

**Teaching methodologies in distance education in health sciences: lato sensu training***Metodologías de enseñanza en educación a distancia en ciencias de la salud: formación lato sensu**Metodologias de ensino na educação a distância em ciências da saúde: formação lato sensu***Daniele Soares Carlin<sup>1</sup>**

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**Abstract**

The aim was to identify the role of teaching methodologies used in lato sensu courses in Distance Education in Health Sciences. Descriptive qualitative research. Research subjects: professors/coordinators of lato sensu courses in the areas of health in Distance Education. A form on teaching tools and methodologies and a semi-structured interview were used. For data analysis, the content analysis method was used under the concepts of Vygotsky's socio-interactionist theory. The data raised the tools used in the teaching platforms. The analysis of the interviews resulted in four categories. These data showed the difficulties, experiences and expectations of teachers/coordinators. Distance Education provides expansion and deepening of knowledge. There is concern about the quality of teaching, directed to the need to adapt the methodologies applied to the use of different tools. Distance Education provides expansion of access to professional qualification, consequently improving health care for the population.

**Descriptors:** Distance Education; Teaching Methods; Specialization Course; Health Sciences; Nursing.**Resumen**

El objetivo fue identificar el papel de las metodologías de enseñanza utilizadas en los cursos lato sensu de Educación a Distancia en Ciencias de la Salud. Investigación cualitativa descriptiva. Sujetos de investigación: profesores/coordinadores de cursos lato sensu en las áreas de salud en Educación a Distancia. Se utilizó un formulario sobre herramientas y metodologías de enseñanza y una entrevista semiestructurada. Para el análisis de datos se utilizó el método de análisis de contenido bajo los conceptos de la teoría sociointeraccionista de Vygotsky. Los datos plantearon las herramientas utilizadas en las plataformas de enseñanza. El análisis de las entrevistas resultó en cuatro categorías. Estos datos mostraron las dificultades, experiencias y expectativas de los docentes/coordinadores. La Educación a Distancia proporciona ampliación y profundización del conocimiento. Existe preocupación por la calidad de la enseñanza, dirigida a la necesidad de adaptar las metodologías aplicadas al uso de diferentes herramientas. La Educación a Distancia proporciona la ampliación del acceso a la calificación profesional, consecuentemente mejorando la atención a la salud de la población.

**Descriptores:** Educación a Distancia; Métodos de Enseñanza; Curso de Especialización; Ciencias de la Salud; Enfermería.**Resumo**

Objetivou-se identificar o papel das metodologias de ensino utilizadas em cursos lato sensu em Educação a Distância nas Ciências da Saúde. Pesquisa qualitativa descritiva. Sujeitos da pesquisa: professores/coordenadores de cursos lato sensu nas áreas da saúde em Educação a Distância. Foram utilizados formulário sobre ferramentas e metodologias de ensino e entrevista semiestructurada. Para análise dos dados foi utilizado o método de análise de conteúdo sob os conceitos da teoria sócio-interacionista de Vygotsky. Os dados levantaram as ferramentas utilizadas nas plataformas de ensino. A análise das entrevistas resultou em quatro categorias. Esses dados mostraram as dificuldades, experiências e expectativas dos professores/coordenadores. A Educação a Distância proporciona expansão e aprofundamento de conhecimento. Existe preocupação quanto a qualidade do ensino, direcionada a necessidade de adequação das metodologias aplicadas ao uso das diferentes ferramentas. A Educação a Distância proporciona ampliação ao acesso à qualificação profissional, consequentemente melhorando a assistência de saúde à população.

**Descriptores:** Educação a Distância; Métodos de Ensino; Curso de Especialização; Ciências da Saúde; Enfermagem.

## Introduction

Human society is constantly evolving, especially with regard to technological innovations. In the last century these happened in an accelerated way, due, in large part, to advances in Information and Communication Technologies (ICTs)<sup>1</sup>.

These advances in ICTs could not go unnoticed by teaching and knowledge production. Regarding education, digital objects can contribute to the development of enriching teaching strategies, providing dynamism and active construction of knowledge in the teaching-learning process.<sup>1</sup> However, for these characteristics to be achieved, it is necessary that the pedagogical planning is coherent and has a clear definition of the intended educational objectives<sup>2,3</sup>.

This scenario enabled the development and modernization of Distance Education (EaD), which today is seen as an educational modality developed, fully (e-learning) or partially (blended-learning), with the physical separation between teachers, students and instructional content, which interact through ICTs<sup>4,5</sup>. This interaction depends on the involvement of the actors that are part of the aforementioned teaching-learning process (students, teachers, tutors, educational institutions, companies, governments, etc.). Therefore, distance education is to make use of the necessary communication, didactic and methodological resources, so that the teaching-learning process takes place without synchronous spatial and temporal integration between students and teachers<sup>6</sup>.

This modality, aimed at learning for young people and adults, is supported by several educational principles, including open learning and permanent education. This is due to the fact that it is a knowledge dissemination strategy that allows time, giving people flexibility to choose the best time and place of access<sup>6,7</sup>.

Discussions about distance education in *lato sensu* teaching, in addition to their specificities and singularities, are about their limits and possibilities. The two biggest questions on the subject are about quality, that is, the criteria for affirming or denying its implementation or acceptance as a possibility for work or training; and about the specialties or fields of training in which it can be used. In the health sciences, specifically, the first uses of distance education date back to the late 1990s (long after its global rise, which was in the 1960s). These courses used three-dimensional and audiovisual resources that safely simulated interventions related to the treatment process<sup>8,9</sup>.

With the changes caused by the computerization process, the way of knowing and learning has also been changing. Information technology has caused debates, analyzes and questions about how to integrate it into educational processes. Thus, it was to be expected that institutions that offer *lato sensu* postgraduate courses in the areas of Health Sciences in Brazil would consider teaching through virtual learning environments and their possibilities<sup>10,11</sup>.

At the same time, we have to consider that Brazil is a country of continental dimensions, so any initiative with the intention of bringing adequate training to health

professionals, in order to overcome the difficulties of face-to-face training will be very welcome<sup>12</sup>.

In this sense, the use of the internet in the qualification of these professionals can be a means of bringing constant and quality professional improvement through access to university and scientific journal websites, in addition to the possibility of contacting their peers to exchange information, which is a fundamental condition for personal training<sup>13</sup>.

In the current Brazilian scenario, distance education assumes an interdisciplinary nature based on the exchange of scientific knowledge. In this field, technological advances are getting faster and faster, and the inclusion of corporate universities, open distance universities, digital inclusion, new teaching methodologies such as self-determined learning, open educational networks, Digital TV, etc., make the dissemination of the increasingly accessible knowledge<sup>4</sup>. The application of these technologies in health science education implies the need to develop appropriate teaching/learning methodologies, so that distance education can be used as a complementary mechanism, an integral part of classroom teaching, or even be entirely substitutive.

The great advance that ICTs had in contemporary times ended up changing the expectations and attitudes of students, who expect that part of their academic studies will include distance education. This teaching modality is very popular among students because it can be accessed from anywhere, according to their convenience and because it allows them to review the contents as many times as necessary. For educational institutions, it can also be interesting because it allows flexibility in schedules and in the constitution of classes, which are no longer dependent on physical space, making costs much more attractive, especially in the long term<sup>14</sup>.

With the use of new information technologies developed for distance education, it became possible to concatenate knowledge that guides a professional practice, which, in addition to meeting the demand of this new generation, trains these future professionals for a practice engaged in the job market they will experience<sup>15</sup>.

Therefore, we need to accept that the use of ICTs for the training of professionals in various areas of knowledge, including health, has been a keynote in educational discourses. This reality is also being expanded in *lato sensu* courses in health sciences, but still in some educational spaces teaching methodologies prevail that, despite being considered distance education, differ little from traditional teaching.

## Methodology

Based on the theme and objectives proposed for the study, a qualitative exploratory and descriptive research was chosen.

Qualitative research is used to answer particular questions. It can also be multi-methodological, involving interpretive and naturalistic approaches to subjects. Thus, the qualitative researcher studies things in their natural environment, seeking to interpret them according to the meaning that people attribute to them<sup>16</sup>.



The descriptive approach is practiced when it is intended to seek knowledge of certain information and because it is a method capable of describing perceptions, facts and phenomena of a certain reality.

The study was carried out in places designated by the teachers who participated in the research, and for some the choice was the educational institution where they work and, for others, the interview was done through video call at an appropriate time and place for them.

In the conception of this study, the researcher had the objective of interviewing subjects from all regions of Brazil, however, when doing the research by courses and institutions, it became clear that the vast majority of educational institutions that offer *lato sensu* postgraduate courses in health areas have their headquarters in the south and southeast of the country, with centers in several cities throughout the national territory. Thus, even though the research subjects are concentrated in the south and southeast regions, the scope of their actions is national.

**Instruments for data collection.** The researcher used a semi-structured interview with guiding questions and a form about teaching tools, the intended learning objectives and teaching methodologies applied to achieve them. **Research subjects:** The search for research subjects was performed using the snowball sampling method. This method assumes that there is a link between the research subjects given by the characteristic sought, that is, the research subjects are able to identify potential members of the same research<sup>17</sup>.

The researcher sought professionals who fit the criteria for inclusion in the research on social networks (LinkedIn® and Facebook®) through an invitation post to participate in the study. This choice was made because the researcher was aware that there were people who met the inclusion criteria in her network of contacts.

Some professionals who responded to the invitation fit the inclusion criteria. According to the snowball method, these subjects are called the seed of the sample and are considered the zero wave. When requested by the researcher, they indicated subjects who believed they fit the criteria (second wave) of the research and so on.<sup>18</sup>.

The sample had 9 participants, 6 nurses, 1 doctor, 1 lawyer and 1 physiotherapist. These acted or had acted as teachers, coordinators, content developers and tutors. Even with the snowball method, these professionals returned experiences in 7 different educational institutions. **Data collection procedure:** After this survey, the researcher contacted the subjects who responded to the invitation by e-mail. After the first contact (the conversation could continue via email or WhatsApp®), the researcher explained the details of the research and, if the inclusion criteria were met, there were two possible paths:

- A face-to-face meeting was scheduled, where the researcher delivered a copy of the consent form, answered possible questions and took the signature on another, delivered a copy of the form (which was also sent by email to facilitate filling and return, and the interview was carried out with the researcher's

smartphone voice recorder. In a few days, the participant returned the form via e-mail.

- The participant signaled that a virtual meeting would be more appropriate. Then the researcher sent the form and the informed consent by e-mail and the time for the interview was scheduled. At the pre-set time, the video call was carried out by smartphone, doubts were resolved and the interview was recorded by the computer's voice recorder, ensuring that the participant's image would not be recorded. After a few days, the participant returned the form via e-mail.

By using various methods of data collection, the researcher can resort to several perspectives on the same situation, obtaining information of different nature and proceed, being able to compare this information later. This method allows for greater reliability in the data collected.

Participants were identified by numbers so that anonymity was guaranteed and the institutions where they work were kept confidential, including in the transcript of the interviews. After transcription, the interviews were read and categorized.

The study was approved by the Research Ethics Committee of the School of Nursing at the University of São Paulo (CEP/EEUSP) under the opinion: 2,384,492.

## Results

The analysis of the interviews and forms was performed using the content analysis technique. After analyzing the content, a categorization/classification of the findings was performed. The categories considered the material analyzed in line with the objectives of the study.

Data analysis resulted in four categories relevant to the object of study. Reflections about the courses offered in the distance education modality; Access to specialization courses; The role of Information and Communication Technologies; and, with emphasis on The importance of teaching methodologies for *lato sensu* courses in the areas of health.

The tools mentioned in the forms were: Forum: Cited in 67% of the forms. According to the teachers, used mainly in order to promote the interaction between the actors involved in the teaching-learning process, as it provides the exchange of information, sharing of doubts, discussion and exchange of experience, with the objective of solving problems while developing critical thinking. This strategy also allows the teacher and/or tutor to evaluate both students and course development. Digital library: Cited in 55% of the forms. Tool used with the objective of stimulating the search for knowledge through theoretical enrichment, as it provides access to different materials related to the topic of the course in a more direct way and in accordance with the pedagogical proposal. Video lessons: Cited in 78% of the forms. Used with the aim of bringing the teacher closer to the students, emphasizing the contents and complementing the teaching material with brief and objective presentations, in a reflection aimed at students who end up embracing different learning styles.

Games: Cited in 33% of forms. Games are often used with the objective of evaluating the assimilation and



fixation of the content, at the same time giving a feedback so that the student realizes their strengths and weaknesses. It can also be used to simulate practical experience in a virtual environment that mimics reality. Shared online document editing tools: Cited in 22% of forms. Used to promote interaction between students while directing the search for content while students are asked to develop pre-established themes in the construction and development of the course. Video sharing platform: Cited in 33% of forms. Used as another alternative for fixing content, diversifying the study material, with indication of complementary sources (videos and/or documentaries) on the topic studied, with the support of the course developers. This methodology is efficient in promoting the enrichment of theoretical-scientific content, because, by encouraging the use of other sources of knowledge, it is possible to instigate reflection on the topic studied.

Electronic submissions: Cited in 33% of the forms. Used to present a condensed version, that is, in topics with keywords and schemes to help students understand the proposed topic. It can also be used for students to share their assignments in a seminar style, which can be another teaching methodology employed to exercise the pursuit of knowledge. Virtual Learning Environment: Cited in 33% of the forms. Considered the representation of "school" in distance education. Used to concentrate the contents of the courses, to be a study environment equivalent to the classroom, as a formal place and record of activities. With its tools, it promotes synchronous and asynchronous interaction between those involved in the teaching and learning process. Questionnaire: Cited in 33% of the forms. Basically used to assess how much students understood the content shared and developed in the other activities of the course. Glossary: Cited in 10% of forms. It can be used to indicate items for the search, which ends up helping the student to understand, write and use scientific technical terms. Tasks: Cited in 33% of the forms. Construction of reviews, projects and manuscripts focusing on the content studied, with the purpose of encouraging students to solve problems they will encounter in the professional environment. It can also be used as an assessment tool, depending on the chosen methodology. Printed material: Cited in 44% of the forms. Basic course material, designed to be its own, containing the basic information, references and bibliography of the course. It can contain the initial information for the use of the teaching platform and the authorial material of the course. Tutorial: Cited in 33% of the forms. Tool used to guide students on course development and how to navigate the platform, clarifying learning paths.

## Discussion

The reading of the speeches, guided by the method of content analysis, allowed their essences to be raised, allowing the categorization of consonant speeches.

When categorizing the speeches, they showed us that the research participants' discourse brings a collective thought about the study theme, thus showing that our sample was adequate to reach a consensus regarding the research focus.

In this study, 4 categories emerged during the comprehensive reading of the speeches, they are: Reflections about distance education courses, Access to specialization courses, The role of Information and Communication Technologies and The importance of teaching methodologies for *lato sensu* courses in the areas of health.

## Reflections on courses in the distance education modality

A fact that became clear during the development of this study is that the subject of distance education brings many discussions and different opinions, especially when we are focusing on courses in the health areas. Therefore, reflections on this topic played a prominent role during the interviews.

At first, the ease of access, both in terms of time, flexible hours and investment, stood out as positive points in the reflections.

We can see in the speeches that there is an opening regarding the opportunities that have expanded for people to be able to train and specialize. These reflections are also driven by the view that teachers have of the difficulty that health professional in Brazil experience, due to the regional, cultural and socioeconomic characteristics that our population faces.

The statements show that the concern with the quality of the courses offered and the professionals who will be trained is very latent. To some extent, we even see an ethical concern with students and their actions after graduation.

This concern with students is also evident when teachers show that they are attentive to their posture during the course, especially with regard to their participation and interaction with the other actors involved.

Another reflection that appears in the speeches is about the role of the teacher in this teaching modality that is changing the way of teaching, learning and seeking knowledge and training.

The teacher realizes that his role and his image are changing and this can cause a lot of strangeness for these professionals, however, it is noticeable that in some cases they feel safe that, despite the change, their role is still central in the teaching and learning process. . The way they are being exposed to this new teaching modality brings a reflection on the appropriate pedagogical concepts.

On the other hand, the change that this type of education brings also worries professionals about their insertion in the job market in transition. Even so, there is some hope that, with the priority given to offering high-quality courses, educators will be valued and better paid.

There is an idea that distance education can greatly improve the possibility of personal and professional growth that people need and seek, however, the fear that the tools are being used in the wrong way can compromise the quality of teaching.

Many teachers enter this teaching modality without being prepared and updated. This is noticed when they raise the issue of using methodologies compatible with this type of course.



The reduction of costs when offering courses in distance education are the big draws for educational institutions, however, if quality is not also on their list of priorities, the course may make the mistake of not valuing student adhesion. If this happens, the investment may not pay off, as students will look for other courses. Despite all these issues, when the course is well planned and teachers are supported in its development, the experience can be very positive for all involved.

It is historical that changes cause some fear in their probationary period and even later, because in the face of the implementation of changes in teaching methods it is common, initially, to retreat or indecision, whether by teachers or students, as these new practices require individual and collective mobilizations and changes<sup>19</sup>. However, with regard to distance education, we can already see an opening in the teachers' discourse and a recognition of its potential. Success in the use of active methodologies in teaching requires the participation and involvement of teachers and students.

Despite the growth of distance education in Brazil, we cannot decree that face-to-face teaching is doomed to disappear. It is in a period of change, yes, not least because, as we are discussing, the expansion of ICTs is causing a cultural change in our society and the scope of education will not be outside this change.

#### Access to specialization courses

The EaD is entering the educational market primarily as an outlet for a significant portion of professionals to have the chance to specialize and, despite being entering practically all the niches that the market has, its massive performance is still in continuing education.

Considering the difficulties faced by health professionals regarding access to continuing education, professionals see distance learning as a strategy for specialization in the face of new technologies and as a pedagogical innovation in *lato sensu* teaching<sup>20</sup>.

Access to specialization courses encountered its first barriers in the lack of time. Professionals today have many obligations with work schedules and routine personal life. These people also have the pressure of living in an extremely competitive world, where knowledge expands in geometric progression, so they need time to do their training.

Given this, another key point for these students is finding a gap in their routine that fits into face-to-face courses to dedicate themselves to specialization courses. The shifts at the most different times, the cases in which health professionals need to work in two jobs and their personal lives, can prevent these people from accessing specialization courses.

However, another very important point in which distance education makes a difference and that we must emphasize is the difficulty of access in the most distant places. This reality causes a vicious cycle in the quality of health of populations further away from large centers. We noticed that professionals avoid going to these locations, often because they realize that their careers will stagnate if

they do, and those from these regions either leave to specialize, or stay and take care of the population without training or updating. Once again, the poorest population is always losing.

Distance education is an interesting way out for these cases, as it is much easier and cheaper to open a hub and provide an access structure for students than to open a campus and take qualified teachers to these locations. These courses have the capacity, including reaching people outside Brazil, for students and, mainly, countries that speak the Portuguese language.

We also need to consider the difference in the costs of a specialization course in the face-to-face modality and in the distance education modality. Certainly, especially in the long term, distance education courses cost less, so institutions can practice more affordable prices with students.

We can thus see how much distance education can improve access to specialization courses. This will increase the number of people who are better able to deal with the health of the population, bringing more accuracy and quality.

#### The role of Information and Communication Technologies

It is a fact that the advancement of Information and Communication Technologies was what leveraged the expansion of *lato sensu* courses in the distance education modality. They bring, in addition to optimizing the interaction of individuals who are not in the same environment, an interface of simulators that increasingly mimic real experiences very well, bringing many possibilities.

However, teachers are aware that the random use of technology is not enough to achieve quality teaching. The use of ICTs is not a guarantee of technological advances, they only provide ways to recreate an environment that favors meaningful student learning in distance education<sup>21</sup>.

In short, we can say that teachers have the idea of the importance that teaching methodologies have for the use of technologies available in *lato sensu* courses in distance education in the teaching-learning process.

#### The importance of teaching methodologies for *lato sensu* courses in the areas of health

As seen in the previous category, teachers perceive that it takes much more than technology for *lato sensu* courses in distance education to have quality and form good professionals, that is, the way these tools are used will make a difference in the teaching-learning process.

Teachers signaled that they perceive that teaching methodologies are important and must be well planned in the construction of a course/discipline, whether in distance education or face-to-face, that each action needs to be planned for it to be effective. They are also realizing the importance of the teacher in the development of these methodologies in order to achieve the learning objectives.

The teacher/tutor needs to perceive himself as a mediator and even instigator in the search for knowledge, using methodologies that help him to direct students in the construction of their own knowledge, and that teaching



methodologies need to be constantly changing, since culturally we are always changing. , these need to keep up with the new requirements that arise.

The planning of a method for the use of the teaching tools used in distance education courses has the ability to transform the physical distance in the proximity of the actors involved in the *lato sensu* courses in the areas of health, providing an exchange of very rich and very important experiences in the evolution of student learning.

Vygotsky, in his socio-interactionist theory, points out that the established social and historical environment, in which the web of social relationships is the central point of the learning process. It is in the lived moment that knowledge is built, supported by the participation and collaboration of the other, that is, in the social, having as means of exchange and stimulus to the acquisition and search of this knowledge, the group discussion and the power of argument<sup>22</sup>.

Some teachers feel that, in certain courses, the teaching methodologies are not given due importance. They realize that in some cases, there is only a change of teaching “place”, but the approaches remain the same<sup>23</sup>.

This concern is more evident when we talk about courses in the areas of health that involve technical knowledge in addition to theoretical knowledge, as they perceive that this stage of learning is important and cannot be overlooked.

In some speeches, we noticed that there is a perspective that the practice does not necessarily need to be dissociated from distance education, therefore, distance education does not need to be excluded in the case of courses that require technical training, and after all, partnerships can be made for laboratory activities. In addition, the internship does not have to cease to exist in these courses; it can and should be completed as in a face-to-face course.

Another important point regarding teaching methodologies in distance education is that it not only brings freedom of time and place to take classes, but also autonomy and discipline are the main points for students who enter this course modality. The use of methodologies that exercise the active search for knowledge and the participation of students are very appropriate, especially in this new digital age, where we are used to having our questions answered in a few clicks<sup>24</sup>.

This attitude is the guarantee for the success of learning in distance education in health. Students gain autonomy to decide on their study schedules, initiative to research and take responsibility for their own education<sup>25</sup>.

All this dedication, discipline and autonomy also makes this student demand the same attitude from teachers, tutors and institutions. Over time, courses that do not meet these expectations will be doomed to failure, as students will not remain in a course/institution that does not meet their expectations<sup>26</sup>.

With this, we can see that both the way of teaching is constantly evolving, an evolution that accompanies the cultural changes of our society, but that the way of teaching is dependent on teaching methodologies to guide its path, and that these must be constantly adapting to fit the reality of students who seek and will seek to specialize in their profession, therefore, further research on which teaching methodologies are most suitable for distance education and its tools are necessary.

## Conclusion

The research results are in line with the objectives of the thesis. The data show us how and which tools available today are used, and what are the objectives of these choices in the development of *lato sensu* specialization courses in the areas of health sciences.

In view of this, we are witnessing the progressive expansion of the offer of *lato sensu* specialization courses in this modality. This has promoted the reach of these courses by a greater number of professionals who seek to specialize, but would not be able to do so in face-to-face courses with a pre-established schedule.

For distance education to be successful, its tools need to be chosen with property and intention, defining how they will be worked in favor of building courses with a focus on quality and safety for professionals and patients.

This is a much-raised concern and brings up discussions about the need to update and adapt the teaching methodologies applied in the development of specialization courses in distance education.

Access to the qualification that distance education provides needs to be used responsibly and wisely, so that the objectives sought by students and professionals are achieved, which will ensure that knowledge is acquired with quality and depth, further increasing the possibility of access to professionals to this teaching modality, aiming at improving health care for the population.

Finally, we can say that teaching methodologies are very important and must be planned during the construction and development of distance learning courses. This premise will allow its potential to be strategically used.

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