

Profile of speech, language and hearing sciences undergraduate courses in Brazil

Perfil dos cursos de graduação em Fonoaudiologia no Brasil

Gabriel Trevizani Depolli¹ , Antonio Lucas Ferreira Feitosa² , Priscila Rufino da Silva Costa³ ,
Marisa Siqueira Brandão Canuto³ , Trixy Cristina Niemeyer Vilela Alves¹ 

ABSTRACT

Purpose: to describe the profile of undergraduate courses in Speech, language and hearing sciences in Brazil. **Research strategy:** descriptive and exploratory study developed through documental survey between October/2019 to March/2020. The researchers performed a manual search on the Ministry of Education website and on all available websites of higher education institutions. The data were inserted in a contingency table and analyzed using descriptive statistics. **Selection criteria:** active and in-class courses. **Results:** 134 registered courses were found. After analyzing the data and applying the inclusion and exclusion criteria, 83 institutions were considered. More than a third of the active courses are located in the Southeast. Most of these courses last eight semesters and are private. Admission is semiannual and through entrance exams. The courses are coordinated by speech therapists and Final Paper has a scientific article format. The course load varies from 3030 to 3360 hours. The supervised internship has between 520 to 684 hours; between 100 to 450 hours for complementary activities. These courses scored an average of three in the student and course performance exams in the last evaluation. **Conclusion:** Speech, language and hearing sciences courses in Brazil are similar with regard to the number of semesters and performance concepts, but differ in hours. Courses should strive to follow the National Curriculum Guidelines and value the complete learning of the student, so that the profile of the graduate is consistent with what is in the course planning.

Keywords: Speech, Language and Hearing Sciences; Brazil; Education; Education, Higher; Educational Measurement

RESUMO

Objetivo: descrever o perfil dos cursos de graduação em Fonoaudiologia no Brasil. **Estratégia de busca:** estudo descritivo e exploratório desenvolvido por meio de levantamento documental entre outubro/2019 e março/2020. Realizou-se acesso ao portal *on-line* do Ministério da Educação e busca manual, empreendida por dois pesquisadores, por todos os sites disponíveis das instituições de ensino superior. Os dados foram inseridos em tabela de contingência e analisados por estatística descritiva. **Critério de seleção:** cursos ativos e presenciais. **Resultados:** foram encontrados 134 cursos cadastrados. Após análise dos dados e aplicação dos critérios de inclusão e exclusão, 83 instituições foram consideradas. Observou-se que mais de 1/3 dos cursos ativos localizavam-se na Região Sudeste. A maior parte destes cursos tinha duração de oito semestres, eram da rede privada. O ingresso era semestral e por vestibular institucional. Os cursos eram coordenados por fonoaudiólogos e o trabalho de conclusão de curso possuía formato de artigo científico. A carga horária dos cursos variou entre 3030 e 3360 horas, o estágio supervisionado entre 520 e 684 horas e as atividades complementares entre 100 e 450 horas. Os cursos obtiveram, em média, conceito 3 nos exames de desempenho de estudantes e curso, na última avaliação. **Considerações finais:** os cursos de Fonoaudiologia no Brasil são semelhantes, no que diz respeito ao número de semestres e conceitos de desempenho, mas diferem em carga horária. Os cursos devem se esforçar para seguir as Diretrizes Curriculares Nacionais e prezar pelo aprendizado completo do discente, para que o perfil do egresso seja condizente com o que consta no planejamento do curso.

Palavras-chave: Fonoaudiologia; Brasil; Educação; Educação Superior; Avaliação Educacional

Study carried out in partnership with the Universidade Federal do Espírito Santo – UFES - Vitória (ES), Centro Integrado de Saúde Amaury de Medeiros da Universidade de Pernambuco – CISAM/UPE - Recife (PE) and Universidade Estadual de Ciências da Saúde de Alagoas – UNCISAL - Maceió (AL), Brasil.

¹Universidade Federal do Espírito Santo – UFES – Vitória (ES), Brasil.

²Centro Universitário Integrado de Saúde Amaury de Medeiros – CISAM, Universidade de Pernambuco – UPE - Recife (PE), Brasil.

³Universidade Estadual de Ciências da Saúde de Alagoas – UNCISAL - Maceió (AL), Brasil.

Conflict of interests: nothing to declare.

Authors' contributions: GTD and ALFF were responsible for the design of the study, collection, analysis and interpretation of data and writing of the article; PRSC, MSBC and TCNVA participated in the study design, analysis and interpretation of data and final approval of the version to be published.

Funding: None.

Corresponding author: Gabriel Trevizani Depolli. E-mail: gabrieltrvezanidepolli@gmail.com

Received: May 12, 2020. **Accepted:** August 01, 2020.

INTRODUCTION

Since the 1930s, there are reports of the performance of Speech, language and hearing sciences in Brazil⁽¹⁾. Professionals in this area were called speech therapists, or logopedists⁽²⁾. However, only in 1981, the profession was regulated in the country⁽³⁾.

The course was classified as a technical level, as it is currently considered in Portugal⁽⁴⁾. From 1971, the course was four years long, being recognized as a higher education course⁽⁵⁾. In 1976, the first minimum curriculum for undergraduate speech, language and hearing sciences was created⁽⁵⁾ and, in 1977, there was the creation of the first bachelor's course in speech, language and hearing sciences, duly authorized⁽¹⁾.

The resolution of the National Council of Education/ Chamber of Higher Education (CNE/CES), n. 5, from February 19, 2002, instituted the National Curricular Guidelines (DCN) of the Undergraduate Courses in Speech, language and hearing sciences. In its article 3, it determines that the professional profile of the speech therapist must contemplate generalist, humanistic, critical and reflective training⁽⁶⁾. With Resolution No. 610, of December 13, 2018, of the National Health Council, the total course load must be at least 4000 hours and complementary activities must not exceed 3% of the course load⁽⁷⁾. With regard to undergraduate practice, the supervised internship must be at least 25% of the total course load and must be carried out and present from the beginning of the course⁽⁷⁾.

Vieira (2017) compared 14 undergraduate courses in the health area in the years 1995, 2004 and 2015. In the first analysis, it was found that there are 35 courses in Speech, language and hearing sciences in the country. In the latter, there were 79 Brazilian formations, that is, an increase of 125%. During all these years, more than 140 thousand places were offered for the course, but approximately only 60% of the students completed the formation⁽⁸⁾.

Through the online platform of the Ministry of Education (MEC), the e-MEC, Brazilian authors verified that there were 87 undergraduate courses in Speech, language and hearing sciences in the country, excluding the two distance learning courses (EAD)⁽⁹⁾. The study also concluded that few students complete the course in relation to the number of places offered per year⁽⁹⁾. The evolution of the number of Speech, language and hearing sciences courses in Brazil is notorious and the implementation of new undergraduate courses should be discussed, observing the scenario of unequal supply in the country.

PURPOSE

In view of the rise in the number of Speech, language and hearing sciences courses in the country and the changes that have been carried out over the years, this study aimed to describe the profile of undergraduate courses in Speech, language and hearing sciences in Brazil.

SEARCH STRATEGY

Descriptive and exploratory study type, developed between October 2019 and March 2020 through documentary survey. As this is public information available online, the submission

to a research ethics committee was waived, as well as the use of a Free and Informed Consent Form (TCLE).

For data collection, the Ministry of Education's e-MEC portal⁽¹⁰⁾ was accessed, which provides data on higher education institutions (HEI) regarding accreditation and re-accreditation. To investigate the institutions that offer the Speech, language and hearing sciences course, the search on the website followed the flow "textual consultation - undergraduate course - name of the course" and a PDF file (portable document format) was generated by the website, containing the name of all accredited Brazilian institutions.

A manual search was carried out by two researchers, who accessed the websites of all higher education institutions available on the list. The access was aimed at extracting information not available on the e-MEC portal, in order to better describe the profile of undergraduate courses in Speech, language and hearing sciences in Brazil.

SELECTION CRITERIA

Were considered as inclusion criteria the active courses and offered in face-to-face modality, and as the exclusion criterion, the institutions that, although registered on the e-MEC portal, the courses were not included in the offer list on their websites, during the collection period of data.

The variables considered in this study were: state, administrative category of the educational institution (public or private), grade of the National Student Performance Exam (ENADE) of the evaluated institutions, Preliminary Course Concept (CPC), number of vacancies, year of beginning, length of existence, number of semesters, period of the course, type of selection (entrance exam or National High School Exam - ENEM), offer for admission (annual or half-yearly), type of course final paper (TCC), total load course hours, hours of mandatory internship, hours of complementary activities, area of training of the coordinator and academic title of the coordinator.

DATA ANALYSIS

The data were inserted in a contingency chart, developed in the Microsoft Excel 2016 software. For data analysis, descriptive analysis was used by means of absolute (n), relative (%), mean, mode, median, minimum and maximum, presented by means of charts and figures.

RESULTS

There were 134 courses registered in the e-MEC system. After analyzing the data and applying the inclusion and exclusion criteria, 83 courses were considered for this study. Of the 134 records, 25 courses were extinguished, with prevalence for the year 1999 (n = 6); 13 had only registration in the system, but did not have an offer available on the institution's website; 9 HEIs no longer offered an undergraduate degree in Speech, language and hearing sciences and did not request the cancellation of the registration with e-MEC, and 4 institutions had the registration of the course to be offered in the Distance Learning modality.

The first course was registered in 1958, but, only in the 1990s, there was a significant growth in new courses in Brazil (n = 18). At the beginning of the 21st century, a large number of courses were registered, with a peak of growth in 2002, when 7 institutions were registered by the MEC. Figure 1 presents a timeline regarding the emergence of Speech, language and hearing sciences courses in the country.

It was found that, among Brazilian regions, the Southeast concentrated 38.6% of undergraduate courses in Speech, language and hearing sciences. The regions with the lowest supply were the North Region, with 9.6%, and the Midwest, with 6%. Among the Federations, the state of São Paulo had the largest number of higher education institutions offering this course. Some states, such as Tocantins, Amapá and Roraima, did not have a Speech, language and hearing sciences course. Figure 2 shows the map of Brazil and the distribution number of Speech, language and hearing sciences courses around the country.

It was possible to identify that the predominant administrative category of the HEIs was the private institution, representing 71.1% (n = 59). The predominant form of admission to the course

was the entrance exam, with 68.7% (n = 57), with half-yearly admission (83.1%) and a small portion of the institutions had annual admission (n = 13); 27.7% (n = 23) of the courses took place at night and 26.5% (n = 22) in the full time mode. Table 1 presents the data regarding the profile of the courses.

It was observed that 80.7% (n = 67) of the undergraduate courses in Speech, language and hearing sciences lasted 8 semesters and, for a small percentage, 6% (n = 5), 9 semesters (Table 1). The format of the final paper was a variable little identified (66.3%) on the websites of the institutions. However, it was observed that 19 courses (22.9%) used the scientific article format to carry out this academic stage. As for the formation of the coordinator, 89.2% were speech therapists (n = 74), although some speech, language and hearing sciences courses were coordinated by physical therapists in 6% of Brazilian institutions; 51.8% of the coordinators were doctors and 7.2% had only the title of specialist.

Regarding the total course load of Speech, language and hearing sciences courses, it was observed that 42.2% (n = 35) of the institutions had between 3030 and 3360 hours for

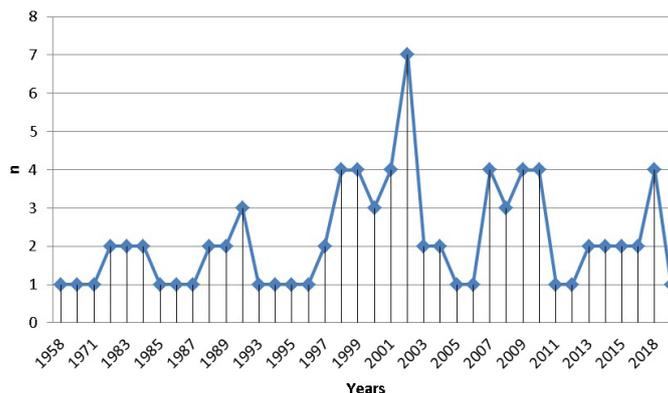


Figure 1. Emergence of Speech, language and hearing sciences courses over the years in Brazil



Figure 2. Distribution of Speech, language and hearing sciences courses by Brazilian states

Table 1. Characteristics of Speech, language and hearing sciences courses in Brazil

Variables	Absolute values	Relative values
Administrative category of HEI	n	%
Public	24	28.9
Private	59	71.1
Total	83	100
Forms of admissions	n	%
SiSU	13	15.7
Entrance exam	57	68.7
SiSU/Entrance exam	13	15.7
Total	83	100
Offer for admission	n	%
Semiannual	69	83.1
Annual	13	15.7
NM	1	1.2
Total	83	100
Period of the courses	n	%
Morning	14	16.9
Afternoon	2	2.4
Evening	23	27.7
Morning/Evening	17	20.5
Afternoon/Evening	1	1.2
Morning/Afternoon/Evening	2	2.4
Full-time	22	26.5
NM	2	2.4
Total	83	100
Semesters	N	%
8	67	80.7
9	5	6.0
10	11	13.3
Total	83	100
Final paper format	n	%
Scientific article	19	22.9
Monograph	8	9.6
Scientific article/Monograph	1	1.2
NM	55	66.3
Total	83	100
Area of training of the coordinator	n	%
Speech, language and hearing sciences	74	89.2
Physiotherapy	5	6.0
Others	3	3.6
NM	1	1.2
Total	83	100
Academic title of the coordinator	n	%
Doctor	43	51.8
Master	33	39.8
Specialist	6	7.2
NM	1	1.2
Total	83	100

Subtitle: n = number; % = percentages; NM = Not mentioned; SiSU = Unified selection system. HEI = higher education institutions.

student training. As for mandatory internships, 30.12% (n = 25) had a course load between 520 and 684 hours. Regarding complementary activities, it was not possible to identify the course load established in 27 institutions (32.5%), although 53% (n = 44) had a course load between 100 and 450 hours. As for ENADE's grade, 30.1% of the courses had grade 3 (n = 25) and 42.2% (n = 35) also had grade 3 on the CPC (Table 2). It was found that public institutions had a minimum course load of 3200 hours (average = 3733.24), being higher than the minimum course load of 3030 hours for private institutions (average = 3661.88), despite the high number of these institutions offering the course in the country. Regarding the course load of

internships (min. = 600 hours, average = 855.9) and complementary activities (min. = 72 hours, average = 152.1), public institutions stood out. As for the ENADE scores, the average of public HEIs was slightly higher (2.85) than the average of private HEIs (2.76). When the CPC averages were compared between the two administrative categories of the institution, there was no difference (average = 3.34), even though only private institutions presented concept 2 in the CPC. Table 3 compares, through descriptive analytical analysis, the course loads (total, internship and complementary activities) and the concepts (ENADE and CPC) between public and private institutions.

Table 2. Characteristics of total study loads, internships, complementary activities, National Student Performance Exam and Preliminary Course Concept grades of the courses

Variables	Absolute values	Relative values
Total study load	n	%
3030h to 3360h	35	42.2
3510h to 3775h	19	22.9
3800h to 3980h	12	14.5
4000h to 5508h	17	20.5
Total	83	100
Mandatory internship load	n	%
520h to 684h	25	30.12
700h to 780h	13	15.66
800h to 880h	9	10.84
900h to 1678h	20	24.09
NM	16	19.27
Total	83	100
Complementary activities (in hours)	n	%
20h to 90h	12	14.5
100h to 150h	22	26.5
160h to 450h	22	26.5
NM	27	32.5
Total	83	100
Enade (score)	n	%
1	7	8.4
2	19	22.9
3	25	30.1
4	14	16.9
5	2	2.4
TN	16	19.3
Total	83	100
CPC (score)	n	%
2	5	6.0
3	35	42.2
4	23	27.7
5	2	2.4
TN	18	21.7
Total	83	100

Subtitle: n = Number; h = Hours; TN = There is not; NM = Not mentioned; Enade = National Student Performance Exam; CPC = Preliminary Course Concept

Table 3. Comparison of total study loads, internships and complementary activities hours between public and private institutions and scores of the National Student Performance Exam and Preliminary Course Concept

Variables	Public	Private
Total study load		
Minimum – Maximum	3200 – 5508	3030 - 6680
Average	3733.24	3661.88
Median	3655	3540
Mode	3200	3200
Internships (in hours)		
Minimum – Maximum	600 – 1678	520-1512
Average	855.9	822
Median	780	760
Mode	640	640
Complementary activities (in hours)		
Minimum – Maximum	72 – 450	20 - 380
Average	152.1	146.9
Median	144	132
Mode	180	120
Enade (score)		
Minimum – Maximum	1 – 5	1 – 5
Average	2.85	2.76
Median	3	3
Mode	3	3
CPC (score)		
Minimum – Maximum	3 – 4	2 – 5
Average	3.34	3.34
Median	3	3
Mode	3	3

Subtitle: Enade = National Student Performance Exam; CPC = Preliminary Course Concept

DISCUSSION

When analyzing the number of registered Speech, language and hearing sciences courses over the years, it was observed that there was no regularity in the number of courses created and registered. However, it was possible to analyze that in the late 1990s and 2000s, there was an increase in the number of registered courses.

There are hypotheses that could explain the reason for this occurrence, namely, the interest of institutions in registering the course, aiming to supply the number of formations in Speech, language and hearing sciences in the country, or, yet, the Brazilian political situation, with the objective of training more professionals in the trade. Another factor that may have influenced the number of courses considered active in e-MEC, but that did not offer graduation on the institution's website, may be related to the non-filling of the vacancies offered. Consequently, the institution does not start the course, as it does not reach enough students to form a class.

Scholarship granting programs, such as PROUNI (University for All Program)⁽¹¹⁾, or course funding through FIES (Student Financing Program)⁽¹²⁾, are federal government strategies to facilitate student enrollment in private HEIs. These tools may have influenced and enabled greater interest by institutions in implementing the course. A study published in 2019 showed that the majority of courses were in private institutions, which collaborates with the strategies previously mentioned for the adhesion of students to private institutions⁽⁹⁾.

The Southeast Region concentrated more than 1/3 of the courses in the country, as it was the pioneer region in the formation in Speech, language and hearing sciences⁽¹³⁾. Economic and technological factors are important to explain the concentration of so many courses in the region⁽¹⁴⁾. Three Brazilian states, Tocantins, Amapá and Roraima, did not have any Speech, language and hearing sciences course. Therefore, residents of these states need to move to another unit of the Federation, if they want to take a degree in Speech, language and hearing sciences.

Students residing outside their city of origin can benefit from the National Student Assistance Plan (PNAES), guaranteed by Decree No. 7,234 / 2010, which has, among other objectives, to minimize regional inequalities, as in cases where there is not a course or university in your city or state⁽¹⁵⁾. However, there is a dropout and a Brazilian survey, carried out in 2018, concluded that most of the reasons for evasion refer to personal issues, more precisely family and financial⁽¹⁶⁾. For this reason, the importance of providing for the population courses and higher education institutions in or near their cities of residence, which could decrease the rates of university dropout and possibly optimize the local economy.

In comparison to the number of Speech, language and hearing sciences courses in Brazil obtained by a Brazilian study⁽⁹⁾, there was a reduction of four courses. It is suggested that this reduction may have been caused by the closing of some courses, or even by checking which courses were in active status through the e-MEC system and on the HEIs website. As shown in the results of the present study, some institutions no longer offer training in Speech, language and hearing sciences, a factor not demonstrated by the referred research.

A large portion of the HEIs that offered the course were of a private administrative nature, confirming other studies that

analyzed the Speech, language and hearing sciences courses⁽⁹⁾ and others⁽⁸⁾. The Speech, language and hearing sciences course in private institutions grew 96.4%, increasing from 28 to 55 HEIs⁽⁸⁾. To a lesser extent, public educational institutions, a minority in the offer of the course in Brazil, also increased the offer of the course⁽⁸⁾. It is suggested that this increase was influenced by several factors, such as the Support Program for Federal University Restructuring and Expansion Plans (REUNI), which aims to expand the access and the permanence in higher education⁽¹⁷⁾. In general, from 2003 to 2010, the program established 14 federal universities, expanding the access to Brazilians⁽¹⁷⁾.

The access to HEIs has been demonstrated through the entrance exam, every six months. Such entrance rate per entrance exam may be due to the fact that a large part of the institutions that offered the course are of a private nature. For public HEIs, the forms of admission found were through the entrance exam or the Unified Selection System (SISU)⁽¹⁸⁾. Since 2010, universities decide whether or not to join SISU. It is a complex decision and influenced by economic and political factors⁽¹⁹⁾. However, in 2020, 545 places in Speech, language and hearing sciences were offered, divided into 12 states⁽²⁰⁾.

After entering the HEI, the student must attend the course on specific shifts. The shifts most proposed by the institutions, as verified in this study, were: night and full time. The preference for studies at night may be related to the need for the student to work during the day to be able to pay the tuition fee, especially when the HEI is private. However, it is believed that supervised internships take place after school hours, as in some evening undergraduate nursing courses⁽²¹⁾, which can overload the students' double shift, interfering in the learning process during graduation.

On the other hand, full-time courses do not provide time available for other work activities for those students who need income to support themselves. Therefore, it is of utmost importance to investigate the rates and causes of dropout of students in the Speech, language and hearing sciences course. A study showed that approximately 1200 students did not complete the course⁽⁸⁾. The withdrawal from the course can be caused by several aspects, such as the student's own will; the absence of financial support to cover the financing of the course, in the case of private institutions; the lack of financial support to make it possible to stay in the city of residence, in view of many of them live far from their hometown. The investigation of socioeconomic and other factors that contribute to the dropout of students in the course is necessary and needs to be carried out to get to know the public present at the institution, as well as providing strategies that minimize these recurring problems.

The completion of courses usually takes place in eight semesters (four years), which can have both good and bad aspects for training. The formation over four years is relatively quick and, therefore, beneficial to students who wish to enter the labor market quickly. However, it should be investigated whether the course load, including the workload of internship and complementary activities, provides good training to the student, which can be detrimental to the teaching-learning process, if it occurs in a suppressed manner.

At the end of graduation, students must complete the final paper. Many institutions did not provide characterization of the final paper format on the websites and presentations of the course, that is, whether it should be in the form of a scientific article or monograph. However, article 12 of the DCN provides that in order to complete the undergraduate course in Speech, language

and hearing sciences, the student must prepare a work, under the guidance of a teacher, but the form of presentation can be established by the Structuring Teaching Nucleus (NDE) of the course⁽⁶⁾, what was not explained in the analyzed virtual data.

Scientific writing can be a surprise for those who do not practice it⁽²²⁾. It should be noted that the lack of mastery of scientific writing could be minimized by the mandatory provision of disciplines on research methodology and Portuguese for academic purposes, right in the first semesters, which may make it possible, during graduation, to practice in the construction of academic articles, promoting the scientific doing, awakening, this time, the interest and involvement in researches.

Another relevant factor observed in this study was related to the profile of the coordinators of Speech, language and hearing sciences courses in Brazil, as not all institutions had speech therapists occupying this position. However, article 6 of Resolution No. 610, of the CNS of 2018, states that the coordination of the course must be exercised by an effective member of the institution, with experience in the career of Speech, language and hearing sciences⁽⁷⁾. It is understood that some teaching departments with similar activities, such as Speech, language and hearing sciences, Occupational Therapy and Physiotherapy, are integrated and, therefore, there is a coordinator for the entire department.

It is suggested, however, that the look of a coordinator with experience in the area, such as the course in question, can resolve doubts related to more know-how and help students who are experiencing difficulties in relation to training. A survey conducted with coordinators of the Nursing course concluded that a competency profile model, which assesses the performance of different aspects in tasks required for a course, can assist course coordinators⁽²³⁾, which could be performed with Speech, language and hearing sciences coordinators and other areas.

Regarding the training hours, according to Resolution No. 569 of December 8, 2017, every course in the Health area must have at least 4000 total teaching hours⁽²⁴⁾. This number of hours is also referred to in Resolution No. 610 of 2018, of the National Health Council⁽⁷⁾. However, it was observed that the average total course load of Speech, language and hearing sciences courses in the country is approximately 3689 hours. It is observed that, even after a decade of implantation of the DCN, there is little information about the changes introduced in the training of the speech therapist. There is still the rooting of training divided between the biomedical model and the collective health model⁽²⁵⁾.

Theoretical classes, practices, monitoring and participation in research are important aspects in training. However, in a survey of students and graduates of Speech, language and hearing sciences in the state of Minas Gerais, these components were not statistically associated with the difficulty in entering the job market⁽²¹⁾. For this reason, studies that explore aspects related to professional training are essential, since they can help with the definition of the area⁽²⁶⁾ and the inspection of Organs competent bodies, with regard to the workload of each speech, language and hearing sciences course in the country.

In Brazil, the performance of students in higher education is analyzed through ENADE. It is a test that generates a score between 1 and 5 and is carried out by the graduates of the course, in the year in which the training is evaluated. A Brazilian survey identified that the averages of the ENADE concept for Speech, language and hearing sciences students from public and private institutions are 3.33 and 2.42, respectively⁽⁹⁾. In addition, the

administrative category of the institution, whether public or private, has a significant statistical association ($p < 0.05$) with the ENADE score⁽⁹⁾.

In this study, the number of institutions in each concept was addressed. According to ENADE 2016, 49.4% of Speech, language and hearing sciences courses were rated as level 3, which can be considered a satisfactory meter, meeting the expectations of the MEC. Therefore, attention should be paid to institutions that obtained rates lower than 3, as they may be signaling the need for changes in the curriculum structure, or even in the structure of the HEI. Even so, studies that address the association of this index with individual aspects of each institution are necessary, in order to know the details that led to this result.

It was observed that the total course hours, mandatory internships and complementary activities were higher in public universities, since they correspond to a percentage calculated from the total course hours. The ENADE concept was also superior in public universities, confirming with another study⁽⁹⁾. The CPC provides information on training and takes into account the performance of students at ENADE, the student's perception of the training process and the faculty, that is, the proportion of masters and doctors at HEI and their work regimes⁽²⁷⁾. This score is widely disseminated, which creates competitiveness among higher education institutions⁽²⁸⁾. Therefore, these scores were verified in public and private institutions in this study. In the 83 courses analyzed, the concept showed little difference when compared to the public and private administrative categories. However, in a 2019 analysis, which considered 87 Speech, language and hearing sciences courses in the country, the average CPC of public HEIs was higher than that of private ones⁽⁹⁾. Both analyze favor studies that discuss the differences in CPC in different teaching modalities.

The need to disseminate accurate information about Speech, language and hearing sciences to those interested in joining the course is emphasized. Authors demonstrated in an exploratory study that approximately 80% of Speech, language and hearing sciences students and graduates were not satisfied with the information obtained about Speech, language and hearing sciences, before entering the course⁽²⁹⁾. For this reason, it is suggested that higher education institutions help, with accurate and real references on their websites on the sources of information, such as the profession guides, since they are the main sources of access to information about the course, for whom that search for the first time⁽²⁹⁾.

It should be noted that this study had limitations, such as the lack of research on the relationship between ENADE and the characteristics of HEIs. In addition, the data analyzed is limited public data, with insufficient and updated information to outline important aspects, namely, the graduate's profile, teaching methodology, teaching / learning evaluation process, clinical practice scenarios and publicity of the pedagogical project of the course.

However, it is believed that the scope of this study promoted a scientific-educational analysis for the curricula of Speech, language and hearing sciences courses in the country, as well as providing a basis for future research aimed at investigating the gaps that are made explicit when analyzing the data of this study. This research also aimed to demonstrate the importance of computerization and discussion on the scenario of undergraduate Speech, language and hearing sciences in Brazil, referring, for example, to the federal states that do not

offer the course yet, or, still, regions of the country where this course predominates, regarding the number of training courses in the career. The results achieved, therefore, can add relevant data to the NDE discussions and resolutions, as well as they can demonstrate the current situation of Speech, language and hearing sciences courses for future candidates.

FINAL CONSIDERATIONS

Speech, language and hearing sciences courses in Brazil have similarities in aspects related to the scores in students' and courses' performance exams, number of semesters and the final paper format, in addition to being coordinated by PhD speech therapists. However, they differ in relation to the total course load, internship and complementary activities. Despite the challenge, undergraduate courses in Speech, language and hearing sciences must adapt to the National Curriculum Guidelines, changing paradigms in the training of the new Speech, language and hearing sciences professional. The findings of the present study, therefore, can guide revisions of the Phonoaudiology courses proposals, aiming at promoting the offer of new courses in the states still in need, as well as filling the gaps presented from the current demands.

REFERENCES

1. Conselho Federal de Fonoaudiologia [Internet]. História da Fonoaudiologia. Brasília; 2014. [citado em 2020 21 Mar]. Disponível em: <https://www.fonoaudiologia.org.br/cffa/index.php/historia-da-fonoaudiologia/>
2. Costa T. Fonoaudiologia no Brasil: perdas e ganhos. *Rev Distúrb. Comun.* 2001;12(2):279-82.
3. Brasil. Câmara dos Deputados. Centro de Documentação e Informação. Lei nº 6.965, de 9 de dezembro de 1981. Dispõe sobre a regulamentação da profissão de Fonoaudiólogo, e determina outras providências. Diário Oficial da União [Internet]; Brasília; 9 dez. 1981 [citado em 2020 22 Mar]. Disponível em: <http://www2.camara.leg.br/legin/fed/lei/1980-1987/lei-6965-9-dezembro-1981-356567-norma-atualizada-pl.html>
4. Aarão PCL, Pereira FCB, Seixas KL, Silva HG, Campos FR, Tavares APN, et al. Histórico da Fonoaudiologia: relato de alguns estados brasileiros. *Ver. Med Minas Gerais.* 2011;21(2):238-44.
5. Meira I. Breve relato da história da fonoaudiologia no Brasil. In: Marchezan IQ, Zorzi JL, Gomes ICD, organizadores. *Tópicos em fonoaudiologia 1997/1998.* São Paulo: Lovise; 1998.
6. Conselho Nacional de Educação. Câmara de Educação Superior. Resolução CNE/CES 5, de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Fonoaudiologia. Diário Oficial da União; Brasília; 4 Mar 2002; Seção 1; 12 p.
7. Conselho Nacional de Saúde. Resolução CNS 610, de 13 de dezembro de 2018. Resolve aprovar o Parecer Técnico nº 454/2018, que dispõe sobre as recomendações do Conselho Nacional de Saúde à proposta de Diretrizes Curriculares Nacionais do curso de graduação Bacharelado em Fonoaudiologia. Diário Oficial da União; Brasília; 16 abril 2019; Seção 1, 82 p.
8. Vieira ALS, Moyses NMN. Trajetória da graduação das catorze profissões de saúde no Brasil. *Saúde Debate.* 2017;41(113):401-14. <http://dx.doi.org/10.1590/0103-1104201711305>.
9. Brasil BC, Gomes E, Teixeira MRF. O ensino de fonoaudiologia no Brasil: retrato dos cursos de graduação. *Trab Educ Saúde.* 2019;17(3):1-19. <http://dx.doi.org/10.1590/1981-7746-sol00214>.
10. Brasil. Ministério da Educação. Portaria nº. 21, de 21 de dezembro de 2017. Dispõe sobre o sistema e-MEC, sistema eletrônico de fluxo de trabalho e gerenciamento de informações relativas aos processos de regulação, avaliação e supervisão da educação superior no sistema federal de educação e o cadastro nacional de cursos e instituições de educação superior cadastro e-MEC. Diário Oficial da União; Brasília, 22 dez 2017; Seção 1.
11. Brasil. Lei nº 11096, de 13 de janeiro de 2005. Institui o Programa Universidade para Todos - PROUNI, regula a atuação de entidades beneficentes de assistência social no ensino superior; altera a Lei nº 10.891, de 9 de julho de 2004, e dá outras providências. Diário Oficial da União; 13 jan 2005.
12. Brasil. Lei nº 10260, de 12 de julho de 2001. Dispõe sobre o Fundo de Financiamento ao Estudante do Ensino Superior e dá outras providências. Diário Oficial da União; 13 jul 2001.
13. San Martin AS, Chisini LA, Martelli S, Sartori LRM, Ramos EC, Demarco FF. Distribuição dos cursos de odontologia e de cirurgões-dentistas no Brasil: uma visão do mercado de trabalho. *Rev Abeno.* 2018; 18(1):63-73.
14. Frota MA, Wermelinger MCMW, Vieira LJES, Neto FRGX, Queiroz RSM, Amorim RF. Mapeando a formação do enfermeiro no Brasil: desafios para atuação em cenários complexos e globalizados. *Ciênc. saúde coletiva.* 2020;25(1):25-35.
15. Brasil. Decreto nº 7.234, de 19 de julho de 2010. Dispõe sobre o Programa Nacional de Assistência Estudantil - PNAES. Diário Oficial da União [Internet]; Brasília; 19 jul 2010 [citado em 2020 Mar 28]. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/decreto/d7234.htm
16. Rios R, Costa VMF, Bianchim BV, Santos RCT, Rodrigues, AM. Evasão, retenção e diplomação: ocorrências e motivações. *Revista Gestão Universitária na América Latina.* 2018; 11(4):20-39.
17. Brasil. Ministério da Educação. Programa de apoio a planos de reestruturação e expansão das universidades federais Reuni 2008: relatório de primeiro ano. Brasília: Ministério da Educação; 2009a. 17 p.
18. Brasil. Portaria Normativa nº 2, de 26 de janeiro de 2010. Institui e regulamenta o Sistema de Seleção Unificada, sistema informatizado gerenciado pelo Ministério da Educação, para seleção de candidatos a vagas em cursos de graduação disponibilizadas pelas instituições públicas de educação superior dele participantes. Diário Oficial da União; Brasília; 27 jan 2010; Seção 1.
19. Soares R, Fernandes J. Análise exploratória da adesão ao Sistema de Seleção Unificada (SiSU) pelas universidades federais por meio da Análise de Redes Sociais mapeadas a partir de dados abertos. *InCID: Rev. Ciênc. Inf.* 2016;7(1):181-200. <http://dx.doi.org/10.11606/issn.2178-2075.v7i1p181-200>.
20. Brasil. Ministério da Educação. Sistema de seleção unificada 2020 [Internet]. Brasília; 2020 [citado em 2020 Mar 28]. Disponível em: <https://sisu.mec.gov.br/#/>
21. Teixeira E, Fernandes JD, Andrade AC, Silva KL, da Rocha ME, Lima RJ. Panorama dos cursos de Graduação em Enfermagem no Brasil na década das Diretrizes Curriculares Nacionais. *Rev Bras Enferm.* 2013;66(Spec):102-10. <http://dx.doi.org/10.1590/S0034-71672013000700014>. PMID:24092317.

22. Pinto MGLC. Os meandros da escrita acadêmica. Alguns recados aos estudantes universitários. *Linha D'Água*. 2018;31(1):9-27. <http://dx.doi.org/10.11606/issn.2236-4242.v31i1p9-27>.
23. Nogueira VO, Cunha ICKO. Construção de perfil de competências para enfermeiros coordenadores de cursos de graduação em enfermagem. *Int J Healthc Manag*. 2019;5(1)
24. Conselho Nacional de Saúde. Resolução CNS 569, de 08 de dezembro de 2017. Dispõe sobre os cursos da modalidade educação a distância na área da saúde. *Diário Oficial da União*; Brasília; 26 fev 2019; Seção 1.
25. Garcia VL, Di Ninno CQMS. Diretrizes curriculares nacionais. In: Marchesan IQ, Justino H, Tomé MC, organizadores. *Tratado de especialidades em fonoaudiologia*. São Paulo: Guanabara Koogan; 2014.
26. Oliveira MHMA, Gargantini MBM. Universidade, formação e fonoaudiologia. *Pro-Posições*. 2003;14(1):39-51.
27. Brasil. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Nota Técnica nº 58: cálculo do Conceito Preliminar de Curso 2014. Brasília, DF: INEP; 2015.
28. Ikuta CYS. Sobre o Conceito Preliminar de Curso: concepção, aplicação e mudanças metodológicas. *Estudos em Avaliação Educacional*. 2016;27(66):938-69. <http://dx.doi.org/10.18222/eaev27i66.4039>.
29. Guigen AP, Zabeu SZ, Freire T, Campos PD, Felix GB, Ferrari DV. Fonoaudiologia como opção de carreira universitária: estudo exploratório. *Rev CEFAC*. 2014;16(3):947-84.