Health education: learning from professional practice

Abstract  This study characterizes the Medicine and Nursing students’ learning from their integration into professional practice during the initial series of the courses. This is a documentary research with a qualitative approach, conducted through the analysis of 21 portfolios written by Medicine and Nursing freshmen and sophomores in 2015 and 2016. These students are from a Higher Education Institution of the inland of São Paulo, which uses active learning methods and integrates students into primary care scenarios. Data were interpreted through content analysis thematic modality. We identified that this integration facilitates their appropriation of the guiding principles of the Unified Health System; to understand the factors that prevail in the health-disease process in an expanded way with the care centered on the health needs of households and the community; to develop skills to work in a humanized group and interdisciplinary team, valuing empathy. We found that students are learning about the current Brazilian Health System and practicing their possibilities of operation, besides the values necessary to develop the teamwork required for person-centered care.

Key words  Learning, Professional practice, Health education
Introduction

According to the Federal Constitution, since the 1980s, the Brazilian Health System has proposed transformations aimed at health promotion, under the rationale of surveillance, which implies changes in the old care model, centered on disease and biological aspects. Thus, Higher Education Institutions (IES) are encouraged to innovate the teaching and learning process to make professionals increasingly critical-reflexive, active and owners of the construction of their knowledge, in order to promote transformations in health practices and meet the needs of the population. As a result, the National Curricular Guidelines (DCN) were developed in 2001 for health-related courses. Ten years into its publication, modifications have been proposed because of some difficulties in their implementation. Thus, in 2014, new guidelines for the medical courses were defined. Regarding Nursing courses, the Brazilian Nursing Association carried out in-depth discussions in national events, based on state and regional proposals, culminating in a document that is in the process of being approved of the new guidelines.

It should be noted that, for both courses, these new directions provide greater clarity about what is expected of the professional to be trained and reinforce the need to follow the principles and guidelines of the Unified Health System (SUS).

Primary Care becomes the main learning area, with an emphasis on active learning methods. The use of these methods and the early integration of the students into the daily life of the services favor significant learning, the construction of knowledge, besides developing skills and attitudes, with autonomy and responsibility.

As learning can be understood as a way to transform people and reality, student and teacher become subjects of the teaching-learning process, transforming their pedagogical and professional practices, building freedom with responsibility. Thus, it becomes possible to reflect on their practice and learning critically.

In this context, teaching-service integration is an important proposal for change in the training of health professionals to consolidate. In a review of the literature on the subject, we found that this integration narrows the theory-practice dichotomy, brings students closer to the principles of SUS, assists services in the development of actions and professional training, improving the quality of care. Also, for a consistent formation of health professionals, education and work are articulated through the integration of both into the care network. These are unique moments in which imbricated and mutually influencing actions are performed.

Inspired by consolidated experiences in Canada and the Netherlands, an institution in the inland of São Paulo state that has Medical and Nursing courses began its process of curricular change in 1997, aiming at integrating teaching and service and basic-clinical cycle, with the use of active teaching-learning methods. The institution has since then been working in the perspective of permanent curriculum development based on professional competence: integrated, student-centered and as per the principles of active learning methods.

In the dialogic realm, the definition and use of competence allow the recognition of people's life stories within their social context, facilitating the approach of values, ideologies, interests and conceptions with educational intentionality, so that competence does not come down to the individuality and, instead, to a set of knowledge and practices at the service of the community.

The development of professional competence, adopted by the institution in question, is based on this scope that converges to what is recommended for training in the health field and is in line with the DCNs. The articulation of the affective, cognitive and psychomotor realms of students mobilizes their previous knowledge and reflections, aiming at transforming reality. This curriculum is a proposal for professional training committed to the needs and demands of society, which requires professionals with a comprehensive practice of care and continuing learning.

For the implementation of this curriculum, nursing and medicine students are integrated jointly into professional practice from the first years of the courses, in an Educational Unit named Professional Practice Unit (UPP). This facility uses the problem-based learning method, and the Family Health Strategy (ESF) as the scenario. Students approach the needs of individuals, households and the community to promote health, preventing illness and providing rehabilitation. They participate in the planning of actions as they draw closer to the team, in the rationale of the principles and guidelines of the SUS. Integration in this activity enables the students to comprehend the health-disease process and the organization and functioning of the health system.

In this learning process, students use the reflective portfolio, in which they describe actions,
tasks, and learning itself. They cover three levels in narrative discourses elaborated continuously and reflectively, namely, an account of facts, a reflection on them and themselves.\(^{11}\)

Portfolio use in UPP is a strategy that enhances systematized reflection on daily practices and favors the construction of knowledge and, as a tool for dialogue between teacher and student, facilitates the evaluation process, equating cognitive, affective and psychomotor conflicts.\(^{10}\)

Thus, this study is based on the following question: What are the learning possibilities of Medicine and Nursing students of the first years from their integration into the professional practice? The objective is to characterize the learning of these students from the integration into the professional practice in the first and second years of the courses.

**Methods**

This is a documentary, descriptive and qualitative research performed from the analysis of the portfolio records by students of the Medicine and Nursing Courses of an institution located in the Midwest of São Paulo state. UPP’s development is in partnership with the Municipal Health Secretariat, due to the proposed diversification of learning scenarios, focusing on Primary Care, as pointed out by the DCN for health-related courses.\(^{10}\)

The curricular structure of the courses is annual and, in the first and second years, besides the UPP, which develops with the problem-based learning method, is the Systematized Educational Unit (UES), which employs Problem-Based Learning (PBL). These two articulated units allow for greater structuring and systematization of aspects necessary for training. In the second series, besides the UPP and UES, the Elective Educational Unit (UEE) is started, through which greater flexibility to the curriculum is sought.\(^{12}\)

The UPP in the first two years, as already seen, is based on the ESF scenario. It aims to increase the capacity of observation, reflection and development of professional practice, with progressive levels of autonomy/responsibility in comprehensive health care. It is understood as a possibility to make integration with the community, local health services and students of medicine and nursing courses more effective. The medical professionals and nurses of the Municipal Health Secretariat Department also participate as collaborating teachers.\(^{10}\) Students are subdivided into groups with eight medical students and four nursing students and are enrolled in an ESF unit and accompanied by a teacher and a collaborating teacher of the PHC network.\(^{10}\)

The data were collected from December 2016 to February 2017, in the registries of 21 student portfolios of a UPP group of the 2015 first series, and the 2016 second series, namely, five of the Nursing course and 16 of the Medical course.

Records in the reflective portfolio are realized from the development of the pedagogical cycle of the UPP and structured in the following stages: 1. **Practice experience**: it is when students are faced with social reality. With their previously acquired knowledge, attitudes and abilities, they relate with the object of learning in practical and simulated situations that will trigger the discussion for the next stage of the pedagogical cycle; 2. **Provisional synthesis**: each student elaborates a reflective account about the experienced situation and, from the reading of this event, identifies issues, selects what is relevant to the understanding of the problem, raise hypotheses and perceive of own knowledge, and then builds with others the learning issues; 3. **Qualified search**: individually, the student seeks in the literature the knowledge that responds to learning issues, taking into account the reliability of the sources used, as well as diversification and construction of synthesis of the material found; 4. **New synthesis**: the discussion is based on the researched sources. The student returns to the problems and hypotheses identified. It seeks to reconstruct the practice from the new knowledge constructed, which is the active movement of action-reflection-action of the practice to transform it. Reality confronts theorizing.\(^{13-15}\) 5. **Assessment**: At the end of each activity, the verbal assessment is performed individually, including self-assessment, and peer, group, activity and facilitators’ evaluation.\(^{10,16,17}\)

Five pedagogical cycles were developed in each series in those years, as described above. Thus, the records of 105 cycles were analyzed to identify what was perceived by the students from the principles and guidelines of the SUS, in order to expand the view of the health-disease process, changes in the care model and service organization and management.

Portfolio data were interpreted by the content analysis technique in the thematic modality, as proposed by Bardin. It comprises a set of methodological data analysis instruments based on scientific rigor from objective and systematic procedures, which enables the researcher to transcend the intuitive apprehension of meanings.\(^{18}\)
The following steps were carried out for the operationalization of this technique: Pre-analysis – after obtaining the portfolios of study participants, floating reading was performed to grasp them better and enter the first impressions on the subject. Exploring the material - phase in which coding, construction and definition of categories were performed for analysis. Data processing and interpretation – at this stage, results were presented, inferences proposed, the objective interpreted, and data discussed.

The anonymity of the participants was assured by identification codes, as follows: “P” for portfolio, followed by student number and “1” for first year and “2” for the second year.

The research project was approved by Fama’s Human Research Ethics Committee under opinion Nº 1.868.564 on 13/12/2016, observing prerogatives of Resolution Nº 466, of December 12, 201219. The students who made the portfolios available signed the Informed Consent Form.

Results

Five thematic categories have emerged from the analysis of the reflective portfolios, and they depict learning from the professional practice of Medicine and Nursing students: principles and guidelines of the Unified Health System; prominent factors of the health-disease process; care centered on health needs; work in a humanized group and, finally, empathy.

Principles and guidelines of the Unified Health System

The students’ records in the portfolio indicate that they are not aware of what is proposed by the SUS, especially regarding the ESF, and insertion in this scenario allowed them this approach. Also, they recognize the relevance of this knowledge as a citizenship right beyond professional training.

[...] it became clear to me how much I did not know about the public health system and how much my knowledge of it is crucial not only for my training as a professional but for the very exercise of citizenship (P7/1ª);

[...] I realized that the universality principle proposed by SUS, which seeks to ensure access to health services for every Brazilian citizen, was implemented (P5/1ª);

Also, the experience in the work process in this scenario allowed a reflection on what is advocated in the legislation and what is effectively possible in the ESF reality. The bond was perceived as team practice.

[...] that the ideal would be medical care provided to two households per day. This information generated an excellent discussion of the group about the discrepancies of what would be expected and of what can be realized within our reality (P6/1ª);

Such service follows SUS humanization policy [...] The bond is intensely practiced (P5/1ª).

The prominent factors of the health-disease process

The accounts revealed that the experiences, in practice, enabled the students to construct an expanded view on the prominent factors of the health-disease process, considering their social determinants.

[...] they live in a very troubled neighborhood. The house is a good masonry house and all, but if we combine their diseases with the stressful situation of living in a neighborhood with drug dealing in broad daylight, we could say that their health problems are multifactorial and involve only the physical/biological aspects, but also the social, emotional and environmental aspects (P1/2ª);

[...] there is a vast ravine leading to a ‘river’ made up of sewage water that ends there [...] children of the neighborhood have the habit of swimming and playing in this river. A few months ago, a ten-year-old child died when it was carried away by a rainstorm flood [...] Events like this serve to unveil the presence of a social determinant of the health-disease process and how it is incredibly relevant (P7/1ª).

The inclusion of students in the reality right from the first years favored the identification of the elaborate health promotion and disease prevention actions, considering the people’s context of life. It was also observed through the accounts that, for students, the needs of the population involve intersectoral actions and policies, besides health.

[...] there were several pins used for doses of cocaine [...] there was no running water, sew-
age and light. Food also seemed very scarce. In this situation, it becomes difficult to press them to seek prevention and show good health [...] (P8/1ª).

**Care centered on health needs**

The students point out that, when observing the practice of health professionals, in the attendance, they identify studied aspects that allow the identification of the care provided and health needs. Thus, it becomes clear that they perform the correlation of theory with practice.

[...] monitoring a routine childcare visit by the unit physician, [...] we observed some aspects of medical history’s collection with the mother and the physical examination of the little one [name] aged only 26 days [...] (P1/2ª);

I had the opportunity to follow a prevention visit with the nurse ... it was good to see the applicability of the anamnesis we learned ... it was very enriching to see the collection of the pap smear and the breast exam... (P2/2ª).

Also, data collection centered on the person’s history enabled the identification of health needs and the elaboration of an extended care plan. They also emphasize their relevance as students in joining the care plan.

[...] the first cycle could be channeled to a more focused analysis of the history of Mrs. V.D. to formulate a care plan based on actions that considered their biological, psychological and social needs [...] (P5/2ª);

[...] we were pleased with the initiative of the patient because through her we realized that our presence was significant in her life and that the care plan we outlined began to materialize, which increases the probability of supplying many of the health needs then identified (P5/2ª).

Understanding health conditions, based on an expanded view of the health-disease process, students identify gaps in the care provided, as they are unable to meet the different realms of care, such as access to specific health services, good health living conditions and bonding.

It is evident how these more impoverished populations, even with the proposed integrality of the SUS, have great difficulty in accessing some resources. If we take into account the pillars of health needs, they do not complete half of them, since there are no good living conditions, infrastructure in the neighborhood; food is predominantly based on carbohydrates [...] years of waiting to access specific health services; and do not relate well to some members of the unit team (P3/2ª).

**Humanized group work**

Students’ reflections point out the relevance of the activity for the understanding of the meanings of group work. They also describe that, while they hardly participated in the activities, the group’s mobilization, in terms of willingness and mood, led to greater cohesion.

[...] as a group, everyone worked very well. Some more participatory, others less, but all worked and helped in some way (P2/1ª);

My participation was minimal, but the group was generally very excited and willing [...] This cycle was marked by greater group cohesion (P8/2ª).

They recognize, however, that building knowledge in the group depends on the prior study of all students. Otherwise, the discussion of the theoretical foundation is directed to those who studied, restricting the construction of all the necessary knowledge, since some students, while present, do not contribute to the debate.

Few people had studied. Thus, the discussion was predominantly based on three voices. The content ended up falling below expectations (P8/1ª);

Regarding the group, I think we respect each other a lot and interpersonal relationships are good. However, I notice a huge disparity between the members; I see that some struggle very hard to participate and share what they study, with much more initiative, while others practically are absent during the UPP, although they are present (P2/2ª).

Also, there is an understanding that the humanized profile presented by the group contributes to professional training since it allows a look at the social aspects of health care.

I think the group is very humanized and this contributes to the issues being more social [...] it will be a unique contribution to our vocational training (P11/1ª).

**Empathy**

The accounts point out that the students consider the reality of the households served by the ESF very different from their actual reality, mobilizing in them a feeling of shame for this distancing, and they identify that it is necessary to advance in the understanding of these people’s life context. They describe that they make the exercise of putting themselves in the place of the other and that, faced with this complexity, still cannot grasp all the necessary understanding. Even so, they emphasize that this experience enables reflection, encourages the development of empathy and the desire to continue professional training humanely.
This particular conclusion made me feel ashamed, and I understood that I live ‘in a bubble’ – but I am sure that this will change throughout college (P9/1ª);

I tried to put myself in their place, but I came to the conclusion that the real feeling they experienced is not perceptible to me [...] That’s why I like the UPP a lot, as it triggers reflections in me, stimulates my empathy and, consequently, I have more desire to be a doctor [...] (P5/1ª);

The activity provided me with a rich experience [...] it reaffirmed the reasons for choosing medicine to help people and further awakened me to follow a humanitarian line of care (P3/1ª).

Students also identify that empathy leads people to be sensitive to what is required to mobilize behavioral change in people.

Empathy leads us to observe the ‘points’ in which we can sensitize people to change their behavior. Those who observe and don’t feel the reality of their neighbor are likely to fail in their mission to help this neighbor (P3/2ª).

Discussion

By analyzing the data obtained in the reflective portfolios, which describe the learning cycle based on the experience of the professional practice, we inferred that the students can approach the way the ESF is organized and functioning, the reality of households and, thus, understand the SUS Principles and Guidelines. This context also allowed us to reflect on the aspects that influence professional practice, as well as the contradictions between what is proposed by public policies and what is done. Such reflections facilitated by the problem-based learning method, which refers to the critical theory of education, foster the interconnection of different areas of knowledge and articulate theory with practice, as well as teaching and service, overcoming the traditional conventions of care and the teaching model20.

A systematic review study that analyzed the integrity of care in health education considered that the development of innovative curricular proposals as per SUS principles and health policies, aimed at meeting the needs of society and strengthening training is essential. This must occur through partnerships between academia and service, from the conception that the integrity of actions is consolidated in the daily practice of the professionals21.

However, it has been observed that the construction of an effective partnership between education and health services is the primary challenge of this training and that investments are necessary for active negotiation spaces, as well as incentives for resources and financing of innovative programs. This also involves the entire academic community and practitioners in the search for new strategies and pedagogical proposals to reformulate the curricula with the involvement of different actors22.

An example of successful initiatives to encourage health education is the Health Work Education Program (PET-Saúde), which has been shown as a way to increase knowledge about the SUS, especially on Primary Care, facilitating experiences in places of practice, interdisciplinarity in health care, group learning and health promotion rationale, directing the professional’s interest early to act in this context23.

According to the DCN for the Medicine and Nursing courses, it is expected that the training will provide professionals with the capacity to work considering people’s health needs and directed by the aspects advocated by the SUS1,24. Thus, innovative strategies, such as the integration of the student into practice scenarios in the initial series favor the construction of the expanded view, as confirmed by the accounts of the portfolios, in which the students are acquainted with people’s life context, the social determinants of the health-disease process and its complexity for health care, corroborating a study conducted with medical graduates25.

Before this understanding of the disease-health process, students reflect that investments must take place in actions involving different sectors for health planning and prevention and promotion actions. As one of the pillars for the implementation of the ESF, intersectoriality presupposes the development of actions that allow a more complex approach to the issues and the promotion of positive impacts on people’s living conditions, with the articulation of knowledge, shared accountability and construction26.

However, this intersectoriality is one of the most significant challenges in health work. In a study carried out in Pernambuco, it was observed that education is the sector that achieves the highest number of intersectoral actions, but these actions do not occur in a continuous and planned way, but rather as an emergency. It should be emphasized that partnership with the community, which has a broader understanding of its needs, is fundamental to the search for its improved health situation27. The several professionals must support communities through discussions that
mobilize the confrontation of their issues and the uncertainties that permeate intersectoral work\textsuperscript{28}.

The construction of comprehensive care considers the expanded conception of the health-disease process, collective work management, the critical and reflective resolution of daily problems, with responsibility and ethical-social commitment to people\textsuperscript{28}.

The students’ portfolio shows that contact with reality facilitates the construction of an expanded view of the health-disease process since students understood the life and work context of people, households and community, as well as health conditions through this experience. This favors the understanding of the Social Determinants of Health, understood as the aspects that can influence in this process, such as those of social, economic, cultural, ethnic, racial, environmental, psychological and behavioral nature, including community networks. Changes in this set lead to health inequities, as reported by the students in the portfolios\textsuperscript{28,30}.

In the experience of professional practice in the ESF, students emphasize the importance of group work as something that allows the recognition of their limits, the relevance of living with differences, and the strengthening of humanized actions.

Teamwork is a necessary direction for the implementation of SUS principles and guidelines. In PHC, the objective is to train multidisciplinary teams to address the needs of the geographically delimited population, since work focused on demographic, epidemiological, socioeconomic, political and cultural conditions guides targeted and effective health actions\textsuperscript{31}.

A study about teamwork in the ESF concludes that a process of developing skills and abilities involving emotional intelligence, as well as knowledge and experiences of interpersonal dynamics is necessary. Also, that teamwork seen on the positive side favors the growth of its members and encourages them to seek new knowledge\textsuperscript{32}.

To work as a team in PHC scenarios, it is necessary, therefore, to train professionals with such directionality. Thus, Interprofessional Education (EIP) as advocated by the World Health Organization stands out as the opportunity to jointly train two or more professions to develop shared learning\textsuperscript{33}. This training reinforces professional identity, teamwork, discussion of professional roles, commitment to problem-solving and negotiation in decision-making. Furthermore, as described in the analyzed portfolios, group work favors the integrality and humanization of care\textsuperscript{33}.

Thus, group work is increasingly gaining relevance and is demanded in our society still marked by individualism, hierarchical relationships and competitiveness. It enables stronger relationships for the recognition of similarities and differences among peers, who thus learn to construct ideas and actions collectively\textsuperscript{28}.

Small group work, such as that used in the active methodology, favors students’ learning since they are encouraged to interact with one another and their tutors or facilitators, from the perspective of horizontality\textsuperscript{34}.

By following the pathway of contact with the reality of the PHC service, students became aware of the lack of underlying conditions, such as sanitation, housing, work and transportation, and putting oneself in the other’s shoes. Empathy is thus developed and is an ability that enables the individual’s understanding of needs, feelings and perspectives of another person, expressing them in such a way that they feel understood and validated\textsuperscript{35}.

In this perspective, students express strong and real feelings, which facilitates the teaching-learning process insofar as they perceive their knowledge and experiences as part of the educational process. Through the problem-based learning method, students approach the precepts of the SUS, teamwork and integrality, as well as awaken in them sensitization in the face of different issues and social realities\textsuperscript{36,37}.

Faced with the entire process experienced by students and recorded in the portfolio, we can affirm that they feel motivated to pursue the profession, which shows the relevance of practice-based learning, since motivation occurs when the means to facilitate this behavior are provided, that is, students must be equipped with more viable means to make learning efficient\textsuperscript{38}.

**Conclusions**

Considering the purpose of this study, we identified the possibilities of learning in the professional practice scenario through records made by students in the portfolios. The results confirm that they are learning about the Unified Health System, practicing its principles and guidelines, understanding the complex health-disease process – which are fundamental requirements for the identification of health needs and expanded person-centered care.

They develop and understand, in a broader way, the values required for the development of teamwork and empathy, which provides them
with meaningful learning, linked to the Brazilian health education policy, despite its continuous construction process.

It can be understood that, while it is a complex movement, due to the need to live with uncertainties, it causes an impact by bringing students closer to different realities and worldviews, contact with practice is a differentiated course that allows them reflections on the needs of advancing the care model right from the first years of the courses, in line with the theoretical policies and assumptions.
Collaborations

DMF Nalom and JFSA Ghezzi participated in the concept, design, collection, interpretation and analysis of data. CRFB Peres, EFR Higa and MJS Marin participated in the concept, design, interpretation and analysis of data. All authors participated in the elaboration, drafting and final approval of the manuscript.

References


