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ARTICLE

TEACHER LEADERSHIP: DEVELOPING AN INSTRUMENT TO IDENTIFY TEACHER -LEADERS [1]

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ABSTRACT: Due to the social and learning context, teachers nowadays need more than their subjects' objective knowledge. New skills related to communication and leadership are required. This research aims to adapt and test an instrument to evaluate the leadership profile of a Veterinary Medicine course faculty in the state of São Paulo. To this end, a field study was conducted using a structured questionnaire on five areas to assess leadership skills. The construct was considered reliable after being validated by six multidisciplinary experts with experience in the researched topic. Using this instrument, it was possible to identify the professors' most present characteristics and leadership skills, as well as point out what should be better developed. The theoretical framework focuses on studies on teacher training and teacher leadership. The results show that the most significant gaps are related to the relationship with students, the teaching-learning process, and the encouragement of humanistic skills. On the other hand, the strong points referred to teachers' concern about setting a good example and the skills in stimulating and motivating students. We can conclude that the instrument is an important tool for identifying professors' leadership and represents an initial strategy for the Teacher Professional Development program.

Keywords: leadership, continuous training, professional teaching development, teacher leadership, higher education teaching.

LIDERANÇA DOCENTE: DESENVOLVIMENTO DE INSTRUMENTO DE IDENTIFICAÇÃO DE DOCENTES-LÍDERES

RESUMO: Nos dias de hoje, em função do contexto social e educacional, é preciso mais que o conhecimento objetivo das disciplinas, por parte dos professores. Novas habilidades relacionadas à

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comunicação e à liderança são demandadas. O objetivo dessa pesquisa foi adaptar e testar um instrumento para avaliar o perfil em relação à liderança do corpo docente de um curso de Medicina Veterinária, em uma universidade do estado de São Paulo. Para tanto, foi realizado um estudo de campo com aplicação de um questionário estruturado, composto por cinco domínios para avaliar diferentes habilidades de liderança. O construto foi considerado confiável após ser validado por seis especialistas multiprofissionais com experiência na área do tema da pesquisa. Com ele, foi possível identificar as características e as habilidades de liderança que estão mais presentes nos professores do curso, bem como pontos que devem ser trabalhados com maior foco. O referencial teórico apresenta estudos sobre formação de professores e liderança docente. Dentre os resultados, as maiores deficiências encontradas estão relacionadas aos domínios referentes ao relacionamento com os estudantes, ao processo de ensino aprendizagem e ao estímulo às competências humanísticas (não técnicas). Em contrapartida, os domínios que revelam características relacionados à preocupação do docente em ser o exemplo a ser seguido e aquele que identifica docentes, que procuram incentivar e motivar os estudantes, foram os pontos fortes. Conclui-se que o instrumento corresponde a uma ferramenta importante na identificação da liderança de professores e representa uma estratégia inicial para o programa de Desenvolvimento Profissional Docente.

Keywords: desenvolvimento profissional docente, docência do ensino superior, formação contínua, liderança, liderança-docente.

LIDERAZGO DOCENTE: DESARROLLO DE INSTRUMENTO DE IDENTIFICACIÓN DE DOCENTES LÍDERES

RESÚMEN: Hoy en día, debido al contexto social y educacional, se requiere más que el conocimiento objetivo de las asignaturas, por parte de los docentes. Se requieren nuevas habilidades relacionadas con la comunicación y el liderazgo. El objetivo de esta investigación fue adaptar y probar un instrumento para evaluar el perfil en relación al liderazgo del cuerpo docente de un curso de Medicina Veterinaria, en una universidad en el estado de São Paulo. Para eso, se llevó a cabo un estudio de campo con aplicación de un cuestionario estructurado, compuesto por 5 dominios para evaluar diferentes habilidades de liderazgo. El constructo se consideró confiable tras ser validado por seis expertos multiprofesionales con experiencia en el área del tema de la investigación. Con él, fue posible identificar las características y habilidades de liderazgo que más están presentes en los docentes del curso, así como puntos que se deben trabajar con mayor enfoque. El referencial teórico presenta estudios sobre la formación de profesores y el liderazgo docente. Entre los resultados, las mayores deficiencias encontradas están relacionadas a los dominios referentes a la relación con los estudiantes, al proceso de enseñanza-aprendizaje y al estímulo de las competencias humanísticas (no técnicas). Por el contrario, los dominios que revelan características relacionadas a la preocupación del docente en ser el ejemplo a seguirse y el que identifica a los docentes que buscan alentar y motivar a los estudiantes, fueron los aspectos más fuertes. Se concluye que el instrumento corresponde a una herramienta importante en la identificación del liderazgo de profesores y representa una estrategia inicial para el programa de Desarrollo Profesional Docente.

Palabras clave: desarrollo profesional docente, docencia de educación superior, formación continua, liderazgo, liderazgo docente.

INTRODUCTION

The education of university professors, in the sense of scientific and pedagogical qualification, is one of the primary factors of university quality. However, most professors have gaps in their pedagogical training and teaching work (Bastos et al., 2011), showing difficulties in adopting and using methodologies, strategies, and support resources. We need to recognize that teaching activities

demand from professors some knowledge, abilities, mental attitudes, and availability that, in part, differ from those demanded from a researcher and a professional in the area, in the strict meaning of the word (Cunha, 2006). Câmara (2010) observes that, unlike professors who have undergone Teaching undergraduate degrees, bachelors need to invest in their formation to teaching so that, when necessary, they can work with minor pedagogical problems. The investment only occurs when a set of values makes them the protagonists of their practices and supporting actors in learners' education so that the latter can be the protagonists of their learning. Oliveira and Silva (2012), in a different way, consider that the responsibility of professors' training, especially bachelors, should refer not only to the individual wish and initiative but an integral part of the institutional process of admission and professional development through the continuous training of teachers to work in higher education. Agreeing with these authors, Anastasiou (2009) states that the universities must be responsible for creating permanent actions of pedagogical training.

THEORETICAL REFERENCE

If teachers' profession was previously grounded on the objective knowledge of subjects, nowadays, it is not enough to simply master this knowledge, as the learning concept is no longer the same. When teaching at university, professors who have undergone a Teaching degree bring endless and various experiences of what it means to be a teacher. These experiences often guide their professional options, pedagogical choices, and relationships with the students. This phenomenon is known as isomorphism, discussed by Mello (2000) and Rodrigues and Lima-Rodrigues (2011), among others. In the bachelor courses, as is the case of Veterinary Medicine undergraduate, the possibility of teaching in higher education is practically left behind. Besides this, in Brazil, the public policies of higher education teachers are timid (Morosini, 2000), as there is a lack of requirements that contemplate the specific knowledge for the teaching practice (Prata-Linhares; Pimenta; Gonçallo, 2017; Soares; Cunha, 2010). Attempting to solve the problem in 1983, the Conselho Federal de Educação (CFE- Education Federal Council) published Resolution 12/83, whose content established that one-sixth (1/6) of the study load of specialization courses offered in the country should offer pedagogical-content subjects. Therefore, the subject of higher education methodology was included in the curriculum of such courses. Until now, it is still hard to perceive the impact of this inclusion in graduate programs, as, in practice, the study load offered in most courses does not surpass 60 hours of activity (Pimenta; Anastasiou, 2014). According to Lourenço, Lima, and Narciso (2016), instead of improving teachers' training, these actions tend to undervalue event the profession more; after all, it is difficult to train a teacher in so little time and with such limited opportunities for reading and reflection.

According to Pimenta (1999), besides granting a legal qualification for professional teaching, an initial training course needs to form teachers or collaborate for their formation, allowing the construction of an initial identity and incentivizing the development of teaching knowledge. According to the author, three types of knowledge are needed: experience knowledge – resulting from their experience as students, from different teachers throughout their school lives; knowledge from knowledge – referring to the specific formation (mathematics, history, arts etc.); and the pedagogical knowledge, those that enable the action of "teaching". Without this initial training, university teaching stands over pillars of poorly defined and explored knowledge. In this sense, a content-based attitude can be seen in the lack of abilities to develop strategies that place students as co-authors of the teaching-learning process. Bastos (2007) registered what can be seen in the practice: the admission criterion for higher education teaching has been only the specific knowledge of the area and academic titles. Therefore, other problems were seen, such as teachers' difficulty in counter-arguing students, listening to guidelines, and changing behaviors regarding the protagonist in the classroom.

Fernandes et al. (2017) recommend that higher education teaching should be reconsidered, evaluating what end it should answer and what professionals society demands – bachelors or teachers. Hence, these professionals urgently need access to the didactical knowledge to make clearer choices based on teachers' theoretical-practical basis. Because of the lack of teachers' training, there is a need to establish

programs that develop pedagogical competencies that improve the teaching-learning process. According to Danielson (2006), teachers' leadership is directly related to some abilities that facilitate students' learning without distinguishing them and influencing the practices beyond the classroom. Leader teachers can mobilize other teachers, intensifying actions and benefiting the educational institution as they motivate colleagues and education agents to assume their respective responsibilities in teaching and learning. Furthermore, they strengthen the trust in their decisions and actions, consequently increasing the groups' security.

Teacher leadership is characterized by a process in which teachers, individually or collectively, influence their colleagues and improve their teaching-learning practices, aiming to guarantee and expand students' learning. According to York-Barr and Duke (2004), leadership work involves the intentional development of three aspects: i) individual development; ii) collaboration or team development; and iii) organizational development. Another leadership characteristic is the ability to make decisions, solve problems, or find procedures to catalyze the initiative capacities of students and colleagues involved in the improvement process. These leader-teachers are embedded with a vision of the future and a sense of action as they communicate clearly and persuasively with their colleagues, thus leading them to gather efforts that involve everyone in a common project (Danielson, 2006). This author defends that the natural and voluntary character of teacher leadership conceives the highest level of professionalism, an idea coherent with the one described by Antunes and Silva (2015), which highlights that the teacher-leader plays the role of evaluating, conceiving, implementing, organizing, and reformulating the teaching-learning process.

Furthermore, Bento (2008) points out that higher education institutions have the role of forming future leaders, and for this reason, leadership started to be the object of study in the educational context and in public and private organizations (Moreno, 2001; Posner, 2004; Posner; Rosenberger, 1997). Given the role of institutions, Higher Education Institutions (HEI) should structure the curricula so that it is possible to develop students' leadership capacity by considering the HEIs as incubators to prepare future leaders (Bento, 2008).

Despite the existence of studies in this area, mainly international, it is essential to conduct investigations to promote strategies to train and stimulate teachers to develop their capacity for teaching leadership, potentialize their professional development, and improve the institution (Parente et al., 2015). Before developing strategies to train teachers in an already-established collegiate, the abilities related to teachers' leadership should be identified. Therefore, this article presents the starting point for developing training strategies to develop teacher-leaders, as it assesses the capacity of the questionnaire proposed to identify competencies and abilities related to the theme so that it can provide data to develop a teacher-leadership training program.

METHODOLOGY

Research categorization

This was an empirical study – field study –, exploratory, descriptive, and quantitative that sought information directly from the interest group about the data to be obtained (Malhotra, 2012). We believe this approach was adequate to reach the proposed objectives, allowing for a deep investigation of implicit questions in the answers of research participants. Andrade (2006) indicates that exploratory research aims to create more affinity with the problem and more information on the topic, besides formulating a hypothesis regarding the theme. The descriptive study seeks to present the characteristics and establish relationships between variables. First, we raised information on the theme from a bibliographic review to get closer to the proposed theme and improve the ideas, seeking to answer the problems related to this study proposal.

Participants and research scenario

The research scenario was a community Higher Education Institution (HEI) in Sorocaba – SP, Brazil, and the 30 professors invited to participate were all from the Veterinary Medicine course. The *Comissão Nacional de Ensino da Medicina Veterinária* (CNEMV- National Commission of Teaching Veterinary Medicine) has been fomenting for years meaningful discussions on key aspects encompassed in the undergraduate courses through the National Seminars of Teaching Veterinary Medicine, seeking to boost the improvement of Veterinary doctors in Brazil. NEMV considers that humanistic competencies[2] (for example, leadership, teamwork, management, and interpersonal communication, among others) are not adequately worked in the Veterinary Medicine course because there are still doubts from the coordinators and teachers on "how" these competencies should be worked in the teaching-learning process. In Brazil, the *Conselho Federal de Medicina Veterinária* (CFMV- Veterinary Medicine Federal Council) acts towards disciplining Veterinan work. Among other missions, the CFMV discusses professional teaching in Brazil to promote continuous improvement through the *Seminários Nacionais de Ensino da Medicina Veterinária* [National Seminars of Veterinary Medicine Teaching].

Research instrument

The research instrument was a structured questionnaire based on the one developed by Kouzes and Posner (2013), the *Student Leadership Practices Inventory* – SLPI, which seeks to identify leadership practices. Bento and Ribeiro (2013) translated and used the questionnaire to conduct studies with undergraduate students from Universidade da Madeira (Portugal). Originally, it was composed of five areas with six questions each. Kouzes and Posner (2013) explain that the first area, entitled "model the way" refers to understanding the role developed by the leader as a guide for the actions of others and the leaders' awareness of their role as an example for those they lead. The second area, called "inspire a shared vision" is based on the authors' understanding that the leader should direct the team's efforts through transparent communication about targets and objectives to be reached. The third area, "challenge the process," seeks to analyze aspects such as self-assessment and proactivity that, according to the authors, are characteristics that should be present in people who assume leadership roles. The fourth area, called "enable others to act," aims to assess the need and the capacity to prepare the ones led towards greater autonomy, in which mistakes and successes could be better explored and converted into knowledge for both. This area also seeks to evaluate the stimulus to group activities and leadership practices. The fifth area, "encourage the heart," refers to the leaders' collective thought, in which the group spirit is present, and the leader is an instigator and a motivator.

As the original questionnaire was created for companies, there was the need to make some minor changes to approximate it to teaching issues (Chart 1). The first change was inserting the word student, always keeping the meaning proposed in the original questionnaire.

[2] Based on studies about competence held in the Grupo de Pesquisa em Educação Superior, Tecnologia e Inovação – GPESTI [Research Group in Higher Education, Technology, and Innovation] of the Education Graduate Program at Universidade de Sorocaba, the authors consider that the term used by NEMV should be ability, as competence cannot be named and is frequently confused with ability.

Chart 1: Areas of the questionnaire evaluating the abilities of teacher leadership

Model the way (MW)	I talk to my students about the values and principles that guide my actions.
	I fulfill the promisses and commitments I make.
	I am a personal example of what I expect from students.
	I try to reflect on how my actions reflect on students' performance.
	I check if the students support the values we have agreed upon.
	I seek students' feedback to open up communication with the class, establish a trusting relationship, and identify gaps.
	I give students feedback to open up communication to open up communication with the class, establish a trusting relationship, and identify gaps.
	I seek to stimulate students' trust in my work.
Inspire a shared vision (ISV)	I seek to know students' dreams and wishes.
	I try to help students understand what they want in the future.
	I talk to the students about how we can be even better in our profession in the future.
	I reflect with students on what they can reach in the profession.
	I talk to the students about how their interests can be reached, working with a common goal.
	I am positive when talking to them about what we can accomplish.
	I share with my colleagues my successes and failures in the classroom, so as to collaborate with the team.
	I can listen carefully and create na environment in which ideas can circulate freely.
Challenge the process (CP)	I try to make each class a new experience for the students.
	I try new and different ways to develop and challenge my teaching competencies and abilities.
	I hear criticisms and sugggestions and try to improve with them.
	I try to be updated on the teaching-learning process.
	I question the efficiency of each practice used to stimulate students' creativity and learning.
	I check if students can divide the large projects into small steps, able to be executed.
	I welcome students' mistakes and question: What can we learn with this experience?
	I practice and stimulate resilience.
Enable others to act (EOA)	I incentivize relationships of cooperation instead of competition among students.
	I stimulate groupworks.
	I treat students with respect and dignity.
	I give students some freedom of choice to decide how the work should be done.
	I stimulate the development of leadership abilities.
	I can deal sensibily the unpleasant classroom situations.
	I try to talk about the importance of self-control and emotional intelligence.
Encourage the heart (EH)	I feel close to my students.
	I provide conditions for the development of the proposed activities.
	I seek to understand what is more stimulating for the students.
	I compliment students for the work well done.
	I encourage students while working in different activities.
	I propose activities that conciliate fun and learning.
	I frequently follow students' learning, not only during evaluations.

Source: Prepared by the authors (2022).

For these questions, a Likert-type scale was used consisting of six points: Never, Rarely, Sometimes, Frequently, Always, and Don't know. This classification is based on the description by Dalmoro and Vieira (2013) which affirms that, in Likert's (1932) work, the scale is based on the use of five points and does not cite the use of categories of alternative answers in the scale to be used. According to the authors, though the use of scales with another number of items represents a classification scale; when this does not have five answer options, it cannot be a Likert scale, but a Likert-type. However, as highlighted by Clason and Dormody (1994), many studies have used different answers and have had satisfying results. As Dalmoro and Vieira (2013) point out, this variation in the number of Likert-scale items has fomented several discussions about the scale to be used. Notwithstanding, justifications for the number of items are rare. Collings (2006) states that this phenomenon could initially suggest that the choice of a measuring scale is not a decisive factor for the research result, leading to a lack of attention towards this item. Nonetheless, when researchers do not use common sense and start to question the construction aspects of a scale, they find out that developing a scale to measure a research instrument is a complex task (Dalmoro; Vieira, 2013). In this study, we used the sixth point, the neutral point, as, according to Dalmoro and Vieira (2013), this option makes respondents more at ease when expressing

their opinions, as described by Cummins and Gullone, (2000) and Coelho and Esteves (2007), if the scale is "even," the recommendation is to add the option "cannot answer". At the end of the questionnaire, there was a space for spontaneous answers after the following text: In this space, respondents can write whatever they want about this research, the questionnaire, and the theme teacher-leadership, making suggestions, and/or criticisms.

Before starting the study, we conducted an apparent and instrument content validation. According to Polit and Beck (2011), validation indicates to which degree the instrument measures what it should measure. Apparent validation indicates if the instrument seems to be measuring the appropriate construct, mainly considering those who will use the instrument. Content validation indicates to which extent the instrument has an appropriate sample of items to measure the specific construct and adequately covers the area, which is vital in construct tests. For the apparent and content validation, six multi-professional specialists with experience in the research theme were invited by email. After their acceptance, a document was forwarded with the research's description, end, and objectives, as well as the instrument, so that they could evaluate the relevance and representativeness of each item, their clearness (work with items with no ambiguity), easiness to read and understand the proposed items. After this evaluation, the instrument was returned to the research team, which analyzed the observations and suggestions proposed and made the necessary adjustments to the instrument. Ending this phase, the questionnaire was applied to the professors.

Questionnaire application

This project was submitted and approved by the Research Ethics Committee from the Universidade de Sorocaba on March 22, 2018, under number 84000118.2.0000.5500.

The questionnaire was offered to all professors in the Veterinary Medicine course, regardless of whether they worked with specific components. The instrument application was held in three phases, using Google Forms, in April 2018. Professors were invited by email to participate in the research. The available link directed them to the consent form, and after filling out this form, respondents reached the questionnaire page. First, professors' profiles were characterized by gender, age, teaching time, and participation in teacher training programs. Afterward, the questionnaire was developed to evaluate leadership characteristics. At the end, there was a space for spontaneous answers in which they could write whatever they wished about the research, the questionnaire, the theme of teacher leadership, and make suggestions or criticisms. Participation was anonymous.

Statistical analysis

To assess data reliability, we calculated Cronbach's alpha (Hair Jr. et al., 2010) (α), which, according to Cortina (1993), considers the variance attributed to the subjects and the interaction between subjects and items. In this sense, the α is an index used to measure the reliability of the internal consistency of a scale, evaluating the magnitude in which the items of an instrument are correlated (Cortina, 1993). According to Richardson (1989), reliability tests are justified, considering that if an investigation does not know the validity and reliability of its data, there might be doubts about the results obtained and the conclusions reached. Hair Jr. et al. (2010) suggest that an acceptable value would be equal to or higher than 0.70, though it can be reduced to 0.6 in exploratory studies (Churchill Jr., 1979; Hair Jr. et al., 2010).

RESULTS

Respondents' characterization

The questions named "general data" had six closed and open questions related to the respondents' profiles. They were predominantly women (53.3%). The age varied between 28 and 58 years old (Chart 2).

Chart 2: Respondents' profile

Demographical characteristics	Cases (n=30)	Percentage (%)
Gender		
Male	14	46.7%
Female	16	53.3%
Age		
From 20 to 25 years old	0	0,0%
From 26 to 35 years old	3	10,0%
From 36 to 40 years old	10	33,3%
From 41 to 45 years old	5	16,7%
From 46 to 50 years old	2	6,7%
Over 50 years old	10	33,3%
Teaching time		
From 1 to 5 years old	8	26,7%
From 6 to 10 years old	10	33,3%
From 11 to 15 years old	4	13,3%
From 16 to 20 years old	3	10,0%
From 21 to 25 years old	4	13,3%
From 26 to 30 years old	1	3,3%
More than 31 years old	0	0,0%
Component taught		
Specific of the Veterinary Medicine Course	19	65,5%
Not-specific of the Veterinary Medicine Course	10	34,5%
Participation in training programs		
Yes	21	70,0%
No	9	30,0%

Source: Prepared by the authors (2022).

There is a great variation regarding teaching time from three months to 30 years, with the average work time being 10 years. Out of the 30 respondents, 65.5 % taught specific content from the Veterinary Medicine course and 70% affirm having participated in teacher training programs, out of those 11 participated in a teacher development program offered by the university and eight professors cited an in-service teacher training offered to teachers from the Agrarian Sciences at Universidade de Sorocaba.

Descriptive analysis

The descriptive analysis of the studied variable was used to organize, summarize, and describe the important aspects of data behavior, and thus, we calculated average, standard deviation, and variance, considering the variables that compose each construct, presented in Table 1.

Table 1: Descriptive analysis of the studied variable

Unitarian Analyses of Variables					Construct Analyses		
	Variable	Av	Sd	V	Av	Sd	V
Model the way (MW)	I talk to my students about the values and principles that guide my actions.	4,3000	,70221	,493	4,4333	,23838	,057
	I fulfill the promisses and commitments I make.	4,6333	,55605	,309			
	I am a personal example of what I expect from students.	4,6667	,66089	,437			
	I try to reflect on how my actions reflect on students' performance.	4,6333	,71840	,516			
	I check if the students support the values we have agreed upon.	4,1000	,75886	,576			
	I seek students' feedback to open up communication with the class, establish a trusting relationship, and identify gaps.	4,3667	,61495	,378			
	I give students feedback to open up communication to open up communication with the class, establish a trusting relationship, and identify gaps.	4,1333	,73030	,533			
	I seek to stimulate students' trust in my work.	4,6333	,55605	,309			
Inspire a shared vision (ISV)	I seek to know students' dreams and wishes.	3,7000	,87691	,769	4,1375	,35699	,127
	I try to help students understand what they want in the future.	4,1667	,74664	,557			
	I talk to the students about how we can be even better in our profession in the future.	4,4667	,68145	,464			
	I reflect with students on what they can reach in the profession.	4,3333	,60648	,368			
	I talk to the students about how their interests can be reached, working with a common goal.	3,9333	,78492	,616			
	I am positive when talking to them about what we can accomplish.	4,5667	,72793	,530			
	I share with my colleagues my successes and failures in the classroom, so as to collaborate with the team.	3,6000	,85501	,731			
	I can listen carefully and create na environment in which ideas can circulate freely.	4,3333	,75810	,575			
Challenge the process (CP)	I try to make each class a new experience for the students.	4,0667	,98027	,961	3,9833	,26367	,070
	I try new and different ways to develop and challenge my teaching competencies and abilities.	3,7333	,86834	,754			
	I hear criticisms and sugggestions and try to improve with them.	4,4333	,67891	,461			
	I try to be updated on the teaching-learning process.	4,0000	,94686	,897			
	I question the efficiency of each practice used to stimulate students' creativity and learning.	4,1000	,88474	,783			
	I check if students can divide the large projects into small steps, able to be executed.	3,5667	1,1943	1,42			
	I welcome students' mistakes and question: What can we learn with this experience?	3,8667	,93710	,878			
	I practice and stimulate resilience.	4,1000	,88474	,783			
Enable others to act (EOA)	I incentivize relationships of cooperation instead of competition among students.	4,5333	,57135	,326	4,1619	,44822	,201
	I stimulate groupworks.	4,2667	,82768	,685			
	I treat students with respect and dignity.	4,9333	,25371	,064			
	I give students some freedom of choice to decide how the work should be done.	3,8333	,83391	,695			
	I stimulate the development of leadership abilities.	3,7000	1,0875	1,18			
	I can deal sensibily the unpleasant classroom situations.	4,0667	,58329	,340			
	I try to talk about the importance of self-control and emotional intelligence.	3,8000	1,3746	1,89			
Encourage the heart (EH)	I feel close to my students.	4,2667	,69149	,478	4,2524	,36355	,132
	I provide conditions for the development of the proposed activities.	4,4667	,68145	,464			
	I seek to understand what is more stimulating for the students.	4,3000	,65126	,424			
	I compliment students for the work well done.	4,7667	,43018	,185			
	I encourage students while working in different activities.	4,3333	,80230	,644			
	I propose activities that conciliate fun and learning.	3,6000	,85501	,731			
	I frequently follow students' learning, not only during evaluations.	4,0333	,92786	,861			
	I talk to students about the values and principles that guide my actions.	4,3000	,70221	,493			

Caption: Av = Average; Sd = Standard deviation; V = Variance.

Source: Prepared by the authors (2022).

As described in the methodology, the instrument was divided into areas regarding leadership abilities. The questions in each area aimed to identify abilities related to teacher-leaders that, besides incrementing the learning process, are highlighted by students when asked how the "good teachers" are. In a recent study by Fernandes and Flores (2014), students point out "good teachers" as those who are dynamic, caring, understanding, fun, clear, dedicated, watchful towards students' problems and lives, nice, motivated, concerned with students' learning, but who also establish good relationships with their peers, developing a collaborative work, showing their commitment and effort with the school, as well as their families and the environment.

The answers given in the first area, "model the way," are related to the premise that leading involves demonstrating and executing the tasks as a model. Furthermore, it tries to identify if respondents are indeed what they say they are, as one of the most valued characteristics of a leader is credibility, as reminded by Kouzes and Posner (2013). According to these authors, the leaders modeled the way by demonstrating their values and guiding principles. Moreover, the practice of the questionnaire's first area points out the leader as a model of the behavior expected from others, the first to give an example. Therefore, respect should be reached not by the imposition of their values but by their daily involvement in simple actions that lead to progress and improvements (Matos, 2017). This area received the highest average (μ 4,4333), representing a set of characteristics more present in the assessed professors. This result was also found by Zanotto et al. (2016) in a work conducted with graduate students. They noticed that the variable with the highest average was the one referring to understanding the role developed by the leader as a guide for the actions of others. In this study, the questions with more homogenous results were those that did not involve students' actions (1,2,3,4, and 8) and represented the teacher thinking with themselves about themselves. This observation can represent the distance between teachers and students, which should be developed for better engagement in the learning environment, considering that better results could be reached when students can see their participation in the agreements and processes.

The second area, "inspire a shared vision," reached the second lowest average (μ 4,1375) and sought to evaluate teachers' capacity to share with the students the vision of a common objective to be reached. According to Matos (2017), to join people under a shared vision, leaders need to know the people they work with and understand their needs. The average in this area reflects professors' lack of attention to the importance of knowing their peers and students to establish a trusting relationship that will contribute to the teaching-learning process. Only 20% of professors affirmed they seek to know students' dreams and wishes, and just 36.7% say they propose helping students understand what they want for the future. Still in this area, the result from question 12 is concerning as only 40% of professors declared reflecting with students what they have to reach in their profession. The result ratifies what students frequently point out in assessments by the institution where the research was conducted. According to them, most professors do not explain the importance of a given content/subject for their professional future. Other issues in this area also presented answers that show the lack of professors' knowledge on the need for the assessed practices (dialogue, sharing, inspiring). The question of sharing failures and successes with colleagues stands out; 13.3% of professors always share their experiences with colleagues, and 10% rarely do so. Faced with this result, the emerging issue relates to this lack of experience sharing, which can be based on the lack of "moments" that lead to this joint reflection or the lack of teachers' will. We believe in the former explanation for the majority of professors. This explanation is evident in a spontaneous commentary:

> *About sharing classroom experiences with other professors, I'd like to have the opportunity to do so but I fell there is no space for this to happen. The collegiate meetings are often to solve punctual problems or other issues related to the course but rarely for pedagogical discussions*

Imbernón (2009) highlights the need to rethink education through the collective to improve teachers' work, the organization of education institutions, and students' learning. In the author's perspective, individualism, also called "egg cartoon culture", differs from individuality, which is needed to analyze and reflect on one's own practice. Therefore, it is necessary to break away from individualism to develop collaboration and implement a type of training that is responsible and committed to collective goals. Moreover, promoting continuous training implies a systematic work methodology and a collaborative and effective atmosphere. Prata-Linhares, Pimenta, and Gonçallo's (2017) study with professors at the beginning of their careers showed that 9 out of 14 participant professors presented some discomfort with their performance in the learning process, raising the need for more foundations on how to "give classes." The same research pointed out that professors' greatest frustration was students' lack of interest in class what, according to the authors, can be a possible cause for dropout and is directly related to what teachers see as a learning need: pedagogical training (including didactic strategies, management, and assessment). This frustration was also perceived in our study, as portrayed in the following answer:

> *Leading demands effort and, often, I feel a certain resistance from some students. Mainly to teach subjects that the majority is not interested.*

The authors conclude that facing the frailty in teacher training goes beyond the demand for investment and can even be based on a mistaken, even "romantic," view of teaching, once more corroborating the result observed in the answers of the area. Complementing this idea, Brazilian studies (Andrade, 2006; Bolfer, 2008; Coelho, 2001; Cóssio, 2008; Escorsin, 2009; Ferenc, 2005; Flach, 2009; Morais, 2008; Rosa, 2003) indicate that university teachers build their teaching identity through familiar experiences, the model of former teachers, their own self-taught experience, exchanges with colleagues, and students' feedback. These studies agree on the need to implement institutional higher education teacher training programs, as there is a gap regarding their previous pedagogical training (Soares; Cunha 2010). Some continuous training alternatives stand out in these studies: the use of new communication and information technology, research-action, and mentoring from experienced teachers towards beginners, which would allow the sharing of teaching practices, among others. Pimenta, Porto, and Silva (2018) report an experience with the self-study methodology, aiming to reformulate beliefs, improve practice and teaching, advance knowledge, and reconceptualize teachers' roles. The methodology presupposes welcoming life stories, narratives, and research-action (about what is done and not about who does it), also involving collaboration and the construction of new knowledge associated with later assessment. In this work, conducted with a group of voluntary teachers of a community university in Sorocaba, the authors concluded that the methodology proposed allowed finding answers through colleagues' experiences and testimonies and created a space for their own practices to be criticized for improvement. Still in the second area, the answers from the last question approaching a very important characteristic of the leader – knowing how to listen and creating an environment in which ideas can be expressed (Kouzes; Posner, 2013) once more show the lack of leadership competence among some teachers, as only 30% affirmed they were always open to listening

The area "challenge the process" encompassed aspects of self-assessment and proactivity. The questions sought to check if the respondents were open to risk themselves facing the unknown, thus, this area assesses if the leader seeks opportunities to innovate, grow, and improve, and, on the other hand, also incentivizes the creation and the development of new ideas from any collaborator (Zanotto et al., 2016). As it was the area with the highest average (μ 3,9833), it represents a set of characteristics that should be better developed in a future professional or development program. This concern is based on the fact that most teachers show frailties and gaps regarding the effectiveness of the practice used to stimulate students' learning. Only 40% of professors affirmed they tried to be updated on the teaching-learning process. We understand that the concern with this update should exist because contemporary demands have been challenging the competencies established for older and newer teachers, such as the revolution in communication and information technology that, when allowing quick and dynamic access to knowledge, confronts the professors' role as the holder of knowledge (Soares; Cunha, 2010). According to the authors, these transformations call upon professors to have a mediating role in the development of students' critical analyses regarding the several information available only. Furthermore, Zanotto et al. (2016) emphasize that teaching nowadays is complex and challenging, as students face social problems such as family conflicts, academic pressures, poverty, addiction, and changes in contemporary society. More than a vocation, this transformation demands from teachers pedagogical leadership, determined by organization, execution, evaluation, and reformulation of the teaching-learning process, that is, the ability to guide students, establishing effective communication when mediating their learning processes.

In the area "enable others to act", the questions aimed to check the ability to stimulate autonomy, leadership practices, and group activities in an atmosphere of trust, fomenting common objectives, sharing power, and valuing students (Kouzes; Posner, 2013). Though this area has the third highest average (μ 4,1619), there was a divergence in teachers' answers. The two questions that stand out refer to the issue of stimulating autonomy and the development of leadership ability; in the first, 23.3%

of teachers affirmed they always stimulated autonomy, and only 10% affirmed using practices that stimulate leadership. The result found in this area is concerning since the North American Veterinary Medical Education Consortium (*Consórcio Norte-Americano de Educação em Medicina Veterinária* – NAVMEC) places the Veterinarian as an influent leader in topics related to animals, humans, and ecosystem health. Therefore, it proposes a new perspective for the Veterinary Medicine course, which enables a high level of social responsibility and points out essential professional characteristics of Veterinarians, such as the capacity for communication, collaboration, management (oneself, teams, and systems), continuous education, leadership, awareness of diversity, and adaptation to changing environments (Conselho Federal de Medicina Veterinária, 2012). Boleman, Boyatzis, and McKee (2011) observe that a leader is not born but learned. Learning how to lead is a challenge like any other, the same as improving a golf technique or learning to play the guitar. Though the teaching of Veterinary Medicine has traditionally been focused on its knowledge and technical abilities, there is an important gap regarding the development of non-technical competencies and abilities determined by law and necessary for society. These are relevant because they allow the connection between different types of learning and create integrated solutions. The insufficient focus on the development of these competencies can also entail a possible loss of Veterinarian's professional space, mainly in prominent positions, such as governmental, executive, and leadership roles (Conselho Federal de Medicina Veterinária, 2012).

The questions from the fifth and last area, "encourage the heart" aimed to identify leaders' collective thought and their incentivizing and motivating spirits. According to Kouzes and Posner (2013), leaders should encourage, recognize, and appreciate the work of their peers, celebrating their values and victories. Despite being the area with the second highest average, there were differences in teachers' answers. The abilities to lead and stimulate students' activities are more present in teachers' daily lives than other abilities evaluated in this study; however, they did not reach all the professors assessed. To Nunes and Silveira (2011), teachers have a vital role in the motivation for learning, as they should create a motivating environment in the classroom by proposing materials, strategies, and interactions that create in students the wish to learn. To do so, the teacher needs, besides showing the relevance and finality of what will be studied (Pozo, 2002), to use didactic strategies to "create, intensify, and diversity students' wish to learn" and to "favor or reinforce the decision to learn" (Perrenoud, 2000). According to Nunes and Silveira (2011), teachers' competence to stimulate students' curiosity, interest, participation, questioning, reflection, and creativity is essential to creating and maintaining a motivating environment.

Additional analysis

The Cronback Alpha calculated in this study was 0.892, thus higher than 0.7, which indicates that the construct is trustworthy (Churchill Jr., 1979; Hair Jr. et al., 2010). The statistics of the item-total indicate that there is no need to delete any of the items because the Cronback Alpha was over 0.7, and no item was under 0.3, which would indicate that such item would be measuring something different from the objective of the construct.

Sometimes, the answer "I don't know how to answer" was chosen, showing that it would have been interesting to include a sixth point, also called a neutral point (Dalmoro; Vieira, 2013), letting respondents answer their opinions. Professors who were in doubt about what to answer and prefered not to answer chose this option. This was reported in the area open to spontaneous answers:

I was in doubt in some questions (13 and 36).

Fourteen professors opted to leave their opinions in this area. Besides the answers related to the areas described in the text, the recurrent replies were those related to the importance of the questionnaire and its use to improve the deficiencies highlighted, as can be seen in the following answers:

I think this type of questionnaire is important and I believe that it would be important that the points evaluated as negative, in the result of this questionnaire, could be approached and more developed, so that the correction of these points could have more impactful improvements.

> *Important knowledge tool for the faculty.*
>
> *I had a panorama of what might be the deficiencies and how I should be careful to certain points, mainly in the issue of following students' professional evolution, not assessing them only in the test/work. It raised changes in some points!*
>
> *I found the questionnaire quite interesting, especially in stimulating resilience, a concept taken from Physics that means the individual's capacity to deal with adverse situations, overcome pressures, obstacles, and problems, and positively react towards them without a psychological or emotional conflict. Reacting with self-control when facing provocative situations or adversities in the classroom is a permanent construction.*

Regarding the questionnaire's format, three teachers left their opinions/suggestions:

> *I liked the form, with practical and objective questions.*
>
> *I suggest a questionnaire with a smaller number of questions, but open ones. Suggestions that allow the description of different teaching methods regarding the leadership aspect. Or questions in which teachers could check statements that characterize their practices.*
>
> *Perhaps the questions and alternatives might stimulate biased answers, as teachers will hardly consider themselves as scoring negatively (weak leadership) in the proposed criteria. Maybe a psychologist could help create future questionnaires of this type.*

Professors' suggestions to offer open questions are extremely pertinent as they allow the description of teaching methods and do not stimulate biased answers. However, after the analyses, this obligation was not perceived. The insertion of open questions would certainly enrich the questionnaire and could be developed in future work.

Regarding spontaneous answers, it was possible to see that the questionnaire raised some teachers' reflections on their practice and their wish to know the result to improve. This aspect was clear in the following answers:

> *Have a feedback about the answers.*
>
> *It made me reflect on my actions in the classroom. I got much closer to my students after many of them started to intern with me. The internship ends up being a practical outreach of what I teach in the classroom.*
>
> *Often, despite the intention of doing something, the conditions for this implementation are not present and can be a factor that hinders, makes impossible, and/or postpones, but, even so, cannot be a factor that annuls these initiatives.*

The analysis and interpretation of results highlighted the difference between the questions involving students' actions and those teachers answered considering their own thoughts and actions. Those referring to the students had less homogeneous results than those of teachers – probably because they are the respondents. Another aspect that stood out was the variable with the highest average, which corresponds to the leader's role in guiding others' actions.

FINAL REMARKS

This study allowed us to investigate the efficiency of the questionnaire in assessing the presence of teacher-leadership abilities among professors in the Veterinary Medicine course at the university.

We perceived that, by using the instrument, it was possible to evaluate the leadership characteristics and abilities that are more present in the course's faculty, as well as points that need to be more focused, considering that, contrary to what was thought, the leadership profile is not a "born" with the individual but is an identifiable set of abilities available to all (Kouzes; Posner, 2013). It was also clear that the way the questionnaire was applied encouraged professors to know the results and the teacher-leadership practices.

The work on the development of teachers' leadership abilities is fundamentally relevant to the institution. Through this instrument, it was possible to identify that the greatest deficiencies are related to areas 2, 3, and 4, which refer to the relationship with students, the teaching-learning process, and the stimulus to competencies not related to medical techniques. Then, analyzing the answers, one aspect that stood out was that though teachers recognized the importance of the leadership role in the actions of others, how it takes place is still little known. Moreover, they do not know what leaders need to know or how they need to behave: listen, guide, etc. Despite the studies in the area, mainly international ones, according to Parente et al. (2015), it would be important to conduct more investigations to promote strategies to train and stimulate teachers to develop their leadership capacities in and outside school, so as to potentialize their professional development and school improvement.

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The authors declare that there is no conflict of interest with this article.