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***"Is pluralism in vocal register designations a problem or not?"***

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*- A study to highlight problems and opportunities with varied voice register narratives.*

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## 1 Summary

The purpose of the study is to gain an overview of the prevailing vocal register vocabulary in Sweden today and to examine how the existing pluralism has a positive or negative impact. There is currently a diverse narrative surrounding vocabulary, and new vocal discourse trends have influenced the conversation about vocal register terminology.

The vocabulary taught in higher music education will shape future narratives, prompting the question of whether voice instructors at academies of music believe that the wide range of vocabulary can influence vocal instruction and which discourses these instructors consider relevant.

**Keywords:** vocal registers, vocal vocabulary, pluralism, vocal methodology, vocal instruction, vocal discourses

## 2 Table of Contents

1	Summary	2
2	Table of Contents	3
3	Introduction	5
4	Background and Problem Statement	6
5	Purpose	9
	Research Question	9
	Delimitation	10
	Terminology Explanation	10
6	Vocabulary in Literature	12
	In Scientific Literature	12
	In Didactic Literature	19
	Vocabulary Pluralism	20
7	Method	23
	Qualitative Semi-Structured Interview	24
	Analysis Method	26
	Selection of Interviewees and Information About Them	27
	Strengths and Limitations of the Study Design	29
	Anonymity and Ethical Considerations	30
8	Results	32
	Vocal Vocabulary Used by Vocal Pedagogues	32
	Descriptions of Vocal Functions	35
	Changing Narratives of Vocal Registers	36
	Preferred Technique Method	37
	Reference to Literature	38
	Diverse Narratives on Vocal Function Today	39
	Genres that the Informants Enjoy Singing	41
	Addendum	42
9	Analysis & Discussion	45
	Pluralistic Vocabulary and Ambiguous Concepts	45
	Literature	45

	Discourses – Conversations about Methods	47
	Authors and Originators	48
	Reserved Attitude Among Vocal Teachers	49
	Socio-Political Reasons – Impact of Market Liberalism	50
	Can Different Methods and Vocabulary Cause Physical Problems?	50
	Difficult to Measure and See Inside the Voice	51
	Risk of Dilution of the Profession of Vocal Teaching	52
	Leadership in Higher Education Institutions	52
	Enriching Concepts	54
	Open-Mindedness Among Pedagogues	54
	Historical Reflection and Forward Thinking	54
	Unifying Concepts	55
	Scientific Language vs. Floral Language	55
	Artistic Freedom and the Golden Channel of Expression	56
10	Method Discussion	58
	Topics for Future Research	59
11	Conclusion	61
12	References	63
13	Appendix	66

### 3 Introduction

Shortly before Christmas 2022, I stumbled upon a discussion in a social community among us vocal instructors regarding two of the major current discourses within vocal technique. When the term "Falsetto" was being compared to another vocal function, I joined the discussion. I had insights into both of the ongoing methods, yet the misunderstanding ensnared both of us who were discussing the matter.

You see, I wasn't basing my perspective on either of the discourses; instead, I was focusing on the mechanical function that "falsetto" represents. After much back and forth, it was clarified that I was referring to vocal registers when using the word "falsetto," while in the discourse my discussion partner emphasized, the word meant a specific vocal function.

This incident marked the beginning of my journey towards this thesis. How can we use the same word but mean different things? I'm still not entirely convinced that the functional description of "Falsetto" in the discourse is fundamentally different from my mechanical description of the same term. In this case, the desire to demonstrate understanding and knowledge probably propelled the discussion forward.

The existing disagreement has always fascinated me—what is its nature, and where does it lead?

Today, many names of vocal registers abound, and I have long wondered in what way it can affect the narrative and development of singing techniques.

A thought that accompanies me as I embark on this study is whether the uncertainty surrounding vocal register terminology has an explanation and, if so, what that might be. The vocal instructors who can articulate their thought processes on these matters effectively are the vocal educators in Vocal Methodology and Vocal Didactics at our Music Academies. Therefore, in this thesis, I turn to them with my questions.

You are warmly welcome to read further.

Magdalena Eriksson

## 4 Background and Problem Statement

Narratives surrounding vocal registers are diverse, and different discourses within the subject pull in various directions, creating disagreements and uncertainties regarding the accuracy of vocal register terminology.

In the midst of a maze of vocabulary, conceptual confusion arises. In the eagerness to find clarity, it's easy for new schools and methods to emerge, some with more or less scientific basis. Some are built on research and new findings, contributing to progress, while others do not and may contribute to confusion.

At times, it might feel like reinventing the wheel.

Throughout my 25 years as a teaching vocal instructor, I've encountered this issue in my own teaching with singers and vocal students, among colleagues and discussions about vocal technique and voice usage as well as in my own singing. I believe that the varied vocabulary contributes to amplifying uncertainty among vocal instructors when it comes to using vocal register terminologies and in the long run singers to. This unnecessary confusion and lack of trust between vocal teachers are not only about a plurality of vocal register terminologies but also about taking a stance on the correctness of these expressions. This leads to communication challenges among all of us who work with vocal issues, as highlighted in the introduction of this thesis, and it limits subject discussions, thus negatively affecting many professions. The issue is not only about pluralism in vocal vocabulary but also about the correctness of the terms used, which complicates communication and restricts discussions within the field.

A diversity in the use of vocal vocabulary should enrich the understanding of singing, so the question arises: why does it become and in what way is it a problem?

I base the structure of this study on my own experiences, with numerous examples from my professional practice. Particularly, the stance on the correctness of certain vocal register terminologies has posed challenges. For instance, years ago, I was approached by a singer who wanted to develop her voice. This individual had come across a particular vocal method through personal study and practice.

While she sought improvement, she had become trapped in a singing style that hindered vocal development, resulting in tension and stiffness. When I attempted to broaden the vocal training with supplementary exercises, describing them using a mixed vocabulary, the singer resisted. She had learned that there was a single correct and universal vocal technique with corresponding vocal register terms. Using a broader term, I felt that the singer believed I lacked insight into how the voice truly functioned, when in fact, it was the opposite. I wanted to incorporate comprehensive vocal training and employed a pluralistic vocabulary, but this did not resonate with the singer, as she had learned that there was ONE complete vocal technique.

This incident made me realize that any form of vocal training should liberate the singer and serve as a means to explore artistic expression and capture the magic of

music. However, in this situation, we got caught up in technicalities, and the budding enthusiasm for singing faded away.

To gain a broader perspective on this issue, this thesis aims to examine the divergent vocal register vocabularies prevalent. I will do so by exploring how instructing teachers at music academies in Sweden approach this topic, in order to distinguish between pluralism and the problems that I perceive.

To find a context that leads to the vocabulary used today for vocal registers, this study examines the vocabulary employed by vocal teachers at higher music education institutions. These teachers train future vocal educators at their institutions, and students often adopt the vocabulary they are taught during their studies.

What is taught in higher music academies today will become the vocal register narrative upon which future vocal educators base their instruction and thus the vocabulary that will be widely used in the future among singers.

The widespread uncertainty regarding which vocabulary is more correct or incorrect to use may also potentially affect the foundation of the vocal teaching profession. The core of what should be taught and at what level must remain stable. Gathering information about the circulating vocabulary is a step towards initiating discussions about consensus in the field, no matter what shape that consensus might ultimately take.

The instability and lack of consistency in the foundation of higher music education can be observed in the popularity of the topics chosen for student theses in the past 10-15 years. While the higher frequency of themes related to vocal registers might partly be explained by the greater interest among vocal students, it does not fully account for the substantial number of student works focusing on vocal registers. This suggests a general ambiguity surrounding vocal registers and their functions, which leads students to attempt clarifying the concepts in their theses.

A search on the essay portal "Diva-portalen" provides insight into the fact that the concept of vocal registers is not fully clarified, as evidenced by titles of essays such as:

"Sångtermer"	("Vocal Terms")	(H. Swärd 2011)
"Varför så många namn på röstregister?"		(J. Rick 2013)
("Why So Many Names for Vocal Registers?")		
"Myter kring sångregister och skarvar"		(J. Friberg 2017)
("Myths Surrounding Vocal Registers and Breaks")		
"Är det bara en sångteknikalitet?"		(M. Hed 2019)
("Is It Just a Vocal Technique?")		
"Det finns för många ord liksom!"		(M. Löfberg 2020)
("There Are Too Many Words, Really!")		
"Inte bara bröstöst och huvudklang"		(J. Jacobson 2020)
("Not Just Chest Voice and Head Voice")		

"Vad säger vi egentligen?"  
(*"What Are We Actually Saying?"* )

(J. Jalsborn 2021)

Where does the root of the problem lie? Is it with the vocal instructor, the vocal student or the singer in general? In my perspective, the problem context encompasses everyone involved in singing:

- Vocal instructors, whose uncertainty and diminishing confidence in their own knowledge can hinder effective teaching, and communication between educators might become more difficult.
- Vocal students, whose exposure to different vocabularies might lead to confusion and weaken their trust in their instructors.
- Professional singers in general, as different terminologies for the voice and its registers result in varying camps and the perception that certain phrasings are correct while others are wrong. This suggests that certain vocal styles are deemed right while others are wrong.

The core issue seems to arise when new methods emerge due to a lack of clarity from higher music education institutions and vocal instructors. This, in turn, creates new vocal vocabulary surrounding the voice and its registers.

This cycle exacerbates the uncertainty about whether there is a "correct" vocal register formulation and ultimately affects clarity in higher music education and among vocal instructors. A negative spiral seems to form.

In this thesis, my primary aim is to initiate discussions. I wish for vocal instructors to gain an overall understanding of prevalent vocal register formulations today by examining the vocabulary used by teaching vocal instructors in higher music education institutions across the country.

Previous research has predominantly focused on the physiological aspects of the voice, such as musculature, anatomy, and to some extent, acoustic parameters. However, academic studies have not treated register narratives as a core issue.

I aim to shed light on how a diversified narrative in register terminology influences singing in general and vocal instruction at large through this thesis.



## 5 Purpose

The purpose of the study is to gain an understanding of how pluralistic vocal register designations are used and what vocabulary is currently in use in Sweden. This is achieved by clarifying the vocabulary used by singing pedagogues in vocal methodology/teaching methodology at higher music education institutions in the country. As participants, the study includes 8 singing pedagogues, of which 7 teach at Music Academies in Piteå, Stockholm, Örebro, Göteborg and Malmö and one teaches at the Stockholm Music Pedagogical Institute.

The narrative that singing pedagogy students acquire during their education often forms the foundation for their teaching practices in their professional lives, thus shaping the narratives significantly among singers in general.

The study also aims to provide a comprehensive view of how teaching singing pedagogues at higher music academies perceive the advantages and disadvantages of vocal discourses and differing vocabulary in vocal instruction, and what consequences and problems might arise.

## Research Question

- **Is pluralism in vocal register designations a problem or not?**
- What vocabulary is used to discuss and describe vocal registers and functions in Music Academies in Sweden today, and does this indicate vocabulary pluralism?
- Where do potential problems with pluralistic vocal designations lie?
- Which discourses within vocal studies do teaching pedagogues at Music Academies in Sweden consider clarifying and clear about vocal function?
- How do singing pedagogues at Music Academies in Sweden describe their choice of method and associated literature?

## **Delimitation**

In this study, I have chosen to focus on the pluralistic vocabulary used by singing pedagogues in vocal methodology/teaching methodology at higher music education institutions in Sweden for vocal registers and vocal functions. I intend to examine how the diversity of vocabulary in use affects the clarity of expressions.

The study also questions how singing pedagogues view the narratives around vocal registers and whether they believe that the use of these narratives can impact vocal instruction as a whole. By also inquiring about the sources from which they derive their vocabulary and whether any specific discourse has influenced them, I hope to gain insight into the context that shapes the vocal register designations used by singing pedagogues.

Among the many thousands of singing pedagogues in our country, I have selected participants from this profession because the issues I address in this thesis are part of the higher-level vocal methodology and teaching methodology courses. Therefore, teaching pedagogues in these courses possess a well-thought-out and informed perspective on vocal register designations.

## **Terminology Explanations**

Since the study is about how these terms are used and what they mean, providing explanations might seem somewhat illogical. However, to help the reader follow the vocabulary, here's a simplified version.

Register:	A tonal range in the voice characterized by a consistent timbre. It can also refer to the overall range, i.e., from the lowest to the highest frequencies.
Tone frequency range:	Tones within nearby frequency ranges.
Vocal function:	The apparatus responsible for producing the voice, including muscles and cartilage.
EVT:	Estill Voice Training, a method that explains voice functions and specific vocal mechanism structures. Founded by Jo Estill, California.
CVT:	Complete Vocal Technique, a method that captures various vocal colors with different vocal modes. Founded by Cathrine Sadolin, Copenhagen.
Somatic Voice Work:	A method that includes physical training for a healthy voice. Founded by Jeannette LoVetri, New York.

Modal voice:	A vocal register concept established by Hollien in the early 1970s, referring to a lower frequency range where the vocal cords are shorter and the mucous membrane closure lasts longer.
Falsetto voice:	A higher frequency range where the vocal cords are more stretched and the mucous membrane closure isn't as long
Chest register:	A lower vocal range where vibrations are felt in the chest
Head register:	A higher vocal range where the tone can be acoustically felt in the head.
Mix register:	A transition from one vocal register function to another
Full voice:	A term for the lower vocal range where the vocal cords are shorter and the mucous membrane closure lasts longer.
Edge register:	A term for the higher vocal range where the vocal cords are more stretched and the mucous membrane closure isn't as long.
Flower language:	Vocabulary where mechanical functions are expressed using metaphors or emotional language.
CT – cricothyroid muscles: Muscles connecting the cricoid cartilage to the thyroid cartilage.	
TA – thyroarytenoid muscles: Muscles connecting the thyroid cartilage to the arytenoid cartilage.	
Vocalis muscles:	Muscles of the vocal cords
Larynx:	Voice box.
Subglottic pressure:	Airpressure that occurs beneath the vocal cords when they're in a phonatory position (producing sound).
Supraglottic pressure:	Airpressure that occurs above the vocal cords due to acoustics when they're in a phonatory position (producing sound).
EMG:	Electromyography

## **6 Vocabulary in Literature**

The context upon which the informants in this paper base their choices of register denominations is largely drawn from the literature they refer to, which is also literature they use as course material. Several influential books that the informants referred to have been selected in this chapter to shed light on the denominations used in discussions about vocal registers. This chapter demonstrates the diversity of register denominations that have circulated among phoniatrics, voice researchers, and singing instructors, and continue to do so. Upon observing the compiled list at the end of this chapter of vocal register vocabulary, it becomes evident that confusion regarding registers and their meanings can arise.

From the perspective that this study highlights in terms of vocal register narratives, previous research has not focused on this aspect, hence there is no such literature to reference within the realm of plural vocabulary for vocal registers. However, research into vocal mechanisms and vocal registers, explaining them anatomically, physiologically, and acoustically, has been ongoing for a long time and remains relevant.

In this chapter, a schematic overview is provided of how the denominations have looked and continue to look today in literature, both scientific and didactic. The articles and literature will not be referenced in their entirety, as this is not the focus of the study. Instead, the aim is to examine the pluralism within denomination and the usage of various vocabularies. I am aware that the following chapter is somewhat extensive, but I intend to provide a broad, overarching, and historical view, attempting to showcase how different vocabularies emerge from research and discussions among, for example, phoniatrics and voice pedagogues.

A few of the books that the informants referred to are included below. Although the informants referred to more books, not all of them have been included due to the relatively limited time available for writing this thesis.

### **In scientific literature and articles, both past and present**

Efforts have been made for a long time to explain the voice and categorize phonation into registers. The fact is that the mechanisms in the throat and larynx are hard to grasp because they're not visible externally, resulting in the voice being shrouded in mystery. It has simply been difficult to gain a comprehensive understanding.

During the period when the foundations of vocal technique were developed in the 19th century, Manuel Garcia concretized the theoretical aspects of significant scale singing. Bel canto, a singing style that emerged in the Italian musical tradition in the late 17th and early 18th centuries, means "beautiful singing." It was in this technique that Garcia was one of the pioneers in categorizing vocal registers, and this occurred in the mid-19th century. (Stark 2004)

Medical science advanced during the 19th century with new measuring methods, and the interest in the human body led to an increased focus on understanding and studying the voice. Now, singing technique is further evolving with new vocal ideals and trends.

Then, as now, there was a desire to name vocal registers, and in the 1840s, Garcia divided the voice into Poitrine (Chest), Falsett-tete (Falsetto head), and Counter-bass. (Leborgne & Rosenberg 2021) Remarkably, these designations are similar to those used by the interviewee singing pedagogues in this study today.

Emil Behnke, a singing teacher, categorized the voice based on the sensation of thickness (of the vocal muscles) in the 1880s and was the first to photograph the larynx. This resulted in categorizing male voices into Lower thick, Upper thick, Upper thin, and female voices into Lower thick, Upper thick, Lower thin, and Upper thin. (Leborgne & Rosenberg 2021)

In the 1960s, Professor Gunnar Fant at the KTH in Stockholm, together with M. Mörner and F. Fransson, wrote material to clarify the voice's registers (Mörner, Fransson & Fant 1963). Marianne Mörner divided the voice into five ranges: Lowest Range (likely what we might now call creaky register), Deep Range (with subcategories full voice, chest voice, chest register – terms that are recognizable today), Middle Range (with subheadings falsetto, middle register, mix voice, edge register), High Range (here also falsetto, head voice, head register, edge voice and edge register), Highest Range (including flageolet, flute register, partial register, stiff register).

In the 1970s in the USA, voice researchers, vocal coaches, physicists, and pathologists gathered to try to agree on vocabulary for voice registers. This led to a division of the voice's registers using four digits: 1, 2, 3, 4, or a simplified division heavy - light or lower - upper. (Leborgne & Rosenberg 2021) Unfortunately, this did not go over well and was never widely adopted. However, the use of numbers became relevant a couple of decades later with the voice researchers Bernard Roubeau & Nathalie Henrich, whom some of the interviewed vocal teachers refer to. Using numbers avoids evaluative vocabulary or words that refer to sound reinforcement in any part of the body.

So, what is a register and how is it described? Initially, a register can be described based on something that characterizes all instruments, namely a range of tones characterized by the same timbre. However, registers are somewhat difficult to define when it comes to the voice.

Hollien wrote in his article "On Vocal Register" in 1974 that a vocal register is entirely a laryngeal phenomenon. It consists of a series or a range of adjacent phonation frequencies that can be made to sound similar.

The phonation frequency ranges of the registers are somewhat overlapping, which leads to the definition of a register needing to rely on acoustic, physiological, aerodynamic, and perceptual facts (Hollien 1974).

Hollien suggests that defining vocal registers involves perception, what the mind experiences. This can involve the perception of both a listener and a performer.

However, these perceptions need not be the same.

A singer with distinct register transitions combines both body sensation and hearing perceptually, allowing them to experience their register transitions more clearly than, for example, a vocal teacher or a listener, as the singer physically feels and hears the transition based on sensation, which the teacher or listener does not.

In his book "Principles of Voice Production," I. Titze explains that a register term describes a specific range with the same voice quality that applies over a certain range (Titze 1994).

Johan Sundberg begins his chapter on Registers in his book "The Science of the Singing Voice" by admitting that there is no good definition of a register. He says that the most commonly used definition goes like this: A register is a range of phonation frequencies within which all tones sound in a similar way and seem to be produced in a similar manner. (Sundberg 2001)

Sundberg primarily presents, with reference to previous studies conducted by Hirano with EMG, and also refers to the numerous factors and characteristics that affect sound quality and perception of registers. He points out that the vocal source's tonal properties and the perceived sound spectrum depend on vocal fold vibrations, whose characteristics are influenced by laryngeal musculature, subglottic pressure, and laryngeal mechanics. He also summarizes that there are no good names for registers, as I mentioned earlier.

In the studies he refers to, it is revealed that air pressure decreases with increasing phonation frequency, and the activity of the vocalis, CT, and lateral cricoarytenoid muscles decreases. These studies explain the considerations of register names based on the physiological science happening in the larynx, referring to earlier research.

In the article "Laryngeal Muscle Activity and Vocal Fold Adduction During Chest, Chestmix, Headmix and Headregisters in Female Singers" from 2012 written by Kochis-Jennings, Finnegan, Hoffman, and Jaiswal, registers are described as a tonal range that encompasses a similar timbre and where the physical effort is perceived as the same in that range.

Hollien chose to use the term "Modal Register" in the 1970s when naming a lower frequency range. He originally wanted to use the term "Normal," but a colleague of his pointed out that this would imply the existence of another register that would then be abnormal, which led to:

*"...the modal register is so named because it includes the range of fundamental frequencies that are normally used in speaking and singing (i.e., the mode)."*

(Hollien 1974, pp. 126)

For the upper register, Hollien uses the terms "Loft" register or falsetto, but he also notes that using falsetto as a label for a register is not always straightforward, as the character of the upper register can vary based on the individual and genre.

Thus, some individuals might have difficulty associating their high voice with the word falsetto. He also introduces two other register types:

Pulse register, referring to the pulse-like vibrational pattern, and a very high frequency range he terms "flute," "whistle," or "pipe" register.

Sundberg references Hollien when labeling vocal registers in a similar manner. This applies to the male voice; namely, that it has two distinct register modes according to Sundberg. He also mentions that the female voice has three registers: chest register, middle register, and head register. However, in the same paragraph, Sundberg suggests that this division of the female voice might not always apply and that it's better to use scientific terms (Sundberg 2001). By scientific terms, he means anatomical and phoniatric terms that explain the mechanics.

A similar division is found in the article "Laryngeal Vibratory Mechanisms: The Notation of Vocal Register Revisited," where French voice researchers Nathalie Henrich and Bernard Roubeau classify the voice into M0-M1-M2-M3, where M stands for Mechanism. M0 is creaky register, M1 is modal/full chest register, M2 is thinned vocal cords/falsetto, and M3 is flute/whistle voice.

This article is a return to using numbers similarly to what was established in the USA in the 1970s, with M representing Mechanism – a term Roubeau coined in 1993 and Henrich in 2001.

In an intriguing tabular format in the article, we can observe the progression of register development and how certain vocabulary, such as chest register and head register, has persisted over a long period, even up to Bourdeau and Henrich themselves. Perhaps this is their way of finding a vocabulary for the voice that is devoid of both timbral and emotional connotations? (Roubau & Henrich 2007)

In the interesting article "Laryngeal Muscle Activity and Vocal Fold Adduction During Chest, Chestmix, Headmix and Head" written by K.A. Kochis-Jennings et al (2012), the vocabulary chest, chestmix, headmix, and head are used to label registers. Here, the term "mix" is introduced, described as a middle register that transitions from chest to head. The study demonstrates TA muscle activity through EMG analysis, revealing differences in TA activity levels where chest has the highest TA activity, chestmix slightly less, headmix slightly more than head, which has minimal TA activity.

The study presents several interesting aspects related to vocal registers, but this paper focuses on the plurality of vocal vocabulary; hence, other aspects are not discussed. Notably, two new terms have emerged in this article: chestmix and headmix, and these are linked to TA muscle activity.

(However, it's worth noting, for readers interested in laryngeal muscle function, even though it's irrelevant to the essay topic, that one thing the study points out is that trained voices are more capable of activating TA in a way that results in a mixed character.

This might reflect the concept of vocal training, where increased ability and well-trained TA muscles facilitate smoother transitions between different mechanical register types.)

Registers can overlap, and many singers have a register transition between D4-C5, possessing the ability to sing the same pitch with different muscle functions. The article "Voice Source Differences Between Registers in Female Musical Theater Singers" describes this, and in this article, the authors choose to label vocal registers based on chest register and head register (Björkner et al. 2005).

In "Vocal Tract in Female Register - A Dynamic Real-Time MRI Study" (2008), Echternach et al. write that it is more challenging to observe and hear register variations in the female voice. They also assert that it's commonly known that the female voice has more register transitions than the male voice, which typically has one in the transition from full voice to falsetto. They suggest that the female voice's first transition occurs around 350 Hz (around F4) and the second around 700 Hz (around F5). The register terms in this article are chest/modal and head/middle/falsetto.

In a similar study on male voices, "Vocal Tract and Register Changes Analyzed by Real-Time MRI in Male Professional Singers," the same researchers as in the above article examine how the vocal tract affects registers. However, more research is needed, particularly in connecting acoustics and register changes. In this article, the terms used for vocal registers are modal, middle, and upper (Echternach et al.).

The article "Mixing the Registers: Glottal Source or Vocal Tract?" discusses the transition between chest register and falsetto. It demonstrates that the use of resonance in classically trained female singers enhances the possibility of a smooth transition between these registers. The terms used in this article are chest register, mix register, and falsetto. The article describes these registers based on chest's more relaxed vocal cords with prolonged closure and a lower frequency range, and falsetto with more elongated and sometimes stiff vocal cords, less contact area, and a higher frequency range (Miller & Schutte 2005).

On one page of the article, a schematic figure illustrates the comfort zones for chest and falsetto, serving as a reminder that different registers have different comfortable positions where muscles can work more effortlessly. When a singer doesn't achieve the correct mechanism in a certain range, strains and overexertion often occur due to muscles working in unfavorable positions.

Describing registers based on muscle dominance has become more common in the last 15 years. In the article "Cricothyroid Muscle and Thyroarytenoid Muscle Dominance in Vocal Register Control: Preliminary Results," the authors Kochis-Jennings, Finnegan, Hoffman, Jaiswal, and Hull point out that the registers they divide the voice into: chest, falsetto, and glottal fry, are mostly controlled by mechanical muscular factors (Kochis-Jennings et al. 2012).

They also refer to how singers and voice teachers use R. Miller's term "mix" in chestmix, headmix, and middle. The study demonstrates the true relationship between CT and TA. There's a tendency in vocal pedagogy to associate TA dominance with chest or chest mix, and CT dominance with head and headmix. However, this article's results show a more nuanced picture. Muscle activity of either muscle is more related to pitch than to register (652.e28).



CT is always engaged at a certain frequency range, not solely when TA and vocalis muscles cease their activity. The register terms in this article are chest, chestmix, headmix, and head.

A highly fascinating study was conducted in 2021 by Japanese researchers in Fukuoka, titled "Differences Among Mixed, Chest, and Falsetto Registers: Multiparametric Study," where the authors delve into register descriptions. It suggests that there might be additional functions with unique rules and mechanical settings that distinguish them from chest and falsetto.

This knowledge could shed more light on this in the future (Lee et al. 2021). In a clear tabular form on page 298.e12, various register vocabularies are schematized based on five voice types: Pulse, Chest, Mixed, Falsetto, and Whistle. This corresponds to the same categorization that Roubeau and Henrich do with their Mechanism model, adding the Mixed register as an additional function.

In 2008, nine voice researchers and phoniaticians (Henrich et al.) conducted a three-year study titled "Towards a Common Terminology to Describe Voice Quality," aiming to find a shared vocabulary regarding the lyrical Western singing style. They examined various interesting parameters related to perception of vocal gestures or vocal technique, perception of sound, and perception of performance. Regarding register naming, they used Roubeau and Henrich's mechanical model M0-1-2-3. This encapsulates the crucial notion of perception – that how registers and voice qualities are perceived by a listener is influenced by their experiences and expectations. This is a parenthetical consideration about register naming, but it's essential to consider the registers that a listener hears and why they hear them, and whether what the listener hears aligns with the singer's self-perception.

There is technology today that allows a computer program to analyze a voice and determine the current vocal function. A study titled "The Recognition of Female Voice Based on Voice Registers in Singing Techniques in Real-Time Using Hankel Transform Method and MacDonald Function" was published in 2017. The program was tested on both real-time singing and recorded singing. The results are fascinating but irrelevant to this essay. However, the use of vocabulary remains relevant. In this study, the program chose from the following registers: Chest Voice, Head Voice, Falsetto,

Sten Ternström and Peter Pabon presented in 2021 a material they had developed to measure and map the individual voice using a "Voice Mapping Program", consisting of the frequency spectrum specific to that individual voice. Here, the primary difficulty or rather challenge and fascination emerge – that each individual's voice is as unique as a fingerprint, and their voice function depends on many different factors, such as tissue material properties, muscle strength, aerodynamics, and individual acoustics.

Voice maps are more a tool to understand the individual voice, particularly when a singer encounters issues or changes in their voice or wants to develop it, rather than providing a tool for general voice categorization and register description. However, it demonstrates that with new tools, new possibilities arise, leading to expanded insights. Perhaps with new measurement methods in the future, we will be able to

describe the underlying mechanisms that give each voice its distinctive timbre.  
(Pabon & Ternström 2021)

## **In didactic literature**

In this section, I have largely relied on the literature to which the informants referred when choosing their vocal vocabulary.

Pop and rock vocal pedagogue Daniel Zangger Borch describes a register as phonation with the same timbre and character (Zangger Borch 2019). Zangger Borch also emphasizes the difficulty of describing vocal registers and concludes that the voice has two distinct parts: chest register and falsetto register, depending on whether the vocalis muscle is active or not.

He clarifies the abundance of expressions at the beginning of his chapter on vocal registers and also notes that the variation in airflow, volume, and the amount of vibrating vocal fold mass makes it challenging to perceive differences in muscle use.

To explain which register occurs on which note, Zangger Borch describes it as a causation of power or air pressure. In cases where more vocal settings can be used, air pressure is what determines it. The higher the air pressure, the more likely the vocalis muscle is more active, and the lower the air pressure, such as during weaker singing, the higher the activity of the cricothyroid muscles (Zangger Borch 2019).

According to "The Vocal Athlete," vocal registers can be described based on two aspects: a laryngeal event – which muscles are activated and how position and setting are adjusted – and based on the vocal tract or timbre, which refers to how tone and acoustics affect vocal setting and phonation (Leborgne & Rosenberg 2021). These are two of the four aspects advocated by Hollien, but he also included perception and aerodynamics.

In England, there is Gillyanne Kayes, a voice researcher and vocal coach who has written books and is actively involved in an online venture called "Vocal Process," which she runs alongside a singing coach named Jeremy Fischer. An informant referred to her books "Singing and the Actor" (G. Kayes 2004) and "This is Voice" (G. Kayes & J. Fisher 2018). These books do not provide any register naming. However, they discuss vocal functions based on the Estill Vocal Training framework. On the "Vocal Process" website, there is a description of four registers: Creak register, Modal register, Falsetto register, and Whistle register. Some informants referred to Richard Miller's vocal book "The Structure of Singing," in which he divides the male voice into Chest Voice, Mixed Voice, Head Voice, Freigned Voice, Falsetto, and Stroh bass. For the female voice, Miller designates Chest, Open Chest, Chest Mixture, Head, Mixture Lower Range, Head Mixture Middle Range, and Flageolet Register. Miller has quite a few divisions that suggest acoustic variations are also included in them.

The book "The Vocal Athlete" tells that towards the end of the 1970s, a group of voice researchers, physicists, voice physicians, and vocal coaches gathered with the goal of forming a common vocabulary (Leborgne & Rosenberg 2021). The meeting was called the 1970s Collegium Medicorum Theatri, and they used numbers to label

the voice M0, M1, M2, and M3. Various other terminologies were also established, or rather, that each register type could be labeled with many different terms.

The authors of the book "The Vocal Athlete," Leborgne & Rosenberg, label vocal registers as follows: Chest, Voix Mix, Head, and Whistle-Flute (women) and Falsetto (men) (Leborgne & Rosenberg 2021).

Some of the informants referred to "Practical Vocal Acoustics" (Bozeman 2023), which demonstrates the impact of acoustics on register settings, offering intriguing perspectives. Here, registers are labeled based on a physical acoustic influence on the body, using terms like "Chestier" and "Headier," indicating more or less sensation in the chest and head.

### **Vocabulary Pluralism**

In conclusion, previous articles and literature indicate that explanations for various mechanical register functions, where different muscle groups are active, are influenced by pitch frequency, subglottic pressure, and muscle strength. However, the vocabulary used to describe these functions is varied, even though they may seem relatively similar. English-language literature and articles frequently refer to "chest register" and "falsetto/head register," possibly with a mix in between.

The problem lies with terminologies that refer to bodily perceptions, as they point to the feeling/timbre of a pitch rather than the mechanisms behind it. "Chest register" refers to tones felt in the chest, while "head register" implies a dominant resonance in the head and skull.

There's validity in this, considering lower frequency ranges generate chest vibrations and higher frequency ranges result in sensations in the head, yet it can be ambiguous to label a mechanical laryngeal function based on bodily feelings in other parts.

For pedagogical purposes, describing rather than labeling the mechanism through bodily sensations might be more advantageous. Similarly, as previously demonstrated, "falsetto" and "modal voice" could be better expressions, but they also have their limitations.

As a professor of phonetics at Stockholm University, Olle Engstrand takes a clear stance on the terminology of chest register and head register in his book "Fonetikens grunder" (2004), which is used by some informants in the course of singing methodology.

He refreshingly points out that it is nonsensical from a physiological viewpoint. He notes that this was already pointed out in the 1800s, but the terms have persisted, possibly due to some pedagogical value.

Below, I provide a schematic compilation of vocal register terminologies based on the narratives described above.

"Reg" is an abbreviation for register and "TFR" stands for Tonal Frequency Range

	Lowest TFR	Low TFR	Middle TFR	High TFR	Highest TFR
Garcia (1840)	Counter-Bass	Poitrine (Chest)		Fausset – tete (Falsetto - Head)	
Benke (1880)	Lower Thick <i>male &amp; female</i>	Upper Thick <i>male &amp; female</i>		Upper Thin <i>male &amp; female</i>	Upper thin <i>female</i>
Mörner, Fant & Fransson (1963)	Lägsta läge (Lowest range)	Djupläge - Deep Fullröst, Bröströst bröstregister	Mellanläge Falsett mellan reg mix – röst rand reg	Höjdläge Falsett Huvud röst Huvud reg randstämma rand reg	Högsta läge flageolett flöjt reg del reg stift reg
Hollien (1974)	Pulse reg.	Modal reg.		Loft reg falsett reg	Whistle reg
Sundberg (1985)	Knarr reg (creak)	Modal reg	Mellan reg <i>female</i> (Middle)	Falsett <i>male</i> Head reg <i>female</i>	Flageolett <i>female</i>
Roubeau & Henrich	M1	M2		M3	M4
Kochis Jennings et al		Chest reg	Chest mix Head mix	Head reg	
Björkner et al.		Chest reg Modal reg	Middle reg	Head reg Fasetto	
Echternach et al.		Modal reg	Middle reg	Upper reg	
Lee et al.	Pulse reg	Chest reg	Mixed reg	Fasetto	Whistle reg
Zangger- Borch		Bröst reg		Falsetto	
Fisher & Kayes	Creak reg	Modal reg		Falsetto	Whisite reg
Miller	Stroh bass <i>male</i>	Chest voice <i>male &amp; female</i>	Mixed voice head vice <i>male</i> Open chest, Chest mixture Head mixture-lower range <i>female</i>	Freigned Voice, Falsetto <i>male</i> Head mixture -middle range <i>female</i>	Flageolet reg <i>female</i>
Leborgne & Rosenberg	Pulse/vocal fry (only speech)	Chest	Voix Mix	Head Falsett <i>male</i>	Whistle <i>female</i> Flute <i>female</i>
Bozeman		Chestier		Headier	

This compilation demonstrates the vocabulary used in literature. Some designations are less commonly employed, likely because these registers are less frequently used in singing. The lower range, often referred to as Creak or Vocal Fry, as well as the very high range that shorter vocal cords (typically female voices) can access more easily, are sparingly used in singing, even though they do occur.

Apart from these, two register ranges and the one in between are typically mentioned in both didactic and scientific literature.

One of these is the lower tonal frequency range, designated with terms like Chest, Chest voice, Chest register, Modal register, Low register, Full register, and M1.

The other register range is the higher tonal frequency range, with slightly more varied terminology, including Falsetto, Head voice, Upper thin (male), Lower thin (female), High register, Edge register, Falsetto register, and Loft register.

Of all these, designations that do not refer to a tonal placement might be preferable, such as low register, middle register, and high register. However, even these can be problematic, as these terms are related to pitch based on musical notation rather than physiological conditions in the throat. A higher pitch is formed by stretching the vocal cords forward, but the position of the larynx also varies with pitch, making that reference somewhat ambiguous.

As seen above, Bozeman refers to registers as being more or less "chestier" or "headier," giving register designation a character rather than a sensation. This way of naming and explaining different registers becomes more vague and subjective, based on the individual, which can be advantageous since the experience of registers and vocal function varies greatly among different singers.

This can be analyzed in much more detail, but the approach of this paper is to examine the diversity and observe the vocabulary used, rather than delving deeper into the meanings of the words.

## 7 Method

Social constructivism posits that knowledge, to a certain extent, is ideological, political, and infused with values (Schwandt 2000). The social constructivist perspective is relevant to this study because the questions posed to the informants revolve around how their social reality has influenced the experiences that form the basis of their current understanding of vocal register vocabulary and how they are constructed. The didactic approach in vocal pedagogy is largely socially constructed and imbued with values. The singing educators in this study have constructed the framework of narratives that underpin their teaching based on the context and circumstances in which they have existed. Social constructivism focuses on how the researcher interprets the object of study rather than explaining it (Schwandt 2000), and my intention is to attempt to interpret the phenomena that underlie the ambiguity in vocal register designations, rather than merely explaining the same.

In "The Web of Culture: A Context for Musicology" (1984) Tomlinson refers to musical artworks, and here he means culture in a broad sense, as codings that are creatively shaped by human actions. Although vocal register narratives are not artworks in themselves, the acquisition of the vocal method that forms the basis of these narratives should lead to artistic expressions. Therefore, examining the entirety by viewing it as human actions originating from the context in which people draw their knowledge is relevant to this study on how vocal register designations have emerged.

The ontological question concerns what exists in the world, and with constructivism, the researcher views the world as socially constructed. The social reality consists of how people interact with the environment, and since what exists is constructed, it is also constantly changing, according to Bryman (2016). It is precisely this mutability that I seize upon in this paper by asking informants how vocal narratives have evolved over the past decades.

Hermeneutics is central when studying social structures, as the phenomenon under study always has meaning. Interpretation is based on the researcher's previous studies and knowledge (Danermark et al. 2019), and I am aware that my prior knowledge in the subject influences the interpretation and conclusions of this study. Hermeneutics is context-dependent and relies on the context and intention of the researcher, who must capture the meaning that constitutes the situation (Schwandt 2000).

To understand the subjective meaning in the reasoning and perceptions of the interviewed individuals and attempt to make it objective, I adopt an interpretivist approach and strive to comprehend and embrace the entirety of the interviewees' contextual intentions.

To some extent, I see that the details and information I gain in the subject of this study through the interviews I conduct provide an increased understanding of the whole, and to some extent, it resembles a hermeneutic circle (Schwandt 2000), although it cannot be fully characterized as such.

The subject of vocal register designations has been relevant for many years, and there is a sensitivity to the issue that has led me to intuitively capture the expressions that emerge in the interviews and clarify them in a clear manner. As a humanist, Kramer argues that subjectivity, which is also the ability to interpret, is key, and open interpretation does not seek to replicate but to create something new in an interpretation (Kramer 2012).

Interpretivists argue that it is possible to understand the subjective meaning in an action (i.e., the practitioner's, in this case, the vocal educators' attitude, needs, and beliefs), and still do it objectively. (Schwandt 2000)

Qualitative research always encompasses an interpretivist view of knowledge (Bryman 2016). Science can never be limited to collecting facts, recording, and compiling. Danermark argues that it's important for the investigative researcher to use their intuition, imagination, and theories about what interviewees express "to mean something to humans" (Danermark et al. 2019). This intention exists in this study, that what is investigated should hold meaning.

### **Qualitative Semi-structured Interview**

In qualitative research, interviews are a common method, and this study primarily relies on interviews.

Different approaches exist for structuring interviews, but the intention of this paper is to explore themes that have relatively open perspectives, so I have chosen to use semi-structured interviews.

In qualitative studies, unstructured and semi-structured interviews have become more common, which differ from quantitative studies that have a fixed set of questions.

Semi-structured interviews can be conducted in various ways, and generally, they start with a question list containing a specific number of questions, with follow-up questions added when necessary. Base questions can be more generally formulated compared to structured interviews, but follow-up questions can be added and asked if answers from interviewees require elaboration or lead to new questions (Bryman 2016).

For this study, I have chosen to use the qualitative form of interviews and have also followed the semi-structured interview format demonstrated by Bryman (2016).

I started with eight written interview questions as a foundation, which the interviewees then answered, and I asked follow-up questions based on the answers whenever I needed clarifications that were relevant to the topic.

Could the same information have been obtained through a different method than semi-structured interviews? Perhaps, and in that case through field studies.

It would have been possible to observe the choice of vocabulary and how it's applied in practice. However, combining it with semi-structured interviews would have been the optimal approach.



To ensure the interviews were well-functioning (with eight informants, I've been aware that the paper's scope becomes somewhat larger), I've chosen to adhere to five points that Gillham (2008) emphasizes regarding research interviews:

- **Preparation phase (first step)** included both thoughtfully structuring my research question and crafting clear and concise base questions, which could be developed further if needed during the interview situation. In this phase, I also reached out to informants and asked about their participation in the interview.
- **Initial contact (second step)** Once I received their confirmation of participation and scheduled the interview time, I emailed them information about anonymity, their rights and safety in the study, and the interview guide. I considered it important that they received the questions before the interview, enabling informants to contemplate their responses and hopefully make them more concrete. The result was that 7 out of 8 informants were concrete, and the interviews lasted between 35-40 minutes.
- **Orientation Phase (third step)** was when we initiated the conversation. Initially, the informants provided background information and their entry into vocal methodology and vocal didactics. This phase, besides being interesting to learn about other vocal pedagogues' stories, laid the foundation for a good rapport for the rest of the interview. I considered this desirable because if a hint of uncertainty arises, there's a risk of not capturing the entirety of the informant's perspective on the narrative I wanted to investigate.
- **Substantial Phase (fourth step)** followed the orientation phase, and this is where the study's focus was discussed. Informants explained and described how they formulate and label vocal registers, as well as their thoughts on register narratives through the base questions that the interview guide consisted of.
- **Concluding Phase (fifth step)** concluded the interview, where informants described their musical preferences, indicating the genres of music they enjoyed singing, and could make any additional comments

## **Analysis Method**

As mentioned above, I have partly employed the hermeneutic circle to understand and embrace the entirety of interviewees' intentions within the context they describe, and progressively increased my understanding of the studied matter through answers to questions.

I compiled the interviews' content in a structured manner based on the sections covered in the interview questions, which allowed me to identify recurring themes and sub-themes (Bryman 2016). The overarching recurring themes became the divisions I use in the Analysis and Discussion section, which are:

**1 Confusing Concepts**, with subdivisions: Pluralistic Vocabulary, Literature, Discourses, Authors and Originators, Reserved Attitude, Socio-political Reasons, Physical Problems, Difficult to Measure, Risk of Dilution of the Profession, Leadership in Higher Education.

**2 Enriching Concepts**, with subdivisions: Open-mindedness among Pedagogues, Historical Reflection and Forward Thinking, Unifying Concepts, Scientific Language vs. Flowery Language, Artistic Freedom.

This constitutes an analysis method that psychologists Braun & Clarke (2017) refer to as thematic analysis, described as a flexible method. However, as per the authors, those who use this method need to be able to clearly articulate the approach taken in the study being conducted. Critiques have arisen regarding this analysis method, pointing out that other qualitative analyses also rely on thematic categorization, and a researcher's ability to describe their approach directly affects the study's credibility and reliability (Bryman 2016).

Nonetheless, Braun and Clarke (2017) argue that thematic analysis distinguishes itself from thematic discourse analysis and grounded theory due to its theoretical freedom and hence adaptability. For less experienced researchers, thematic analysis is a viable option as it's straightforward to comprehend.

Despite criticism suggesting that thematic analysis lacks clear guidelines, its strength simultaneously lies in its flexibility and simplicity.

**The analytical process** I've employed has been as follows:

1. First, I listened to the interviews once, then transcribed them and read through to gather thoughts and ideas.

2. I grouped the texts based on sections in the interview questions, coded the information, and collected it into grouped sections.
3. From these grouped sections, I then identified and categorized the different themes that emerged and examined them.
4. Based on the themes I identified, I defined and named them, and a continuous text took shape.
5. In the results, I compiled the analysis to highlight the overarching concepts.
6. In the Analysis & Discussion section, I then developed my subjective understanding of the themes that emerged, aiming to comprehend and embrace the entirety of the information that surfaced.

The above process, at a high level, has followed the process that Braun & Clarke describe as a good model for thematic analysis, albeit not in detail.

### **Selection of Interviewees and Information about Them**

To gain insight into narratives about vocal register and the diversity of vocal terminology present in Sweden today, I turned to vocal pedagogues who teach in courses of vocal didactics and vocal methodology at music academies and higher music education institutions in the country.

It's within music academies and higher music education that the framework for vocal register vocabulary will develop and take shape in the near future, and these vocal pedagogues, being responsible for the courses, have a comprehensive overview and insight into the subject.

Initially, I searched for contact details of individuals teaching vocal methodology and didactics at various colleges.

Contacting them directly was challenging, and after a few weeks of unsuccessful attempts, time constraints led me to post on a social media platform with around 2000 vocal pedagogue members. In that post, I mentioned that I had emailed vocal pedagogues at music academies and was seeking contact.

This resulted in contact from several schools and assistance in connecting with those I hadn't reached.

A purposive sampling approach is what I've used, as per Bryman (2016), where the researcher seeks connections between the study's research questions and the informants being interviewed. The informants should thus be relevant to the study's scope and research questions.

Determining how many informants should be interviewed can be a challenge for qualitative researchers, as there are no straightforward answers to this question (Bryman 2016).

Out of 14 vocal pedagogues who were asked, 6 have chosen to participate, and two vocal pedagogues contacted me expressing their desire to join the study. Therefore,

this study is based on 8 interviews with vocal teachers from higher music education institutions.

I am aware that the number is somewhat high for this type of study, but by formulating specific questions, I've aimed to keep the study manageable.

The participants in the study are aged between 47 and 65 years old and have been teaching for 21 to 40 years. All the informants are women.

There are several reasons why only women are included. There are fewer men who teach vocal pedagogy in music colleges in general, and out of the 14 I initially contacted for participation, two were men. Unfortunately, one of these men couldn't participate due to a heavy workload, and I never managed to establish contact with the other.

Does it make a difference whether it's a man or a woman? It's unclear. One possible theory is that since men often have longer vocal folds/cords and consequently experience greater register transitions, it might lead to discussions about vocal registers being adapted to the significant differences observed during register transitions in individuals with longer vocal cords.

However, this cannot be deduced from this study; it could be a question to investigate another time, with the premise that study participants include both men and women.

Below is a schematic overview of the participants:

<b><i>Informant</i></b>	<b><i>Age</i></b>	<b><i>Teaching Years</i></b>	<b><i>Gender</i></b>
A	59 years	32 years	Female
B	58 years	31 years	Female
C	56 years	31 years	Female
D	47 years	21 years	Female
E	47 years	23 years	Female
F	65 years	40 years	Female
G	49 years	29 years	Female
H	58 years	40 years	Female

## **Strengths and Limitations of the Study Design**

Based on the number of participants, I believe I have obtained a comprehensive understanding of vocal register terminology within higher music education institutions to address the study's questions. As the choices of vocabulary are influenced by who we, as vocal pedagogues, are, having as many participants as possible is desirable to establish a clearer overall picture. However, the study must still fit within the scope of the thesis.

The choice of professional category, in this case, teaching voice pedagogues at academies of music, impacts the outcomes of responses both positively and negatively. As mentioned earlier, it's positive from the perspective that participants have a deep insight into the subject matter of this study and likely possess experiences and opinions concerning vocabulary, given that they base their courses on these concepts.

However, the fact that it's a narrow professional category might negatively influence the fact that they teach within a specific field and mostly interact with music students, who often have a good understanding of vocal register terminology.

My 25 years as a vocal pedagogue, spanning from municipal Cultural Schools to Music-esthetic programs at High School, Swedish Folk High Schools, and Music Academies, as well as being a private vocal training practitioner, have granted me valuable insights and understanding into the question posed by this thesis. It's evident that my interest in vocal terminology originates from my education in a broad vocal technique field.

During the period of my own higher music education in the 1990s, I had 4-5 vocal pedagogues simultaneously, each using different terms to describe the voice and vocal registers. It was up to me to synthesize these divergent views into a cohesive understanding.

This experience has undoubtedly shaped my interest and, along with teaching across various genres for 25 years, has allowed me to perceive issues from a broader perspective.

This background enables me to easily comprehend the participants' responses and expand upon the interview questions, as mentioned in the context of semi-structured interviews earlier.

Moreover, it hopefully engenders a sense of trust among the participants, making interview conversations more intimate and characterized by mutual respect.

I also have substantial experience in how a pluralistic vocabulary for vocal registers can create issues for all those involved in singing.

I've observed uncertainty and ambiguity, particularly in discussions among singers, between vocal pedagogues, and with singing students.

However, these experiences can inadvertently lead to personal opinions.

Therefore, I have actively worked to maintain neutrality during the interviews and refrain from imposing my own evaluations.

Previous research in the field of general divergent vocabulary doesn't provide much relevance to this study. Similarly, there haven't been prior academic studies on the pluralistic usage of vocal register terminology.

However, there have been numerous student theses on the topic, as mentioned earlier. Within voice literature and voice research articles, the physiological aspects have been explored, but not the problematization of the widespread vocabulary used. While some didactic literature covers pluralism to some extent, it doesn't delve into the potential problems associated with it.

## **Anonymity and Ethical Considerations**

The academic world of vocal pedagogy is not extensive, which is why I have chosen to ensure a high degree of anonymity in this thesis.

Ethical dilemmas can arise in research regarding whether participants should remain anonymous or not (Bryman 2016).

But in this case, it was essential for the singing pedagogues, my participants, to speak freely without the risk of their disclosures being attributed to their identities. This was crucial to shed light on potential issues related to a pluralistic vocal register terminology.

In my summary of the interviews, which was the initial step in refining themes for the Results and Analysis section, I have chosen to identify the participants as A, B, C, and so on, in order to neutralize their identities as much as possible.

My aim was for the vocal pedagogues to discuss matters openly, even sensitive ones, and to achieve that, they needed to trust both the study and me.

I have needed to strike a reasonable balance between my interest in obtaining information for the study's questions and preserving my participants' privacy, following the guidelines for good research practice set by the Swedish Research Council (Vetenskapsrådet 2002).

There are 6 music academies in the country and a higher music education institution in Stockholm, SMI.

Vocal pedagogues at these institutions are well-acquainted with each other. Consequently, I have opted not to provide names, nor have I assigned fictitious names to participants, in order to avoid misunderstandings and incorrect assumptions. Instead, each informant is identified by a letter.

When recounting their statements, I refer to them as "Informant A" or "Informant B."

Occasionally, for a less formal tone, I also use the designations "Vocal Pedagogue A" or "Vocal Pedagogue B." When referring to the group collectively, I interchangeably describe them as "the participants" or "the vocal pedagogues," again for a less formal tone.

As per the Swedish Research Council's standards, I, as the researcher, have adhered to laws and established research ethics norms.

Via email, prior to conducting the interviews, I informed the participants that the study would be entirely anonymous and covered by GDPR regulations. I mentioned that the interview would be recorded on a voice recorder for transcription purposes.

The participants were informed that their participation was voluntary, and they could withdraw at any point, as clearly stipulated by the Swedish Research Council's guidelines. They gave their consent for me to use their interview responses in my thesis by confirming through email responses before the interview took place.

By following this approach, I have fulfilled the requirements outlined by the Swedish Research Council, which are as follows:

- Information requirement
- Consent requirement
- Confidentiality requirement
- Utilization requirement

## 8 Results

This chapter presents the outcomes of the interviews conducted with the 8 vocal pedagogues, which will serve as the foundation for the Analysis and Discussion section. In this study, Results are presented separately from the Analysis-Discussion section with the intention of clearly illuminating the thematic ideas and narratives of the vocal pedagogues and enhancing clarity in the Analysis-Discussion presentation. The fact that it is easier to analyze when an overarching view of the Results has been provided also influenced this separation.

The interview questions have shaped the formation of the themes described and presented below.

### Vocal Vocabulary Used by the Vocal Pedagogues

The majority of the participants do not differentiate between male and female voices but use the same register divisions for both genders.

Informant D is one of those who do not differentiate between male and female voices and explains their choice of terminology:

*"I use these terms according to Johan Sundberg's theory and others, with the scientific terminology: Creak ( Sv: Knarr) register – Chest register – Falsetto register – Whistle register"*

One of the vocal pedagogues, Informant F, did not categorize voices based on gender but rather on the length of vocal folds, in order to remain as neutral as possible:

*"Short vocal folds: Chest/speech register – Middle register – Head register – Flute register  
Long vocal folds: Chest/speech register – (possibly short middle register) – Falsetto/Head register + possibly Flute register"*

One informant distinguishes between the male and female voice, asserting that the female voice has five register designations:

*"Creak, chest register, middle or mix mode, head register, and flute register"*

According to the same informant, the male voice is designated as:

*"Chest register/fully voiced register, falsetto register, and then mix register"*

The majority uses "Chest register" to describe the lower frequency range of the voice, often with variations like speech register, normal voice, modal register.



The term "Chest register" has been part of vocal training for a long time, referring to the sensation of vibrations in the chest while producing tones in that frequency range. However, confusing where a tone vibrates in the body with the mechanisms used in the larynx poses challenges, which will be discussed further in the subsequent analysis and discussion chapters.

Two of the participants, C and G, used Henrich and Roubeau's numeric designations, which allude to the mechanics of the voice. In this framework, M0 stands for creaky voice register, M1 signifies thick vocal cords, often referred to as Chest voice, M2 stands for falsetto/head register, and M3 for flute voice.

To some extent, this type of register classification becomes simpler to use as it does not refer to where in the body a tone is felt but solely pertains to the mechanical configurations that produce the sound in the larynx.

Three vocal pedagogues, Informants B, C, and D, include the very low frequency range described as a register with a creaky character, with two of them referring to M0.

However, Informant C expressed some uncertainty about labeling this very lowest frequency range with a creaky character as a "register":

*"I find it difficult to understand that it's called a register because registers are often said to be frequency ranges with similar tones, but this is more of a creaking sound, not much in terms of tones."*

This might be a reason why some vocal pedagogues do not consider this area a register in their responses, even though they are well aware of it.

When it comes to the upper frequency range, half of the vocal pedagogues use the term "Head register," with one of them, Informant B, using the term specifically for the female voice and only during the mix for the male voice. The same informant uses the term "falsetto" for the male voice in the upper frequency range.

The same issue arises here as with Chest voice, that a frequency range resonates and is felt in the head, which is not related to the mechanical configuration in the larynx.

Several vocal pedagogues extend the use of "falsetto register" to also cover the higher frequency range of the female voice, as explained by Informant E:

*"... to also use it (falsetto) for females, to work with the falsetto function, so to speak. However, it's not always feasible since some can almost have a flute register mode, and then you don't really want to mix that up, so sometimes I can talk about both falsetto or your head register."*

Three vocal pedagogues labeled a middle range in the frequency range with "mix register" (both chest- and headmix), with two also using the term "middle register" as vocabulary.

One vocal pedagogue, Informant A, used the term "overdrive," which I believe describes a middle range and is taken from CVT.

For very high frequency ranges, four vocal pedagogues refer to this as the "Whistle/Flute register," and the two informants who use Henrich & Roubeau's mechanical numbers call this M3.

One of the vocal pedagogues, Informant H, only uses chest register and head register because it becomes systematic and clear to explain the voice's registers in this way.

Three vocal pedagogues, Informants D, G, and H, explained register terminology from an acoustic perspective, where the acoustic amplification of the tone in the vocal tract influences how muscles and mechanics operate in the larynx. This is an interesting field that might eventually provide an explanation for why it is sometimes challenging to fit voice register narratives into a simple mechanical framework.

As Informant G describes:

*"I also speak about acoustic registers and how they can interact with the voice in different pitch ranges and vowels."*

The same informant, G, uses the terms low pitch range for the lower frequency range, middle pitch range for the middle range in the frequency range, and high pitch range for the upper frequency range. This becomes a way to avoid dictating vocabulary based on where it's felt in the body but rather based on the individual's division of their voice.

Three of the informants adapt the voice register terminology to the student or individual standing in front of them to sing.

Two of them can incorporate flower language if it helps the student/singer understand better, and one of them suggested that there are three aspects involved when describing voice registers:

- *The physical aspect where mechanics and muscles come into play*
- *The acoustic aspect where the vocal tract has an influence*
- *Vocal range, which is the range of tones from the lowest to the highest that a singer has.*

## Descriptions of Vocal Functions

While the primary focus of the study is on the question of vocabulary regarding registers, it is important to also understand how the informants discuss overall voice functions, to see if it can be linked to register terminology or discourses.

Three of the informants, A, C, and F, try to explain voice function from as many discourses as possible to provide a broad palette of expressions to students. Here, it's clear that this requires a deep insight into the various methods and discourses, which was the case for these three. Informant F explains the choice of diversity based on the importance for students to acquire a lot of knowledge:

*"For (the student to) gain knowledge that there are many different expressions for the same voice function and in that way create greater understanding and provide more choices for the 'Vocabulary list'."*

*One vocal pedagogue refers to voice functions in Estill Voice Training, as it is concrete and clear, and students can learn to identify the different settings for functions in their own voice.*

Many of the vocal pedagogues use a figurative language, where two of them believe it's a good approach to easily meet the individual that the pedagogue encounters in the teaching room. As Informant A expressed it:

*"I now try to use the language that I assume suits the student, and it can be anything."*

Two of the informants, E and G, describe that they base their teaching on the entire vocal apparatus, with the parts

- 1 breathing/airflow/subglottic pressure
- 2 phonation/vocal source
- 3 resonance/resonance tuning
- 4 articulation/expression.

However, the ambiguity in the question may have caused some to not answer regarding function based on these four parts.

Course structure has not been included in this study, but in the context of singing, these four parts are central to every form of vocal instruction, and it is likely that other vocal teachers also utilize these parts in their courses. This cannot be confirmed since course structure is not a part of this paper.

## Changing Narratives of Vocal Registers

The vocal coaches in this study studied at music academies in Sweden between 20-40 years ago, and it is easy to understand that narratives have changed over this period. Has the narrative of vocal registers changed during this time, and why, is the next theme in this chapter.

Many of the vocal coaches suggest that there has been not only a change but also a development. They refer to scientific methods and refined measuring instruments leading to an increased understanding of the voice. With this understanding, the naming of voice, registers, and functions has also evolved, which they consider positive.

Informant B expresses it:

*"I would probably say that it has evolved immensely from something that was almost taboo to name, so today people use terms so freely that it has become a confusion of terms instead. A spade is no longer just a spade, if you will. 'What do you mean by belting? And then it's open for discussion and interpretation; it has become very dogmatic."*

Here, informant G is on a similar track:

*"Voice and singing-related research has revealed more about the ways the singing mechanism functions. As our understanding grows, so does the vocabulary. And people like changing the names of things so they can sell their methods to people as a nice, branded package that gives people a distinct identity."*

Vocal teacher E responded with both agreement and disagreement, stating:

*"I still think I encounter the same questions, but they might sound different. There's more talk about mix and my twang, and it could be students who, they don't really know what they're asking for either, they've just picked up the terms. And there are words that can be used in slightly different ways, and then they might have become established with a teacher I've been to, that maybe means something that it doesn't anymore. So, I think that the pedagogue shouldn't be held responsible, it's not their fault that they used a term that someone misunderstood or partially understood. I'm not saying that anyone has actually missed anything, but there I think there are a lot of difficulties with all these different terms."*

Another vocal teacher, informant B, explained that a transition has occurred from vocabulary being tightly associated with a particular vocal coach who would assert their authority and not entertain discussion:

*"It was so connected to different teachers, and one closed the door, and then the discussion wasn't there."*

She meant that things have loosened up, and today there are more ways to describe the voice. At the same time, she sees certain methods that close doors again, especially methods that claim to possess the ultimate truth. She identifies tendencies like:

*"...there are also methods that I notice become closed off, that it's the only correct way, and everyone else has misunderstood, and they (the others) are old-fashioned and out of touch. I find that a bit sad."*

Interestingly, two of the informants suggest that there's a certain degree of marketing and self-branding involved. Informant E expresses it:

*"The whole society is built on competition, so why wouldn't it be the same here?"*

Today, there's easy access to information through the internet, where practically anyone can learn about a new technique. Particularly, EVT (Estill Voice Training) and CVT (Complete Vocal Technique) have significantly influenced the world of singing, according to one of the vocal teachers

.

One other vocal teachers, informant C, summarized her stance on vocal instruction:

*"With the years, you've learned more, but you've also understood that there's more you don't understand."*

## **Preferred Technique Method**

Today, various vocal technique methods exist that revolve around voice, and there are differing discourses surrounding them. From the interviews that form the basis of this thesis, it becomes clear that three methods are mainly leading the way: Estill Voice Training, Complete Vocal Technique, and Somatic Voice Work.

One of the informants (B) referred to Estill Voice Training and stated that she used this technique in her vocal didactics and vocal methodology courses. She found the vocal function to be clarifying and functional for students in this technique.

CVT and Somatic Voice Work were the other two methods, with the latter coming up with informants C and H as a very useful discourse for students. Both informants found it suitable because it incorporates the latest medical and vocal physiological research, and it has a holistic perspective on singing, voice, and music. It aims to free the voice rather than confine it within limitations that some technically theoretical techniques might do.

Two vocal coaches were on the same page, suggesting that it's unwise to get locked into just one technique. One of them mentioned that in such cases, there's a risk of missing out on new discoveries, experiences, and insights, and that:

*"you miss out on a lot of good things by locking yourself into a certain perspective."*

Some of the informants perceived the question in the context of individual vocal instruction and suggested that the choice of method and how to communicate it was entirely dependent on the individual singer in front of them. Here, one of the informants, vocal coach E, stated that all methods can work as long as you're a skilled singer, but if you have issues (the nature of the issues was unclear), not all methods might be effective.

Another informant, vocal coach G, was on a similar track and expressed it:

*"Every serious singer should know the basics of vocal physiology, anatomy, singing voice hygiene, methodology, practice methodology, and performance psychology."*

One of the informants explained the choice of discourse at their music university as something they collectively discussed and arrived at.

Two of the vocal teachers explained that in their vocal methodology courses, they cover all different singing schools and theories and the discussions surrounding them. The reason was similar to the answers given by the same vocal coaches regarding the use of register vocabulary earlier – it's important for students to have a broad foundation.

One of these two vocal teachers, C, also argued that it's essential for a university to present the entire field to help students critically examine it.

It's noteworthy that vocal pedagogues at music universities don't fixate on one method. The recurring discourse among the informants is that a broad narrative is beneficial for students in higher music education.

## **Reference to Literature**

The context that the vocal teachers in this study base their vocal vocabulary on is rooted in a wide range of literature spanning many decades, which they themselves engaged with during their own study years.

Those who use Sundberg's book "Röstlära" (The Science of the Singing Voice) as a vocabulary reference were more inclined to use terms like "modal" and "falsetto" for registers.

On the other hand, informants who reference English-language literature (mostly from the USA & England) were more prone to using terms like chest register and head register in their register denominations.

A useful and informative course material is Olle Engstrand's "Fonetikens grunder" (The Basics of Phonetics) which only one of the vocal coaches uses in their

teaching. It's a pity because it offers many good supplementary explanations and is more contemporary than Sundberg's work.

Three informants, B, D, and H, make use of "The Vocal Athlete," and three informants, B, G, and H, reference Richard Miller's "The Structure of Singing."

Additionally, the following literature is each referenced once by an informant:

"This is Voice" by J. Fisher & G. Kayes

"Practical Vocal Acoustics" by Kenneth W. Bozeman

"Your Voice: An Inside View" by Scott McCoy

"Bel Canto" by James Stark

"Principles of Voice Production" by Ingo Titze

"Rösten" by Per Lindblad

"Stora Sångguiden" by Daniel Zanger Borch

"Singing – The Mechanism and the Technic" by William Vennard

"A Systematic Approach to Voice" by Kari Ragan.

The variation in reference literature demonstrates how different and individual we teachers are. Even though each educational institution has its curriculum that guides content and therefore literature, it's important that the individual teacher shapes the course layout to some extent through the choice of course literature.

### **Diverse Narratives on Vocal Function Today**

All vocal pedagogues responded affirmatively that there is pluralism regarding vocabulary for vocal registers and vocal function among vocal coaches in Sweden today. Six of the informants answered without hesitation.

One of the others was less certain in her agreement and explained that she had only been teaching in Sweden for a few years and didn't have enough insight to be completely convinced.

The second informant answered both yes and no, citing "yes" as there are indeed different vocal register denominations among vocal coaches in Sweden overall, but "no" because in the place where she works, she tries to encourage everyone, both aspiring vocal coaches and those she encounters in her lectures, to take Estill courses, EVT. According to her, the vocal teachers she meets who have taken those courses use similar register and function denominations.

Here are further thoughts from the informants regarding the implications of vocabulary and methods diversity. The viewpoints have been summarized, and the expressions are not quoted verbatim since spoken language tends to be more

verbose and circumstantial. This way, it's easier to understand the perspectives.

Informant A:

- A disadvantage of having different vocabularies is that it increases the risk of power structures. If you are familiar with a specific vocabulary, it can exclude those who aren't, indicating who possesses knowledge and who doesn't.

Informant B:

- To be able to meet different individuals with different references, vocal coaches need a good understanding of various vocabularies to meet students based on their vocabulary and perspective.

Informant B:

- Music universities vary, but students are influenced by their education, which has its pros and cons. Hence, it's good to have as broad an education as possible that includes most discourses.

Informant C:

- Getting fixated on a single theory restricts new impressions and experiences.

Informant C:

- There's something positive in sticking to one method. It's easier to have structure in vocabulary with just one method, even though the terminology might become impoverished.

Informant D:

- If a school has educators trained in different methods, it can be confusing for singing students. This applies mainly to lower levels of education and perhaps younger singers. In higher education that should involve a critical and analytical approach, it can be enriching if the singer can be analytical and scrutinizing themselves, thus placing methods and vocabulary in context.

Informant E:

- It can become like a dialect that might be a bit harder to understand when there are those who want to streamline and use only one method. Misunderstandings can arise here, where the vocal coach explains, but the singer/student perceives it incorrectly.

Informant E:

- The period when you meet an educator during your education at a Music University can be a time in your life when you develop and shape yourself as a person, singer, and artist, and then you absorb what the educator says, and



the method the vocal coach emphasizes becomes the method you yourself will adhere to.

Informant E:

- It's important to send students out into their professional lives as artists after completing their education, so they can drive culture and thus democracy forward.

Informant F:

- In certain parts of the country, certain discourses become dominant to the point that you must have that education to get a job. This clashes with the University world that can't dedicate itself to just ONE method.

Informant G:

- In the USA, classical vocal coaches have been trying for nearly two decades to standardize how people describe voice and the vocabulary they use, but it hasn't succeeded despite their efforts.

Informant G:

- The more we learn about the voice, the more we refine our language, and that can make our vocabulary more precise.

Informant G:

- One reason for the phenomenon of different methods might be that the whole society is built on competition and that all individuals should highlight themselves and build a brand.

Informant H:

- One problem that can arise is when the singer gets stuck trying to do things right instead of striving to sing freely and easily. Then, the artistic expression can be lost.

### **Genres that the informants enjoy singing:**

One of the interview questions was meant to get a musical picture of the interviewees, and the initial hope was that the informants would have different genres as their focus areas, and that turned out to be the case. The informants were not selected based on genre, but it's positive for the study that they have such genre variation, as it provides a diverse insight into vocal pedagogy and vocal methods. Based on the anonymity in this study, it is not disclosed which of the informants

appreciated the different singing genres; they are presented below based on the number of occurrences.

Two vocal coaches enjoyed singing from the classical music tradition themselves, one vocal coach was no longer an active singer but when she was, she actively sang and worked with musical theater.

The remaining five preferred to sing genres such as Jazz, Soul, Swedish folk songs, R'n'B, Blues, Country, and Americana. One vocal coach mentioned that she also enjoyed singing improvisational vocals.

## **Addendum**

As the final point in the interview, the informants had the opportunity to add any thoughts that they felt were missing regarding the theme of this study. These ideas were expressed by only one person each, except for the first two that were raised separately by two different informants. They are presented in a similar manner as above, as formulated sentences one at a time and not merged.

Informant D and H:

- It's not only vocal cords and muscles in and around the larynx (mechanics) that affect which register becomes the outcome, but also resonance, acoustics, the recoil that goes back to the vocal cords (supraglottis) that affect the laryngeal setting needed to produce a certain sound. Research is ongoing here, but we need to learn more to understand how it affects vocal registers and to what extent.

Informant B and E:

- There is very little time allocated for vocal methodology and didactics in the courses, where one informant mentioned that this demands clarity from the methodology and didactics teacher and that they need to be concrete and knowledgeable. High expectations for the teacher are good, as they need to be well-informed and concrete. The other vocal coach mentioned that in this case, the content of the course needs to be simplified because students can't handle reading too much. The balance needs to be maintained so that the teacher doesn't overwhelm the students.

Informant B:

- Everyone advocating for the question of vocal registers is doing something good and important.

Informant B:

- It's a difficult subject, and it's easier to get stuck on one method and not have the energy to work towards providing students and singers with a holistic view. However, it's important for music universities to present all different discourses and methods in their courses, so that students gain a

comprehensive understanding of how the methods are structured and can create a solid foundation for themselves.

Informant C:

- It's advantageous to be able to use both figurative language and a more theoretical language because all students are different, and by having a wide range from figurative to technical language, the teacher can cater to all individuals. The voice responds more quickly to emotion than to thought, so she has started incorporating figurative language again, after a period of being against it, which was a reaction to her own education when singing instruction relied heavily on figurative language. However, having the technical knowledge to then describe exactly what she expresses with figurative language is important in a university setting.

Informant E:

- It's beneficial to create new paths for this subject (vocal registers) so that it doesn't become a tangle of disagreements. She also mentioned that investigating the subject is actually unnecessary, and it's more important to get to the music and for humans to reflect something, music that comes from both the inside and the outside. (Here, I'm wondering if she was concerned that my goal with this study is to provoke disagreement. I heard that tone during the transcription of the interview but missed it in the current situation and unfortunately couldn't address my curiosity then.)

Informant A:

- To approach the voice as an instrument similar to other instruments and to understand it both technically and in the context of using it in harmony with others.

Informant B:

- Attempts have been made to find a common vocabulary for vocal registers insinging in Sweden. One informant participated in such a meeting convened in Örebro in the mid-90s, but unfortunately didn't remember much more than that the participants, who were vocal coaches from different parts of the country, couldn't reach an agreement and left without achieving results. It has been difficult to obtain information about who participated in the meeting. I myself was a student in Örebro at the time and remember a meeting in the late 90s, but that's all, unfortunately. Worth noting is that attempts were made to agree on vocal register terminology but without reaching a consensus on vocal vocabulary.

Informant G:

- In the USA, during roughly the same period, classical vocal coaches have been trying for nearly two decades to standardize how people describe the

voice and what vocabulary they use, but it hasn't succeeded despite their efforts, as another informant explained.

Informant B:

- Music academies do not represent progressive development; they are somewhat stuck in an old form. It's a trend that lingers even though doesn't need to, and the reason for this trend is vocal coaches who have been in their positions for a long time and haven't wanted to evolve. The informant mentioned that during her study years, there were clear divisions between vocal coaches regarding their students; there was significant competition and they weren't generous in their attitudes towards each other.

Informant C:

- A desire for generosity came from another informant who requested "a bit of humility towards the fact that we teach differently would be appropriate and desirable," which would help us connect more easily even if we express ourselves differently.

## 9 Analysis & Discussion

After presenting the participants' responses in the Results section, they will be analyzed in this following section. Even though these two chapters naturally flow together, the themes that emerged from the results will be highlighted and discussed based on them. Not all thematic ideas that emerged in the Results section will be discussed here due to the paper's length constraints and the limited time available for the course. Some of the thoughts that cannot be deeply discussed here will be addressed in the "Conclusion and Ideas for Future Research" section.

### Pluralistic Vocabulary and Ambiguous Concepts

All participants agreed that there is a varied narrative and pluralistic vocabulary concerning vocal registers in Sweden today. The interviews revealed numerous mixed ideas about the causes of this and whether it positively or negatively affects singers' confidence and vocal instruction.

The existence of a diverse range of vocal register terminologies can lead to unclear concepts. The cause of the ambiguity and uncertainty surrounding vocal register terminology for singers and vocal coaches is a crucial point in this study.

The answers to this question are essentially limitless, as every individual is unique, and therefore, the responses from the participants are always influenced by their individual experiences.

The participants in this study, totaling eight, are also shaped by their own experiences and work situations, leading to varying answers about causality. The confusion can also be exacerbated by the fact that "vocal register" can refer to two things. The tonal aspect, which pertains to the range of tones extending from the lowest frequency a person can sing (or growl) to the highest frequency they can sing or produce.

Or, as in this study, the mechanical variations that occur in the larynx when pitch changes.

### Literature

Examining the literature that participants refer to and why they do so can offer a clearer picture of the context that has created the framework from which participants base their vocal register vocabulary. In these cases, context is a combination of the literature and the education participants received during their studies.

As Tomlinson wrote in "The Web of Culture" (1984, pp. 351):

*"Meanings arise from the connections of one sign to others in its context; without such a cultural context there is no meaning, no communication."*

Although Tomlinson refers to culture in general, he highlights an important point about how meaning arises and the significance of context.

Overall, the literature, both the one the participants refer to and other literature prevalent in the singing world, contributes to pluralism and, with it, a certain degree of ambiguity.

It's common for phrasings to change over time, but the presence of different phrasings simultaneously contributes to ambiguity. In Sweden, literature on vocal methodology and vocal pedagogy, for instance, has described the lower register/lower pitch range by referring to the sensation of vibrations in the chest. Consequently, terms such as "Chestvoice," "Chestsound," and "Chestregister" have been used for the lower register, even though it's actually about vibrations that propagate downward in the body (Zangger Borch 2019).

However, phonation and vocal function still occur in the larynx, and introducing a body part that doesn't mechanically impact phonation becomes problematic. This might have a pedagogical reason because it's easier to explain with a sensation from a much larger body part (the sternum) than to describe how the sensation feels in the larynx. The feeling associated with an action is quicker than the thought linked to the same action, as pointed out by informant C:

*"..the voice reacts faster to a feeling than to a thought and instruction."*

Even though her quote was initially related to her adoption of a more figurative vocabulary in teaching, the essence of her statement can also explain the pedagogical approach of using the body's sensation for a particular pitch and linking it to vocal register function.

The same applies to tones in the higher frequency range, where the more frequent terminology in literature is "Headregister" or "Headvoice" for falsetto. Depending on whether an individual has short or long vocal cords, high tones are perceived differently, and the disparity in how a trained voice versus an untrained voice perceives and "feels" the tone can make certain vocabulary problematic.

Falsetto is the register often associated with an airy tone in the higher frequency range, but a more trained voice can be entirely devoid of air, and the tone gains resonance amplification in the skull, making it feel like the tone is resonating in the head. In Swedish literature, this tone has been described as "headvoice," "headsound," and "headregister," but a tone in this higher frequency range can also be called "falsetto."

There's also an issue with using the term "head," where the word might be perceived to imply "the important" or "primary," and associating a value judgment with a word meant to describe a mechanical aspect is, of course, additionally problematic.

In the 1970s, Hollien coined the vocal register terms Modal and Falsetto (Hollien 1974), which in themselves do not allude to where the tone resonates but rather describe characteristics. Modal stands for "it includes the range of fundamental frequencies that are normally used in speaking or singing (i.e., the mode)," and

Falsetto means "false," "not genuine." The term "falsetto" had been used much earlier in the bel canto singing tradition and wasn't new vocabulary.

However, even the word "falsetto" can become troublesome for a singer who sings in a higher frequency range with thin vocal cords but with a clear clarity and essence that doesn't imply "not genuine."

Hence, in such cases, "headregister" is used, referring to a different character than the airy falsetto character for the higher frequency range (Sundberg 2001).

Among the participants, their choice of register terminology can be traced back to the literature they reference.

Those who use more international literature with roots in the USA and England tend to use English terms and expressions more extensively, with the terms "Chestregister" and "Headregister" being more common in that literature.

The informants who primarily referenced Sundberg used the register terminologies "Modalregister" and "falsettregister" to a greater extent.

Therefore, the context from which the informants draw their vocabulary influences their choice of terminology. It doesn't necessarily have to be a problem that singing teachers use different vocal register terms, but it might be important, as pointed out by some informants, to inform students in higher music education about various terms.

This way, students who will later become teachers themselves can have a rich array of vocabulary to use in their professional lives.

## **Discourses - Conversations about Methods**

Discourses in this field, referring to the conversations about the various methods, tend to have a self-reinforcing quality. The conversations about the different methods make them more concretized, as several informants described, especially in terms of register descriptions that come and go, influenced by different trends and topicality. Individual experiences also reinforce the conviction of context and unite those who are drawn to the same context. Informant C explained in her interview how she was intrigued by the "new methods" when they emerged, expressing it as:

*"I thought, wow, how refreshing, you can think differently."*

Depending on experiences prior to encountering these "new methods," reactions differ, which influences attitudes and the intensity of conviction towards them.

In certain methods, vocal registers are a non-issue, and this very fact can be confusing, according to informant C.

Within Complete Vocal Technique (CVT), there are explanations and methods for altering sound, but not based on mechanical adjustments for register positions; rather, they are related to the character of vocal cord closure (Sadolin 2006).

Phonetics usually describe vocal sounds where harmonics are incorporated into the description of mechanics. For instance, lower vocal registers involve a longer vocal cord closure, resulting in a richer or broader timbre, whereas a higher frequency

range with thinner vocal cord closure yields a shorter closure phase and a slightly less rich harmonic spectrum (Miller & Schuttle 2005).

CVT primarily focuses on the character of the sound, and not connecting it to the mechanical aspect unfortunately doesn't provide a complete picture of the process, contributing to uncertainty.

Estill Voice Technique is a method to understand vocal functions, but again, the issue of registers isn't integrated into the context. EVT offers many explanations for how different configurations can produce different sounds, and some of these are attributed to various register positions or pitch ranges (McDonald Klimek et al 2005). However, perhaps not to the extent that it becomes sufficiently clear to counteract uncertainty.

As informant B suggested, many of these singing schools simplify their theories to achieve clarity, and it's not always their intention to explain the entire vocal apparatus. This might lead to "closing oneself off, thinking that it's the only way."

The problem primarily arises when a method claims to be complete, where, as mentioned earlier, all individuals are different. Therefore, in what way ONE method can be considered complete must always be related to an individual perspective; anything else cannot be determined.

The fact that certain methods lack vocabulary for register terminologies might stem from the fact that these methods don't aim to clarify registers. However, since registers, mechanics, acoustics, and vocal function are so intimately linked, trying to find vocabulary to explain registers based on these methods can be confusing. This might be the reason why the diversity of vocabulary has increased, potentially leading to ambiguity in meaning.

## **Authors and Originators**

Authors of vocal literature, especially method literature, and even creators of specific singing schools always have a subjective origin. The author's individual preferences, such as experience and bodily perception of singing, color both content and vocabulary. Although none of the informants explicitly raised this issue, it was evident in the literature they referenced.

An example of this is singer and vocal pedagogue Daniel Zangger-Borch, who, in the chapter on vocal registers in his book, chooses to categorize the voice into chest register, where the vocalis muscle is active, and falsetto register, where the cricothyroid muscles (CT) are active (Zangger Borch 2019).

It's common for a vocal pedagogue to primarily base their understanding on their own experiences and their own sensation in the voice, and this is evident in Daniel's text, both in how he describes where the comfort zones of these two register parts lie and in the fact that he finds it harder to define the difference for female voices. It's likely that vocal pedagogues find it easier to understand voices that resemble their own, regardless of gender or vocal functions and timbre, even though experience contributes to better understanding voices that differ from their own.



Olle Sköld, a vocal pedagogue and singer, held a seminar in the autumn of 2022 at a meeting organized by Röstforum Stockholm, where he shared his reflections on vocal registers. Here, he refers to two types of registers: Register 1 & Register 2.

Assuming, according to the above reasoning, that he's basing this on his own voice, we see that he hasn't included the flute register, which is often less common in males and more common in females. Even the low frequency range that's usually referred to as "knarr register" isn't included, perhaps because his own perception of vocal registers doesn't encompass that type of sound.

Otherwise, his categorization, using numbers, resembles Roubeau & Henrich's numeric division (M0) M1 - M2 (M3). Although Sköld, as a vocal pedagogue, isn't directly involved in this study, his vocal register division demonstrates that this is guided by his individual perspective, influencing the register terminology.

### **Reserved Attitude among Vocal Pedagogues and the Tradition of Master – Apprentice**

A problem that different vocal register terminologies can lead to is confusion for students who encounter various teachers saying different things, especially if the vocal teacher is strongly convinced that their own understanding is the only correct one.

A vocal pedagogue, informant A, brought this up in the context that strong convictions and strong discourses can lead to a hierarchical function, where those with less knowledge become subordinate to those who possess the terminology.

This is something we recognize from an old tradition of the Master - Apprentice principle, which is a structural concept, but is also reflected in this context. "I, who know and understand the concepts in this specific method," stand slightly above those who don't understand the concepts in that method. A hierarchical system that another of the informants also testified to, especially from their own time as students. Unfortunately, these tendencies have the ability to be passed on to the next generation, so that older types of pedagogy influence the next generation.

Another vocal pedagogue, informant E, highlighted this in the interview, suggesting that a person's years as a young adult, which often coincide with their time as a student, are a period when they are particularly susceptible to the influence of their ego and self-image. Therefore, as a vocal pedagogue, it's important to be aware of the impact one might have on students.

Even during my own time as a student, I've encountered vocal pedagogues with the attitude "What I don't know and understand is not worth knowing," and I reflected back then, just as I do now, that this originates from an individual's insecurity, so the person emphatically asserts their sovereignty. This can lead to a fear of new insights, as previous knowledge is challenged, where what was once considered truth might no longer be so.

This rigid stance can limit an artistically inclined singer who becomes confined to a specific way of expressing themselves. All artistic directions aim to express a

creative thought or emotion, and to do so freely, all nuances of the color palette must be allowed. Informant E expressed these thoughts:

*"At a (music) academies, the goal should be... ..to ensure that we produce individuals who can contribute to a musical life, artistic expression, and be teachers with artistic integrity throughout society, as that is the only way to drive culture and thereby democracy forward."*

Even though the master-apprentice dynamic might not encourage vocabulary pluralism, it can unfortunately solidify concepts without critical examination from the apprentice's side. This can lead to expressions that are inherited but not always well-developed or logically grounded.

### **Socio-Political Reasons - the Impact of Market Liberalism**

*"The whole society is built on competition, so why wouldn't it also reflect itself among vocal pedagogues?"*

An informant expressed this sentiment, and several other informants also pointed to competition as a reason for the emergence of different vocal methods and expressions.

Market liberalism is an ideology that permeates business, politics, and individuals. Its fundamental premise is that the market dictates that what the market demands will be strengthened and thrive. Or, to put it bluntly, the strong prevail, and the less successful fade away.

This results in the consequence that individuals in many professions need to assert themselves and establish a name for themselves, including within vocal pedagogy.

Vocal pedagogues who have been teaching for a long time often raise an eyebrow and sigh when new methods are presented as novel, even though the old vocal pedagogues have incorporated these methods into their entire professional lives.

In the eagerness to establish a name as a vocal pedagogue, new wheels are reinvented, and perhaps this is how humans have always operated, as both informant B and H pointed out.

Competition also exists among different Music Academies, as they compete for students nowadays, but the interviews never indicated the perception that this affects either the teaching or the course structure. The recognition of competition seemed more of an observation.

### **Can Different Methods and Vocabulary cause Physical Problems?**

The underlying idea in this paper has been to examine the vocabulary that vocal pedagogues at music conservatories use to explain vocal register functions and whether there is pluralism and whether it differentiates or not. The presence of

diversity and pluralism has been established, but could it lead to practical problems in singing, and what could those be?

Problems in this area could encompass several things. Conceptual confusion that generates an insecure and uncertain feeling in the singer/student, leading to a loss of control in singing and ultimately a lack of enjoyment in singing.

A more serious problem could arise if a singer fails to grasp the complete picture of the vocal method and uses vocal registers in the wrong frequency range.

By "wrong," it means a tonal range where the muscles that are active when the singer sings in that specific frequency range operate in a manner that is not optimal, leading to fatigue. When a muscle operates in an improper position for an extended period, wear and tear injuries can occur, and this applies to all muscles in the body.

During an interview, an informant referred to this phenomenon, although she personally hadn't encountered this type of problem with singers, she had heard of it. As with many things related to the body, it's individual. Each singer has their own conditions and physical makeup that determine the extent of the consequences.

To reference one of the informants again, vocal pedagogue E, who argued that different vocabulary is fine as long as the singer is skilled, the situation could be worse for untrained voices or, as Daniel Zangger-Borch suggests in the introduction of his book "Stora sångguiden" (The Great Singing Guide), there's a cluster of sounds and solutions for the voice today, but if a singer wants to be free to phrase and perform with their voice as they please, they shouldn't be confined by concepts and fixed frameworks that limit them. (Zangger Borch 2019)

### **Difficult to Measure and See Inside the Voice**

Conveying a vocal setup that can be physiological is difficult because it's intangible to visually demonstrate within singing instruction situations. Vocal instruction relies on feeling, and since everyone experiences sensations differently, this teaching method is also challenging to grasp.

An informant described the choice of using a flourishing vocabulary for register descriptions or not as being easier for the body to react to a feeling than to a thought. However, this doesn't mean that a theoretical thought isn't necessary. It is needed, and the flowery language used in, for example, higher music education always needs to be supported by the theory behind it, according to the same informant, vocal pedagogue C.

Several informants referred to the advantage of adapting language to the individual, emphasizing the importance of higher music education teaching students to tailor their language to the individuals they will encounter in their careers.

Here, too, higher music education institutions have a responsibility to provide students with a broad vocabulary, as highlighted by informant F.

The mechanisms of the voice are small (J. Fisher & G. Kayes 2018), and hidden inside the throat and larynx. Controlling these small muscles requires extensive training, so taking a faster route to results through sensation is understandable. However, describing a feeling in an objective manner is always challenging, and we need to remember that what one person feels and experiences in a specific way, another might not.

In this context, diversity and vocabulary pluralism represent a way to explain vocal registers in various subjective ways for each individual singer. Pluralism helps all singers understand the voice from their unique perspective.

### **Risk of Diluting the Profession of Vocal Teaching**

One of the informants, vocal pedagogue H, mentioned in passing on her way to another topic that there is no quality assurance for the profession of "Vocal Teacher/Vocal Pedagogue." These words lingered, and she elaborated by describing how today there is no certification or licensing for the profession of vocal teaching, beyond obtaining a college degree in music education with authorization to teach singing. Anyone can use the title of vocal coach, vocal teacher, or vocal pedagogue, and it opens the field for unscrupulous entities seeking to make money.

This also becomes problematic as less scientifically substantiated theories and methods gain traction in an effort to establish a reputation without undergoing scrutiny. This increases the introduction of new vocabulary and terms within a subject that is already well-documented and clearly described in the literature. This proliferation of vocabulary thus contributes to conceptual confusion and poses a risk of diluting the profession's quality.

There are private schools today offering courses for those who want to become vocal pedagogues or choir conductors. However, since they are private, they remain outside the scope of public scientific scrutiny, and after completing such courses, individuals can label themselves as vocal pedagogues.

### **Leadership in Higher Education Institutions**

This leads to the question of who holds the responsibility for ensuring the quality of the profession of vocal pedagogy, and that responsibility lies with higher music education institutions that educate music teachers with the authorization to teach singing.

A change has occurred over time in this regard. Twenty-five years ago, there were three programs in all music universities: one for music teachers in general, referred to as GG-teachers; a program that examined instrument teachers, IE-programs, where students were examined in a specific instrument, such as singing; and the third was a Musician Education program, where pedagogy and methodology were not included in the core curriculum.

In the year 2000, these programs underwent revision and are different today. Some Swedish universities offer programs to become instrument pedagogues, and some universities have supplementary programs that provide authorization to teach a

specific instrument. For example, in the Subject Teacher program (Ämneslärarprogrammet) in music at Örebro University, subject didactics are offered, giving authorization to teach an instrument, such as singing.

However, two informants from different music universities highlighted that didactic and method courses are short and so compressed that there is a risk that students do not acquire a sufficient knowledge level for the profession. Raising the quality of instrumental/vocal teacher education would lead to fewer risks of new, self-invented "schools" and contribute to higher status in the vocal teaching profession.

Several informants emphasized the importance of music universities presenting critical thinking, exposing students to numerous narratives, providing insight into prevailing vocabularies and their meanings, and training students to examine vocabulary and singing methods critically.

Today, universities compete for students from across the country, which could impact open dialogue among them to some extent. However, conversations occur around many aspects of education, so the competition doesn't have a significant effect. Some informants mentioned that discussions take place among different vocal teachers at music universities regarding vocal didactics and methodology. While the content of these discussions wasn't detailed in this study, their existence is seen as positive for fostering communication.

The individual differences among the informants in this study, who are vocal pedagogues at music universities, lead to individual ways of naming vocal registers and functions. This diversity is a strength for both education and students, as well as for vocal register terminologies in general.

The foundation for teaching vocal methodology and didactics should be stable and grounded in theoretical facts and scientific research.

However, there should also be pride in the diversity among vocal pedagogues and an acknowledgment of its positivity. An informant, vocal pedagogue B, expressed it this way:

*"We're actually engaged in an artistic endeavor, and different ideals are connected to different methods. It's okay for it to be this way, that we don't have to agree."*

Although her thought was primarily related to the choice of vocal register descriptions, it's enlightening to extend this perspective to the broader concept of vocal pedagogues.

Informant C expressed a desire for a bit more respect for the diversity among vocal pedagogues on an individual level, saying:

*"But a bit of humility towards teaching differently would be fitting and admirable."*

Desire for Respect Also Expressed by Informant B:

*"One should be humble in acknowledging that others have arrived at*

*different conclusions and learn from them, and then try to reconcile what I believe in and what I can teach to be credible.*

When there's respect among vocal pedagogues, it increases the trust in oneself among the pedagogues. This, in turn, allows the singers and students the pedagogues encounter to develop in their roles as future vocal instructors and to find trust in the artistic expression that still rests on a scientific foundation. This preserves the enthusiasm for music and singing, and it creates a wonderful new generation of vocal teachers who have a diversity of expressions to draw upon, and pluralism takes on a positive meaning.

## **Enriching Concepts**

Different ways of naming vocal registers can have positive effects, and below are some further thoughts on this matter.

## **Open-mindedness Among Pedagogues**

Consistently across the interviews, it becomes evident that it's beneficial for teachers in vocal didactics and methodology to have an open mind and not become entrenched in a specific discourse or method. Students who will eventually teach singing themselves need to gain broad insight and be trained in critical evaluation at higher music education, leading to increased knowledge about the subject at large, as well as greater self-awareness. This results in a new generation of vocal teachers who aren't afraid of new learnings and dare to question authoritative presentations regarding music in general and the voice in particular.

One informant, vocal pedagogue E, also observed that curiosity about vocal function had increased in general with the proliferation of new vocabularies for vocal registers and functions—an unexpected yet positive outcome.

## **Historical Reflection and Forward Thinking**

Looking back historically, it's interesting to note that efforts have been made to unify terms related to vocal registers for a long time, both in the USA (Leborgne & Rosenberg 2021) and in Sweden, as highlighted in the interviews, but presumably in many other countries as well.

The fact that none of these attempts yielded the desired outcome doesn't mean that nothing was achieved. In the desire to come together lies the greatest power, and if we can embrace "a bit of humility towards teaching differently would be fitting and admirable," as an informant expressed, then we have something to unite around. Ultimately, there should be humility in acknowledging that singers and vocal pedagogues express things differently. All vocal pedagogues need to have the freedom to be individual in their pedagogical approach, just as all the students and singers they encounter are individually different and need to be met according to who they are.

Many artistic faculties have undergone a shift towards a more scientific curriculum and course content. In essence, it's positive that education is becoming more

science-based and theoretical, but this can pose increased challenges when it comes to subjects rooted in artistry, such as music, which encompasses emotions and expression that are harder to frame within a theoretical context.

## **Unifying Concepts**

Human beings have a strong drive to belong to a group and to divide themselves into an "US" and a "THEM." Engaging in conversations with fellow singers and vocal pedagogues within the same group, gathering around a subject, is truly beautiful. This study has demonstrated this, and belonging to a group has always been essential to human existence, something that life has always revolved around (B. Nilsson 2016).

The same drive underlies a singer's desire to align with a specific method. Among vocal pedagogues, we might refer to those who follow "Estill" or "CVT" as constituting distinct groups (or, in the same vein, "US" if that's the context we wish to belong to). Of course, "THEM" represents much more than mere adherents of a specific vocal method, but the power of belonging to a group shouldn't be underestimated in discussions about terminologies.

Outside of this paper's scope, other vocal pedagogues have testified that when they took a certain course, everything fell into place. This parallels other strong group affiliations, like a soccer team or a church, underscoring the value of group membership for humans.

However, this can occasionally lead to undesired negative consequences, as one of the informants (F) testified. In the region where she teaches, a particular vocal method is so dominant that even high schools or municipal cultural schools require education and courses in this method as part of employment criteria.

According to informant (F), it becomes challenging but even more crucial for the local music school to educate vocal pedagogues who recognize the importance of a broad narrative concerning vocal registers and functions.

## **Scientific Language vs. Floral Language**

The ability of vocal teachers to explain the voice scientifically is essential, particularly in higher university education; anything else is inconceivable today.

However, discussing the voice and singing solely in theoretical terms is equally unthinkable, especially when it comes to higher artistic expressions and education. One of the informants, as I've mentioned before, explained that higher music education is meant to train artists/people who will go out and engage in the music world and society at large, working for democracy. With this reasoning in mind, it's crucial to allow for liberation and not confine higher music education, for instance, within theoretical frameworks.

Several informants emphasized the importance of "floral language" to explain concepts that might otherwise be difficult to grasp. Vocal pedagogues should be able to explain the voice based on their personal understanding and based on the individuals—students or singers—they encounter.

However, this floral language should be underpinned by a theoretical, scientific

perspective, and this flowery vocabulary should be adaptable and explained using theoretical terms.

There is something soothing in the approach that vocal pedagogues, through their uniqueness, use a language that suits their personality. This way, any desire for competition rests, and on a more personal level, they discover their own brand. There's no need for reinventing the wheel for a vocal pedagogue. Vocal pedagogues possess something unique within themselves, and that should be highlighted as a strength.

Just like all singers have something unique within them, regardless of vocabulary or vocal method, it should be emphasized and strengthened.

### **Artistic Freedom and the Golden Channel of Expression**

When it comes to the combination of an artistic subject and scientific concepts, the equation can sometimes falter. It might feel limiting to confine expression within a framework, especially for vocal pedagogues who are deeply rooted in the artistic practice of singing. Just as all singers desire freedom in creative expressions related to register concepts and vocal function, here we need to distinguish between artistic freedom inherent to singing practice and finding an artistic expression within it, and individual communicative variations.

Communication requires a recipient, and for the singing teachers in this study, the recipients are the students who are pursuing education in higher music institutions. But the recipients will be more than just those students; they'll also be the vocal students the students themselves will encounter in teaching situations. All participants in this study were acutely aware of this role. This demands clarity from the teachers and a strong theoretical foundation regarding vocal mechanisms, along with a clear vocal register description. It also requires sensitivity so that the teacher can formulate it for each individual to comprehend based on their perceptual abilities.

Here, I'm moving away from the direct question about the pluralism of vocabulary, but in reality, vocal register naming should be tied to the desire to convey knowledge. The diversity and pluralism of vocal register vocabulary should be based on the intention to explain the voice to each individual singer, rather than aiming to establish a brand or self-promotion.

As Søren Kierkegaard expresses in the poem "For Self-Examination":

"If I want to succeed in guiding a person towards a specific goal,  
I must first find them where they are and start right there.  
One who cannot do this deceives themselves when they think they can help others.  
To help someone, I must certainly understand more than they do,  
but first and foremost, I must understand what they understand.  
If I cannot do that, it does not help that I know more and can do more.

If I still want to demonstrate how much I know,  
it is because I am vain and arrogant and truly want to be admired by the other,  
instead of helping them.



All genuine helpfulness starts with humility towards the person I want to assist, and thus I must understand that helping is not about wanting to dominate but wanting to serve. If I cannot do this, I cannot help anyone either."

from "Synspunktet for min Forfatter-Virksomhed"  
("The Point of View for My Work as an Author")

This poem shows that there is a difference between pedagogy and the desire to make a name for oneself.

The goal of vocal technique is to be able to express oneself freely in the musical universe in which the singer moves and should always be characterized by the individual. If the singer meets a singing teacher, it is this person who will use all pedagogical means to develop the art of singing.

But jointly agreed names for vocal registers should not stand in the way of this.

As long as we are humble in the face of the fact that singers or singing teachers use different paths to achieve the individually desired singing result, which for the vocal teacher is about what pedagogical keys that are used than about vocabulary.

## 10 Method Discussion

I have worked as a freelance singer and voice teacher for 25 years, and with continuous professional development and curiosity, I have gained deep insight and understanding of the various narratives that have emerged in this study. This has enabled me to smoothly follow the directions in the interviews, capturing different thoughts and ideas and comprehending them clearly during the compilation and summarization process.

A primary consideration as the theme of the thesis took shape was to study vocal pedagogues in practice within their teaching. It would have been valuable to observe how they translated their ideas into practical teaching situations and to hear which vocabulary that are used. However, the scope of this would not have been manageable within the time frame set for this master's course in spring 2023.

I reached out to all higher music education at universities in Sweden and established contact with vocal teachers from each institution. However, one school could not participate as the two vocal pedagogues I contacted were unavailable. I have been persistent in my efforts to obtain contact details for the vocal teachers who were feasible based on the preliminary study's selection, but I have never been stubborn. In this regard, I found it crucial that the informants were positive about their participation, and many found the topic interesting.

To expand the study, one conceivable approach would have been to include all music universities and male vocal teachers at these institutions.

The use of thematic analysis worked well but was somewhat challenging since certain themes overlapped, making it somewhat difficult to gain an overview of the entirety due to the wide-ranging concepts.

Out of the 8 vocal pedagogues who participated, two provided written responses, while the others were interviewed over Zoom.

After transcribing the interviews, it was clear that those who provided written responses were somewhat more concise and precise than those who presented their answers verbally.

While the opportunity to clarify and elaborate on certain answers was missed, the written responses were easier to interpret and manage in the end.

One of the informants had not reviewed the interview questions beforehand. This was because most communication before the interview occurred through a messaging function on the phone, where information about the study was also discussed and approved by the informant.

Before the interview, the informant was asked if she wanted to review the questions first but declined. The fact that the informant had not reviewed the questions beforehand led to several digressions on unrelated topics, making it harder to obtain more concrete answers.

Therefore, it would have been advantageous for all informants to have reviewed the questions before the interviews. Since the study was limited to only including informants who are all vocal pedagogues, it has leaned more towards vocal

instruction. The issue of a pluralistic vocabulary for vocal registers encompasses everyone involved in singing: singers, choir directors, concert producers, and various voice teachers. However, the study's limitations have shifted the focus towards vocal instruction, and I am aware of this.

## **Topics for Future Research**

Many of the ideas that the informants raised have led to new questions that could be explored in future studies:

1. As mentioned earlier, research is already being conducted in the field of acoustics, most recently by Peter Pabon and Sten Ternström at KTH. The area concerning how the acoustic pressure above the vocal folds affects register settings is an area that I hope will contribute and clarify some uncertainties.
2. Since all the informants were women and none were men, the question of how gender identity might influence thoughts and attitudes towards vocal registers and their designations arises. Thus, a future research question could be: Does the gender of the vocal pedagogue influence register nomenclature?
3. The training programs for vocal pedagogues have undergone various changes at the music universities over 20 years, and this is a topic that would be very interesting to investigate. How these programs have been shaped and altered and in what ways they impact the quality of the vocal teaching profession would be questions encompassed in such a study.
4. The competitive situation in society affects the profession, as several informants pointed out in the study. However, how and to what extent does societal competition impact the vocal pedagogue profession?
5. A teaching situation always carries an element of power structure, and vocal instruction is no exception. But in what way does the vocal teacher and their pedagogical character influence the student's attitude and approach to their future profession in the workplace?
6. I was surprised and pleased to learn that attempts have been made to unify vocabulary. When I was reminded of the meeting in Örebro, I vaguely recall it, even though it's been 25 years since then and I was just a newly graduated vocal teacher. But why couldn't vocal pedagogues agree on terminology, and how did the two attempts made in the USA fare? Examining the question from a historical perspective would be very interesting.
7. Perhaps most crucially, it would be pertinent to further explore the question of whether a vocabulary for registers is necessary or not, or rather, when the vocal function needs to be explained based on a register concept described equally by everyone who works with voices and singing. This would involve taking

the questions posed in this thesis further and developing the conceptual ideas around vocal registers and if there is a way to agree on vocabulary.

## 11 Conclusion

Initially, when the framework was set for this thesis, the problem of vocabulary pluralism seemed relatively clear and could be explained based on the various discourses and trends that have influenced the issue of registers in phoniatrics and vocal instruction over many years. As a singer and vocal pedagogue myself, the existence of a pluralistic vocal register vocabulary has been clear to me for many years.

In the interviews conducted for this study, I sought answers to questions regarding how widespread this phenomenon is, which discourses and vocal methods influence it, and how vocal pedagogues at academies of music label vocal registers.

After compiling and thematically analyzing this data, a larger and more nuanced picture emerged from the interviews of the informants.

The answer to the question of whether a pluralistic vocal register vocabulary is problematic becomes multifaceted. All the informants agreed that pluralism exists in vocal vocabulary and that it can lead to confusion and ambiguity.

Given this, it is important for music universities that educate new vocal pedagogues to present a broad vocabulary and as many methods as possible to support students in their future professional roles.

Several informants attested to this.

The emergence of new vocal methods and the invention of "new wheels" can be traced back to the fact that vocal pedagogy education has somewhat lost its strength and conviction.

Consequently, to explain vocal register functions, new vocabulary and expressions are created, leading to a pluralism that, in some respects, becomes overworked.

Especially when there may already exist effective expressions to use.

However, there is value in being able to explain the voice using different expressions so that different individuals can understand vocal functions.

But a common vocabulary shouldn't have to be the opposite to individual expressions and varied ways in attempt to describe sounds created by a singer.

Over decades, attempts have been made between vocal pedagogues, phoniatrists, and voice researchers to agree on vocal vocabulary, but without success. However, succeeding in this matter might not be the same as agreeing that everyone should use the same ways to describe vocal registers and functions. Perhaps success lies in the willingness to try and the endeavor to meet over a common vocabulary.

I am aware that I have presented a paradox in this thesis:

On one hand a pluralistic vocabulary causes uncertainty and confusion.

And on the other hand, a varied pluralistic vocabulary might aid in increasing understanding and ways to express vocal registers.

My presentation here is somewhat vague, and this has shifted over the time that I've

been working on this thesis.

When I started, I was quite clear in my perception of what would be beneficial for clarity in vocal register terminology. However, the interviews revealed a more multifaceted picture, and my understanding has significantly expanded and developed, much like the hermeneutic spiral that has propelled my insights forward.

The definition and the vocal register vocabulary can in a pedagogical way be individual but must be grounded in fundamental knowledge of physiological, acoustic, aerodynamic, and perceptual scientifically researched foundations, as Hollien (1974) pointed out almost 50 years ago.

The awareness exists that the sound perceived can be explained with many words and that the formation of the sound depends on many different factors.

But I cannot let go of the idea that it would be easier on many levels if it were possible to agree on a common vocabulary for vocal register and vocal function. With national words without having to borrow from other languages.

Perhaps there is a risk that we limit ourselves and miss some good insights, as one informant warned, but I think a common vocabulary can unite us. Just as is done with the anatomical vocabulary.

A common vocabulary that can be used in all different singing methods, with different educational tools.

Based on the interviews that form the basis of this essay, I can see that it would simplify and increase understanding between singers and singing teachers.

Maybe it's time to pick up the thread and try to meet over a common vocabulary again.

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## 13 Appendix

Interview questions:

- 1 Please state age, gender and number of years teaching singing and singing methodology and current form of teaching.
- 2 Tell about your background, what led you to become a singing teacher? What kind of singing lessons have you had for yourself, and also in singing didactics?
- 3 How do you name the register of the voice in your teaching? What vocabulary do you use to describe this for the male voice and the female voice? Why?
- 3 How do you describe voice functions in your teaching? Why?
- 4 What literature do you use to support your teaching and in what way do you think that vocabulary in that literature to be relevant? How did you come into contact with that literature?
- 5 Do you think that the narrative of the voice registers has changed in the last 30 years? Alternatively the years you taught yourself? If so, in what way and why?
- 6 Which vocal technical discourses do you consider to be clarifying and relevant for the students in your teaching and why?
- 7 Do you think that we as singing teachers in Sweden use different terms to explain voice functions and the register of the voice? If so, is it a problem and what could the consequences be?
- 8 Which genres do you most enjoy singing?
- 9 Do you want to add something?