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The experience of using Project-Based Learning as an active methodology in the Educational Program through Work for Health in professional practice training

A experiência do uso da Aprendizagem Baseada em Projetos como metodologia ativa no Programa de Educação pelo Trabalho para a Saúde na aprendizagem da prática profissional

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Abstract

This paper aims to report the learning experiences experienced by the group of the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality. The methodology comprised the Project-Based Learning and the conversation circle during the monthly meetings to build a dialogical practice. The structuring of the teaching-learning process analysis was based on four phases: planning, observation, action and reflection. The discussion of the results was based on Delors's assumptions: *Learning to Learn* - during the meetings, the students reflected on the contribution of their area of knowledge to user service and the role of interdisciplinarity for integral care in the health system; *Learning to Know* - in loco recognition of social determinants of health and association with health indicators; *Learning to Do* - the insertion of undergraduates in health units; *Learning to Be* - the discussion of data with professionals and preceptors has provided a space to approach facilities and obstacles of the professional performance in this field. The project used as assumptions the autonomy of the undergraduate and the exercise of responsibility of the whole team in the solution of conflicts and in communication. This resulted in a proactive, critical, reflective, creative and transformative professional.

Keywords: Learning. Teaching. Health Education, Human Resources in Health.

Resumo

Neste trabalho objetiva-se relatar as experiências de aprendizagem vivenciadas pelo grupo do Programa de Educação pelo Trabalho para a Saúde na modalidade Vigilância em Saúde de Doenças Crônicas não Transmissíveis. A metodologia compreendeu a Aprendizagem Baseada em Projetos e a roda de conversa nos encontros mensais para a construção de uma prática dialógica. A estruturação da análise do processo de ensino-aprendizagem foi baseada em quatro fases: planejamento, observação, ação e reflexão. A discussão dos resultados foi pautada nos pressupostos de Delors: *Aprender a aprender* - durante os encontros, os graduandos refletiram sobre a contribuição de sua área de conhecimento para o atendimento do usuário e o papel da interdisciplinaridade para o cuidado integral no sistema de saúde; *Aprender a conhecer* - reconhecimento *in loco* dos determinantes sociais de saúde e associação com os indicadores de saúde; *Aprender a fazer* - a inserção dos graduandos nas unidades de saúde; *Aprender a ser* - a discussão dos dados junto aos profissionais e preceptores proporcionou um espaço para a abordagem das facilidades e entraves da atuação do profissional neste campo. O projeto assumiu como pressupostos a autonomia do graduando e o exercício da responsabilidade de toda a equipe na solução de conflitos e na comunicação. Proporcionou-se a formação de um profissional pró-ativo, crítico, reflexivo, criativo e transformador.

Palavras-chave: Aprendizagem. Ensino. Educação em Saúde. Recursos Humanos em Saúde.

Introduction

The Brazilian Unified Health System (SUS), created by Law no. 8,080/90,[1] instituted the principles of universality, integrality and equity of care, promoting care to the user and to the community, based on health needs, on the transformation of the epidemiological profile and on the change in the health care model.[2] Meeting SUS principles requires, among other aspects, training humanized and sensitized health professionals. However, curricula are still organized according to a dichotomous theory-practice logic, which fragments knowledge with technical teaching practices, division between the basic and the professional, and disengagement among academia, service and community.[3,4]

One observes an education characterized as reductionist and monetary, training malleable professionals who received information, memorized it, repeated it and remain as spectators of the world, guided by the feeling of weakness and inefficacy, as if still controlled by the instructors.[5]

This contemplative-abstract learning, with teaching of reproductivecause-effect, and the conception of work that ishierarchical and centered on hospitalization, since the twentieth century, no longer serves the expanded concept of health,[6] the users of the system and the principles of SUS. We need professionals whose actions are guided by learned knowledge, i.e., autonomous.[5]

There are many investments and experiences in the field of health training that lead to a hybrid panorama in training. If, on the one hand, strategies based oncontent remain, on the other hand, work is increasingly recognized as the main strategy for training, associated with pedagogical methods that stimulate the participation of the undergraduate and move the professor from his or her place of full knowledge.[3, 5]

In this scenario, the training of health professionals in Brazil has required a series of teaching strategies used as activities in the practice scenarios, in order to awaken in the participants the perspective of collective health formulated for SUS.

Over the last few decades, there have been countless efforts by the government to reformulate the national guidelines for undergraduate courses in terms of professional training, stimulated by policies aimed at approaching thetrainingto the reality in which the undergraduate is inserted. Furthermore, the National Curricular Guidelines postulate that the Political-Pedagogical Projects of the courses in the health area should allow the student the *learning to learn* based on the development of competencies related to the professional's performance in health care, decision making, communication, leadership, management and lifelong education.[3,7]

Regarding the potential of the system, it is possible to say that in the public health network there is the possibility, not always explored, of the establishment of a *teaching-learning network in the exercise* of work.[8] The use of this network to its full potential may be favored by the concrete and organizational action of public and community health, thus becoming Health Education, both for the training of undergraduates and for the lifelong education of professionals in the area.

Thus, in search of excellence in the training of health professionals and the approximation of teaching-service-community, the Ministries of Health and Education have launched in 2005 one of their inductive policies for the reformulation of training for SUS, the National Program of Reorientation of Professional Training in Health (Pró-Saúde),[9] covering undergraduate courses such as Medicine, Nutrition and Nursing, among others. In 2010, as a strategy for its consolidation, it has launched the Educational Program through Work for Health (PET).

The Fluminense Federal University, in partnership with the Municipal Health Foundation of Niterói-RJ, has started the activities of the Educational Program through Work for Health in 2010. In 2013, it was included in a public noticefor the Educational Program through Work for Health in the Health Surveillance in the Network of Chronic Non-Communicable Diseases modality. The group was formed with the participation of a tutor, two professional preceptors from the Municipal

Health Foundation of Niterói-RJ and eight undergraduates from different fields of knowledge in the health area.[10,11] For the educational activities, strategies of training professionals for care and assistance to services were sought, using as tools active methodologies of teaching-learning that, through problematization, would build an approach of how to produce health.

We have chosen the active methodology called Project-Based Learning.[12] It develops the creative capacity of undergraduates, favoring reflection on local reality, stimulating questioning, discussion, supposition, proposition and critical analysis, giving the student a voice and enabling the choice and the interdisciplinary articulation.[13] The problematization done conjunctly with health professionals, however, allows them to reflect on their work practices, which is a guiding principle of LifelongEducation.[14]

The project was also based on InterprofessionalEducation,[15]in order that the members worked in collaboration and reflection, seeking to increase knowledge, understanding and respect for the other's field of knowledge, as well as the commitment to integrate actions aimed at health and well-being of the user. It is understood that action in cooperation with the different fields of knowledge for health intervention provides the integral care approach, a principle recommended by SUS.

In this perspective, our objective is to report the learning experiences experienced by the group of the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality, during the implementation of the project-based learning methodology.

Methodological route

This paper is a report of experiences that included data planning, collection and analysis[16] based on the experiences of the group Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality, during the period of2013-2015. This study was approved by the Research Ethics Committee of the Fluminense Federal University under the CAAE no.: 12266613.5.0000.5243.

The group was composed by a tutor professor from the Fluminense Federal University; two preceptors, who were health professionals of the Health Management Center and of the Methodological Supervision Department of the Municipal Health Department; and eight undergraduate students from the Fluminense Federal University, between the 5th and 9th periods, from seven different knowledge fields of the health area: Physical Education, Nursing, Pharmacy, Medicine, Nutrition, Dentistry and Psychology. All of them have developed the activities during eight hours a week, with monthly meetings to discuss their experiences.

The formation of the tutorial group Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality, which in this paper is called the tutorial group, took place formally in August 2013, through a simplified selection of undergraduates. The selection was carried out by professors of the course of the candidate and tutor professors of the other groups that compose the project in the Fluminense Federal University. The preceptors were the professionals appointed by the Municipal Health Foundation of Niterói-RJ, a body responsible for health management in the municipality. When they were part of the tutorial group, these professionals were also in lifelong training, according to the National Policy of Lifelong Education in Health.[14,17]

During the first meetings, the tutorial group discussed the different information systems used by the Municipal Health Foundation to obtain data on chronic non-communicable diseases. Other data discussed by the group were the socioeconomic characteristics and the main risk factors of the registered individuals.

From these meetings, and adopting the active methodology Project-Based Learning,[12] the tutorial group sought to answer questions regarding chronic non-communicable diseases in Niterói. A study was first planned to determine the clinical-epidemiological profile of systemic arterial hypertension, of diabetes mellitus, and of both; associated risk factors (sedentary lifestyle, smoking and overweight) and complications (amputation, stroke, coronary artery disease, kidney disease, acute myocardial infarction, diabetic foot) in six randomly selected modules of the Family Physician Program (FPP) of Niterói-RJ of each regional health department of the municipality. Each undergraduate was responsible for one unit. The two regional ones with the largest number of registered users were each with two undergraduates.

The next stage was an ecologically analytical epidemiological study using secondary data, whose population was registered in the health surveillance systems used at the time in the municipality: Clinical Management System of Hypertension and Diabetes Mellitus of Primary Care (SisHiperdia), Information System of Primary Care (Siab) and the Klinikos Kadastro System- Primary Care of Niterói-RJ. The latter was used by the Municipal Health Foundation of Niterói to support the collection and interpretation of data from the Family PhysicianProgram. In this system, the disease referred to as systemic arterial hypertension and/or diabetes mellitus is selected to evaluate whether the user who reported being a carrier of one of these diseases had a registry at SisHiperdia.

From the SisHiperdia databases, descriptive analyses of the variables gender, age group, income, educationwere carried outfor diagnosis of the socioeconomic situation; we then calculated the proportional distribution of the risk factors and complications of the registered users. The results of this analysis allowed its use as a tool for group learning.

It should be emphasized that the present article does not intend to deepen discussions about the health information systems used in the project, however, it intends to approach the data available as a learning device of the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality.

In parallel, qualitative research was developed to analyze the use of Project-Based Learning[12] as an active methodology in the teaching-learning process. It was structured in four phases - planning, observation, action and reflection of Kolb[18] (figure 1) -, based on the theoretical framework of education postulated by Dewey,[19] who considers learning an active process in the pursuit of knowledge with freedom.

The *planning* took place during the process of immersion in the explored information systems, as to their constitutions, objectives, form of production, insertion and collection of the desired health indicators. The *observation* occurred after the data collection, when the tables and graphs of the indicators were organized for better visualization. In the periodic meetings of the entire tutorial group, the obtained results were discussed.

After this process, the *action* stage was accomplished through the visit to the studied units to know and address the issues that emerged during the monthly meetings. Among these issues are public equipment for physical and leisure activities, food available for purchase in local commerce, observation of health education actions, routine of active search of the unit to users who are absent and with complications due to chronic non-communicable diseases. A seminar was held in July 2014 to present the results, with the participation of the health professionals from each analyzed unit (family physician, nurse, nurse technician and community health agent) and of the tutorial group.

The conversation circle[20] was the strategy chosen to construct a dialogical practice, in each monthly meeting, with the 11 members of the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality (undergraduates and preceptors), in the *reflection* stage. The conversation circle was chosen for being participative, based ondialogue and providing the sharing of experiences and learning, integration and strengthening of the tutorial group.

During the conversation circles,[20] the data generated from the systems were debated; the care coverage was analyzed; the social determinants of health[21] that directly influenced the clinical conditions of the users were discussed; social equipment was identified; the risk factors and the complications present in the registered users were evaluated; and finally, the interrelations among the health conditions of users, their territory, their socioeconomic status and the care of health professionals were analyzed. The same strategy was used after the presentation of these results in a seminar that had the participation of the entire tutorial group and of 12 health professionals of the units.

Within the *reflection* stage, there was also the publicizing of the observed results in several scientific meetings of different fields of health training,[22-26] meetings for the discussion of the developed activities and perceptions of the practice scenarios with other tutorial groups and a published manuscript.[27] Encouraging undergraduates to attend meetings with other tutorial groups and national and international meetings is related to the possibility of learning new topics, developing communication skills in presenting and discussing their research with the scientific community. In addition, it was an apprenticeship with new experiences and realities that added knowledge to the professional in training.

From the elements observed in the educational process, the results were described and analyzed according to Delors's postulate,[28] which guides the process of knowledge in four main pillars: *learning to learn*, *learning to know*, *learning to do* and *learning to be*. The identification of the participants of the study was made according to letters, numbers and, for undergraduates, the course of the health area (G1 to G8), preceptor (P1 and P2), professional of the health units (PF1 to PF12).

Theoretical assumptions

For the development of the methodological route of this study, concepts of the fields of knowledge of education and health were adopted. From education we have appropriated the terms competence and autonomy. Competence in this context is understood as "the development of capacity in the cognitive, psychomotor and/or attitudinal abilities, which, when combined, constitute different ways of successfully carrying out essential and specific actions of a profession" (p. 686).[3]Thus, Braid[3] considers essential the insertion ofundergraduates in professional practice scenarios with educational activities based on active, reflexive and critical methodologies for the development of competencies.

One cannot abandon the perspective of polysemy of the term *competence*, and the chosen meaning is based on the social conditions of work that require integrated mobilization of various knowledge. This is the closest thing to the perspective of the National Curricular Guidelines for the Ministry of Education courses in the Healtharea.[7]

On the other hand, autonomy is understood as the subject's ability to organize his or her own learning experience, behavior and intrinsic motivation to guide his or her actions and promote change. To develop autonomy, it is necessary for the undergraduate to have the sense of belonging to the environment, to internalize the current values and to engage in activities, allowing a better conceptual understanding and of the performance.[5]

From the field of health, the terms "integrality", "health care" and "social determinants of health" were used. Integrality is understood as an "institutional principle of SUS, whose articulated set of preventive and curative health actions and services, individual and collective with a view to the production of a care that is effective, humanized and focused on the users'needs (p.93)".[29]

Health care is considered in this context as "the dynamic practice of being social by intervening on the health of individuals and the community, enabling care for life" (p.550)."[30] It is important to remember that care evolves as it becomes more complex. The work process, on the other hand, constitutes a "complex action involving articulation among different processes, in which each professional, having as object the individual or the community, healthy or ill, has the purpose of therapeutic and care action (p. 62)".[31]

The concept of social determinants of health adopted here is the same as the one of the National Commission on Social Determinants of Health, i.e., "they are social, economic, cultural, ethnic/racial, psychological and behavioral factors that influence the occurrence of health problems and their risk factors in the population (p.78)."[21]

Results and Discussion

The National Curricular Guidelines for the Ministry of Education[7] courses in the health area point out that education should be based on competences that translate into knowledge, skills, personal attributes and metacognition needed to effectively perform a given role and/or task. To develop in the undergraduate the ability to act in primary care, to lead, to communicate, to make decisions, to be a manager and to be in constant reflection about professional practice, it is necessary to use active methods centered in the student and exercises in complex and real situations for the construction of their own truths. Thus, for the analysis of the observations and statements that emerged from all the project activities, we have considered the Delorsreport,[28] as previously presented.

In order for the activities carried out throughout the project to focus on the development of competencies, from the beginning, the search for new knowledge, the reflection from the data, the confrontation with the reality of the territory and the activities carried out with professionals were stimulated (both the ones that happened during the project with the preceptors, and during the visits to the units and in the seminar).

From the results[22-27] generated in the phases of *planning*, *observation* and *action*, the tutorial group designed a seminar with the professionals assigned in the units, whose data were collected for a collective reflection. The units were asked to send a representative of each professional category (family physician, nurse, nurse technician and community health agent) in a total

of 24 professionals. In response to the invitation, one unit sent one representative from each category; three sent representatives of the unit, however, not from all of the categories; and two units did not send representatives. Thus, the participants of the seminar and of the subsequent conversation circle were: two family physicians, three nurses, three nurse technicians and four community health agents, totaling 12 professionals.

Learning to learn

> *I had not yet realized that people from health care were concerned with discussing social and cultural issues, factors that influence the biological body (G8 - Psychology).*
>
> *Do not get stuck only in your field of knowledge, always try to look for something else (G7 - Dentistry).*

This understanding is in line with the multidisciplinary approach and interdisciplinary experience that the Ministries of Health and Education promote through their policies. They also point to the understanding of teamwork and of the health needs (and their determinants) of users.

The understanding of the relationships and articulations of different knowledge is one of the pillars for the formation of the new health professional. Social, political, economic and cultural contexts are recognized social determinants of health;[21] hence, the integrality of care cannot be centered in a single field of knowledge. Interdisciplinarity promotes "constant and intense interaction of a group of social actors (p. 502)",[32] which articulates between its members and knowledge in the search for the solution of the problems presented by the community.

Thus, for the learning to be focused on integrality it must relate to the users, recognizing themas members of a family, residing in a territory and inserted in a community. To that end, it should focus on the construction of knowledge and practices of the different fields of knowledge, in addition to new experiences provided in the place of acting, in order that, based on an educational practice, the autonomy of the learner is developed. Hence, the student will problematize the events and will seek a critical and reflective training, going beyond applied scientific knowledge.

Learning to know

> *The visit to my unit was very important, as well as seeing the large number of elderly people, whichconfirms the data (G7 - Dentistry).*
>
> *It was important to see the practice of each FPP, to explain the results, to hear the justification of the results (G6 - Nutrition).*

Education plays an active role in the training of individuals, arousing their interest for the new, for discoveries. It helps to unlock the pleasure of understanding, knowing and discovering critical sense, unveiling reality in order to be able to develop.[33] Delors[28] states that *learning to know* is a means and the end, because of the pleasure of discovering, understanding and mastering the instruments of knowledge.

The attention to this pillar was present at all times: from the learning of using the systems, going through the discussion of the collected data and the imposed challenges to discover the problems pointed out in the insertion of the data in the systems, the influence of the social determinants of health on the results, to how the professionals assigned in the health units deal with their implications and how much this affects the health indicators of the municipality.

It should be remembered that these students were inserted in an information management unit of the municipality and not in the basic unit. Therefore, the dimension of care, fundamental for the health professional, was discussed from the collected data to awaken in the undergraduate the responsibility of the health-disease-care process.[17] This discussion at the central level contributes to the implementation of actions and policies that decrease the gap between management and care.

Learning to do

> *It was clear to me the importance of the correct filling for the analysis of the information systems data (G2 - Nursing).*
>
> *The importance of pharmaceutical consultation in the pre-consultation and post-consultation has become much clearer to me now. The enlargement of vision was fundamental to my training (G4 - Medicine).*
>
> *The discussion between health professionals and undergraduates is rare, what we have is a widespread complaint about the way of "doing health" in Brazil and the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality is showing that it is possible to change this (P1).*

The feasibility of the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality allows a reversal of the theory/practice sequence for a more dynamic action/reflection/action form.[34] The understanding from actions provides a deeper reflection and the desire to seek to understand the medium/territory that produces the analyzed results, surpassing the model of "mere field of internship or practical learning" to be a "natural interlocutor of training institutions, in the formation and implementation of political-pedagogical projects of professional training (p.59)".[17]

The results of a study conducted by Freitas et al.[32] with undergraduates participating in the Educational Program through Work, Health modality, in Santa Maria-RS, also point to this path.

The authors have concluded that the program is a facilitator of the real experiences that health professionals experience each day and that allows undergraduates an understanding of reality and the possibility of building knowledge with professionals. It goes, therefore, to the heart of the proposal of the lifelong education in health: knowledge from thinking about the service.

Learning to be

> *It was good the interaction of each team, the mirror of what we will be, the importance of each core of knowledge. [...] How the burden of welfare and administrative work can be detrimental to care (G2 - Nursing).*
>
> *The motivation of the team is something rare to achieve, and today you could see how fundamental it is (P2).*

These results allowed an extended discussion with the professionals of the Municipal Health Foundation. The conversation circle proved to be very productive, since it brought elements of work and motivation for the team.

The transformation of the reality of each one may be glimpsed in this activity (seminary). Rethinking and rebuilding their knowledge based on lived experiences, based on the daily practice of work, assists in the training of more qualified and human professionals. This change also provides alterations in relationships with health services, resignification of practices and association of contents and techniques in a creative manner with the presented problem situation.[35]

We must point out important statements that emerged during the discussion of health indicators presented at the seminar. Regarding the indicators, the professionals pointed out the quality of the presented data, the problems in filling out the registration forms, capturing and monitoring the users. Dietary intake, one of the four most important risk factors for chronic non-communicable diseases, was addressed and discussed, even though no results were presented, as there were no data on this item in the analyzed systems.

Some points were cited by health professionals as obstacles to the improvement and expansion of user care, such as precariousness of the users' link with the unity and curative culture. Furthermore, there are other cultural issues, e.g., in which the specialist ("*my cardiologist*") is more valued than the family physician, making it difficult to link users and members of the multiprofessional team, the schedules for care of adults with formal work (work regime regulated by the DecreeLaw No. 5,452, dated 05/01/1943) and informal work (autonomous/hawker) and low level of education of users, corroborating the results of the study conducted by Slomp et al.[35]

The participation of users in planning health actions and in controlling the results of their territory is still incipient[37] and makes it difficult to form a link and to discuss new forms of health care. The difficulty of linking the user with the health professional, regardless of the motives,

reduces the ability to hear and to be heard - from this point, solutions should be built for the problem situations presented by the user, family and/or community.

Issues related to labor relations in public health units in Brazil that generate conflict were addressed and discussed, such as those related to human resources management: "in-service training" (newly trained and newly admitted) and raising the professional's awareness of humanized care; regarding the physical space of the Family Physician Program, material available for the educational groups and work regime (public servants versus outsourced work in public service).

Regarding this issue, Druck[38] states that there is a precariousness in the service, with the disqualification and devaluation of the public servant and, in return, the hiring of outsourced workers in a susceptible form and for afixed time. A characteristic of the latter is vulnerability, which makes them fragmented and powerless to politically organize in the struggle for better working conditions and, consequently, health for the users.

The professionals of the Municipal Health Foundation who were present considered that the seminar "extended the vision" (PF1), as it "made possible the visualization of the problem and makes the service more productive" (PF2). Another professional considered "good the approach of the university with the service, the accomplishment of the work developed by the health professionals through the presentation of the data and enriching in the process of learning about the community" (PF5). It was also highlighted that, thus, the "solutions thought together are more productive and one can show the importance of some points such as the correct filling of the forms" (PF4).

On the other hand, supported by one of Freire's celebrated statements[39] - "men educate each other mediated by the world" - health professionals and preceptors also discover new knowledge and, consequently, are transformed by this new learning. Lifelong education will lead to the construction of new goals, policies, norms and forms of organization and communication in work, rather than "the simple modification of the old."[40] In this process, considered as a legitimate and contextualized training, the undergraduate is inserted in the socioeconomic and cultural dimensions of the population in a given territory of the health unit, integrating popular and scientific knowledge. Thus, the use of active methodologies in the teaching-learning process assists in the transformation of "doing health".

The seminar enabled the meeting of scientific concepts derived from the academy and the concepts derived from the work process of health professionals from health units and health surveillance. Hence, a new scientific knowledge originated from real situations and perspectives of new praxis of care was constructed. The concrete work of each team promotes new pacts of living and practices that bring health services closer to the principles of SUS - universality, equity and integrality - a humanized and quality care aimed at the user, not at the production of isolated numbers of a possible reality of the territory in which it operates.

What caught the attention of the tutorial group, however, was that two units did not send any representatives. These units presented the worst health and careindicators,[27] and health forms with more gaps and errors of filling. Such behavior may be related to a lack of personal motivation, a lack of autonomy, a reduced relationship with the community, a non-release of management, and a lack of understanding of this activity as an assistance.[41] Intersectoral and collaborative network work is necessary to achieve integral care, as well as the complementarity and interdependence of actions, communicative practice throughout the health care network, in which health surveillance was included.[42]

Although competency learning is the direction given by the National Curricular Guidelines of the Ministry of Health, we cannot ignore the notes by Duarte,[43] who names competence teaching as *pedagogy of learning to learn*. This author considers that, in this approach, there is a gap between learning and teaching, and that it is based on a capitalist society whose professional training is focused on the production of workforce by the appreciation of *immediate* and *manipulative* practice.

Nevertheless, in this study, two of Dewey's principles were considered[19], which are to form the individual integrated with nature and society, and education with conscience, freedom, which fosters integration and collaboration. When educational activities were carried out within real situations and in conjunction with health professionals, coexistence was enabled and it was favored the "desire for continuous improvement, providing the means to achieve it(p. 28)".[19]Understanding the information systems, visiting the units, presenting the results in the seminar and the conversation circles are real situations, with problems relevant to the life of the user, in which is possible to develop understanding and social interest.

Resuming the case of the two units that did not send any representatives, one may say that it is necessary for them to awaken in their professionals these two perspectives - understanding and social interest -, in order that work is not a mere reproduction of techniques.

It is worth noting that the international literature presents few reports of teaching-learning experiences similar to the Educational Program through Work for Health in the Health Surveillance of Chronic Non-Communicable Diseases modality, which makes it difficult to analyze the distances and convergences between them. The World Health Organization,[44] however, recommends collaborative work and advocates the practice of interprofessional education, as well as Mitre[45], who proclaims the need for an education based on "collective reflection, on dialogue, on recognition of the context and of new perspectives for the reconstruction of new paths, in the search for integrality between theory and practice, teaching and learning (p.241)." All these elements were observed in the studyhere presented.

In developed countries, this practice has been happening for 20 years, thinking only of the development of the undergraduate of the health area in the professional practice, and not of the issue of the lifelong education of health professionals. The concern with the teaching-learning process

and with the use of active educational methodologies has always been a landmark of developed countries. However, there are few studies that work with the professor-undergraduate-professional tripod with active, critical and reflexive methodology, discussing the social determinants of health, the impacts on health indicators and the obstacles of the caring process.

In Sobral-CE, another tutorial group of the Educational Program through Work for Health in the Health Surveillance modality, used what they called "education technology in service inhealth surveillance".[46] This technology is based on a flow of five pedagogical moments: (i) situational analysis, (ii) search for theoretical reference, (iii) experience of reality, (iv) preparation of a local intervention project, and (v) operationalization of the project. This methodology allowed to broaden the understanding of health surveillance actions in primary health care services.[46] Both the use of Project-Based Learning[12] and of this technology have provided the undergraduates with action within the service in a concrete way, and the existing relationships among community, territory and health.

Final considerations

The experience with the project in the field of Health Surveillance has allowed us to identify the way to establish the relationship among community living conditions, health practices, access to public policies and local and institutional challenges to face the health situation.

The methodology of Project-Based Learning, chosen for the students learning of the Educational Program through Work for Health, has allowed autonomy to the undergraduate and the exercise of responsibility of the entire team in decision-making, in conflict resolution and in communication, as well as in teamwork. These are competencies that are established in the educational guidelines of the Ministry of Education.[7]

In addition, this study has favored the discussion of health care and its determinants and of the work process between health professionals and preceptors who work in Primary Care in Niterói.

Contributors

Pereira S has worked in all stages, from designing the study to reviewing the final version of the article; Capelli JCS has participated in the interpretation of the data, writing of the article and its final version; Abrahão AL has participated in the writing of the article and its final version; Anastácio A has participated in the analysis, interpretation of the data, writing of the article and its final version.

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