

**COMUNICAÇÃO ORAL E VOZ DO PROFESSOR DE EDUCAÇÃO FÍSICA
ESCOLAR - UM RECURSO DE TRABALHO EM RISCO**

**COMUNICACIÓN ORAL Y VOZ DEL PROFESOR DE EDUCACIÓN FÍSICA
ESCOLAR – UNA HERRAMIENTA DE TRABAJO EN RIESGO**

**ORAL COMMUNICATION AND VOICE OF SCHOOL PHYSICAL EDUCATION
TEACHERS – A WORK TOOL AT RISK**

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RESUMO: O uso da voz como recurso de trabalho pelo professor de educação física escolar revela peculiaridades relacionadas à profissão, tais como demanda vocal intensa em ambientes inapropriados acusticamente, o que ocasiona desgaste vocal com prejuízo na prática profissional. Esta pesquisa busca compreender as relações entre risco vocal e interações por comunicação oral de professores de educação física com seus alunos. Os dados foram obtidos por questionários e respostas a uma escala de sintomas vocais. Os resultados salientam dificuldades dos professores decorrentes do uso da voz durante as aulas e revelam iniciativas isoladas para minimizar o desconforto vocal, confirmando as expectativas de necessidade da preparação do professor para o uso da voz no trabalho.

PALAVRAS-CHAVE: Professor. Educação física. Comunicação oral. Voz.

RESUMEN: El uso de la voz como herramienta de trabajo por profesores de educación física escolar revela peculiaridades relacionadas a la profesión, tales como la demanda vocal intensa en ambientes acústicamente inapropiados, ocasionando desgastes vocales que afectan a la práctica profesional. Esta investigación busca comprender las relaciones entre riesgo vocal e interacciones orales de profesores de educación física con sus alumnos. Los datos fueron obtenidos mediante cuestionarios y respuestas a una escala de síntomas vocales. Los resultados evidencian las dificultades de los profesores, derivadas del uso de la voz durante las clases, y revelan iniciativas aisladas para minimizar molestias vocales. Así, confirman la necesidad de entrenamiento del profesor para el uso de su voz.

PALABRAS-CLAVE: Profesor. Educación física. Comunicación oral. Voz.

ABSTRACT: The use of voice as a work tool by a school Physical Education teacher reveals peculiarities related to the occupation, such as intense vocal demand in acoustically inappropriate environments which causes vocal damage with harm in their professional

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practice. This research aims to understand the relation between vocal risk and oral communication interactions of Physical Education teachers with their students. The data were acquired by questionnaires and responses to a Voice Symptom Scale. The results emphasize the teachers' difficulties due the voice use during classes and reveal isolated initiatives aimed at minimizing vocal discomforts, confirming the need for a teacher training for the use of voice in their professional functions.

KEYWORDS: *Teacher. Physical education. Oral communication. Voice.*

Introduction

To address the predominant way in which physical education teachers use oral communication, it is necessary to highlight, historically, the influences that determined it as a style of professional performance. The military origin of Brazilian physical education, through the implementation of European methods of gymnastics, determined teachers not only a working protocol, but also performance characteristics consistent with the desired objectives, these are postures, modes and languages observed in most of physical education teachers during the conduct of classes, as indicated by Soares (2004).

In this context, the strong encouraging voice is present to this day as an important resource of the school physical education teacher, in view of the dynamic nature of the class based on the body culture of the movement (DAOLIO, 1995; BRASIL, 2016), which for in turn, it maintains an affinity with this vocal style which, by necessity, adequacy and historical origin, refers to the 'command voice' as a way of triggering the immediate execution of the activity.

The vocal style of teachers is not related to authoritarianism, but to the need to use it as an instrument in conducting classes, to highlight aspects such as leadership and communication. This voice is present in sports clubs, gyms or schools, due to the demand for a vocal style capable of triggering actions compatible with the demands of physical activity and the work environment of the physical education teacher.

In addition to this professional imposition, there are some peculiarities linked specifically to the school physical education teacher who works mainly in sports courts or in improvised environments such as school yards and other spaces, along with the physical movement of his students involved in a relaxed and/or sports dispute, in the midst of the vocal intervention performed by the teacher himself who encourages, corrects and guides in a way that does not interrupt the dynamics of the class, generating sound competition in a wide and difficult to communicate environment.

Studies in the field of speech therapy have confirmed these environmental issues, present in the work of the teacher in general, and those related to situations of risk to vocal health (FERREIRA *et al.*, 2007). It also signals the presence of vocal symptoms associated with the use of oral communication, specifically among physical education teachers, such as dry throat, hoarseness, voice failures, effort to speak, throat clearing, tiredness in speaking, burning in the throat, weak voice and loss of voice (CUNHA, 2013), all factors that directly interfere with the quality of the oral message produced by these teachers during their classes.

It is understood that, in addition to these peculiarities, the school physical education teacher deals with students and strives to convince them to carry out educational tasks. It is an action with human beings with multiple and unpredictable interactional variables, basically effected by oral communication, as Tardif and Lessard (2005) point out as present in the teaching work in general.

Based on these premises fixed on the centrality of oral communication and voice in the exercise of this profession, this research was structured, developed within the scope of the Master's Degree, with the objective of understanding how school physical education teachers perceive their own voice in the conduct of the class during the interactions with students, identifying the self-perception of vocal symptoms indicative of vocal risk and the knowledge they have about preserving their own voice, in addition to comparing the self-perception data of the vocal use of teachers with and without vocal risk symptoms.

Methodology

The present study was qualitative investigative, with quantitative support regarding the understanding of ways of acting and understanding the voice in the interactions that permeate the professional performance of school physical education teachers, the project was approved by the Research Ethics Committee with Human Beings.

The invitation to participate in the research took place at a regular meeting of teachers working in early childhood education and elementary education, in a Municipal Teaching Network in a city in São Paulo, and among those interested, ten teachers were drawn, who signed the free and informed consent form for participation in the research.

Figure 1 shows the personal and professional characteristics of the ten participating teachers.

Figure 1 - Characterization table for participating teachers³

Professor	Gênero	Idade	Tempo Magistério	Nível ensino	CH Semanal
01	masc.	30	07	Infantil	27
02	masc.	29	04	Fundamental	21
03	fem.	27	05	Fundamental	28
04	masc.	32	10	Fundamental	40
05	masc.	29	07	Infantil	24
06	fem.	45	10	Fundamental	27
07	masc.	26	03	Infantil	24
08	fem.	27	06	Infantil	44
09	masc.	30	09	Infantil	27
10	fem.	54	10	Fundamental	43
Média		32,9	7,1		30,5

Source: Devised by the authors.

The data were obtained from the teachers' responses to a questionnaire with open questions, prepared by the researcher, and from responses to a protocol of self-perception of vocal symptoms associated with the use of the voice, signaling the presence of vocal risk.

The questionnaire, answered in writing, contained five questions: questions one and two sought to understand how school physical education teachers behave vocally during the conduct of their classes; questions three and four aimed at discovering the care and strategies given to the voice itself and any information that the professional might have about the subject; question five referred to the participating teachers' understanding of the interactions they establish with their students during classes.

The second instrument used was the Vocal Symptoms Scale - VSS (MORETI *et al.*, 2011; 2014), which aims to assess the individual's self-perception regarding the presence of vocal symptoms, whose scores can signal the impact produced by vocal changes. It is a

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Teacher	Genre	Age	Time as teacher	Teaching level	Week WL
01	Male	30	07	Child	27
02	Male	29	04	Elementary	21
03	Fem.	27	05	Elementary	28
04	Male	32	10	Elementary	40
05	Male	29	07	Child	24
06	Fem.	45	10	Elementary	27
07	Male	26	03	Child	24
08	Fem.	27	06	Child	44
09	Male	30	09	Child	27
10	Fem.	54	10	Elementary	43
Average		32.9	7.1		30.5

protocol with 30 questions, whose answers are graded according to their frequency of occurrence in scores from zero to four (never, rarely, sometimes, almost always and always). The scores obtained graded the impact of voice changes in three dimensions: functional limitation, emotional reactions and physical symptoms. The sum of the scores of these three dimensions results in a general score, Moreti *et al.* (2014) defined that values equal to or greater than 16 indicate the presence of dysphonia in varying degrees proportional to the general score obtained, whose maximum value is 120. Experts define dysphonia as voice changes, with changes in vocal quality, which interfere with the oral message (SBFa, 2008/2009).

The interview procedures followed a pre-established order, starting with the responses to the questionnaire, followed by filling in the scale of vocal symptoms. Such sequence was due to the hypothesis that there could be different reflections on some aspects between the questions of the VSS and that, in turn, would influence the responses to the questionnaire.

Self-perception about the use of oral communication and voice of physical education teachers

From the analysis of the teachers' responses to the questionnaire, it was possible to identify common aspects, which were classified by recurring themes subdivided into actions and attitudes.

a) The intention of oral communication: 'Interaction' when the teacher's response exposed processes of interaction, explanations, approaching students in groups or individually, seeking to establish bonds. 'Execution' when the response pointed to concern with carrying out the planned activity and conducting the proposed action. 'Discipline' when the response expressed concern about using oral communication and voice to control class discipline.

b) The demand for the use of the voice: 'Constant', referring to expressions like constantly, all the time, I speak a lot, a lot. 'Moderate', when the description of the use of speech exposed intervals of speech or speech closer to the students. 'Little', when there was little use of speech.

c) The intensity of the voice versus occurrence (always, sometimes and never): 'Scream', for direct reference to screaming. 'Loud', for reference to a louder than usual voice to be heard. 'Low', for reference to speaking lower than usual. 'Habitual', for references to the use of the voice as they usually speak, which does not guarantee that the speech was not produced in high intensity.

d) Care for the voice: 'No', when no care for the voice itself. 'Yes' (Personal), when the teacher referred to personal initiative in the search for information. 'Yes' (Institutional), when the teacher reported having participated in actions promoted by the school or other institution.

Figure 2 synthesizes and quantifies the data revealed by the teachers when answering the questionnaire, in addition to thematizing their responses, allowing the reader a simplified, yet comprehensive, view of the results.

Figure 2 - Self-perception profile table on the use of oral communication and the voice of physical education teachers in the sample⁴

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	N
Intenção de comunicação											
Interação	X	X		X	X		X	X	X		7
Disciplina			X	X					X	X	4
Execução		X	X	X	X	X	X	X	X		8
Demanda de fala											
Constante	X		X	X	X	X	X	X	X	X	9
Moderada		X									1
Intensidade da voz											
Habitual				X				X			2
Alta	X	X	X		X	X	X	X		X	8
Baixa		X							X		2
Cuidados com a voz											
Não		X	X		X		X		X	X	6
Sim pessoal	X			X							2
Sim instituição						X		X			2

Source: devised by the authors

The schematization and quantification of qualitative data facilitated the perception of the procedures, actions and attitudes revealed by the teachers, making it possible to perceive that seven teachers direct their oral communication with the intention of establishing general interactions with their students, four with disciplinary objectives and the majority it is in order to get his students to perform the determined tasks.

It is also possible to notice that three teachers fit into just one theme: P1 in view of the interaction with their students using constant speech, out loud, reporting personal voice care initiatives; P6 is concerned with the execution of the tasks proposed to his students, constantly speaking at high intensity, mentioning institutional information about voice care; P10 reveals to occupy herself with the discipline of the class, using constant speech at high intensity, without any care for his own voice.

⁴ The table reads: **Intention of communication** – Interaction; Discipline; Execution. **Demand of voice use** – Constant; Moderate. **Intensity of the voice** – Habitual; Loud; Low. **Care with the voice** – No; Yes personal; Yes institutional.

The data obtained corroborate that the use of oral communication and voice by the school physical education teacher as a means of interaction with students is essential, since it permeates the processes of interrelationships between cognitive, affective and body dimensions to be worked on students. Thus, as Daolio (1995) points out, the use and incorporation of gestures and movements specific to and from different cultures is favored. Apparently the teachers surveyed use oral communication, composing the pedagogical practice in favor of expanding these dimensions, as pointed out by Reina (2005).

As for the demand imposed on speech, only P2 can be placed in the category of moderate use, as the other nine teachers declared the constant use of speech. Regarding the intensity of the use of the voice, eight of the teachers, P1, P2, P3, P5, P6, P7, P8 and P10, indicate use of the voice with high intensity, two, P4 and P8, in a habitual way, leaving doubts of how this intensity would be and low for two others, P2 and P9. As you can see, two teachers fit into more than one theme: P2 in the high and low intensities and P8 in the habitual and high themes.

It is necessary to reinforce that this 'command voice' style is observed in physical education classes, and, therefore, the strong and loud voice is privileged in task execution activities as expected in this teacher practice (CRUZ; SILVA, 2002).

These data corroborate that the working conditions of school physical education teachers bring, in their context, the need to use the voice at high intensity most of the time, which configures a condition of vocal risk according to several scholars (ALVES, 2011; FERREIRA *et al.*, 2007; SALEMA; MENDES; RODRIGUES, 2006).

Regarding the care and information around the voice itself, the results confirmed the expectations of being a scarce habit, since six teachers, P2, P3, P5, P7, P9 and P10 were vehement in denying any initiative or participation in training programs aimed at the professional voice, while four teachers participated, being P1 and P4 by personal initiative and P6 and P8 institutionally.

The responses of the teachers in this research indicate that the voice has been used in high demand and intensity and that few have had contact with effective information about vocal care, although there are strong signs of being beneficial to vocal health, facts also found in the study by Esteves (2011).

Analysis of self-perception of vocal symptoms and impact on the use of voice

Figure 3 contains the data related to the scores obtained by the teachers on the Vocal Symptoms Scale (VSS). It can be noticed, initially, that the total score of perception of vocal symptoms and the impact of the voice of the physical education teachers participating in this study varied between 07 and 56 points. We emphasize that the maximum value to be reached is 120 points, which would represent a very high degree of discomfort in the voice, and that the score 16 is already indicative of the presence of vocal risk and dysphonia.

Figure 3 - VSS Protocol Results Table⁵

Professor	Limitação	Emocional	Físico	Escore Total	Indícios de risco vocal ou de disfonia (= > 16)
1	17	03	11	31	Sim
2	28	02	08	38	Sim
3	32	09	15	56	Sim
4	18	04	11	33	Sim
5	14	00	09	23	Sim
6	04	01	02	07	Não
7	18	03	04	25	Sim
8	28	11	09	48	Sim
9	04	00	09	13	Não
10	05	00	06	11	Não
Média	16,8	3,3	8,4	28,5	-

Source: devised by the authors.

In the evaluations of the three dimensions of perception of the impact on voice changes (Limitation, Emotional and Physical), it is noted that the highest average score is in the Limitation dimension (16.8), which refers to the functionality of the voice, suggesting that this group of teachers more often perceives the limitation or difficulty in using their voices in the exercise of their profession. According to Klodsinki *et al.* (2015), higher scores in the Limitation dimension may be related to a greater perception of the voice alteration itself, arousing the subject's attention to sensations related to the voice.

In the Emotional dimension, related to the perception of emotional reactions thanks to the use of the voice, lower scores were obtained (3.3), suggesting little emotional impact even among teachers with higher scores in the other dimensions. The low emotional impact revealed by the participating teachers is a fact that coincides with those found by Cunha (2013), a study in which the participating teachers felt the emotional consequences related to the use of the voice in a less significant way, which interferes with the attitude of searching for voice care.

⁵ We read the following categories on the table: Teacher; Limitation; Emotional; Physical; Total Score; Vocal risk or dysphonia indication.

In the Physical dimension, related to organic aspects, an average of 8.4 was obtained - a value close to that found in the general population, whose average is 7.11 according to Moretti *et al.* (2014). These same authors indicate that a total score greater than 16 points refers to the presence of vocal risk or dysphonia already installed in varying degrees, a score found in the notes of seven teachers in this sample. We observed that the expected occurrence for voice professionals is 20% according to a study by Behlau *et al.* (2017).

The average total score of this sample was 28.5 points, which is below the average VSS score found among dysphonic individuals (49.43 points), however, higher than the average score among individuals with voices without changes (7.11 points) (MORETTI, 2011), reinforcing the vocal risk condition of school physical education teachers in this sample.

Thus, it can be said that the presence of vocal risk or dysphonia was observed with the perception of functional limitations and physical symptoms of discomfort during phonation, probably in varying stages and that, due to intense vocal use, such symptoms can be aggravated during professional practice. Thus, the initial predictions of this research were confirmed that school physical education teachers form a professional category vulnerable to the development of voice disorders, which is not always perceived by the teachers themselves. This fact is indicative of the need for guidance in seeking specialized professionals to take care of vocal health, within the scope of promoting vocal health and preventing injuries in the probable already present vocal changes.

Teachers' self-perception compared with scores on the Vocal Symptoms Scale - VSS

Figure 4, resumes data from the references of the most recurring themes among the teachers' statements about oral communication and voice in the exercise of the profession and the results of the VSS grouped in greater than and equal to 16 and less than 16.

With the intention of communication defined as the subject of quantitative analysis, it was possible to identify three recurrent aspects among the participating teachers: the intention related to the execution of tasks was pointed out eight times; followed by the need for interactions inherent in the class, seven times and; maintaining discipline, evidenced four times. Such data are in line with those found by Tardif and Lessard (2005), pointing out that teachers, when interacting with their students, aim to achieve ends and results, in this case represented by the respondents' priorities in establishing interactions with their students, in order to accomplish tasks learning in a disciplined way.

Figure 4 - Self-perception profile table on the use of oral communication and voice of physical education teachers and VSS scores ⁶

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	Total
Intenção de comunicação											
Interação	X	X		X	X		X	X	X		7
Disciplina			X	X					X	X	4
Execução		X	X	X	X	X	X	X	X		8
Demanda de fala											
Constante	X		X	X	X	X	X	X	X	X	9
Moderada		X									1
Intensidade da voz											
Habitual				X				X			2
Alta	X	X	X		X	X	X	X		X	8
Baixa		X							X		2
Cuidados com a voz											
Não		X	X		X		X		X	X	6
Sim pessoal	X			X							2
Sim instituição						X		X			2
Escores ESV											
<=16						X			X	X	3
=>16	X	X	X	X	X		X	X			7

Source: Devised by the authors.

As for the high demand for speech reported by P6, P9 and P10, it can be reflected that, although they perceive the interference of this factor in the voice quality, they present contradictory data associated with the VSS score. In the case of P2, which obtained a score greater than 16, there was a reference to moderate use of the voice, and in the cases of P6, P9 and P10, all with results below 16 points in the VSS, they also declared the constant use of the voice. The theme Voice Intensity showed only two teachers, of the eight included in scores greater than 16, who reported using their voices in a habitual way, probably without high intensity, also contradicting the expected logic, and P9 (score less than 16) claimed to use low voice compatible with your score.

In the course of the exposure of these data, contradictions can be perceived in relation to the expected: greater demand and the scores indicating less vocal risk. Thus, it can be assumed that the cause of vocal wear is not due to a specific factor, in this case only the high vocal demand or the intensity of the voice.

As for Voice Care, only four teachers reported having taken the initiative to take care of their own voice. Among them, only P6 obtained a result below 16 points in the VSS. The

⁶ The table reads: **Intention of communication** – Interaction; Discipline; Execution. **Demand of voice use** – Constant; Moderate. **Intensity of the voice** – Habitual; Loud; Low. **Care with the voice** – No; Yes personal; Yes institutional; **VSS Scores** - <=16; => 16.

others, P1, P4 and P8, obtained results above 16 points in the VSS even declaring care with the voice.

The low correspondence between beneficial habits to the voice and VSS scores below 16 is probably justified by the small sample of this research and the multifactorial aspects that contribute to vocal risk and to the real adherence to a work to promote vocal health.

From these reflections, it was necessary to look for factors, cited in the literature and mentioned by the teachers, that are probably present in the participants' practice and that have influenced the communication conditions and the presence of vocal symptoms found as a result of this study:

- The difficulty of perception and/or mastery of the voice, to adapt its use to each situation and context during classes (SALEMA; MENDES; RODRIGUES, 2006) and to favor better processes of interaction with students using oral and voice communication according to the context of the class (TARDIF; LESSARD, 2005).
- The little practice of voice care involving strategies that are beneficial to vocal health (ESTEVEZ, 2011).
- The work environments permeated by negative factors to vocal health, such as loud noises, classes with many students, among others (ALVES, 2011; FERREIRA *et al.*, 2003; SALEMA; MENDES; RODRIGUES, 2006).

Such factors appeared implicitly or explicitly during the teachers' answers, emphasized as important or due to the lack of knowledge about these themes. However, the reference to the teaching requirements showed signs of preceding any personal concern of the teachers with their own voices.

Totally absorbed by their obligations, not even the limitations revealed by the Voice Symptoms Scale, or the constant and intense use of their voices, coupled with the lack of preparation for the professional use of the voice, evidenced by the responses to the questionnaire, prevents them from driving your classes.

Final considerations

This research was motivated by the interest in oral communication and the use of voice by the school physical education teacher, as a resource for his work, and by the observation that the profession has peculiarities inherent to its exercise, the command voice. From this, we sought to research the use, requirements and consequences linked to this vocal style.

Among the priorities that teachers choose during the conduct of their classes, it was possible to identify a demand for work focused on the interactions they establish with their students, with the aim of fulfilling educational tasks in an orderly and disciplined manner, with an appeal to their students' adherence to the proposed class. These priorities include the use of voice in high intensity and demand, without this being identified as something harmful during the career.

The interviewees revealed little care and superficial knowledge regarding the protection of their own voice, which is why the need for teacher training for proper vocal use is reinforced. The results of the Vocal Symptoms Scale indicate that seven of the ten teachers surveyed show some degree of voice alteration, reinforcing the idea that physical education teachers are a professional category vulnerable to vocal risks.

It was evident that the protection and vocal comfort desired by teachers is not limited to specific procedures and that adequate vocal use permeates the domain and care for one's own voice, such as the organization and adequacy of the environment and strategies that can facilitate interactive communication efficient without the vocal damage for the teacher.

The knowledge to promote the necessary and urgent changes goes through training, not only in relation to the techniques of vocal use, but also by the ability to recognize and master the diversity of factors involved in the use of the voice professionally.

There is consensus among the consulted authors, mainly those with speech therapy training, to consider teachers as voice professionals, and, although they were not explicitly questioned about this statement, there was no reference in the course of this research to the recognition of this condition, not even in the moments informal contact with interviewees. This condition, of not recognizing the professional use of the voice, is a complicating factor in the advances towards the promotion of vocal health in the category.

The awareness of being a voice professional represents the starting point in the search for the training of physical education teachers. The appropriation of this posture should be stimulated based on academic formation, with the adaptation of curricula aimed at forming future professionals.

It is evident, after reflecting on the data found and those pointed out in the literature, the urgent need for training professionals in activity and support for those who are already affected by vocal difficulties, through public policies aimed at protecting vocal health and preparation of physical education teachers in initial or continuing education, so that the use of oral communication and voice in high demand does not pose a risk to vocal health.

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