

## ENHANCING AURAL SKILLS IN PORTUGUESE MUSIC EDUCATION: PEDAGOGICAL STRATEGIES FOR UNDERGRADUATE MUSIC STUDENTS AT ESMAE-P.PORTO

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### ABSTRACT

*This study explores the role of Music Education within Portuguese vocational and higher education, with a particular focus on aural skills development. Since the foundation of the Lisbon Conservatory of Music in 1835, Music Education has been a fundamental component of curricula at the basic and secondary levels. The 1983 reform integrated Music Education into higher education programs, maintaining ear training and active listening as core competencies. Despite the absence of a unified national program, the development of aural skills remains a common educational goal across institutions. Using the case of the Bachelor's Degree in Music at the School of Music and Performing Arts of the Polytechnic Institute of Porto (ESMAE-P.PORTO), this article presents specific pedagogical strategies implemented in the Musicianship I and II courses. These strategies are designed to strengthen relative listening abilities, which are considered crucial for professional musicianship. The study demonstrates that student engagement with this approach is driven not only by the cognitive and technical challenges it presents but also by a deepening recognition of the fundamental value of developing relative aural skills within their broader musical education.*

### Keywords:

Portuguese music education; ear training; pedagogical strategies; undergraduate students; aural skills.

### Musicianship in context in Portugal

Since the founding of the Conservatory of Music in Lisbon in 1835, the disciplinary field of *Music Education*—under various designations such as *Preparatory Studies and Rudiments*, *Rudiments*, *Preparatory Studies and Solfège*, *Rudiments and Solfège*, *Rudiments, Solfège and Choral Singing*, *Solfège* and *Music Education*—has been an integral part of Portugal's music education curriculum (Carneiro & Vieira, 2017). Until 1928, instruction in this field spanned two years; from 1930 to 1970, the program expanded to three years; and from 1971 to 1982, it extended to six academic years.

The 1983 reform, which restructured arts education within the broader national education framework (Decree-Law No. 310/83, July 1), renamed the discipline as *Musicianship (Formação Musical)* and extended its duration to eight years (Costa, 2024). With the establishment of professional music schools in 1989, a distinction emerged between the curricula of the Basic and Secondary Instrument Courses: the Basic Course comprised *Musicianship* and *Aural Skills*, delivered over three and two years respectively (Ordinance No. 531/1995, June 2); in the Secondary Course, musicianship content was integrated into the subjects of *Physics of Sound* and *Collective Projects*, distributed across the three years of study (Ordinance No. 220/2007, March 1).

Beyond its restructuring of basic and secondary education, the 1983 reform also transferred the provision of higher music education from conservatories to the polytechnic sector, leading to the establishment of two Schools of Music—one in Lisbon and one in Porto—each integrated into the respective Polytechnic Institutes (Pereira, Andrade, & Liberal, 2011). During the 1990s, Music degree programs were also inaugurated at the University of Aveiro (1989), the University of Évora (2003), the University of Minho (2006), and the Polytechnic Institute of Castelo Branco (1999), alongside the Bachelor’s Degree in Artistic Studies at the University of Coimbra (1993). Across all these institutions, Musicianship remains a core element of the curriculum, albeit under different names and with varying program durations (Costa, 2024).

At the School of Music and Performing Arts of the Polytechnic Institute of Porto (ESMAE-P.PORTO)—where I have been teaching since 2014—the Bachelor’s Degree in Music is divided into five specializations: Instrument and Voice (I&V), Early Music (EM), Jazz, Music Production and Technologies (MPT), and Composition. The Music Education curriculum, which is common to all specializations except Composition, comprises two semester-long units—*Musicianship I* (FMI) and *Musicianship II* (FMII)—included in the first-year program for students in I&V, EM, and Jazz; MPT students attend only FMI in the first semester (see Table 1). Additionally, the Jazz specialization includes four further courses directly related to aural perception: *Aural Training I, II, and III*, offered in the first semester of each academic year, and *Rhythmic Fundamentals*, taught in the second semester of the first year (ESMAE, 2025).

**Table 1. Music Education in the ESMAE BA Curriculum. Source: Author**

Year	Semester	Course Unit	I&V	EM	Jazz	MPT
BMus1	1st	Musical Acoustics	X	X		
		Tonal Music Analysis I	X	X	X	X
		<b>Musicianship I</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
		Music History I	X	X	X	X

		Introduction to Music Research	X	X	X	X
	2nd	Tonal Music Analysis II	X	X	X	X
		<b>Musicianship II</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
		Music History II	X	X	X	X
		Introduction to Music Technologies	X	X	X	X
BMus2	1st	Tonal Music Analysis III	X		X	X
		Cultural History I	X			
		Music History III	X	X	X	X
		Psychology of Music	X	X	X	X
	2nd	Contemporary Music Analysis I	X	X	X (1A2S)	X
		Cultural History II	X			
		Portuguese Music History	X	X	X	X
BMus3	1st	Contemporary Music Analysis II	X		X (2A1S)	X
		Music Aesthetics I	X	X	X	X
		Musics of the World	X			X (1A1S)
	2nd	Music Aesthetics II	X	X	X	X
		Artistic Career Management	X	X	X	X
		Recording Practices				X

### **Aural Skills in the Portuguese Music Education Syllabus**

Artistic education in Portugal aims to “provide specialized artistic training at both the vocational and professional levels, intended specifically for performers, creators, and professionals in the artistic fields, in order to achieve a high level of technical, artistic, and cultural proficiency” (Decree-Law No. 344/90, November 2). At the vocational level, this specialized artistic training is divided into two stages: the Basic Course and the Secondary Course. The former aims to “provide general foundations in music training and instrument performance,” while the latter is designed to deepen and extend the foundations established during the basic course (Carneiro & Vieira, 2017: 3). In essence, the objective is to lay the groundwork for the development of artists

with both a high level of specialization and a broad education within their field of knowledge.

The creation of professional education within non-higher education in 1989 aimed, among other goals, to prepare students “for integration into professional life or for the pursuit of further studies within a professional qualification pathway” (Decree-Law No. 26/89, of January 21, 1989). This type of education was designed with an essentially vocational character, seeking to provide students with the skills necessary to enter the workforce upon completing their studies. It is worth noting, however, that almost all students who complete professional music education programs in Portugal subsequently pursue higher education, either at universities or polytechnic institutes, as the labor market is not structured to absorb them as professional musicians—a contradiction whose deeper discussion falls outside the scope of this text.

According to João Almeida (2009), the *Musicianship* (Formação Musical) syllabi currently implemented in public vocational schools are not standardized. This situation extends to professional schools and, since 2013, to private and cooperative education institutions, following the Ministry of Education’s granting of administrative, financial, and pedagogical autonomy to these entities (Costa, 2024). The Dispatch No. 7415, issued on July 24, 2020, partially restricted this autonomy by defining a set of “structured, essential, conceptually articulated, relevant, and meaningful disciplinary knowledge” referred to as *Essential Learnings*. For *Musicianship*, the *Essential Learnings* are organized “according to a spiral logic, encompassing both concepts and sensory experiences” (Costa, 2024: 117), reflecting a clear influence of Keith Swanwick’s (1988/1991) musical pedagogy. Competencies associated with “aural and music reading skills” must be taught progressively (Costa, 2024: 116). Specifically, in the subject of *Physics of Sound*, psychoacoustics is the area responsible for developing students’ abilities to apprehend “the sonic world of music” and providing the tools necessary for acquiring the „competencies demanded of performers, regardless of their instrumental specialization” (Costa, 2024: 118).

Almeida (2009) conducted a detailed comparative study of the Musicianship programs in force at five public vocational music schools in Portugal: the Calouste Gulbenkian Conservatory of Music in Braga, the Porto Conservatory of Music, the Calouste Gulbenkian Conservatory of Music in Aveiro, the Coimbra Conservatory of Music, and the National Conservatory of Music in Lisbon. The main findings of this comparative study highlight stylistic and conceptual differences in the approach to Musicianship, a presence of creativity that is nevertheless often improperly addressed, and an almost complete neglect of 20th- and 21st-century musical repertoires (Almeida, 2009: 48–49). A further commonality is the strong emphasis on developing

reading and writing skills necessary for students to competently read and perform works on their instruments, alongside the cultivation of aural skills (Almeida, 2009).

### **Strategies to develop aural skills for ESMAE students**

The syllabus for *Musicianship I* and *Musicianship II* courses at ESMAE, authored by the present researcher, is centered on the development and consolidation of aural skills, whenever possible supported by works drawn from the repertoire of Western music history. The three major objectives are: (a) To develop an improved understanding of musical language through listening and writing; (b) To develop and master rhythmic, melodic, and harmonic listening and reading skills; and (c) To develop and master inner hearing and musical memory (Liberal, 2025a; 2025b). The emphasis on aural competencies is rooted in the pedagogical approach of Maria Teresa Macedo, the first professor of Musicianship at ESMAE. In an article published in 1986, she identified aural development as one of the fundamental elements of the Musicianship curriculum in Portugal (Macedo, 1989: 8). More recently, in an interview conducted as part of the Master's Degree in Music Education—specialization in Musicianship—at ESE/ESMAE-P.PORTO, Macedo reaffirmed her conviction regarding the centrality of aural development: “Musicianship within vocational education requires an extensive knowledge and practice of all elements employed in the making of music (...), the development of musical hearing, memory, reading, writing, theory, singing, and improvisation” (Macedo, 2018, as cited in Costa, 2024).

In the *Musicianship I* (FMI) course, the curriculum focuses on the development of skills within tonal and modal contexts, with rhythmic work centered on regular meters (Liberal, 2025a). In the second-semester course, *Musicianship II* (FMII), the focus shifts primarily to works from the 20th century, especially from its first half, alongside exercises involving irregular meters. Error detection constitutes the only content area that continues to draw predominantly on tonal repertoire (Liberal, 2025b).

Each year, approximately 100 students are admitted into the first year of the Bachelor's Degree in Music at ESMAE, distributed across five specializations. These students present highly diverse musical backgrounds. In the Instrument and Voice (I&V) and Early Music (EM) specializations, almost all students have completed either vocational or professional music education, typically studying eight years of *Musicianship* or *Musicianship* combined with *Physics of Sound*. In the Jazz specialization, although the majority have followed a similar path, a significant number come from private schools not accredited by the official education system and, consequently, have not followed the national curricula. As a result, they often exhibit gaps in formal knowledge (reading, writing, and theory) while demonstrating strong

aural development skills. In contrast, within the Music Production and Technologies (MPT) specialization, the situation is reversed: the vast majority of students have either never attended a music school or, if they have, completed only between three and five years of study, resulting in significant gaps across all areas of musical knowledge. Admission to the Bachelor’s Degree in Music at ESMAE is based on entrance examinations, which include an instrumental audition (for the I&V, EM, and Jazz specializations) and a General Music Knowledge Examination composed of three components: *Music History*, *Musicianship*, and *Music Analysis*. The *Musicianship* component consists of a rhythmic dictation and a gap-filling melodic dictation, both drawn from the tonal repertoire of the Baroque, Classical, and Romantic periods (IPP, 2025).

One of the learning outcomes associated with a bachelor's degree in higher education in Portugal is to provide students with the knowledge and understanding necessary to further develop and deepen the skills acquired during their secondary education (DGES, 2025). In an effort to meet this objective, and considering the diversity of students arriving at ESMAE — with their highly varied educational backgrounds — I sought to develop three pedagogical strategies to help students improve their aural skills: Chord Dictation, Tonal Chord Series, and Error Dictation.

### Chord Dictation

One of the aural training exercises traditionally employed in the *Musicianship* curriculum within specialized and professional music education in Portugal is Chord Dictation. In this exercise, students are required to aurally recognize and identify a set of isolated chords played on the piano, typically between four and six chords.

At ESMAE, within the *Musicianship I* course, this exercise is continued but with an increased level of complexity. In Chord Dictation I, students are not only expected to aurally recognize and identify the chords but also to transcribe the individual notes comprising each chord, using A3 as the reference pitch. Each chord is played four times on the piano in closed position, and the exercise consists of six chords in total (see Figure 1). The notation is written in the treble clef and spans the register from F2 to F4.

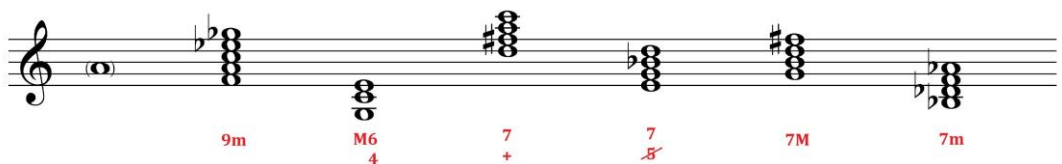


Figure 1. Example of the Chord Dictation I (Liberal, 2023)

With this exercise, the aim is to refine students' inner hearing by enabling them to recognize the intrinsic structure of each chord and to develop relative listening skills by

establishing intervallic relationships between the reference note (A3) and the remaining notes of the chords.

In Chord Dictation II, which forms part of the syllabus for *Musicianship II*, an additional degree of difficulty is introduced. In this version, the exercise is performed across both the treble and bass clefs, with the chord tones distributed between the two staves (see Figure 2), while maintaining A3 as the reference note.

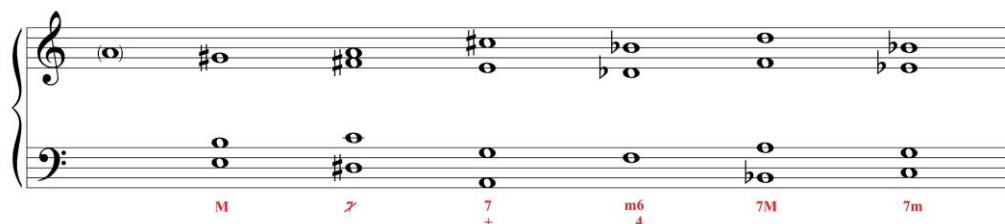


Figure 2. Example of the Chord Dictation II. (Liberal, 2023)

The purpose of this exercise is to further develop students' harmonic perception, strengthen their auditory memory, and enhance their music notation skills within an active listening context. By distributing the chord tones across the treble and bass clefs, students are encouraged to develop greater spatial awareness of the sound placement on the staff. Maintaining A3 as the reference pitch supports the consolidation between relative listening (already developed during the previous semester) and the written representation of sound.

The types of chords covered in Chord Dictations I and II include:

- (a) Major and minor triads, in root position and both inversions;
- (b) Major seventh, minor seventh, dominant seventh, diminished seventh, and half-diminished seventh chords, all in root position;
- (c) Major and minor ninth chords built upon dominant sevenths, also in root position.

### Tonal Chord Series

In his book *Modus Novus* (1963), Lars Edlund presents a collection of study materials designed to develop musical intonation skills appropriate for the first half of the twentieth century, noting that “the conventional aural training does not meet the requirements of 20th century music” (Edlund, 1963: 13). Among these materials are the Chord Series, created to foster “the feeling for tone (...) both to the harmony and and colour of the tone” (Edlund, 1963: 15). The Chord Series consist of a set of seven to ten chords, beginning from a given note and progressing through the intervals addressed in each chapter. Each new chord in the series adds, modifies, or removes one or two notes from the previous chord (see Figure 3).



Figure 3. Example of a Chord Series for Atonal Music (Edlund, 1963: 55)

Edlund proposes two methods for using the Chord Series:

- a. Chord dictation. “The pupil does not see the music. The teacher plays the first note, and then plays each chord, say, twice, at an interval of approx. 5 seconds. The pupil writes down the notes of the chord, which are then checked”;
- b. “The pupil sees the music. He plays the chords one by one. While the chord is still sounding he sings the name of a certain note in the sounding chord. He checks up whether it is correct” (Edlund, 1963: 15).

Building on Edlund’s methodological principles, I adapted the Chord Series exercise to a tonal context. Starting from a given note (which may be any pitch), I construct a harmonic progression of eight chords (see Figure 4), adding, removing, or modifying one note at a time. Each chord contains a maximum of four voices, which means that ninth chords are excluded. To ensure students develop listening skills across different registers, the Chord Series is always practiced in both the treble and bass clefs, according to the following procedure:

(i) As a dictation exercise, following the same process described by Edlund (see above);

(ii) After completing the dictation, students sing the Chord Series in two ways: vertically and horizontally. For the horizontal singing, the class is divided into two, three, or four groups (depending on the number of notes in each chord), with each group responsible for singing a specific voice throughout the progression. For example, one group consistently sings the lowest note of each chord, another sings the second lowest note, another the third, and another the fourth (see Figure 5).

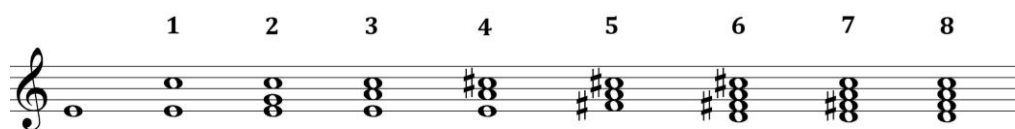


Figure 4. Example of a Chord Series in tonal context (Liberal, 2019b)

1 2 3 4 5 6 7 8

— group 1  
— group 2  
— group 3  
— group 4

Figure 5. **Group Singing of Chord Series (horizontal entonation)**

This exercise complements Chord Dictation I and has two primary objectives: to develop relative listening skills through the chaining of harmonic progressions, and to foster students' aural internalization of how the alteration of a single note can change the color and type of a chord.

By working with a Chord Series built through the addition, elimination, or modification of only one note at a time, students are challenged to perceive with greater precision the internal relationships between sounds. This procedure compels them to listen not only to the chord as a whole but also to the subtle transformations that occur from one chord to the next, thereby strengthening their perception of intervallic distance and the functional role of each note within the harmony.

The progressive construction of the chords also offers a deeper understanding of harmonic functions and the timbral richness that small alterations can generate. For example, the substitution of a single note can transform a major chord into a minor one, a dominant seventh into a minor or major seventh, or create modal colors, even within a stable tonal framework.

Moreover, by singing the chord series both vertically and horizontally, students simultaneously develop their polyphonic listening skills and their melodic control of individual voices. In horizontal singing, each student or group of students follows the melodic line of a single note throughout the chord progression, reinforcing their awareness that each voice has its own independent movement and contributes to the overall harmonic flow.

### **Error Dictation**

The third and final strategy I present and apply in the *Musicianship II* course to develop relative listening skills is the Error Dictation. In this exercise, students are given a musical score containing an excerpt from the piano repertoire and are tasked with identifying and correcting errors present in the score, which may be either melodic or rhythmic. The performance—either a recording or a live rendition on the piano—does not exactly match the provided score and is repeated eight times. Correction is always

carried out collectively in class, allowing students to discuss and correct the detected errors while engaging in critical listening analysis.

In classes with more asymmetrical levels of musical development, this exercise is adapted: it focuses either solely on melodic or solely on rhythmic errors, is generally performed live on the piano, and the excerpts are shorter, containing a maximum of five errors.

The number of errors to be identified and corrected, which typically ranges between ten and twenty, is only disclosed to students after they complete the exercise. This pedagogical choice aims to "force" students to prioritize their auditory skills rather than relying on logical reasoning strategies. Based on my teaching experience, I have observed that when students are informed in advance of the exact number of errors to find, they often resort to rational counting strategies rather than focusing on authentic listening. Many students actively search for a fixed number of errors and stop once they reach that number, without truly validating each change aurally. By withholding the number of errors, the exercise promotes more attentive, critical, and spontaneous listening. Students are naturally encouraged to trust their auditory judgment rather than relying on deductive reasoning, reinforcing the core objective of the exercise: to cultivate a precise form of relative listening capable of independently identifying melodic and rhythmic alterations in a musical and autonomous way.

By simultaneously developing reading skills, auditory memory, and critical analysis, Error Dictation establishes itself as a powerful tool for practically and musically consolidating relative listening competencies.

### **Student evaluation**

This approach reveals strong student engagement, driven both by the technical and cognitive challenges it poses and by students' growing recognition of the critical importance of developing relative aural skills. Naturally, students with absolute pitch successfully engaged with these exercises, as Marvin (2007) anticipated. However, even students with relative pitch demonstrated a high level of commitment and enthusiasm toward this pedagogical approach. Engaging with tasks that demand acute listening, precise internalization, and immediate response not only stimulated their motivation but also fostered a deeper understanding of musical structures and relationships.

### **Conclusion**

This study highlights the central role of aural skills development within the broader framework of Portuguese music education, particularly at the undergraduate level. Through the historical and curricular overview, it becomes clear that Musicianship has

remained a foundational component of music training in Portugal, despite variations in terminology and program structure.

Faced with the challenge of addressing the highly diverse educational backgrounds of first-year students at ESMAE, this research presented three pedagogical strategies—Chord Dictation, Tonal Chord Series, and Error Dictation—designed to strengthen relative listening, inner hearing, harmonic perception, and musical memory. The implementation of these strategies has proven effective: students demonstrated a high level of engagement, motivated both by the cognitive and technical demands of the tasks and by their growing recognition of the critical role that relative aural skills play in their professional and artistic development.

The findings suggest that structured aural training, when thoughtfully adapted to students' needs and backgrounds, can foster not only technical proficiency but also a deeper and more autonomous relationship with musical language. As music education continues to evolve, especially within higher education frameworks, the systematic cultivation of relative listening should remain a central pedagogical priority.

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