

UNIFESP Nutrition Alumni Evaluation: Subsidies for Curricular Reform

Avaliação dos egressos do curso de nutrição da UNIFESP: subsídios para a reforma da matriz curricular

Semiramis Martins Álvares Domene^{1,2}
Luciane Maria Pezzato³
Claudia Ridel Juzwiak⁴
Lia Thieme Oikawa Zangirolani¹

¹ Universidade Federal de São Paulo, Departamento de Políticas Públicas e Saúde Coletiva. Santos-SP, Brasil.

² Universidade de São Paulo, Instituto de Estudos Avançados, Grupo de estudos Nutrição e Pobreza. Santos-SP, Brasil.

³ Universidade Federal de São Paulo, Departamento de Saúde, Clínica e Instituições. Laboratório de Estudos e Pesquisas em Formação e Trabalho. Santos-SP, Brasil.

⁴ Universidade Federal de São Paulo, Departamento de Ciências do Movimento Humano. Santos-SP, Brasil.

⁵ Universidade Federal de São Paulo, Departamento de Políticas Públicas e Saúde Coletiva. Laboratório de Segurança Alimentar e Nutricional e Políticas Públicas. Santos-SP, Brasil.

Correspondence
Semiramis Martins Álvares Domene
E-mail: semiramis.domene@unifesp.br

Abstract

Objective: To conduct a study on the evaluation of alumni on their education in UNIFESP's Nutrition Course, in order to subsidize the reform of the curricula. *Methods:* Quantitative and qualitative cross-sectional study, developed using a survey with closed and open questions, with respondent alumni from the first three Nutrition classes. The validated research survey contained a Likert-type attitudinal instrument and two open questions, which were submitted to a thematic content analysis, theoretically grounded on the work of Merleau-Ponty. *Results:* Forty-eight replies were received. Respondents showed a positive perception of their education and the development of skills for professional performance; the shortcomings noted by respondents provided subsidies for the reform of the curricula on several aspects. Labor market undervalued interprofessional formation. *Final considerations:* There was a positive perception about their education, with emphasis on interdisciplinarity as the main aspect. Despite the challenges met with the curricular reform, this is understood to be a complex and continuous process.

Keywords: Higher Education. Dietitians. Curriculum. Interprofessional Education. Educational Measurement.

Resumo

Objetivos: Realizar um estudo de avaliação dos egressos sobre a formação que receberam no curso de Nutrição da UNIFESP, a fim de subsidiar a revisão da matriz curricular do curso de Nutrição. *Método:* Estudo transversal quanti-qualitativo, desenvolvido por meio de questionário, contendo questões fechadas e abertas, com os egressos das primeiras três turmas do curso de Nutrição. Construiu-se e validou-se um instrumento de pesquisa atitudinal do tipo Likert e foram formuladas duas questões abertas submetidas à análise temática de conteúdo sob o marco referencial de percepção de Merleau-Ponty. *Resultados:* Foram analisadas 48 respostas. Os egressos apresentaram percepção positiva sobre sua formação e sobre o desenvolvimento de habilidades para o exercício profissional; apontaram desafios que subsidiaram a reforma da matriz em diversos pontos. Identificou-se pouca valorização do mercado de trabalho para a formação interprofissional e interdisciplinar recebida. *Considerações finais:* Houve uma percepção positiva do egresso do curso de Nutrição sobre sua formação, com destaque para a interdisciplinaridade como principal aspecto. Apesar dos desafios atendidos na reforma, entende-se que o processo de revisão da matriz é complexo e contínuo.

Palavras-chave: Educação Superior. Nutricionistas. Currículo. Formação Interprofissional. Avaliação Educacional.

Introduction

Along the 70-year history of nutrition as a profession in Brazil, there have been many challenges to the university education of dietitians, some of which are still to be overcome. Dietitian training has been shaped by the country's social-political context; initially, within the framework of assistentialist policies, it presented a strong technicist nature and a biology-oriented approach.¹

Concern with dietitians' attributions, competences and the broadening of their field of action coincided with the raise in the number of nutrition courses since the 1970s.^{1,2} From the 1980s, there has been a broader reflection on the evaluation processes and training follow-up, which pointed to the need to improve the approximation between the biological and the social, the theory and practice relationship and the social vision.¹ Today, these topics still prevail in discussions on dietitian training, which must answer the need for a professional capable of contributing to the well-being by promoting food and nutrition safety, the Human Right to Adequate Food, and the impositions posed by labor market.³

The change in epidemiologic, demographic and nutritional profiles of the Brazilian population, and the challenges and attributions in each of the fields available to dietitians demand important reflection on their education process, ranging from the minimum number of curricular hours⁴ to the inclusion of new conceptual framework. Furthermore, several authors that have been approaching these subjects^{2,4,5} emphasize the need for dietitian education to abide by the National Curriculum Guidelines (*Diretrizes Curriculares Nacionais*, DCNs) for undergraduate programs, the profile of which envisages a generalist, humanist and critical professional.⁶

In order to reach this goal, it has been universally acknowledged the need for interprofessional education, which is part of the efforts to break away from traditional education, in which each area discusses its practices individually. The interprofessional approach opens space for sharing, thus allowing the development not only of specific skills, but to those common to all health-related areas, as well as collaborative skills, which makes room for joint work and fosters teamwork skills.^{3,7,8}

Traditional education, in which each profession is exclusively dedicated to their own issues and practices, creates professionals who lack the necessary skills for this type of work.³ Furthermore, within interprofessional education, an interdisciplinary teaching approach allows training in which problems are solved by means of enhanced perception,⁹ which, in the case of health-related areas, contributes to overcoming reductionism and promoting integralcare.

In the perspective of Interprofessional Health Education (IPHE), in 2006, the Federal University of São Paulo (UNIFESP) began to offer five new health undergraduate courses with an innovative approach; nutrition was among these courses. Under this new proposal, students undergo three common axes of knowledge “Work in Health” [(“Trabalho em saúde”, TS); “The Biological Dimension of Human” (“O ser humano em sua dimensão biológica”, BIO); “The Social Dimension of Human” (“O ser humano e sua inserção social”, IS), in which modules are organized interdisciplinarily, agglutinating shared contents, in learning moments in which classes are organized so as to be composed of students from several courses (Physical Education, Physical Therapy, Nutrition, Psychology, Social Service and Occupational Therapy).^{8,10}

It is under the axis “Approach to Health-Specific Practice” (“Aproximação a uma prática específica em saúde”, ESPECÍFICO) that students go over specific contents of their practices and future professions, although still within an interdisciplinary approach.¹⁰

Barr¹¹ stresses the coherence in adopting IPHE in health education in Brazil, since it is fully aligned with the principles of the Unified Health System (*Sistema Único de Saúde*, SUS), contributing to the latter’s strengthening and consolidation.

The “World Declaration on Higher Education for the Twenty-First Century: Vision and Action”, resultant from the World Conference on Higher Education (1998), states that Higher

Education with quality is associated to its evaluation and regulation. The “Declaration” emphasizes that institutions should prepare internal and external evaluation processes, using methodology appropriate to their contexts.¹²

Education evaluation is a multidimensional area, and has recently been receiving closer attention, given that it is important for Higher Education institutions that evaluation be transparent and coherent with their pedagogical approaches, thus allowing institutional qualification.^{13,14}

Meira & Kurcgant¹³ highlight three aspects that Stufflebeam, in the 1970s, indicated as indispensable for this process: evaluation as a systematic and continuous process; evaluation as a cornerstone to the formation of questions and the quest for information that relevantly answers them; and lastly, the proposal that evaluation must favor management decision-making (p. 482).¹³

Among the dimensions of the evaluation process, the alumni evaluation is interesting, since they may have important opinions on the curriculum they experienced, considering that they are now inserted in the labor market, and are able to assess the skills developed during their Higher Education.^{13,15,16}

Systematic alumni follow-up also allows an understanding of the social repercussion of IPHE based on their opinion. This mapping enables the institution's self-evaluation, the identification of potentials and shortcomings in the pedagogical project, and decision-making on which strategies must be adopted so as to improve education and guarantee that social needs and expectations be met.^{8,14,15} According to Andriola,¹⁵ one of the most important aspects of alumni evaluation is the possibility of identifying the quality, nature and interaction of the three inseparable cornerstones of higher education according to the Brazilian Constitution – teaching, research and extension –, besides those of all the adjacent activities – such as management evaluation, strategic planning and financial sustainability, and of internal policies aimed at evasion prevention and infrastructure adequacy^{15,17} –, which allow these basic activities to succeed.

This paper undertakes a study of alumni evaluation on the education they received in the Nutrition course at UNIFESP, in order to provide subsidies for the curricular reform.

Method

This is a cross-sectional study, based on quantitative-qualitative methodology, using a survey with closed and open answers as data collection instrument. The group under study comprised 136 alumni from the first three Nutrition classes at UNIFESP, who graduated between 2009 and 2011.

The research survey was elaborated as a Likert-type attitudinal instrument,¹⁸ with no respondent identification, composed by 25 statements (Table 1), besides two open questions, so respondents had more room to express their thoughts, and enabled a deeper analysis of their perceptions. Both

statements and open questions approached the dimensions of analysis comprising the main aspects of interest: perception on the education received (Dimension 1); perception on the development of the skills expected for the alumnus profile (Dimension 2); perception on the insertion into the labor market (Dimension 3).

The instrument was pre-tested in a sample of 10 alumni for the verification of response time and phraseology adjustment.

The research instrument was applied between December 2014 and January 2015, and was sent to all 136 subjects by email, to be fulfilled online.^a UNIFESP's Undergraduate Division provided their email addresses; at that time, the alumni had joined the labor market for periods ranging from two years and eleven months to four years and eleven months.

Validated statements were associated to an attitudinal scale ranging from *full agreement* to *full disagreement*, with intermediary positions of *partial agreement* and *partial disagreement*.

As the research was both quantitative and qualitative, data analysis was undertaken by a combination of methods. Quantitative data were processed with the software *Statistical Package for the Social Sciences* – SPSS®, version 18 for Windows, for statistical analysis. Assertion validation was evaluated by linear regression between each respondent's score in the assertion and the total score, with a minimum of $r > 0.30$. Cronbach's alpha was used to verify the instrument's internal consistency.

For open question assessment, content analysis was used; this method seeks the sense or senses present in the data under study. According to Minayo, content analysis is related to research techniques that allow inferences about data in a given context to become replicable and be validated, by means of specialized scientific procedures (p.303).¹⁷ In conformity to the three stages proposed by Bardin¹⁸ (pre-analysis, exploration of the material and processing of results), a free-floating reading was initially undertaken for all answers obtained by the two open questions (Q1 and Q2) contained in the instrument. This allowed the identification of the most commonly employed expressions and keywords, so as to help information organization and reach a deeper level of understanding of the material.

After that, an exhaustive reading of the material was conducted, in order to exploit the contents in detail, aiming the construction of analytical categories, by means of a more careful review of the organization of the expressions and keywords identified and their senses. Next, excerpts from the answers were selected, which revealed the amplitude of answers by the respondents, in each thematic category,¹⁷ seeking to make them significant and valid.

Theoretical framework for the analysis of open question results was sought in literature with different definitions and concepts. Modern authors such as Merleau-Ponty and Wittgenstein consider

a The instrument is available, and may be requested by email to the address provided above.

perception as an imaginary access to the world, and, in this sense, perception comprehends not only living experience dispensing with concepts, but also interpretations comprising thoughts, concepts, habits and education. This means there is something beyond the eyes determining perception; things perceived are lived as totalities that vary according to perspectives, frameworks and profiles with which they are taken.¹⁹

Among these authors, the work of Maurice Merleau-Ponty was chosen; he states that perception is about relations, not absolute terms. For him, perceptive experience is more strictly connected to a set of experiences and relations than to punctual and precocious relations.²⁰

Thus, it was possible to reflect and build relations between the content of the data and the process of the elaboration of the questions concerning the object under study.

This protocol was approved by the UNIFESP Ethics Committee, process n. 842.165, October 21, 2014.

Results and Discussion

Forty-eight answers were obtained (35%), comprising the study's convenience sample.

The assertion validation study showed that, for Dimension 1, only one assertion was not validated ($r < 0.3$); for Dimension 2, two out of seven assertions failed to meet the validation criteria; for Dimension 3, only one of the assertions met the quality criteria. In Table 1, the assertions integrating the research instrument are presented, divided by dimension.

Table 1. Assertions belonging to the data collection instrument with alumni from the first three classes of the Nutrition course, UNIFESP (2009 to 2011).

Dimension 1: Perception on the education received
<i>The university education I received was adequate from a technical point of view.*</i>
The evaluation criteria adopted for the axis “The Social Dimension of Human” (IS) were adequate.
The pedagogical strategies adopted for the axis “Approach to Health-Specific Practice” (ESPECÍFICO) were appropriate to learning.
The pedagogical strategies adopted for the axis “The Biological Dimension of Human” (BIO) were appropriate to learning.
The contents in the axis “Approach to Health-Specific Practice” (ESPECÍFICO) were sufficient for my professional performance.
I feel the need to take further courses to improve my professional performance.
The contents in the axis “The Social Dimension of Human” (IS) were sufficient for my professional performance.
I would recommend the Nutrition course at UNIFESP.
The contents in the axis “Work in Health” (TS) were sufficient for my professional performance.
The course’s duration is adequate.
The pedagogical strategies adopted for the axis “The Social Dimension of Human” (IS) were appropriate to learning.
The pedagogical strategies adopted for the axis “Work in Health” (TS) were appropriate to learning.
I agree with the course being full-time.
The evaluation criteria adopted for the axis “The Biological Dimension of Human” (BIO) were adequate.
The evaluation criteria adopted for the axis “Work in Health” (TS) were adequate.
The module-and-axis organization was appropriate.
The contents in the axis “The Biological Dimension of Human” (BIO) were sufficient for my professional performance.
The evaluation criteria adopted for the axis “Approach to Health-Specific Practice” (ESPECÍFICO) were adequate.

Dimension 2 – Perception on the development of the skills expected for the alumnus profile
<i>The course developed my interdisciplinary work skills.*</i>
<i>The course allowed me to develop an integrated vision of health care.*</i>
The education I received was adequate from an ethical viewpoint.
The education I received was adequate from a humanistic viewpoint.
The education I received allowed me to take a critical stance regarding the construction of common wellbeing by means of direct actions, in order to provide access to the Human Right to Proper Food.
The course promoted the development of my teamwork skills.
The activities undertaken during the common axes took the dietitian’s profile into account.
Dimension 3 – Perception on the insertion into labor market
<i>I work in the area where I intend to build my career*</i>
<i>It was difficult for me to find my first job as a dietitian.*</i>
<i>The education I received was adequate for my work area.*</i>
<i>I am happy with my work area regarding the type or work I do.*</i>
<i>I intend to work on a different area in nutrition.*</i>
What I earn is compatible with the investment done as a student.
<i>The labor market in my area values the professional profile designed at UNIFESP.*</i>
<i>I intend to stop working with nutrition.*</i>
<i>It was difficult for me to find my first job as a dietitian.*</i>
<i>The education I received was adequate for my work area.*</i>

*Discarded assertion ($r < 0,3$) in *italics*, followed by asterisk.

The maintenance of 17 out of 18 assertions in Dimension 1 shows consistency in the results, and indicates that the instrument adequately approached aspects pertaining to pedagogical strategies, curricular organization, content, and evaluation criteria. A similar result was obtained for Dimension 2, on the development of expected skills by the alumni. The high number of non-validated assertions compromised the analysis of alumni perception in Dimension 3 (labor market insertion).

As some assertions were not validated, the instrument’s reliability study was undertaken for each dimension separately. Cronbach’s alpha indicates high reliability for Dimension 1 (education received)

($\alpha=0.97$) and moderate reliability for Dimension 2 (alumni expected skill development) ($\alpha=0.53$) Dimension 3 (labor market insertion) was not considered reliable ($\alpha=-0.37$).

The two open questions (Q1 and Q2) were answered by all respondents (n=48). However, after analysis of their answers, following the three steps described in the methodology, it was concluded that they need to be reformulated for the next application of the instrument.

In the case of Q1, **“Based on your professional experience, how do you evaluate your insertion as a dietitian into the labor market (advancements and limitations), and its relation to your university education?”**, answers indicated that the phrasing was prone to ambiguous interpretation and vague answers (48%), despite more than half of the answers revealed a correct understanding of the question, as 52% of the answers bore a relation to one or both of the aspects approached by the question.

Therefore, a rephrasing proposal was made, dividing the question in two; one of the new questions would approach labor market insertion, and the other professional education.

Taking into account the fact that all respondents had just recently graduated, answers were more concerned with education problems than with insertion into labor market. This hindered the question's fully attaining its goal, which was to collect information on how alumni identify the existence of a relationship between the education obtained and the facility of difficulty in finding employment in their field, thus evidencing specific curricular aspects of the Nutrition course at UNIFESP.

As for Q2, **“We would like to hear your opinion on the course's offer conditions; please, tell us if you have any suggestions or criticism that may contribute to the improvement of the Nutrition course”**, answers indicated lesser deviation from the questions' goals, given that a smaller percentage (20%) showed difficulty in understanding, either for vagueness or for not directly answering the question. Nevertheless, a rephrasing was proposed, as it was concluded that the phrase “offer conditions” left space for the interpretation that the question was about the course or campus's infrastructure. The proposal was made to make the question clear, so it could fully reach its goal, which was to know whether alumni perceived the existence of gaps and/or unexploited potential in the course, and which were these, so as to contribute to the course's improvement.

Pre-analysis of the collected material in the first analytical step of Q1's answers allowed the identification of some recurring words, revealing the respondents' understanding of the content of the question: *experience, insertion, work, education, market*. From these words and the in-depth analysis, two analytical thematic units were sorted out: *labor market insertion* and *education*. This was not a random choice, as it expresses the relationship between researchers and the researched material, in articulation with research goals.

At last, from these thematic units, two categories were delineated, which were aligned with the instrument's intentions, given that they were contained in Dimensions 1 and 3, relative to the main aspects of interest in the study: *Perception on education* and *Perception on labor market insertion*.

Under *Perception on labor market insertion*, the analysis of the results showed that, despite acknowledging the differentiated education model for the Nutrition course at UNIFESP, there was no difference in the insertion and appraisal of these professionals by the labor market, according to some of the respondents' answers.

Finding my way into the labor market was very hard, even though we know our education was differentiated. The market does not value that.

I believe my education was good, even with the difficulties in getting my first job, [...].

Even though I think my education was excellent, this is not really valued or taken into account in the work world.

A quantitative and qualitative research undertaken by Rodrigues, Meneses & Waissman²¹ analyzed the profile and described the work conditions of dietitians from Federal University of Ouro Preto (UFOP), in their different fields of professional activities. The authors state that there is a lack of studies approaching this theme nationwide. Despite this limitation, they indicate that other studies²²⁻²⁵ show that, even though workers are inserted into the formal labor market, their employment bonds are unstable, unsafe and precarious.

Rodrigues, Meneses & Waissmann²¹ consider that, with the great number of undergraduate Nutrition courses that began to be offered throughout the country in the last decades, the number of professionals launched into the labor market reached approximately 15,000 people; the fact that these professionals are not always able to find space to work generated a series of other problems of various orders – social, economic, psychological and even physical –, revealing the marginal insertion of dietitians into the work force, marked by lack of solid employment bonds and unhealthy work conditions.

Varella & Pierantoni,²⁶ analyzing the health labor market in comparison with the general labor market in Brazil, showed that, in the 1990s, especially on the public sector, more flexible modalities of employment were adopted for hiring health professionals; the health market presented a differentiated behavior, with a raise in the number of positions and personnel in the sector. On the other hand, there were huge discrepancies in the evolution of average salaries among the different formally employed health-related occupations in Brazil between 2004 and 2005; higher salaries were found among physicians, whereas the lowest earnings were found among dietitians.

As for *Perception on education*, it was observed that opinions varied, with some respondents evaluating it positively, while others pointed to some gaps.

I believe I have had a good education, and I say this by comparison to other professionals with other types of education.

[...] my education was, without a doubt, responsible for the fact that today I can do great work.

Everyday life shows some contents to be lacking [...].

Still under this category, there was emphasis on the interprofessional and interdisciplinary education, which characterized the commons axes of the course's pedagogical project, as we may see by these excerpts:

Interdisciplinary education made me see my job differently than those that only focus on their own profession.

I judge that I had a good education, which is really helpful in my work environment. Multi-professional education was a great progress, and it made me take a broader stance than some of my colleagues from other universities.

My course educated me to be a critical professional, and showed me how important it is to work in multi and inter-disciplinary ways, but it is in real life experience that I have realized that a critical view makes you see health-related problems as something that go beyond the biological; it favors creativity and teamwork, improves and allows for integral health care.

This perception may be related to the modules' own features, especially the TS-axis. TS's modules are based on reflexive learning, built by means of practical experiences in the municipalities' public services, with emphasis on health services.

According to Capozzolo et al., one central strategy in the TS-axis consists in exposing students, since their first year, in contact with different population groups and their health problems, with social movements, as well as service network teams. Students are encouraged to take on growing responsibilities, and making interventions according to their possibilities. Experiences promoted by participation in health-related everyday situations are starting points for learning (p. 444).²⁷

According to Feuerwerker & Capozzolo (p.37),²⁸ discussions on changes in health education in Brazil have been occurring since the 1960s, given that the 1988 Constitution was very clear as for the need to articulate between professional education and the health system. However, the diversity of practical scenarios made available by innovative experiences in several health courses, led to the possibility to make changes also in pedagogical aspects, and, consequently, in the curricula. The cornerstone in the reorientation of health professional education were the DCNs, published by the Ministry of Culture and Education in 2001 (p. 38).⁶

The pedagogical assumptions used in the document were matter of considerable debate, in order that they may efficiently enable the formation of a critical, integrated, creative and skilled professional for multi and inter-disciplinary work. These professionals should in addition, be able to solve conflicts and understand SUS with its full range of practices, according to the DCNs for Nutrition undergraduate courses.

In the literature, it is possible to observe accounts of the difficulty found by some dietitians to act within the Family Health Strategy (*Estratégia Saúde da Família*), as less than 30% of the professionals interviewed thought themselves able to reflect on the social, political, economic and cultural reality of the region where they work.²⁹

In addition to these interdisciplinary and multi-professional education features of the common axes of the UNIFESP Nutrition course, the evaluation criteria and the pedagogical strategies – which were also evaluated in the survey, by means of the assertions “**The evaluation criteria adopted by the Axis were adequate**” and “**The pedagogical strategies adopted by the Axis were appropriate to learning**” –, revealed that both common axes TS and IS, as well as ESPECÍFICO, were well evaluated, given that most respondents seemed to agree with these assertions. However, the TS axis was the one to present the highest total agreement rate (57.1%) for both assertions.

As for the afore mentioned gaps, opinions point to two areas in the ESPECÍFICO axis: food studies area and clinical nutrition, as may be seen in the following excerpts.

I believe that, if more time were allotted to the modules on nutrition and food preparation, food science, among others, we would have had a fuller training.

Technical training for the clinical area was basic-level. Everyday life shows some contents to be lacking [...].

Data analysis for Q2's answers found a more evident path for the construction of thematic nuclei, adapted to the format of the respondents' answers. Positive aspects were approached by 15 out of 48 total answers; 26 dwelt on negative aspects; 25 presented suggestions and 10 were vague or failed to answer the questions.

Initial search was done in the first readings, and revealed the following keywords: *lacked/lacks; insufficient; five years; four years; clinical nutrition; enteral/parenteral; faculty; professors*. In-depth analysis found three thematic nuclei: *Positive criticism, Negative criticism and Suggestions*. At last, these nuclei provided the bases for the construction of the following categories: *Strongholds qualifying education, Educational limitations and Possible improvements*.

The *Strongholds* category shows three central aspects: the innovative pedagogical project, which has interdisciplinarity and multi-professionalism as its main features; faculty qualification; the common axes, especially, IS and TS.

[...] the positive side of the course was the interdisciplinary experience, which made me see the individual as a whole, not only from the nutritional viewpoint.

I think the course was very innovative and capable of preparing excellent professionals, given its differentiated pedagogical project.

In my opinion, the course is excellent; the faculty is very good and was able to overcome the lack of infrastructure.

The IS and TS axes and incentive to research were fundamental in the dietitian's education.

In the *Limitations* category, the most recurring aspects were: lack of clinical nutrition contents; lack of internships; lack of other contents.

[...] the fact that it was a full-time course makes it difficult for us student to find an internship besides those offered by the university.

I missed some basic contents, such as methodology and statistics [...].

[...] the relation between nutrition and pharmacy was missing [...].

[...] lacking in elder patient care.

Finally, in the *Improvements* category, results showed that the main suggestions intended to remedy some of the limitations pointed in the previous category. Three aspects more emphatically approached were: the change in the overall duration of the course; improving internship format; including other contents.

[...] I think students would benefit from part-time or semi-part-time five-year course [...]. I also believe more time would allow students to absorb contents more significantly.

[...] it would make a significant difference if we could work as interns a couple of times during the week of during recess [...].

Offer management, entrepreneurship and personal marketing (communication) lectures or courses; offer modules on functional nutrition (emphasis on behavior); offer contents about specific diets: vegetarian, raw-food diet, macrobiotic, etc.

If we cross these results with those obtained for the assertions “The contents approached in the Axis were satisfactory for myprofessional performance” and “I feel the need to take further courses to improve my professional performance”, it is possible to see that the education received was positively appraised.

Even if we take into account the broad discussion on content adequacy for professional performance – given that undergraduate courses are intent on training generalist professionals, and that professional performance often demands specificities –, most respondents marked either partial or total agreement to the assertion “The contents approached in the Axis were satisfactory for myprofessional performance”; partial disagreement was more expressive (14 times) for the ESPECÍFICO axis, as opposed to a smaller number of occurrences for the common axes (4 or less), which results agreed with our findings for Q2 under the *Limitations* category.

The *Improvements* category, in its turn, showed results that agreed with the assertion “I feel the need to take further courses to improve my professional performance”. Most respondents (n=40) marked total or partial agreement to this assertion, and the contents indicated by them as lacking are, indeed, contents approached during further specialization, such as functional nutrition and marketing.

Honório & Batista³⁰ believe that, although it is important to make changes in curricula to emphasize more dialogic and reflexive teaching policies, this is not enough as an isolated action, because some types of professional training will take place after graduation, as alumni experience in professional environments.

Alves et al.³¹ conducted a study with Nutrition alumni from the Federal University of Santa Catarina (UFSC) and observed that, at the moment of their research, a significant number of professionals (61.8%) had taken or were taking courses in graduate programs; more than half of those were specialization courses (35.8%).

An analysis of the perception of faculty and student body in relation to the education for the public health area, showed that 58% of recently graduated nutrition alumni reported to be taking some type of specialization or graduate course.³² Aguiar & Costa (2015)²⁹ analyzed higher education and professional performance in dietitians formally employed as public workers at Family Health Support Nucleus (*Núcleos de Apoio à Saúde da Família*, NASF); in order to work in these nuclei, they took specialization courses in the field.

In this sense, results showed that the perception of most respondents agreed with what is seen in the literature, given that taking specialization courses means to continue one’s own professional training and that, regardless of the type of course chosen, is a way of improving professional performance and everyday practice.

This paper does not intend to approach this issue in depth; however, a growing need to seek specialization courses may be perceived in most recently undergraduated alumni. This need is originated by the market-oriented approach given to the health sector, and aims mostly at providing professionals to supply labor market demands. As the health sector is fundamentally concerned with human needs, it is important that there be coherence between the DCNs and specialization courses.

The new curricula for the Nutrition course at UNIFESP was, in relation to its common axes, a joint effort of the six health-related courses in the campus. As for the curricula reform of the ESPECÍFICO axis, it was grounded on the data collected in this study, both from positive and negative criticism and suggestions, as well as on the DCNs.

Final remarks

The evaluation made by alumni on their higher education in Nutrition at UNIFESP points to a positive perception, with special focus on interdisciplinarity.

The dimension pertaining insertion into the labor market could not be quantitatively analyzed, given that the assertions contemplating this dimension were not validated; however, theme-based content analysis shows that, even though the educational model was acknowledged as good, it had not impact on labor market insertion.

Since the educational project is admittedly counter-hegemonic, this result suggests that, in addition to the current precarious employment bonds in the health sector (which have already been pointed out by other studies), the market may still be geared towards more traditional professionals. It is believed that progressive insertion of professionals with a more critical, interprofessional and interdisciplinary education will eventually change this.

As for the respondents' predominant perception of the need to seek further specialization, the current availability of such courses refers to non-regulated levels of training, which are strongly influenced by labor market demands.

Results pertaining challenges to be overcome in curricula development provided relevant subsidies for reform. Among relevant topics for revision, we may cite the amount of time to be dedicated to practices with food, an in-depth treatment of clinical contents, research methodology, statistics and pharmacology.

In this sense, there has been work on the restructuring of modules, with more practical activities on the second and third terms, a reorientation of contents towards the consolidation of cross-sectional approaches, and the restructuring of two curricular units so they may contemplate research methodology and statistics. Another effort worthy of note is the promotion of higher integration among contents aiming improve curricular design.

Given the dynamics of a curricula reform, the complexity of an interdisciplinary and interprofessional pedagogical project, besides institutional limitations, there are aspects still to be contemplated in future interventions in the curricula.

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Contributors

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