

ORIGINAL ARTICLE

Competencies for business entrepreneurship in nursing, in the light of Le Boterf's concept*

HIGHLIGHTS

- 1. Oscillation in tuberculosis/HIV co-infection cases over the last 20 years.
- 2. The highest number of cases occurred in adolescents.
- 3. Predominance of cases in the pulmonary form with progression to cure.
- 4. The urban area was significant in relation to the outcomes.

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ABSTRACT

Objective: To analyze the perceptions of nurse entrepreneurs about the competencies needed to undertake nursing considering Le Boterf's concept. Method: A qualitative study was conducted with 20 nurse entrepreneurs who had worked for at least 42 months in various regions of Brazil. Data was collected between July 23 and October 30, 2021. Bardin's content analysis was used with the aid of iRaMuTeq software. Reinert's method generated a Descending Hierarchical Classification Dendrogram and Textual Statistics. Results: There are two main categories: technical and behavioral. Technical skills include technical knowledge, accounting, marketing, administration, ethical understanding, management, and leadership. Behavioral competencies include communication, teamwork, interpersonal relationships, persistence, willpower, responsibility, and obstinacy. Conclusion: Knowing nurses' perceptions strengthens entrepreneurial practice in nursing and expands entrepreneurship in training and the workplace.

DESCRIPTORS: Professional Competence; Entrepreneurship; Nurse's Role; Nursing Research; Education Nursing.

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INTRODUCTION

Entrepreneurship in nursing is related to identifying opportunities to improve health care, developing innovative initiatives, and promoting collaboration between different areas of knowledge to implement effective solutions¹. Entrepreneurship enables nurses to offer diverse services beyond care, including education, research, and administration²⁻³.

In literature, entrepreneurship in nursing can be seen in three strands: social entrepreneurship, business entrepreneurship, and intrapreneurship³. Recently, business entrepreneurship has become more widespread in the field of nursing⁴. It makes it possible to add economic and social value by offering new services and innovating in healthcare⁵ while at the same time providing a career option⁶ that is different from the traditional route as an employee in the public or private sector.

This requires the development of specific skills. Guy Le Boterf⁷ states that professional competence is a disposition to act in a relevant way concerning a particular situation. According to the author, a professional's competence is built on articulating three areas: the subject's bibliography and socialization, professional context, and professional training. In addition to possessing skills and abilities, the individual must know how to mobilize them in a work context⁷.

In this sense, business entrepreneurship is a specific situation whose work context also requires particular skills. In literature, entrepreneurial skills include recognizing opportunities, mobilizing financial resources, taking calculated risks, and developing management skills for new processes and products8. Nursing entrepreneurship lacks specific literature, highlighting the skills needed for business entrepreneurship. This raises the question: What skills are required to start and maintain a nursing business?

A study of nursing professors who teach courses on entrepreneurship identified that the competencies for entrepreneurship that should be fostered in undergraduate classes are communication, creativity, leadership, innovation, planning, decision-making, and teamwork. Most of these skills are very similar to those required to manage nursing and health services in general.

This is likely because, according to LeBoterf⁷, competence requires literature, context, and training, and these differ between a care nurse, a teacher, and a business nurse entrepreneur. This study will be based on Le Boterf's concept. In this context, it seems pertinent to investigate the competencies required for entrepreneurship with its leading actors, the entrepreneurs themselves.

Therefore, this study aims to analyze nurse business entrepreneurs' perceptions about the competencies needed to undertake nursing, considering Le Boterf's concept.

METHOD I

This qualitative study was conducted following the Consolidated Criteria for Reporting Qualitative Research (COREQ)¹⁰.

The research was not limited to a specific location; it was conducted *online* with nurses from different regions of Brazil. The study participants interacted in a virtual environment through structured interviews¹¹.

The participants are nurses who are business entrepreneurs and have been working for 42 months or more. They are from different cities and regions of Brazil, identified from Phase 1 of the macro-project entitled "Nurses who are business entrepreneurs in Brazil: labor market and training".

The selection criteria were: (1) being a nurse; (2) having responded to Phase 1 of the macro-project; (3) having current entrepreneurial activity or more for at least 42 months. The exclusion criteria were: (1) nurses engaged in entrepreneurial activity unrelated to nursing work and (2) nurses who were not engaged in entrepreneurial activity for any reason.

This third criterion for selecting nurses was based on a study by the *Global Entrepreneurship Monitor* (GEM), which defines established entrepreneurs as having been carrying out entrepreneurial activities for three years and six months or more¹². Figure 1 shows the number of participants from the macro-project mentioned above in the final sample of this study.



Figure 1. Number of participants during Phase 1 and Phase 2. Belém, Pará, Brazil, 2022

Source: The authors (2022).

Once the sample had been defined, the structured interview script was created¹⁰. The interview script contains four questions on competence, as shown in Chart 1.

Chart 1. Questions from the applied questionnaire. Belém, Pará, Brazil, 2022

What do you think competence is?

2. Which nursing entrepreneurship competencies were the key for you?

3. Which of the skills you mentioned are essential for consolidating a business? And why?

4. In your opinion, how could these skills be fostered at the undergraduate level?

Source: The authors (2022).

The first attempt to contact the nurses was via WhatsApp, a multiplatform application, where they announced the research. Participants had two options for interaction: an interview via video call or sending their answers via WhatsApp. Once they had accepted and chosen the mode of interaction, the dates for each interview were set, and a link to the video call was generated on the Google Meet platform.

They collected the data from July 23 to October 30, 2021. The participants who opted for the video call had an average interview duration of fifty minutes, and the others who chose to send their answers via *WhatsApp* had an average return time of two days. Experiencing these two forms of interaction positively influenced the quality of the responses, since by opting for the form of participation they felt most comfortable with, the nurse entrepreneurs could give detailed accounts of their experiences, both through interviews and those documented in text. It should be noted that it was possible to identify quality in the data obtained in both forms of interaction.

To finalize data collection, the criterion of saturation by exhaustion was adopted, which means all available participants were included in the research to capture greater diversity, depth, and distinct nuances about the problem being investigated. This also resulted in thematic saturation of data¹³.

The qualitative data were analyzed using Bardin's content analysis¹⁴. The IRaMuTeq¹⁵ software was used to organize the collected data and help with this analysis.

During Bardin's¹⁴ pre-analysis, the interviews and audio were transcribed in the Microsoft Word program. They were then merged into one document, and each question was renamed using command lines, as this is one of the criteria used by the IRaMuTeq software to carry out the analysis. Once this was done, the single file generated by the Microsoft Word program was inserted into IRaMuTeq.

The material¹⁴ was explored using IRaMuTeq. In the text *corpus*, the *software* recognized 80 texts, obtained 186 text segments, and reclassified them into 5,764 occurrences, 1,399 forms, and 775 hapaxes, corresponding to the set of words that do not repeat. Reinert's Method was used in the six textual analyses of IRaMuTeq¹⁵, which generated a Descending Hierarchical Classification Dendrogram (DHC) and Textual Statistics.

In processing the results14, the DHC Dendrogram and Textual Statistics were used as a reference for linking the results to Le Boterf's concept of competence. This process generated three categories: The construction of competencies, which describes the perception of the importance of the knowledge and skills developed throughout one's career; competencies for business entrepreneurship, which presents the competencies seen as fundamental for entrepreneurship in nursing; and Education for the development of competences, which contains the understanding of how to foster entrepreneurial competencies in students.

The Ethics Committee of Santa Catarina State University approved the study, CAAE: 38266720.1.0000.0118. The proponent institution is the Santa Catarina State University Foundation, with opinion number 4.406.286. Under CNS resolution 466/2012¹⁶, the research followed the principles of anonymity, autonomy, non-maleficence, and beneficence. To preserve the anonymity of the interviewees, they were identified as "participant n_" followed by the numerical order in which they were interviewed, from 01 to 20.

RESULTS

The study involved 20 nurse entrepreneurs, 70% (14) women and 30% (six) men, across four country regions. 50% (10) of the nurses are concentrated in the Southeast, followed by the North 30% (three), the South 15% (three), and the Midwest 5% (one). In terms of age, the participants are between 34 and 59 years old. In terms of business niche, Teaching and Research accounted for 30% (six), Dermatological Nursing 25% (five), Child and Adolescent Health 15% (three), as well as Home Care, Management, and Adult Health, with 10% (two) each.

As for the length of time the participants have been working, it varies between 46 months and 240 months. It should also be noted that of the total number of participants, 35% (seven) did not indicate their age or length of time in business. The business niche framework was based on COFEN resolution 581/2018, establishing the list of specialties and procedures for registering lato and stricto sensu postgraduate degrees¹⁷. The two areas with the highest percentage of participants were Teaching and Research, which accounted for 30% (three), and Dermatological Nursing, 25% (five).

Figure 2 shows the dendrogram from processing 80 texts from the text corpus. It shows the percentage of each class (%) and the main words that comprise the five semantic classes identified in the *corpus*.

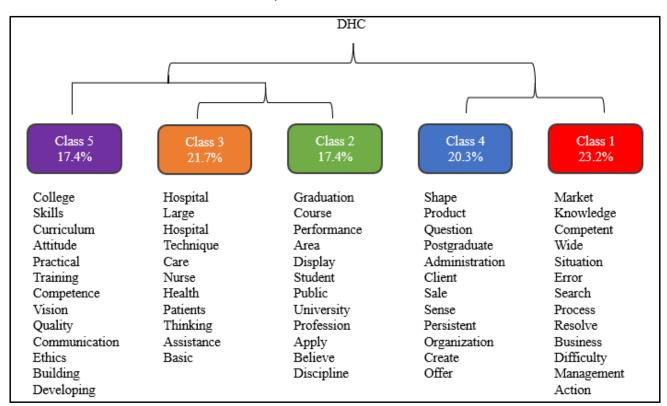


Figure 2. Dendrogram generated from the textual *corpus*. Belém, Pará, Brazil, 2022 Source: The authors (2022).

Figure 2 shows that the analysis generated five classes of text segments, where the text *corpus* was first divided into two *subcorpora*. One *subcorpus* was then divided into two, resulting in Class 5. Subsequently, there were further splits, resulting in Classes 4 and 1 on one side and Classes 3 and 2 on the other. There were also similar vocabularies between text segment units in Classes 4 and 1 and 3 and 2. This configuration allows us to infer that, despite the diversity of discourses, there are relevant semantic

relationships between certain sets of answers, contributing to a deeper understanding of the perceptions shared by the participants.

In the second form of analysis adopted in iRaMuTeq, Textual Statistics generated 80 text numbers, 5,764 occurrence numbers, 941 forms, and 464 hapaxes. Chart 2 shows each active form's total frequency, corresponding to the grammatical classes of verb, adjective, adverb, common name, and supplementary name.

Chart 2. Total frequency of active forms in the text corpus. Belém, Pará, Brazil, 2022

Shape	Frequency
Knowledge	44
Know	40
Learning	19
Skills	19
Management	14
Market	14
Discipline	13
Technique	11
Vision	10
Teaching	8
Communication	7
Experience	7
Administration	6
Assistance	6
Marketing	6
Relationships	6
Strength	3
Resilience	3
Accounting	3
Ethics	3
Obstinacy	(2022)

Source: The authors (2022).

In Category 1—The construction of competencies—the participants highlight the idea that competencies manifest themselves in a context, the understanding that a competency is built up over time, and the fact that experiences before the act of entrepreneurship have also contributed to their entrepreneurial performance.

It's about having the technical and business skills to do what you set out to do. I have great technical skills, which I found by studying (Participant n_09).

It's working assertively, based on science, and resolving issues (Participant n_11).

It's knowledge/skills that you develop during your training and throughout your career (Participant n_10).

This is a vision I've built up over time; it wasn't a vision I learned at university. Unfortunately, we still have a hospital-centered, disease-oriented education at university (Participant n_17).

In Category 2 - Competences for business entrepreneurship, it can be seen that they don't always fully understand what competence is, mentioning personal characteristics such as persistence, willpower, responsibility, obstinacy, and humility. In certain situations, they mention applying these skills to the work context, to specific conditions, especially in the face of adversity. However, the mentions were more general. It is also possible to identify a division between technical skills related to the product or service offered by the business, and relational skills, such as teamwork and communication.

Obstinacy, responsibility, and humility to learn because there are many new subjects, accounting, tax, and ethical issues. So, you must be open to new knowledge, I think that's the basis for an entrepreneur (Participant n_13).

Teamwork is essential when dealing with several employees. Theoretical backing is also crucial; you must know what you're doing (Participant n_04).

Communication is fundamental, I think. It's the ability to convey information to different audiences (Participant n_15).

Knowledge and interpersonal relationships are essential. Knowledge is necessary because we are constantly tested; we must know how to explain our understanding scientifically simply. Interpersonal relationships mean learning how to close partnerships and do business (Participant n_16).

The primary competence nurses must have, and this goes for anyone who is an entrepreneur, is mastery of the content, knowing what they are talking about, what they are working on, and what they are selling (Participant n_19).

There's no such thing as the most essential skill; it's a set, a combination of everything you've learned and putting it into practice (Participant n_20).

In addition, the uncertainty about the business's success requires nurses to have some personal characteristics that will help them in the entrepreneurial process.

We had to work harder and persistently because there were months when there were no sales. When you put out an innovative product, you must convince people they need it, too, so you must be very persistent (Participant n_13).

Willpower not to give up, if you get discouraged by any deviation, you won't get ahead (Participant n_04).

Emotional skills are also essential so that you have the emotional wherewithal to deal with the fear of entrepreneurship and the fear that it won't work out (Participant n_09).

Category 3—Education for the development of competencies—presents characteristics of teaching entrepreneurship in undergraduate courses, which involve having teachers with experience in the area and activities that seek to elucidate the particularities of the nurse entrepreneur's practice.

From a very early age, we must show students that they will encounter challenges as nurses in the health sector and that they are key players in solving problems. Being an entrepreneur is in a nurse's DNA; you must develop that (Participant n_13).

An entrepreneurship subject with a solid teaching plan, aimed at building a business plan, developing entrepreneurial skills and abilities, and with a teacher in charge who has experience in the area (Participant n_11).

I think the degree course could show the different paths nurses can take when they graduate. To set up a business, you need at least four- or five-years' experience to start an entrepreneurial process (Participant n_09).

However, there was no consensus on how entrepreneurship should be taught in undergraduate nursing courses, whether through a single subject or more than one.

It can be done in several ways, either in a single subject or across several subjects. The important thing is to start developing this entrepreneurial mindset (Participant n_17).

Despite the understanding that undergraduate education is a favorable environment for developing competencies in students, there is the fact that in Brazil, nursing in higher education has a generalist character. At the same time, the development of specific entrepreneurial competencies exceeds the traditional undergraduate curriculum. Although undergraduate courses provide the basis for developing competencies, entrepreneurial training may require complementary strategies contextual to the job market.

It isn't easy to generate full competencies at the undergraduate level. However, the undergraduate course can teach the fundamentals of entrepreneurship so that nurses leave knowing that there is a world out there. They are not programmed to go to a hospital, work in the public sector, or take a competitive exam (Participant n)_09).

DISCUSSION

The analysis revealed three categories: building competencies, competencies for business entrepreneurship and education for developing competencies.

Category 1: Building competencies

In category 1, the participant's understanding of competence construction is close to Le Boterf's concept⁷. This construction results from articulating the subject's bibliography/socialization, professional context, and professional training.

To act with leadership and innovation in the health sector, it is necessary to think strategically about knowledge and competence so that it is possible to develop the ability to adapt to change. Identify opportunities, generate new ideas, and create new products and services¹⁸. However, the participants found it difficult to pinpoint the actual competencies. To understand, in the context of business entrepreneurship, which competences characterize, at any given moment, the willingness to act in a relevant way with a specific situation.

Category 2: Skills for business entrepreneurship

In category 2, it stands out that nurses perceive their competencies to be more effective in difficult situations. This may be related to the fact that nursing is predominantly

made up of women¹⁹, and female entrepreneurship in Brazil is intensifying, even when women earn almost 25% less than men, even though they have more schooling²⁰.

During the transition from care to entrepreneurship, nurses experience various feelings, such as fear, insecurity, anxiety, stress, and frustration. In addition, this experience is also a chance to mature, strengthen, and build learning²¹.

Le Boterf⁷ proposes that competencies are developed through five types of knowledge: Theoretical, Procedural, Empirical, Social, and Cognitive. Theoretical knowledge involves the professional's understanding; procedural knowledge refers to knowing how to proceed; empirical knowledge is related to knowing how to do things; social knowledge consists of knowing how to behave, and cognitive expertise is knowing how to learn.

Based on the construction and development of professional competence, Le Boterf7^{states} that during their professional practice, competent individuals use three dimensions: available resources, actions and results, and reflexivity. The first dimension corresponds to both personal and external resources, such as knowledge, know-how, cognitive abilities and behavioral skills. The second dimension corresponds to the results obtained through professional practices. Finally, there is distancing and reflection on the actions taken during the practice process.

A study mentions that entrepreneurial education positively impacts the development of the knowledge base, value creation, and motivation. It also points out that when individuals broaden their knowledge of something, their vision, feelings, and attitudes about the issue change²².

The participants' speeches exhibited a predominance of technical competence related to the Theoretical Knowledge and Knowledge about Procedures proposed by Le Boterf⁷. In this approach, knowledge such as understanding and interpretation during an action, as well as knowing how to proceed, is used.

In addition, skills such as teamwork and communication are related to Social Knowledge⁷, in which nurses develop them through social and professional experience. It is also possible to relate competences such as persistence, willpower, and courage to two other constructs: Bibliography and Socialization and the Professional Context⁷, because in the process of undertaking, nurses make use of a body of knowledge acquired through their experiences and put it into practice during their actions.

A study of permanent and temporary teachers in the field of nursing pointed to the relationship between technical and non-technical skills, in which social skills considerably improve professional performance. This indicates a complementary relationship between technical skills and social skills²³.

Category 3: Education for skills development

Category 3 is related to Vocational Training, one of the stages in building professionalism⁷. The speeches involve ways of developing entrepreneurial skills and providing greater possibilities in the job market for students after training. This is also related to Cognitive Knowledge, which concerns knowing how to deal with the information received and how to learn⁷.

Following Le Boterf's s^7 constructs on competence and relating them to the practice of the nurse entrepreneur, it is possible to understand that the process of

building professionalism involves the individual's knowledge, beliefs, and experiences, the professional context in which they are inserted, and their professional training. In addition to this, five types of knowledge foster the development of competencies.

Based on this movement, the competent nursing entrepreneur's action occurs in three stages: 1. Available resources, in which the individual uses knowledge, skills, competencies, and know-how; 2. Actions and results correspond to the results achieved through professional practice; and 3. Reflexivity, in which the professional reflects on the actions taken throughout the process⁷.

Le Boterf⁷ also states that professionals must use theoretical knowledge in their practice and know how to act competently in various contexts. In other words, the nurse entrepreneur must not only master technical skills to offer quality services but also develop skills related to cost and materials management, personnel management, business ethics, and other skills related to starting and maintaining companies.

The participants pointed to entrepreneurship courses and incubators as teaching methods for developing entrepreneurial skills in undergraduate nursing students. A study on entrepreneurial education methods and practices²⁴ also indicated lectures and business incubators. They also showed other methods such as teaching cases, seminars/lectures with entrepreneurs, business plans, business games, simulations, Empresa Júnior (Junior Enterprises), and research and extension projects.

Some undergraduate nursing courses in Brazil incorporate entrepreneurship into their curriculum in compulsory and optional forms. However, the optional modality is generally related to curricular components in the administration and management of health services, distancing itself from entrepreneurial education in nursing²⁵. Still, regarding entrepreneurship teaching, a study pointed out that, out of 130 undergraduate nursing courses in Brazil, only 14 courses mentioned a specific entrepreneurship subject in the curriculum²⁶.

However, entrepreneurship subjects alone can be a limiting factor in improving entrepreneurial skills. The development of competencies is not a static process; it changes according to the context in which it takes place. Therefore, it is necessary to pay attention to the particularities of training spaces and work environments and make the required adaptations to develop the actors in this process.

Based on this idea, questioning the path to developing entrepreneurial skills is worth considering. It could be coherent for academic training to cover all the theoretical aspects of entrepreneurship, such as the foundations, aspects, laws, and regulations that involve the entrepreneurial practice of nurses. Then, after graduating, nurses will develop their entrepreneurial skills in other training areas.

Also, in this context, it was possible to observe that some competencies listed by the participants are already known in nursing management. It is essential to define what belongs in the field of business entrepreneurship and what is managerial because the development of leadership skills in the managerial/hospital setting differs from the context of business entrepreneurship, for example.

This may be related to the lack of entrepreneurship in undergraduate nursing courses and the strong tendency to condition students to follow the care field after completing the course. In recent years, research into entrepreneurial learning has grown; however, some studies argue that part of this interest is focused on providing entrepreneurial education and not on a demand that values the way entrepreneurs learn, considering the context and unknown situations they may experience²⁷.

The growing changes in the job market have raised important issues related to the training of nursing professionals. As opinion leaders, universities play an essential role in this process to enable significant changes in professional practice. What is taught in training spaces must interact with the market's demands for this to happen.

As a limitation of the study, it was noticeable that the participants had difficulty differentiating between competencies and characteristics during the interview. They also had trouble defining competencies, which entrepreneurial competencies they used in their practice, and which are necessary for a business. This may be related to the fact that most interviewees had no contact with the subject during their undergraduate nursing studies.

FINAL CONSIDERATIONS

The nurse entrepreneurs highlighted the skills and characteristics of technical knowledge, accounting knowledge, market knowledge, administration knowledge, ethical knowledge, management, *marketing*, communication, teamwork, interpersonal relationships, persistence, willpower, responsibility, and obstinacy. Therefore, entrepreneurial competencies in nursing can be categorized into two main groups: technical and behavioral competencies.

As noted in Categories 1 and 3, some participants also discussed their experience. It is worth reflecting on whether prior professional experience is necessary for entrepreneurship in nursing, considering that the process of entrepreneurship requires competencies, which can be developed during graduation and in other spaces.

Through this study, it was possible to learn the perspective of entrepreneurial nurses regarding the competencies they use in their practice. To understand how business entrepreneurship presents itself in nursing, it is essential to identify which entrepreneurial skills are used in this field. Knowing this process not only strengthens entrepreneurial practice in nursing but is also a means of expanding entrepreneurship both in training and in the workplace.

It is expected that this study will contribute to the development of professionals in the field of nursing who undertake or have the objective of undertaking, in addition to professors who work with this theme in undergraduate nursing courses.

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