

**Factors influencing nursing teachers perceptions of competence in teaching****Fatores que influenciam a percepção de professores de enfermagem das competências na docência****Factores que influyen la percepcion de los profesores de enfermería de las competencias en la docencia****Received: 11/10/2015****Approved: 07/03/2016****Published: 01/05/2016****Claudia Cristina Maciel Dos Santos<sup>1</sup>****Ana Claudia Giesbrecht Puggina<sup>2</sup>****Luciane Lúcio Pereira<sup>3</sup>**

The study aim was to identify factors that influence the perception of competences for practice of teaching. Quantitative transversal research with 45 undergraduate nursing professors who responded to “Scale of Factors Influencing the Perception of Competencies for the Practice of Teaching”. The mean total scale score was 170.6 ( $\pm 13.7$ ). There was statistically significant difference in Interpersonal Skills factor in the variable performance in graduate *Lato sensu* ( $p$ -value=0.03); Innovation in Aperture and Proactive Support to Teaching factors with variable performance in graduate *Stricto sensu* the values were identical ( $p$ -value < 0.05). The teachers participating in this study had a perception of moderate to high influence of the factors in their teaching competence. Teachers who work in the *Lato sensu* had better perception of their interpersonal skills with students; those working in *Stricto sensu* had lower perceptions about their search skills for innovation in education and proactive support to the student.

**Descriptors:** Professional competence; Teaching; Faculty nursing.

Este estudo teve como objetivo identificar os fatores que influenciam a percepção das competências para o exercício da docência. Pesquisa transversal quantitativo com 45 professores de graduação em enfermagem que responderam à “Escala de fatores que influenciam na percepção das competências para o exercício da docência”. O escore médio total da escala foi de 170,6 ( $\pm 13,7$ ). Houve diferença estatisticamente significativa no fator Habilidades Interpessoais com atuação no *Lato sensu* ( $p$ -valor=0,03); nos fatores Abertura à Inovação e Apoio Proativo à Docência com atuação no *Stricto sensu* os valores foram idênticos ( $p$ -valor<0,05). Os docentes participantes deste estudo tiveram uma percepção de moderada para alta da influência dos fatores na sua competência docente. Os professores que atuam no *Lato sensu* tiveram melhor percepção das suas habilidades interpessoais com os alunos; os que atuam no *Stricto Sensu* tiveram menor percepção em relação a suas habilidades de busca por inovações no ensino e apoio proativo ao aluno.

**Descritores:** Competência profissional; Ensino; Docentes de enfermagem.

Esto estudio tuvo como objetivo Identificar los factores que influyen la percepción de las competencias en la práctica docente. Investigación transversal y cuantitativa con 45 profesores de graduación de enfermería que respondieron a “Escala de factores que influyen en la percepción de las competencias para la práctica docente”. La media de puntuación total de la escala fue 170,6 ( $\pm 13,7$ ). Hubo diferencia estadísticamente significativa en el factor de Habilidades Interpersonales en el rendimiento variable en postgrado *Lato sensu* ( $p$ -valor = 0,03); en los factores Apertura a la Innovación y el Apoyo Proactivo a la Docencia con un rendimiento variable en el grado *Stricto sensu* los valores fueran idénticos ( $p$ -valor<0,05). Los profesores participantes en este estudio tenían una percepción de moderada a alta influencia de los factores en su competencia docente. Los profesores que trabajaban en el *Lato sensu* tenían una mejor percepción de sus habilidades interpersonales con los estudiantes; los que trabajaban en *Stricto sensu* tenían percepciones menores sobre sus habilidades de búsqueda de la innovación en la educación y el apoyo proactivo para el estudiante.

**Descriptoros:** Competencia profesional; Enseñanza; Docentes de enfermería.

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## INTRODUCTION

Higher education in Brazil has advanced significantly in recent decades and has gone through numerous changes, both in institutional operation, curricular setting, the academic titles of teachers, institutionalization of research, intellectual production, quality of training offered, as in the diversity of course offerings and the increase in the number of students and, thus, the need for greater training of the docent body and contingent arises<sup>1,2</sup>.

To act in the educational practice of a university, there are some requirements, such as specific training and skills inherent in the teaching learning process, among which one can mention the reflective practice, one of the core competencies of a faculty member, which must be used in order to manipulate and parse the didactic activity<sup>3</sup>.

The educator must consider the complexity of the process of educating as well as the cultural diversity of students and new pedagogical innovations that cause changes in the ways one teaches and learns<sup>4</sup>. This adaptation of the education of teachers should be a dynamic and continuous process, boosting the search for updates and strengthening the connection with the performance of the educational practice<sup>5</sup>.

In this sense, it is important for the University lecturers not to limit themselves to the field they came from. They must seek to understand the teaching-learning process, systematize their method of teaching and understand the plan and the educational project of their institution as a starting point for their actions<sup>6,7</sup>.

In order to act as a teacher in higher education, it is important, above all, to recognize oneself with the profession, and be completely dedicated to teaching, recognizing the classroom as a learning space in an interdisciplinary perspective, promoting effective participation and mobilizing for research, reading, systematization, analysis, development, synthesis, reasoned criticism

and exchange of experience between teacher and student<sup>5,7,8</sup>.

Competence in teaching can be defined as the capacity to mobilize resources to develop an activity and transform information into knowledge related to the qualification of the individual, their experience, understanding of the world and social culture in which it is involved<sup>5</sup>.

The notion of competence is associated with cognitive resources to confront a situation. As such, the competence or capacity to mobilize resources is built through training and through the actions of the teacher in each situation, through a set of complex mental operations that allow one to determine and carry out certain action<sup>8</sup>.

Teacher competence is the ability to organize and direct learning situations, manage progress, design and use technological devices in pedagogical strategies in order to engage students, reflect, work in teams, face duties and ethical dilemmas, as well as to manage one's own training and capacitation<sup>8</sup>.

In Brazil, perhaps one of the main difficulties in superior teaching is the large number of teachers who enter the classroom with only their initial professional experience and without specific training to work in the teaching/learning process<sup>2,3</sup>. This lack of training in adult education can lead the faculty to seek greater qualifications, or even to failure, discontent, or frustration<sup>7,8</sup>.

Nursing education in Brazil went through several changes and models from 1923<sup>7</sup>. The evolution of educational reforms needed to meet the demand of the health market, and the autonomy of universities in open nursing courses resulted in the growth of upper-level courses. In 1964 there were 39 courses, and in 1991 that number was 106, an increase of 171% in 27 years. From 1991 to 2004, the number of courses has jumped to 415, representing an increase of 291.5% in just 13 years<sup>9,10</sup>.

Considering the period of 1991 to 2012, the expansion of courses in Brazilian territory was 393%, with approximately 838

undergraduate courses in nursing. The Southeast region reaches 43% of all undergraduate courses in nursing in the country, 36.73% only in São Paulo, followed by the Northeast with 24.12%, the South with 14.61%, the Midwest with 10.96% and the Northern region with 7.3%<sup>11,12</sup>.

Nursing has become one of the five most sought-after professions in Brazil and the exponential growth is dramatic, because the courses usually have a high cost for students without concern for quality in training. With the increase in the number of undergraduate courses, there is consequently a need to increase the number of qualified teachers in higher education, driving education institutions to establish criteria for teacher hiring<sup>9,10</sup>.

Within this context, it becomes necessary to investigate how the teachers of undergraduate nursing courses perceive the influence of intrinsic and extrinsic factors in their competencies as educators. Thus, the aim of this study is to identify the factors (institutional support, interpersonal skills, didactic teaching capacity, opening up to innovation and proactive support to teaching) that influence the perception of competence for the exercise of teaching.

## METHOD

Quantitative cross-sectional study conducted in four private institutions of higher education, one located in the city of Guarulhos-SP and three in the city of São Paulo, in the period from April to June, 2014.

The sample of the study consisted of 45 teachers of undergraduate program in nursing that met the inclusion criteria of the search: (1) be a teacher of nursing graduation course indicated by the course Coordinator and (2) be employed by the institution for at least six months, as data collection has addressed issues that require an affinity to teaching, to the environment and to the institutional policy.

Two instruments were applied: (1) characterization of the sample (sex, age, marital status, titling, professional

performance at the technical level, graduation, *Stricto* and *Lato sensu*, working time in the institution and workplace) and (2) "range of factors that influence the perception of competence for the exercise of teaching". This instrument is composed of 34 items measured through a six-point Likert scale ranging from (1) strongly disagree (6) totally agree. The scale has five factors: institutional support, interpersonal skills, Didactic Teaching Capacity, receptivity to innovation and Proactive Support to Teaching. The total score can range from 34 to 204, and the higher the score, the better the evaluation of factors that influence the perception of competence for the exercise of the teaching<sup>13</sup>.

The Institutional Support factor is described as the perception of teachers regarding the support offered by the institution, from their professional qualification to their career plan. The Interpersonal Skills factor identifies the teacher's perception of their own interpersonal skills in what concerns the student and the effective exchange of knowledge, fostering the relationship of trust between teacher and student. The Didactic Educational Capacity factor relates to the teaching and learning process, and to the teacher's leadership and teaching skills. The factor openness to Innovation is related to the teacher's perception of their own search for innovations, troubleshooting and enthusiasm in the teaching/learning process with the student. The factor Proactive Support to Teaching reveals how the teachers perceive the search for different types of evaluation to monitor the student's learning, including their difficulties and limitations<sup>13</sup>.

*Stricto Sensu* is a Latin phrase that refers to the post-graduation which concedes to the student the title of master or doctor in a given field of knowledge. *Lato sensu* postgraduate courses are of specialization and improvement of academic training.

Both the teachers and the days and hours of data collection in the teachers' lounge were stipulated by the coordination or

management of the nursing graduation program of the participant institutions.

The teachers were instructed not to fill out the number of the participant, which was included later at random (without identifying the participant); they were advised to return the collection instruments and informed consent forms (TFCC) in different folders: the unidentified instruments in one, and the informed consent in another. This was a measure of protection adopted by researchers to reduce the risk of identification and embarrassment of the participants.

Descriptive and inferential statistics analyses were conducted on the data. The correlation of age and working time with the scores of each factor was measured using the Spearman's rank correlation coefficient. The normal distribution was evaluated using the Kolmogorov-Smirnov test, and since no significant adherence to the normal distribution was observed, they were studied as demographic variables through the Mann-Whitney Test, or Kruskal-Wallis. The significance level was 5% and the software used for analysis was the *Statistical Analysis Software - SAS 9.2*.

The development of study has met national and international standards of ethics in research involving humans and was approved by the ethics and Research Committee, protocol number 519,093.

## RESULTS

The 45 teachers had an average of 44.2 years ( $\pm 9.3$ ) and were mostly women (91.1%), married (73.3%), experts (60.0%) and nurses (80%) (Table 1).

Regarding their professional experience, all participants taught graduation

classes, most did not teach in technical courses (57.8%), neither in the *Stricto* (75.6%) nor in the *Lato sensu* (91.1%). The time of experience in the teaching institution, regarding the collected sample, was mostly greater than 10 years (41.9%) (Table 1).

The total average score of the answers of the participants in relation to the "scale of factors that influence the perception of competence for the exercise of teaching" was 170.6 ( $\pm 13.7$ ), showing that the teachers had a moderate to high awareness of the factors that influence the perception of the skills necessary for the exercise of teaching (table 2).

Considering the average and variations of scoring in each of the factors, it was observed that Didactic Teaching Capacity and openness to Innovation achieved averages closer to the maximum score, presenting the smallest standard deviation ( $\pm 2.3$  and  $2.2 \pm$  respectively), i.e. with a lower variability of responses. This data shows that, in General, teachers perceive to be highly influenced by several factors, as: the way they relate to the teaching/learning process; didactic leadership capacity; search for innovations; problem solving; and their own enthusiasm for learning (table 2). Regarding the institutional Support factor, the average obtained can be verified to be farther from the maximum score, with a higher standard deviation ( $\pm 6.5$ ), that is, there was a greater variability in responses.

This data shows that, in general, the perception of this factor by the interviewed teachers was worse, when compared with other factors, meaning that they perceive low influence of the support received by the institution in their competence as teachers (Table 2).

**Table 1.** Description of the features of the sample studied. São Paulo, 2014.

Characteristics of the sample			Performance Characteristics		
	N	%		N	%
<b>Sex</b>			<b>Technician</b>		
Female	41	91.1	No	26	57.8
Male	4	8.9	Yes	19	42.2
<b>Age</b>			<b>Graduation</b>		
< 35	8	17.8	No	0	0.0
35 a 44	14	31.1	Yes	45	100.0
45 a 50	13	28.9	<b>Stricto sensu</b>		
> 50	10	22.2	No	34	75.6
Average ( $\mu$ ) $\pm$ DP ( $\sigma$ )	44.2	$\pm 9.3$	Yes	11	24.4
<b>Marital Status</b>			<b>Lato sensu</b>		
Married	33	73.3	No	41	91.1
Single	7	15.6	Yes	4	8.9
Widower	1	2.2	<b>Working time</b>		
Separated	2	4.4	Up to 3 years	12	27.9
Divorced	2	4.4	Of 3 to 10 years	13	30.2
<b>Education</b>			More than 10 years	18	41.9
Doctor	8	17.8	Average ( $\mu$ ) $\pm$ DP ( $\sigma$ )	8.9 $\pm$ 6.2	
Master	10	22.2	Not referred n = 2		
Specialist	27	60.0			
<b>Training</b>					
Nurse	36	80.0			
Other professionals*	8	17.8			
Nurse**	1				

Note: \* other professionals: Biologist (1), Physical Therapist (2), Psychologist (2), Information Systems Analyst (n = 1), (2). \*\* Nurse with another graduation: pedagogy (1).

**Table 2.** Total score and by the factor "scale of factors that influence the perception of competence for the exercise of teaching". São Paulo, 2014.

Factors	Number of items	Variation of the score	Average ( $\mu$ )	Standard deviation ( $\sigma$ )	Median
Institutional Support	8	8-48	30.3	6.5	31.0
Interpersonal Skills	8	8-48	43.2	4.1	44.0
Didactic Teaching Capacity	6	6-36	33.4	2.3	34.0
Openness to innovation	5	5-30	27.6	2.2	28.0
Proactive support to teaching	7	7-42	36.1	4.1	37.0
Total	34	34-204	170.6	13.7	171.0

Regarding the descriptive analysis of the responses of the participants in each item of the "scale of factors that influence the perception of competence for the exercise of teaching", an assessment of the extreme responses of the participants was chosen, instead of the average on each item, in order to analyze the items regarding which the teachers' answers were more intense.

One can observe that the response "totally agree" was more frequent on questions 13 (n=33; 73.3%), 18 (n=33; 73.3%), 20 (n=32;

71.1%) and 21 (n=33; 73.3%), showing that the commitment to education, the Organization in the preparation of lessons and didactics are factors that influence positively in the competence of the teacher, as well as ethics and sense of Justice strengthens the image of the teacher to the students, as it strengthens the perception of competence.

The response "totally disagree" was more frequent in questions 2 (n=7; 15.6%), 3 (n=8; 17.8%), 5 (n=7; 15.6%) and 6 (n=5; 11.1%) showing that the research activity, the

enhancement and professional development programs managed by the Human Resources department of the educational institutions, the career plan and the Human Resources policies, are factors that need to be strengthened and are being little encouraged and valorized in the studied institutions.

In the correlation of the numerical variables age and working time in the institution in relation to the dimensions of the "scale of factors that influence the perception of competence for the exercise of teaching", there were no significant correlations (Table 3).

**Table 3.** Correlation of variables age and time of work with the domains of the "scale of factors that influence the perception of competence for the exercise of teaching". São Paulo, 2014.

	Age		Working time	
	p-value of r	r	p-value of r	r
Institutional Support	0.746	0.050	0.906	0.019
Interpersonal Skills	0.803	-0.038	0.674	0.066
Didactic Teaching Capacity	0.855	-0.028	0.307	0.160
Openness to innovation	0.605	0.079	0.756	0.049
Proactive support to teaching	0.343	0.145	0.374	0.139

Note: Spearman correlation index.

On the association between categorical characterization variables and the factors Institutional Support and Didactic Teaching Capacity factors there was no statistically significant difference.

There was no statistically significant difference in the factor Interpersonal Skills factor and the variable performance in the *Lato sensu* (p-value = 0.029) showing that teachers who work in the *Lato sensu* have a greater perception of their interpersonal skills regarding an effective knowledge exchange, and favoring a trustful professional relationship (Table 4). Their actions in the *Lato sensu*, as they are more practical, may have positively influenced the perception of the interviewed teachers.

Significant statistic differences were also found in the comparison of the factor Openness to innovation with the variable performance of the teacher in the *Stricto sensu* graduate studies (p = 0.049), indicating that the teachers who work in the *Stricto sensu* understand the search for innovation, problem solving and the enthusiasm in the teaching/learning process, to be less influential traits (Table 4).

Considering the factor Proactive Support to Teaching, there was a statistically

significant difference in the Performance variable of the *Stricto sensu* graduate studies (p = 0.049). That indicates a lower perception of the teacher when it comes to looking for different ways of accompanying the students' learning through evaluations, also taking into account difficulties and limitations of those students (Table 4).

When comparing the score of the domain Interpersonal Skills and the performance on the *Lato sensu*, regarding the teachers who work in this level, the superior and inferior limits obtained in this domain were very close: 46 and 48. The dispersion was positively asymmetric and the median was greater when compared to the group of teachers who did not work with the *Lato sensu* courses (47.5 versus 43) (Figure 1A).

Comparisons between the scores of the factors Openness to Innovation and Proactive Support to Teaching regarding the teachers who work at the *Stricto sensu* show similar characteristics. The group of teachers who work in the *Stricto* presented lower median values in quartiles 1 and 3 in both comparisons (Figure 1B and 1 c).

In an attempt at better understanding the statistically significant differences, the participants were divided into two groups.

Teachers who did not act in *Stricto sensu* had an average of 43.4 years ( $\pm 8.6$ ), worked in the institution for an average of 8.5 years ( $\pm 6.3$ ) and the majority were specialists ( $n = 25$ ; 73.5%). In comparison, teachers who work in the *Stricto sensu* had averaged 46.6 years ( $\pm 11.4$ ), worked at the institution for 10.2 years on average ( $\pm 5.9$ ) and the majority consisted of doctors ( $n=7$ ; 63.6%), i.e., they had the highest averages of age, working time in the institution and education.

These teachers who work in the *Stricto sensu* were shown to perceive their competence as inferior regarding Openness to Innovation and Proactive Support to Teaching, indicating that, perhaps, these variables negatively influence the perception of how easy to accomplish are the skills of problem solving, enthusiasm in the teaching/learning process and motivation to search for different forms of student assessment.

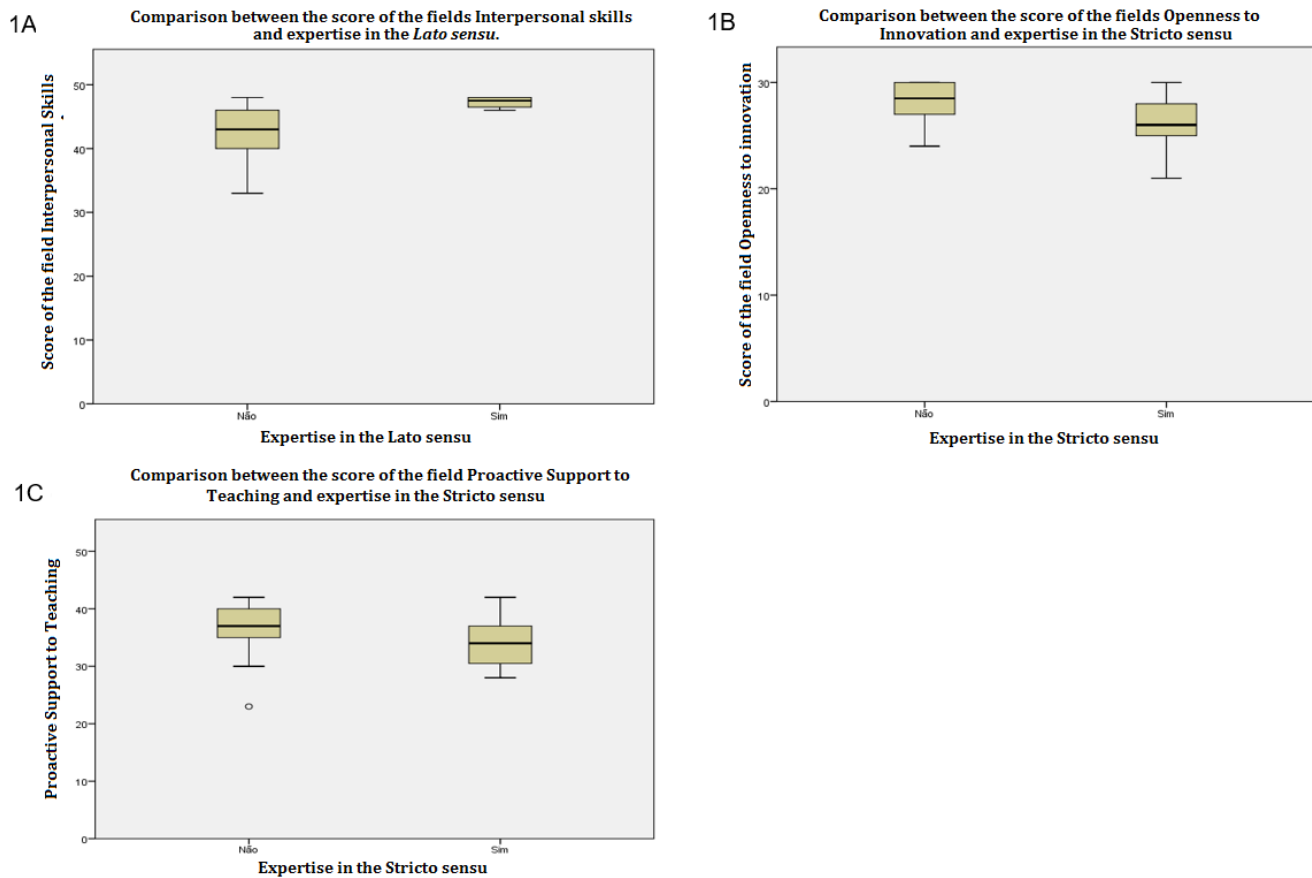
Table 4. Study of the fields of the "Scale", according to categorical variables. São Paulo. 2014

Variables	Institutional Support			Interpersonal Skills			Didactic Teaching Capacity			Openness to innovation			Proactive Support to Teaching		
	$\mu$	$\sigma$	p-valor	$\mu$	$\sigma$	p-valor	$\mu$	$\sigma$	p-valor	$\mu$	$\sigma$	p-valor	$\mu$	$\sigma$	p-valor
<b>Gender*</b>			0.968			0.392			1.000			0.108			0.780
Female	30.3	6.7		43.3	4.0		33.4	2.4		27.8	2.2		36.2	4.2	
Male	30.3	5.1		41.8	4.7		33.5	2.4		26.3	1.9		35.5	3.7	
<b>Marital Status</b>			0.702			0.892			0.268			0.918			0.824
Married	29.7	6.7		43.3	4.2		33.6	2.1		27.9	1.8		36.4	3.8	
Single	30.9	6.9		42.9	3.7		33.0	2.5		26.9	3.2		35.4	4.8	
Widower	31.0	.		40.0	.		31.0	.		28.0	.		37.0	.	
Separated	36.0	4.2		43.5	3.5		30.5	5.0		25.5	5.0		32.5	6.4	
Divorced	32.0	7.1		43.0	7.1		35.5	0.7		28.0	2.8		36.5	7.8	
<b>Education</b>			0.988			0.602			0.266			0.131			0.438
Master	30.7	7.3		44.0	4.1		34.0	2.1		27.9	2.5		37.2	3.4	
Doctor	29.6	8.9		42.4	3.6		31.9	3.2		25.9	3.0		34.4	4.9	
Expert	30.4	5.6		43.1	4.2		33.7	2.0		28.1	1.5		36.2	4.1	
<b>Field</b>			0.348			0.327			0.362			0.300			0.229
Nurse	30.6	6.7		42.9	4.1		33.4	2.4		27.6	2.3		35.8	4.1	
Nurse with studies from other fields	22.0	-		48.0	.		36.0	-		30.0	-		42.0	-	
Other professionals	29.9	5.6		44.0	3.9		33.3	2.0		27.4	1.5		36.5	3.9	
<b>Professional Experience</b>															
<b>Technical courses*</b>			0.801			0.272			0.635			0.283			0.098
No	30.0	7.1		42.6	4.0		33.2	2.5		27.2	2.6		35.5	3.7	
Yes	30.7	5.7		44.0	4.2		33.7	2.1		28.2	1.5		37.0	4.6	
<b>Under graduation*</b>			0.380			0.181			1.000			0.587			0.398
No	25.0	.		48.0	.		34.0	.		29.0	.		39.0	.	
Yes	30.4	6.5		43.1	4.0		33.4	2.4		27.6	2.2		36.0	4.1	
<b>Stricto sensu* post-graduation</b>			0.926			0.561			0.159			0.049			0.049
No	30.5	5.9		43.4	4.2		33.8	2.1		28.1	1.7		36.8	3.9	
Yes	29.7	8.3		42.6	3.6		32.4	2.8		26.2	2.9		34.0	4.3	
<b>Lato sensu** post-graduation</b>			0.648			0.029			0.231			0.238			0.267
No	30.2	6.4		42.8	4.0		33.4	2.1		27.6	2.0		36.0	3.9	
Yes	31.5	7.9		47.3	1.0		33.8	4.5		28.0	4.0		37.5	6.6	

Mann-Whitney or Kruskal-Wallis test

**Figure 1.** Comparisons between the performance of teachers and scores of the fields of the "scale" which had statistically significant differences. Figure 1A. Interpersonal skills and

expertise in the *Lato sensu*. [Figure 1B](#). Openness to innovation and performance in the *Stricto sensu*. [Figure 1C](#). Proactive support to teaching and performance in the *Stricto sensu*. São Paulo, 2014.



## DISCUSSION

Results found in this study about the importance of teaching and the capacity to search for innovations in the performance and skills of teachers corroborate studies<sup>14-17</sup> in which didactic and innovation are considered convergent factors, and essential in the teaching/learning process.

Didactics refers to the methods and techniques of teaching. Planning the development of classes in a school by proposing a sequence of activities in a coherent manner, considering the limitations and capabilities of the students and the goals to be achieved is one of the most important points of the didactic capacity of teachers. This planning should be adapted after each educational activity, in view of the activities developed and the results achieved. The object of the discussion must be connected to what students already know, and the class should be

conducted in order to be a progressive challenge to them<sup>14,15</sup>. The didactic is perfected through innovation.

Innovation means new ideas on the technological and scientific advances, and it is a concept related to the impact of change generated in an environment and in people. Innovation in the teaching process not only intervenes in adult education practices, as it can change and refresh it, requiring from the teacher a deliberate effort, and persistent actions to improve the educational practice<sup>16</sup>.

The teacher open to innovation incorporates technological and behavioral changes more easily, in the field of education. Openness to innovation can be considered an advisory competence, capable of stimulating the pursuit of knowledge, interest and involvement of students, since these teachers are closer and open to new communication technologies and information<sup>17</sup>.



In this perspective, innovation is also essential to allow students the opportunity to learn autonomously, try different andragogic experiences that encourage building their knowledge from discovery.

However, many teachers have difficulties to seek innovative solutions to teaching for a number of reasons.

In this study, teachers who work in the *Stricto sensu* presented a reduced perception of their capabilities regarding Openness to Innovation and Proactive Support to Teaching. Some features of the work at this level, such as the need for an academically driven career, experience in research, study and constant updating, longer work hours and dedication in the production of knowledge, may have negatively influenced the perception of these skills, because the teacher-researcher can move away from the classroom and the practice of the profession, not to mention the evident differences between the generations regarding the use of information and communication technologies.

Information and Communication Technology (ICT) can be defined as a set of technological resources, computers, Internet, CD-ROM, hypermedia, multimedia and other features of digital languages that can collaborate significantly to make the educational process more efficient and effective<sup>18</sup>.

The use of technologies requires greater access to technology, domain of technological developments and proper planning<sup>19</sup>. In General, teachers who are more conservative or accustomed to classroom teaching have a lower tendency to innovate and use simpler ICT in their classroom<sup>20</sup>.

Confronted with the need to upgrade and keep up with the demands of new generations of students, much more used to new information and communication technologies, the institutional support is essential to this process, to the extent that technological innovation is invading the teaching environment, institutions need to prepare themselves to meet the new demands.

However, the institutional support was mentioned in this study by professors as a factor with low influence on teacher competence.

A study<sup>21</sup> was found which has similar results to the ones here presented, suggesting how fragile is the relationship between teacher and educational institution. The objective of the study was to verify whether the human resources function of the private universities in Brazil encourages the development of the teachers' capabilities. In order to do that, a qualitative research was conducted through interviews with top executives of universities and a quantitative research as conducted through a closed self-applicable questionnaire with 60 items (pilot instrument of the "Range of factors that influence the perception of competence for the exercise of teaching") with 282 teachers. The results revealed that teachers recognize the skills necessary to exercise the profession; on the other hand, actions that help the development of these skills are not encouraged by the Human Resources department of the institutions, which generates a competitive advantage in the academic environment.

Another interesting aspect discussed in the study mentioned<sup>21</sup> above is that the private universities, from the perspective of their representatives, are unaware of the potential of human resources, this being a subject which is superficially discussed and explored in the context of the institutions, being that generally the Human Resources only exercise the indispensable bureaucratic activities. Even far from the reality of human resources activities, leaders value their role as articulators of strategies for the development of people, in spite of the clear lack of pragmatic actions to implement human resources policies and practices that provide effective responses to achieving these goals.

The institutional support in the teaching practice can directly influence its performance, since it relates to working conditions, possibility of training ranging from encouraging research to training courses on

teaching, time allocation for pedagogical activities and career plans within the educational institution<sup>22,23</sup>.

The Institutional Educational Project (PPI), which is an integral part of the Institutional Development Plan (PDI) of any educational institution, must contain in its internal regulations the activities and actions that might highlight the support and encouragement to the practice of the teachers, aiming at supporting them in their didactic-pedagogic qualification, in order to optimize their teaching and lately achieve their mission, vision, and values<sup>23</sup>. In spite of that, the teacher also has to worry about his intellectual development and seek new knowledge, often outside their institution, to contribute to the exchange of knowledge.

The educational Manager must, by principle, support and encourage teachers who wish to continue their training. It is necessary to give them minimal conditions, such as providing them with leaves so that they can attend lectures and courses aimed at teaching practice, reducing the time load in the classroom so he can study and improve, among other actions. There are educational institutions that already apply this practices, but it is worth noting that it is important that these initiatives come from the professors themselves.

Another important aspect is that a teacher's education is something that needs to be effective and well planned, including in governmental levels. Starting with the law of Guidelines and Bases For education no. 9394 of 20 December 1996<sup>22</sup>, a process was started in the context of Brazilian higher education, in order to revitalize their goals, making it so that the *Stricto sensu* graduate programs would be their main end, and as such should be charged with the responsibility to train and prepare teachers.

Thus, graduate education is seen as the main vehicle for creating new knowledge that goes beyond the mere transcription of knowledge and exchange of experience, but takes on the responsibility to develop science,

technology and educational strategies for the training of teachers for higher education<sup>24</sup>.

Brazilian legislation determines that the preparation for the exercise of the Magisterium higher than is made primarily in masters and doctoral programs. The *Stricto Sensu* graduate programs develop activities primarily aimed at training of researchers, to the detriment of the necessary pedagogical training of professionals for the exercise of the Magisterium higher. It is very common interpretation, perhaps mistaken, that the good researcher is necessarily a good teacher, giving priority to training activities for researchers by *Stricto Sensu* graduate programs<sup>23,25</sup>.

Some facts would suggest that the concern for graduate-level teacher training, especially in the private sector, is much more targeted at economic objectives than at educational ones, as indicators of quality in higher education, notably regarding the faculty teachers, are centered in level of education, working arrangements and production. The education, evaluated quantitatively by its own, may not cause any impact on the desired quality of higher education, but it assuredly is the minimum necessary to comply with the requirements for institutional accreditation or reaccreditation<sup>23,25</sup>.

The findings of this study, and its agreement with others found in our bibliographical research, bring forward facts and elements that may influence the perception of the competence of teachers; however, it is clear that, more than the strengthening of individual factors, it is necessary to strengthen the relationship between them, regarding both intrinsic and extrinsic factors, which may contribute to a more positive perception of these skills, which are so important to the practice of teaching.

## CONCLUSION

Faculty participants in this study had a moderate to high perception of the influence of the factors in their teaching competence. In turn, teachers have perceived their capabilities to teach and research for innovation as highly

influential, whereas the institutional support was seen as a factor of low influence.

Commitment to education, organization in the preparing of classes and didactics were factors that influenced positively in the competence of the teacher, as well as ethics and sense of justice were seen to strengthen the image of the teacher.

Not being related to research activities and improvement programs, as well as the way in which the Human Resources department manages their professional development, their career plan and the human resources policy were perceived negatively.

Teachers who work in the *Lato Sensu* had a better perception of their interpersonal skills with students; those who work in the *Stricto Sensu* had a minor perception regarding their own skills to search for teaching innovations and proactively support the student.

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All authors worked in the various stages of the development of the research and writing of the article.

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