the Northeast Region which offer the technical course in nursing. Data sources were the Pedagogical Political Projects of the school and the Teaching Plans of the referred courses, and three structured scripts on the pedagogical aspects of training were used as instruments. The systematization/data analysis was based on thematic content analysis. **Results:** Technical training in nursing occurs through: an integrative approach, being considered a pedagogical trend; problematizing approach, used as a methodological way for teaching-learning; and qualitative assessment, enhancing the scope of professional skills. **Conclusion:** The training in focus points to the commitment to the Unified Health System and professional excellence, as it strengthens the integration between teaching-service-community, encourages student proactivity and indicates teaching-learning in the demands of the population and the public health system, and enhances the acquiring and improving professional skills.

DESCRIPTORS

Education, Nursing, Associate; Education, Nursing; Unified Health System; Professional Competence.

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INTRODUCTION

Nursing technical education enables the development of competences and skills in order to train professionals prepared to act on the health needs of the population⁽¹⁻²⁾. In this sense, it is evident that such training should meet the principles of the Unified Health System (*SUS*), with a view to being an appropriate and quality response to the demands which are presented.

Regarding the pedagogical dimension of this training, instruments such as the Political-Pedagogical Project (*PPP*) and the Teaching Plans direct and facilitate the teaching-learning process, taking into account the adequacy of training to the reality of society and health. Both are official documents, with proposals and strategies which describe the values, conceptions and intentions of training⁽³⁾. Therefore, considering and evaluating them denotes understanding the profile of the professionals to be trained.

The first *SUS* Technical Schools (*ETSUS*) were created in the 1980s, constituting public institutions which aimed to *a priori* qualify/train the health workers of the secondary or middle level employed in *SUS*, having their principles and directives as the guidelines for the Teaching Plans. There are currently 40 schools distributed in all states of the federation, and the Northeast in particular has 12 *ETSUS*, of which six offer technical nursing education, which justifies the fact that this region has the largest offer of this course. Such schools play a strategic role in health education and for the Brazilian health system, as they assure incorporating the needs of the population into their educational processes and the principles of *SUS* in their pedagogical documents⁽⁴⁾.

Particularly in nursing, the *ETSUS* provide training and qualification of essential human resources to health. This is justified, since nursing represents the largest contingent of workers in the sector and the nursing technician in particular is the largest workforce in this area, corresponding to approximately 56% of the total number of professionals of this field, as well as being responsible for providing direct care to the individual-family-community⁽⁵⁾.

Thus, given the concern with the training of human resources for the *SUS*, especially the strategic place of its pedagogical dimension and the decisive character occupied by nursing technicians to consolidate the national health policy, it is pertinent to raise the question: how does technical nursing education take place in *SUS* Technical Schools in the Northeast region of Brazil?

Therefore, the objective is to analyze nursing education in the Technical Schools of the Unified Health System in the Northeast region of Brazil, highlighting potentialities and challenges from a documentary point of view.

METHOD

STUDY DESIGN

A documentary, descriptive and exploratory study with qualitative approach, derived from the dissertation entitled "Nursing Training in Technical Schools of the *SUS*" (*Formação em Enfermagem nas Escolas Técnicas do SUS*).

SCENARIO

The study had six *ETSUS* of the Northeast region of Brazil as its study scenario, considered co-participating institutions for the purpose of the research.

These institutions were approached by telephone contact and an electronic invitation was subsequently sent to participate in the research. At this time, the Terms of Authorization of the Co-Participating Institution and Concession, Letter of Presentation and copy of the project were also sent.

The selection criterion was defined as the provision of the technical nursing course by the schools. Thus, six of the 12 potential *ETSUS* located in the Northeast region were included in the study because they offered such a course.

DATA COLLECTION

With the duly signed Terms and after approval by the Research Ethics Committee of the Universidade Federal da Bahia School of Nursing, the *ETSUS* sent the School's Political-Pedagogical Project and the Teaching Plans of the technical course in nursing via e-mail. The choice of these documents as data sources is justified as they guide the training, define their views, values, conceptions and purposes.

Data collection was based on the indirect documentation technique, which uses public and/or private documentary sources not submitted to any previous analytical treatment⁽⁶⁾, through three structured scripts which had questions related to the pedagogical aspects of training, namely: course objective, profile and curriculum; skills to be developed by the student; student profile; course syllabus, objective, content program, teaching methodology, evaluation method and references of teaching plans, among others.

DATA ANALYSIS AND PROCESSING

Thematic content analysis was used for data analysis and interpretation according to Franco's framework. A floating reading of the material was conducted in the first step in order to systematize the ideas and to preliminarily organize the research corpus. Next, there was the exploration, in which the research corpus was submitted to coding operations, considering the material clippings in units of analysis (unitarization), namely Context Units (*CU*) and Registration Units (*RU*), and the information was classified and aggregated into thematic categories⁽⁷⁾.

Thus, 44 *CU*s were obtained after thorough and careful reading, considered as "background" for understanding the meaning of the *RU*. Identification of the *RU* then began after obtaining the *CU*, totaling 61 units. The *RU* are characterized as the smallest part of the content, with their occurrence being related to the emerged categories. Both *CU* and *RU* were numerically sequenced to facilitate identification and understanding.

Soon after unitarization, the *RU* were grouped according to the thematic similarity criterion. This process is called categorization, a classification operation of constituent elements of a set⁽⁷⁾. Thus, 11 preliminary categories were identified which were grouped into three thematic categories, thereby being conformed as results of the present research. They include: Integrative Approach, Problematising Approach, and Qualifying Evaluation (Figure 1).

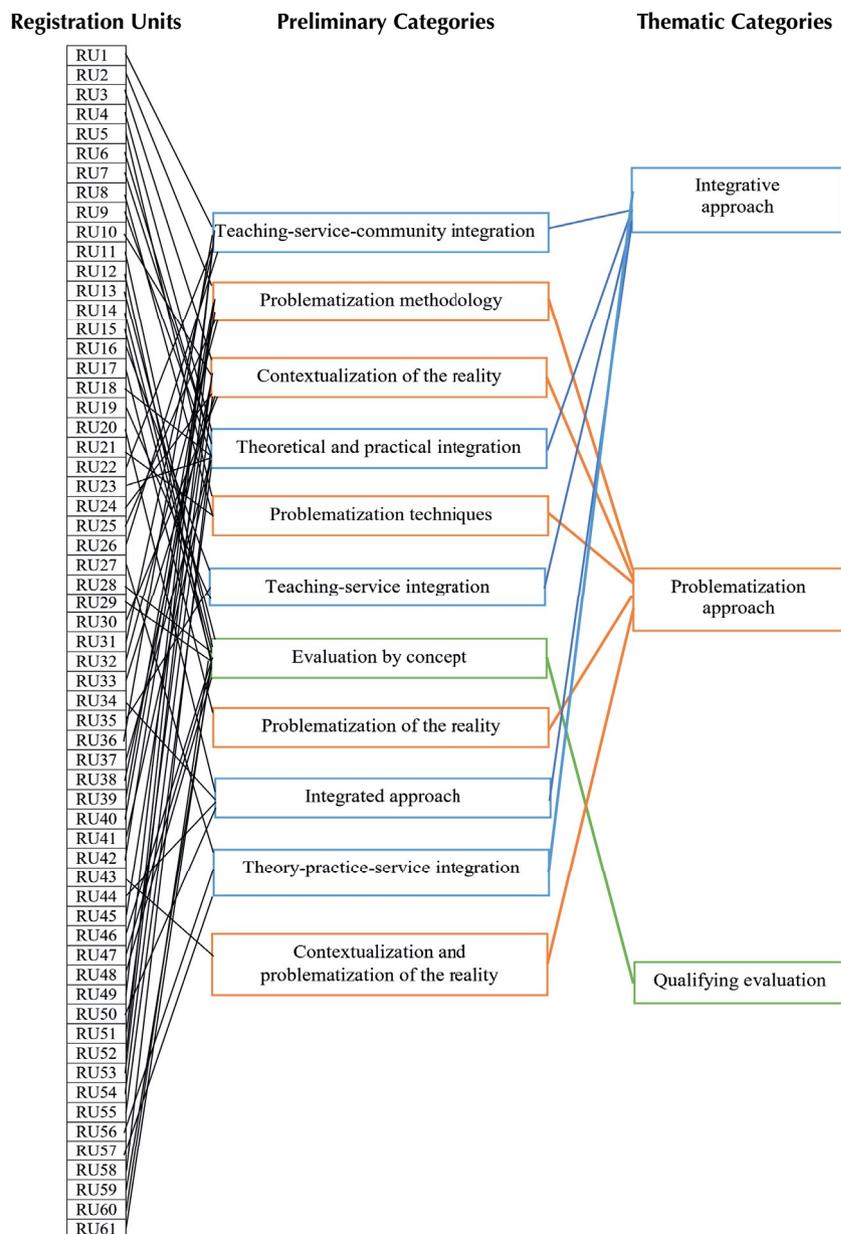


Figure 1 – Synoptic figure corresponding to the research corpus coding – Salvador, BA, Brazil, 2017.

ETHICAL ASPECTS

This study observed the ethical and scientific principles for research with human beings specified in Resolution 466/2012 of the National Health Council, and was approved by the Research Ethics Committee under the opinion no. 2.121.511/17.

It should be noted that the anonymity of the co-participating schools was safeguarded in order to protect confidentiality and ensure that the information was only used for research and/or scientific publication purposes. Thus, the schools were identified with an acronym denominated ETSUS, followed by an Arabic numeral.

RESULTS

The technical nursing courses offered by ETSUS in the Northeast are developed in a subsequent form to high

school. The frequency and offer of places vary according to the availability of funding. The objective converges between the teaching units: to train nursing technicians with social commitment and professional ethics who act according to the health needs of the population and the demands of the Brazilian health system, focusing on improving the quality of nursing care. The student profile is also similar between schools and is related to the skills to be developed by students which relate to the knowledge dimensions (knowledge, know-be, know-how, know-live with).

Regarding the workload, ETSUS1, 2, 3 and 4 allocate 1,800 hours to the course, ETSUS5 1,890 hours and ETSUS6 1,440 hours. This variation results from the addition of workload related to the Supervised Internship curricular component, which is added to the minimum workload for the course, which is 1,200 hours.

Regarding the curriculum, all schools adopt the curriculum model by competence, and its matrix is divided into modules/axes in which the curriculum components (called didactic units) are inserted.

The following thematic categories emerged from the analyzed documents and describe how the technical education in nursing in the Northeast ETSUS should occur.

INTEGRATIVE APPROACH

The integrative approach is based on the concept of an integrated curriculum, and was marked as an essential pedagogical tendency for training. Such an approach focuses on teaching, service and the community as inseparable elements of the teaching-learning process which complement each other, facilitating the applicability of knowledge in specific situations of the health service, professional practice and the reality of the population, enhancing the relationship between them.

The pedagogical plan tries to work within the concept of an integrated curriculum (...) seeking a dynamic articulation between work and teaching, practice and theory, teaching and community (...) (ETSUS1).

Training professionals (...) integrating teaching-service-community, forming collaborative networks and strengthening the health-school system (...) stimulating questioning and promoting the teaching-service integration with the community through professional experience in genuine work environments (ETSUS3).

(...) adopting the Integrated Curriculum (...) thus strengthening the student-builder concept of their knowledge, dynamically articulating work and teaching, practice and theory, teaching and community (ETSUS5).

From this perspective, the study pointed out how the integration between theoretical and practical teaching is fundamental, as it enables approximating real situations of daily professional practice focused on health promotion, prevention, control, recovery and rehabilitation, developing skills and deepening theory.

(...) teaching methodologies which prioritize the theoretical-practical articulation in situations experienced in professional life (...) fundamentally using reflection in practice to deepen, add and systematize the theoretical knowledge to be sustained (...) making the student face promotion, prevention, control, recovery and rehabilitation actions (...) (ETSUS1).

Diversified resources will be used which will facilitate knowledge construction integrating theory/practice (...) (ETSUS2).

It is the moment of the course aimed at the appropriation and development of theoretical/practical skills (...) the student will apply the theoretical knowledge learned in laboratory simulations (...) (ETSUS6).

PROBLEMATIZING APPROACH

The study signaled that the problematizing approach demonstrated in the Problematization Methodology is

used by schools as a methodological path for developing the teaching-learning process. This approach assigns a problem character to what needs to be learned by the student and enables raising questions for analysis, discussions and decisions. Thus, the problem is seen as a trigger or starting point through which knowledge is mobilized.

Teaching actions (...) are based on the following premises and general guidelines: student-centered teaching; based on problems (...). The problem must be the starting point of the whole learning process. All group knowledge is mobilized from the problem (...) (ETSUS3).

The methodological indications which guide this course are based on the principles of the Pedagogy of Problematization (...) (ETSUS4).

The problematizing methodology will be used, a critical pedagogical tendency (...) (ETSUS6).

In this aspect of the problematization methodology, the research highlighted that learning occurs in a contextualized and referenced way in real situations existing in the service routine, in the work process and in life in society. Therefore, the student bases themselves on concrete, tangible needs when facing a particular problem extracted from reality.

The pedagogical plan tries to work (...) against the background of the reality and the sociocultural characteristics of the environment where the student operates. (...) placing them in front of actions (...) referenced in the individual and collective health needs, determined by the process that generates health and disease (ETSUS1).

Such competences draw a methodological path which privileges the contextualized pedagogical practice, putting the student to confront problematic situations (...) the learning situations foreseen for each module have a project which considers real contexts to those found in the working conditions as their guiding axis (...) (ETSUS4).

(...) The Nursing Technical Course is structured in three modules, with partial terminality (...) centered on a concrete practice (...) (ETSUS5).

QUALIFYING EVALUATION

The technical nursing courses in question use the concept-based qualitative evaluation to assess student performance regarding their learning. Concepts are given, which express the scope of professional skills which need to be developed.

Evaluation of student performance during the course will be expressed through APT and NOT APT concepts, based on the domain of KNOWLEDGE, KNOW-HOW, and KNOW-BE (...) (ETSUS2).

Checking the knowledge acquired during the performance evaluation process will be registered by applying the concepts: Satisfactory (A), Somewhat satisfactory (B), and Unsatisfactory (C) (...) (ETSUS4).

(...) *assessment converges with the developed competence (DC) concept (which comprises the student's achievement of the learning objectives proposed in the educational unit) or the CUD – competence under development (...)* (ETSUS6).

The study also pointed out that schools adopt a learning recovery process for students who have not acquired the targeted qualification. Thus, there is an opportunity for them to develop and strengthen weaknesses in order to achieve the desired competence.

The student with a minimum attendance of 75% and not apt concept will be offered the learning opportunity for recovery (...) during the module or (...) at the end of the process (ETSUS1).

Students who achieve 70% to 100% of the indicators of each unit will be considered APT. Students who achieve a result below 70% (...) will undergo a parallel recovery process (...) (ETSUS2).

(...) the evaluation concept will be Competence Under Development (CUD) until it meets the Developed Competence Criterion (DC) (...) (ETSUS6).

DISCUSSION

The study found that the integrative approach has been used in technical nursing courses as a pedagogical tendency for training. The focus in this approach is on integrating teaching, service and community, so that learning happens and develops in these spaces, becoming meaningful.

The teaching-service integration specifically occurs when students, teachers and health service workers collectively agree and deliberate on aspects, actions and agreements involving teaching and learning with the purpose of improving health care, promoting excellence in training and increasing professional satisfaction⁽⁸⁾. Thus, articulation between educational and service institutions brings benefits for both training and care, given that the training process is facilitated and enhanced by the sum of efforts for its conception and development. In addition, the critical and committed insertion of teachers and students promotes transformations in health practices.

In this context, one must not lose sight of the fact that the training must be in line with what the SUS recommends, so it needs to refer to the community, its reality and needs. Inserting the community in the constitution of this tripod for orientation of educational practice may arouse an exact understanding of the public health system in students⁽⁹⁾. Thus, integrating education, service and community facilitates and enhances vocational training in and for SUS.

From an operational point of view, the integrated curriculum was pointed to by the analyzed courses as a basic concept for the integrative approach. Such curriculum intends to extrapolate the polarization between theory and practice based on contextualized teaching, problematization and integration between teaching, service and community⁽¹⁰⁾. Therefore, it dialogues with an educational practice in which the student is an active subject of their learning process, becoming reflective and critical, and receiving training in

which the health problems of the population approach the disciplinary/curricular organization of knowledge.

It is worth recalling that the courses in focus have their curricula based on acquiring and developing competences, and therefore curriculum integration occurs through their reach. This curriculum advocates a technical education in nursing which has a real, contextualized understanding of health problems, as well as a complementary and necessary relationship between teaching-service-community. Thus, it adds quality because it implies connection and relationship of teaching with health work teams to develop actions directed to the community reality⁽¹¹⁾.

In developing this curriculum proposal, the courses assume to work in an attempt to develop it, admitting difficulties in conducting the project, thus challenges to be overcome. The insertion of the teacher in this dynamic of curriculum integration is a difficulty to be overcome, because the teacher faces training which goes beyond that circumscribed by mere knowledge transmission, distinct from the one in which they were/are trained⁽¹¹⁾.

Overcoming the dichotomy between theory and practice also constitutes a challenge. Therefore, the need to strengthen the different practice scenarios as sources and facilitators of learning is pointed out, as well as to review the theoretical-practical workload⁽¹²⁾. Hence, the dialogue between the theory and the concrete spaces of health services where care practice is experienced must be enhanced with a view to contextualized training with interdependent knowledge.

When it comes to technical nursing education, the challenge lies in understanding that theory depends on practice, and that this is the purpose of the former, to integrate them. Such a challenge is posed since technical education throughout history has been marked by the appreciation of practical knowledge, which belongs to the intrinsic and inseparable dimension of learning a profession, yet insufficient for human and comprehensive training⁽¹³⁾. In this sense, the theoretical aspects need to be strongly associated and interconnected with the practical ones in order to result in training subjects who are prepared and competent to exercise a profession.

Regarding the problematizing approach, this was highlighted by the research as a methodological way for the teaching-learning processes in the technical nursing courses in focus. Such an approach attributes a problem characteristic to what needs to be understood by the student through which knowledge is mobilized. Thus, they are encouraged to work in groups, improve criticality, theorize based on their own perception and observation, develop creative ability and originality, and independently seek information⁽¹⁴⁾.

In this perspective, one of the methods whose approach intentionally deals with problems for developing teaching and learning processes is the Problematization Methodology (PM), in which the courses under discussion are based. It is an alternative to introduce innovative models which enable students to interact actively, meaning as an actor in the process of knowledge construction, making their learning meaningful⁽¹⁵⁾. Therefore, PM enables a break from traditional

teaching, as it is configured as a methodological path for a critical, questioning and participatory training.

Such methodology is referenced in the Arc Method, elaborated by Charles Maguerez. This method is based on the principles of problematizing/liberating pedagogy, defended by Paulo Freire and inspired by a critical conception of education, aiming at the transformation of reality/society⁽¹⁶⁾. Therefore, PM enhances the ability of the student to participate as an agent of social transformation during the process of identifying concrete problems and seeking original and directed solutions. When it comes to technical nursing education, the adequacy of this proposal specifically to training occurs as it turns to reality within the SUS, the service and the community, enabling the development of 'learning to learn', 'learning to do', 'learning to be' and 'learning to live with'.

Through Problematization, the future nursing professional has the opportunity to get closer and know the social and health reality, which makes their learning contextualized and referenced in the concrete situations which exist in the routine of the service, in the work process and in society life. Such contextualization was verified in the technical courses under discussion through the analyzed documents, which shows that the technical training has been conformed as an adequate and quality response to the health sector.

It is necessary to remember that nursing education should be guided by the principles of SUS, since it is up to SUS to organize it in order to alleviate its weaknesses and pay attention to the needs of the community⁽¹⁷⁾. Thus, PM as a method which starts from practice/reality and from it, seeks the theory to return to practice/reality, transforming it, constitutes an appropriate path for the training which is intended to be reached today because it leads to developing analytical, critical, interventionist professionals, and above all those who are committed to the SUS.

It should be noted that adopting PM as a methodological path for the teaching-learning process in technical nursing education is a challenge, as assumed by the courses in question after trying to implement such methodology. The conservative teaching adopted by most schools, the centrality in the figure of the teacher, the tendency for content transmission, the passivity and lack of criticism on the part of the students can be cited as some barriers to the development of active methodologies, such as Problematization⁽¹⁸⁾. However, such difficulties need to be viewed as stimuli for discontinuing conservative teaching in order to achieve meaningful learning by building knowledge.

The research also showed that the technical nursing courses studied implement qualitative evaluation supported by concepts in order to assess student performance in relation to their learning. What is nominal in nature is defined as qualitative, meaning it is referred to as an adjective⁽¹⁹⁾. Thus, concepts based on the professional competences that students need to develop are attributed, which express (or not) their scope.

Evaluating learning is a part of the educational practice and conforms as an ally, as it offers support to a course of actions aimed at student learning⁽²⁰⁾. Thus, the act of

evaluating is not dissociated from the teaching process and does not end in attributing a value or quality, since it is established as a foundation for decision-making in order to facilitate the development of teaching-learning and to enable knowledge building.

In this context, the evaluation is at the service of learning and should be used as a feedback device through which evaluators and those evaluated detect the necessary adjustments to achieve the desired result⁽²¹⁾. Therefore, the purpose of evaluation is to assist in identifying the best way to achieve learning, so it should be guided by the perspective of evaluating to learn.

It is important to emphasize the presence of a significant gap between learning verification and evaluation. The first ends with the obtaining of value/information and does not imply consequences; in turn, the second denotes attributing value/quality for stance on what was evaluated⁽²⁰⁾. Thus, the evaluation goes beyond the limits of mere verification, as it supports decision-making and ensures learning. It is therefore a necessary activity for planning and developing the teaching-learning process, since as a continuous process it points out flaws and weaknesses, identifies and locates difficulties and enables decision making and redefining directions.

Regarding the qualitative characteristic of the evaluation, there is a shift in assigning grades for concepts, i.e. pre-established adjectives are made which are related to student performance and learning. The grades entail a history of exclusion, punishment, polarization, stigmatization, competition and negative consequences in the teacher-student relationship, which denotes the inappropriate use of evaluating as a diagnosis of disabilities and its consequences on learning^(20,22). In this sense, the concepts attributed in the qualitative evaluation intend a distinct conduct in the evaluation process in order to express whether the learning was successful or unsuccessful.

Given the above and assuming that technical training in nursing resorts to qualitative evaluation, the technical courses under discussion admit that this evaluation modality is not cumulative, which would imply in applying a single instrument on a given date to obtain a grade⁽²³⁾. Hence, they recognize that they move from the plan of mere verification of content and quantification to occupy the place of concern for student development. It is observed that the objective is in fact the learning and improvement of professional competences, not approval or failure, which enable qualifying the student's performance.

Considering that the curriculum of the courses is organized by professional competences, the qualitative evaluation becomes subsidiary to the diagnosis and decision making in their scope. Thus, such evaluation acquires a training and potentializing character for acquiring and improving competences in technical nursing education.

The courses also indicate that mechanisms are adopted in this evaluation process to recover the learning of students who have not acquired the objective qualification. Once again, a commitment to knowledge construction is evident, as this provides the opportunity to overcome difficulties

and strengthen weaknesses in order to obtain the desired professional competence.

Finally, a limitation of this study is the use of documents only as data sources for research. The development of other studies is suggested in order to deepen understanding of the theme and to verify if the results found are similar and therefore generalizable when collected through other data sources.

CONCLUSION

This study showed that nursing education in the ETSUS is based on the integrative approach, considered a pedagogical trend and problematizing approach, which consists of the methodological path to favor the teaching-learning process; and the qualitative evaluation, enhancing the scope of professional skills. Such training reinforces the importance of the commitment to SUS with a view to professional excellence, as it strengthens the teaching-service-community

integration, encourages the student to be proactive in the search for knowledge construction, indicates the teaching-learning process in the real demands of the population and the health system, and enhances acquiring and improving the skills necessary for professional practice.

However, there are some challenges to develop this training, among them the dichotomy between theory and practice and the resistance to change. Recognizing these barriers becomes essential to overcome them in order to reposition paths for meaningful and transformative learning.

As a potentiality, information provision about strengths and weaknesses foreseen in nursing education developed at SUS Schools is evidenced, which are subsidiary to strengthening of positive aspects and overcoming difficulties, taking into account the training excellence for the SUS which aims to transform reality with a focus on improving the quality of health care.

RESUMO

Objetivo: Analisar a formação em enfermagem nas Escolas Técnicas do Sistema Único de Saúde da Região Nordeste. **Método:** Pesquisa documental, com abordagem qualitativa, que teve como locus Escolas Técnicas do Sistema Único de Saúde da Região Nordeste que ofertam o curso técnico em enfermagem. Constituíram fontes de dados os Projetos Políticos Pedagógicos da escola e os Planos de Ensino dos referidos cursos, e como instrumentos foram utilizados três roteiros estruturados sobre os aspectos pedagógicos da formação. A sistematização/análise dos dados baseou-se na análise de conteúdo na modalidade temática. **Resultados:** A formação técnica em enfermagem ocorre por meio da abordagem integrativa, considerada uma tendência pedagógica; abordagem problematizadora, utilizada como caminho metodológico para o ensino-aprendizagem; e avaliação qualificativa, potencializadora do alcance das competências profissionais. **Conclusão:** A formação em foco aponta o compromisso com o Sistema Único de Saúde e a excelência profissional, pois fortalece a integração entre ensino-serviço-comunidade, incentiva a proatividade do estudante e indica o ensinar-aprender nas demandas da população e do sistema público de saúde e potencializa a aquisição e o aprimoramento das competências profissionais.

DESCRITORES

Educação Técnica em Enfermagem; Educação em Enfermagem; Enfermagem; Sistema Único de Saúde; Competência Profissional.

RESUMEN

Objetivo: Analizar la formación en enfermería en las Escuelas Técnicas del Sistema Único de Salud de la Región Nordeste. **Método:** Investigación documental, con abordaje cualitativo, que tuvo como locus Escuelas Técnicas del Sistema Único de Salud de la Región Nordeste que ofrecen el curso técnico en enfermería. Constituyeron fuentes de datos los Proyectos Políticos Pedagógicos de la escuela y los Planes de Estudios de los mencionados cursos, y como instrumentos se utilizaron tres guiones estructurados acerca de los aspectos pedagógicos de la formación. La sistematización/análisis de los datos se basó en el análisis de contenido en la modalidad temática. **Resultados:** La formación técnica en enfermería ocurre mediante el abordaje integrativo, considerado una tendencia pedagógica; abordaje problematizador, utilizado como ruta metodológica para la enseñanza-aprendizaje; y evaluación calificativa, potenciadora del alcance de las competencias profesionales. **Conclusión:** La formación destacada señala el compromiso con el Sistema Único de Salud y la excelencia profesional, pues fortalece la integración entre enseñanza-serviço-comunidade, incentiva la proactividad del estudiante y señala el enseñar-aprender en las demandas de la población y el sistema público de salud y potencia la adquisición y el perfeccionamiento de las competencias profesionales.

DESCRIPTORES

Graduación en Auxiliar de Enfermería; Educación en Enfermería; Sistema Único de Salud; Competencia Profesional.

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