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The Problem of Inability to Select Appropriate Solfege Pieces According to Alto, Baritone and Bass Voice Types in Solfege Training: An Examination of Lavignac's Solfège des Solfèges Books

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Article Type: Research Article
Received Date: 21.08.2025
Accepted Date: 29.11.2025
Published Date: 30.11.2025

Plagiarism: This article has been reviewed by at least two referees and scanned via a plagiarism software

Doi: 10.29329/tayjournal.2025.1370.06

Citation: Akıncı, M. Ş. (2025). The problem of inability to select appropriate solfege pieces according to alto, baritone and bass voice types in solfege training: an examination of Lavignac's Solfège des Solfèges books. *Türk Akademik Yayınlar Dergisi (TAY Journal)*, 9(3), 536-564.

Abstract

The vocal ranges of music majors who perform solfege exercises and the preferences of solfege instructors vary considerably. In solfege instruction, differences in students' voice types, the collective nature of solfege classes, and the fact that solfege instructors are not specialists in voice training may lead to problems regarding whether instructors can select appropriate exercises that match individual vocal characteristics and whether students can adequately perform the selected solfege pieces. This study was based on the research question: "Which solfege pieces in the *Solfège des Solfèges* books numbered 1A, 1B, 1C, 1D, and 1E can be performed by first-year undergraduate students with alto, baritone, and bass voice types?" and aimed to identify suitable pieces. A descriptive survey model was employed, and document analysis was used as the research method. Total of 707 solfege pieces from Albert Lavignac's widely used *Solfège des Solfèges* books (1A–1E) were examined by the researcher according to various music-related variables. The data were analyzed in relation to the vocal range chart prepared by the researcher for low-pitched voice first-year students and validated by experts in voice training. The findings, presented in tables, show that books 1A, 1B, and 1C contain an equal number of suitable pieces for alto, baritone, and bass voices; book 1D includes more pieces appropriate for alto and baritone voices; and book 1E contains a greater number suitable for bass voices. It is argued that selecting solfege pieces aligned with students' voice types and vocal ranges may enhance their overall solfege performance.

Keywords: Solfege, voice types, alto, baritone, bass, Lavignac solfege books.

Introduction

Students receiving vocational and professional music education take music courses of various natures. The musical hearing–writing and reading course is one of these courses. As stated by Sökezoğlu Atılgan and Davulcu Öztürk, the foundation of music education is based on courses in musical hearing, reading, and writing. For individuals striving to specialise in the field of music to understand and convey the art of music correctly throughout their education and professional lives, their musical hearing, reading, and writing skills must be well trained (2025, p. 1075).

In musical reading activities, also known as the "solfege" course, undergraduate students continue their solfege reading studies over various numbers of instructional periods in relation to the target achievements appropriate to their own musical level. (For the examination of some sample programmes including the solfege course, see the following sources: Dokuz Eylül University State Conservatory, Performing Arts Opera Department, 2025; Gazi University Gazi Faculty of Education, Music Education Department, 2025; Chicago Music Institute Conservatory preparatory programme course catalogue, 2025).

The solfege course is the course that enables the interaction between music theory and the applied practices related to this knowledge to be increased, and that allows students to learn rules related to music in depth (Kendüzler, 2025, p. 496). Solfege, one of the methods of musical expression in which notes are used (Yuvacı, 2012, p. 1), can be defined as the vocalisation of musical notation in accordance with various durations, pitch heights, and meter forms (Yıldız, 2022, p. 10). These are forms of training in which musical hearing activities and note-reading practices are conducted simultaneously (Ammer, 2004, p. 385). The soundness of individuals' basic musical behaviours is related to their ability to read notation. These

fundamental musical behaviours can be gained through note-reading experience (Açılmış, 2015, p. 3).

In solfege training, students reinforce their music theory knowledge through various applications (Korkmaz, 2019, p. 32). There are also instructional models used in solfege studies on an international and national scale. These models show variations within themselves. Kodály, Curwen and Dalcroze are a few of the well-known examples of these models (Kendüzler & Akkaş, 2025, p. 5). In music classes where the Kodály system is applied, students progress in solfege through daily solfege practices and begin to “think” in solfege. The developing solfege ability enables them to learn new songs quickly, decode melodies they have not encountered before, listen analytically, memorise, add countermelodies, improvise, and even compose (Bowyer, 2015, p. 71). In solfege studies using the Dalcroze method, vocal ranges, scales and melodic structures, chords, harmony, and the relationship of tonality are studied, activating musical hearing ability and awareness (Thomsen, 2011, p. 69). Within such internationally oriented practices, it can be said that through the use of the whole body—and especially parts such as the arms, legs and hands—in various rhythmic movements, dance and improvisation, individuals can more easily concentrate on the durations of notes in melodies, the rhythmic progression patterns of works, and the differences in sound arising from the high–low characteristics of pitches.

In music education, musical writing, musical hearing, and musical reading are fundamentally interrelated; grouped under the overarching concept of “musical hearing”, they cannot be evaluated in isolation. They support each other (Atay Karlıdağ, 2024, p. 24; Özdemir, 2012, p. 18). In solfege exercises, practices such as rhythmic reading, hearing chords and intervals, melodic singing and dictation writing are conducted (Atay Karlıdağ, 2024, p. 25). Applications in which only note values are considered for reading—without considering the pitches of the melody and the intervals—are called rhythmic reading. These studies can be conducted using syllables appropriate to note durations, by clapping with hands, striking an object such as a stick on a surface, or snapping fingers (Hasar, 2016, pp. 3–4). For students receiving education in the field of music to present musical works with correct performances, the fundamental requirement is the work done in the musical hearing and musical reading—namely, solfege—course (Kürün, 2024, p. 1). Regardless of whether in the instrumental or vocal field, solfege courses are necessary for the musically adequate performance of musical works (Yıldız, 2022, p. 8); it should not be forgotten that maintaining the theoretical and applied studies in music-hearing theory courses in unity is important in voice and instrumental training (Özbek, 2003, p. 8).

Students who have received solfege training in a structured manner within solfege education are also able to attain the competence to read and interpret music in the musical field in which they are being trained (Kendüzler, 2023, p. 17). In the content of solfege practices—initially conceived mentally and then expressed through different pitch levels—there are conceptual frameworks that guide general knowledge in which all of the following qualities coexist: identification of tonality, attention to the intervals shaped by the characteristics of the tonality, the different auditory characteristics of scales formed by notes, and the conceptual diagrams directing these qualities (Öztürk, 2010, p. 1).

In professional music education in Türkiye, solfege books by Muammer Sun, Ahmet Adnan Saygun, Yalçın İman, Aynur Elhankızı and Mine Mucur are used within the national framework for solfege studies. Books and authors recognised internationally are Albert Lavignac's *Solfege des Solfeges*; Noël Gallon's *Cent Dictées musicales progressives à deux parties*; Ettore Pozzoli's *Cours Complet de Solfege*; and Odetta Gratlenlaub's *Lectures D'auteurs À Chanter pour le* (Erol, 2019).

Various books are used as course materials in solfege practices in music education. It is known that the books used to develop sight-reading and hearing ability have essential functions in musical reading, listening, and writing training. In this context, it is important that the sight-reading and ear-training books used in institutions providing vocational music education are systematic and effective in terms of content (Turabik, 2025, p. 251).

Among these books, it can be said that the series of solfege books titled *Solfege des Solfeges* is one of the books frequently used in music education studies at both international and national levels. They were written in large numbers and with musical content diversity by the French music theory–harmony teacher and composer Albert Lavignac (1846–1916). It can be stated that the *Solfege des Solfeges* books were written with the aim of presenting different content and achievements for musical development and constitute one of the instructional materials valued by music-theory and solfege teachers. In the *Solfege des Solfeges* books, the contents of monophonic and polyphonic solfege pieces in different clefs, time signatures, tonalities, and tempos can be observed. Today, depending on the curriculum and the number of instructional periods in institutions providing music education at the secondary and undergraduate levels, some of these solfege books may be used as course materials.

When Albert Lavignac's methods are considered as a whole, it can be seen that they provide learners with gains in various areas such as singing regularly and with correct pitches, interpreting works correctly, sufficiently acquiring knowledge of music theory, and gaining general cultural knowledge in the field of music (Özmen, 2009, pp. 8-9). All thirty-four of Lavignac's solfege methods include piano accompaniment. At the beginning of the books, it is stated that the solfege pieces were written for soprano voices. This situation may cause comfortable-reading problems for other voice types attempting to read the solfege pieces in the books. Solfege exercises can be sung, albeit strenuously, through the use of falsetto techniques and head-tone production (Erol, 2019, p. 84). Solfege teachers must pay attention to vocal ranges in the solfege pieces they plan to have students sing and must select solfege pieces appropriate to each student's vocal limits. Attention must be paid to voice types in solfege lesson preparation (Otacıoğlu, 2017, p. 61).

In beginner-level solfege training, students must learn to breathe adequately and correctly and to use that breath appropriately according to the pitch of the notes they will sing (Kendüzler, 2025, p. 497). In direct proportion to this idea, a recommendation supporting the same reasoning may be the necessity of paying attention to appropriate repertoire selection for students taking the solfege course. It may also be stated that another crucial point for ensuring adequate performance in terms of correct voice use and solfege success is that the solfege pieces planned to be used in the studies are suitable for the students' voice types and vocal limits.

If there is a voice-training course in the institution's curriculum, students perform voice-development and warm-up exercises according to their voice types and attempt to vocalise works in appropriate tonalities selected by their teachers with sufficiently correct technique. In solfege classes taught collectively in music education institutions, however, due to reasons such as the selection of solfege pieces according to voice types, the separation of students into low- and high-voice groups for ease during solfege classes, and similar factors, and due to the very low likelihood of being able to plan solfege instruction according to voice types, students often have to read solfege pieces that do not correspond to their own voice types. The degree to which such situations may occur varies from institution to institution. However, it may be considered that, to achieve higher levels of success in music education activities regardless of the field, providing students with effective and beneficial materials and practices is one of the fundamental requirements. From this perspective, a significant gap related to the problem of the study was identified in the literature, and the research was conducted with greater care in light of this awareness.

One of the most important problems encountered in beginner-level solfege studies is the inability to produce high and low pitches correctly, and therefore the inability to perform solfege with accurate pitches. In solfege training, which is considered a fundamental course in music education, it is necessary first to teach students how to use their voices to achieve the intended success. A student who does not know how to use their voice encounters serious difficulties in beginner-level solfege training and cannot achieve the expected success (Kendüzler, 2023, p. 451). In addition, it is thought that first-year undergraduate students beginning to sing solfege pieces without adequate voice training and without paying attention to pitch ranges may create problems in the healthy execution of solfege training and in achieving sufficient success.

It should not be overlooked that the vocal health and technical development related to voice use of students who use their voices in solfege lessons—an instructional area outside the control of voice-training lecturers in music education institutions—are important. In collectively conducted solfege classes, it can be considered normal that the lecturers who teach the course as solfege specialists, who are not experts in the field of voice training, who must conduct the solfege course collectively, and who must maintain a predetermined instructional programme flow, are unable to take students' vocal ranges and voice types into account. One of the solutions that may be proposed regarding this problem is the necessity of determining solfege pieces appropriate to the vocal limits of beginner-level students in the low-voice group.

Based on the information presented regarding the need for students to use their voices correctly, adequately and healthily in solfege lessons, the study was carried out with the research problem: "Which solfege pieces can be used in the solfege training of first-year undergraduate students with low-register voice characteristics?" Through the findings of the research, it was aimed to present separate lists so that first-year undergraduate students with alto, baritone and bass voice types could practise with solfege pieces suitable for their own vocal characteristics in their solfege lessons. It is thought that if the presented lists are considered, students' solfege intonation and tonal thinking skills may improve, their success may increase, any negative attitudes towards the course may change positively, and their vocal

health may also progress positively. The research findings are considered important due to their potential to make the necessary contribution to the gap identified in the related literature.

In relation to the main research problem of the article, the sub-problems can be stated as follows:

1. Which solfege pieces in Albert Lavignac's *Solfège des Solfèges* books numbered 1 are suitable for the alto voice type at the first-year undergraduate level?
2. Which solfege pieces in Albert Lavignac's *Solfège des Solfèges* books numbered 1 are suitable for the baritone voice type at the first-year undergraduate level?
3. Which solfege pieces in Albert Lavignac's *Solfège des Solfèges* books numbered 1 are suitable for the bass voice type at the first-year undergraduate level?

Voice Types in Vocal Training

In the early stages of human history, individuals who could only hear their voices and the natural sounds around them unconsciously started the musical journey through the human voice. The world-renowned musicologist and historian Sachs (1965, p. 3), in his work *A Short History of World Music*, expresses the following opinion on this issue: according to him, melodic expression falls within the domain of singer; therefore, it never occurs to him to bring instruments into this domain. The human voice came before musical instruments; it existed even in the earliest stages of human life. Likewise, Selanik (1996, pp. 1-2) regards the human voice as the first musical instrument and says: "The first instrument is the human voice. Later, melodies were embellished by clapping hands and stomping feet".

Human voices: According to pitch, the human voices used in vocal music are categorized from the lowest to the highest as follows: bass, baritone, tenor, contralto (alto), mezzo-soprano, and soprano (Sözer, 2005, p. 638). Among these six voice types categorized by their depth and pitch, the first three are natural male voices, while the latter three belong to females (Stainer & Barrett, 2009, p. 450). The voice types can be classified into subcategories, which becomes evident through musical evaluations based on technical criteria. In this classification process, the most determinant features of the voice are its range, volume, and timbre (Çevik, 1999, p. 38).

Male Voice Types Other Than Tenor

Male voices are generally classified into three principal categories: tenor, baritone, and bass, each of which can be further divided into subcategories (Ömür, 2004, p. 51). It can be stated that determining a student's specific voice type usually becomes clearer after a period of systematic voice training and vocal development practice. During this process, the student's own observations regarding their voice may also play an important role. As training progresses, students gradually become able to recognize the characteristics of their voice type, use their voice more comfortably in performance settings, and, through an increasingly refined vocal-musical awareness, understand whether their voice should develop toward the lower or higher registers for optimal individual vocal growth. According to Helvacı (2012, p. 94), accurate voice classification requires that the instructor work with the student through a sustained period of voice training. During this instruction, the identification of voice type involves determining the

student's musically usable vocal range through pitch-based assessment, as well as examining the timbral qualities and strength of the voice.

Baritone

In vocal music education, the baritone is the low male voice that lies between the tenor and the bass. Its notes are in the bass clef (F clef on the fourth line), and the vocal range spans two octaves (Say, 2002, p. 62). Compared to the tenor, it has a darker, smoother, and warmer tone (Sabar, 2008, p. 115). This voice type began to enter vocal repertoires in the first half of the 19th century, as the castrati progressively disappeared (Özsan, 2010, p. 247). The baritone voice is further subdivided into the following subcategories.

Dramatic baritone: In terms of timbre, it reminds a high bass. It is a powerful voice with dramatic strength, well-suited for character roles and heroic operas (İkesus, 1965, p. 27). It has a darker and fuller tone than the lyric baritone (Özsan, 2010, p. 248).

Lyric baritone: The lyric baritone has a soft timbre with a bright upper register and a more dynamic quality than the dramatic baritone (Kolçak, 1998, p. 38). It is a gentle and noble voice type with excellent upper range (Sabar, 2008, pp. 115–116). In terms of timbre, it is similar to dramatic tenor (İkesus, 1965, p. 27).

Light baritone: The light baritone is more dynamic, lighter, and more similar to the tenor than the lyric baritone. It constantly appears in Italian operas that call for intense agility, particularly in the works of Rossini and Donizetti (İkesus, 1965, p. 27).

Helden baritone: A deep, broad, and powerful voice type. It possesses both great high notes and strong, resonant middle and low tones. It is also commonly referred to as a high bass. Convenient for roles such as Jochanaan (Salome–R. Strauss) and the Dutchman (The Flying Dutchman–Wagner) (Sabar, 2008, p. 116). This voice type mostly has a large, expansive, and strong sound with a generally dark timbre (Özsan, 2010, p. 249).

Bass

Derived from the Latin word *basis*, meaning “fundament” (Say, 2002, p. 63). A low-pitched male voice (Uluç, 2006, p. 96). Generally, the lowest male voice, ranging from F2 to C5 (Aktüze, 2003, p. 47). The bass voice, which can be classified into various timbral subtypes, is described below.

Basso profundo: This voice type is regarded as the accurate bass due to its timbre (Özsan, 2010, p. 250). It has a very dark tone, high volume, and powerful low notes. Singers of this type typically perform grave and dramatic roles (İkesus, 1965, p. 26). It is a deep, full, and noble-sounding voice (Sabar, 2008, p. 117).

Basso buffo: It is for performing arts, with a lively and dynamic atmosphere. It has an easy upper range, graceful and flexible, paired with a strong sense of theatricality (Sabar, 2008, pp. 116–117). Singers with this voice type can perform opera parlando passages and coloratura lines readily. It is always utilized in comic roles (İkesus, 1965, p. 26). It is also referred to as comic bass, and has a bright and dynamic voice that is used in comic roles. (Kolçak, 1998, p. 39).

Female Voice Types Other Than Soprano

Alto

The lowest (bass) female voice (Aktüze, 2003, p. 19). A rich, warm, dark-toned voice with resonant low notes, which is considerably scarce. Its vocal range spans from F3 to G5 (Sabar, 2008, p. 113). Also known as contralto, this voice type features a dark timbre and well-developed chest resonance (Kolçak, 1998, p. 36).

Oratorio contralto: A voice type used particularly in the performance of early music. It is characterized by a rich tonal palette, great strength, and a deep sound (İkesus, 1965, p. 28).

Stage contralto: This voice carries both timbre and strength, with a dramatic impact (İkesus, 1965, p. 28).

Dramatic alto: As the name implies, this voice possesses dramatic intensity, a strong and full-bodied sound (Sabar, 2008, p. 113). It has a darker timbre than the mezzo-soprano. In some operatic roles, dramatic altos must be capable of reaching high notes effectively (Özsan, 2010, p. 243).

Albert Lavignac (1846-1916) and His Solfege Books

Albert Lavignac is a music theorist, composer, and teacher who taught for many years at the Paris Conservatory. He is recognized as a notable educator whose numerous solfege books are still broadly used in professional music education institutions globally. In these books, Lavignac not only provided exercises he composed himself, but also arranged significant works from the Western classical music repertoire into vocal scores. He published these with the intention of contributing to the field of music education. He organized his books using sequential letters and codes such as 1A, 1B, 1C, 2A, and so on. The series also continues into double-digit volumes. Certain solfeges in Lavignac's books, which were published both with and without piano accompaniment, were arranged polyphonically. These offered students opportunities to practice and develop their polyphonic solfege skills.

Method

Research Model

A literature review was conducted in the relevant field to establish the introduction section of the research and the general structure of the conceptual framework. During the literature review, the following search terms were entered into search sites presenting academic publications such as these, articles, and books: voice training, voice development, vocal problems, musical reading, Albert Lavignac, *Solfège des Solfèges*, note reading, solfege training, solfege. Publications relevant to the research were obtained from websites presenting academic sources.

Examining previously conducted academic publications and the data contained in these publications related to the studies being worked on becomes a necessary situation. The reason for this is that these publications provide content and informational support for the research being conducted. In this process, known in general terms as a “literature review”, the

publications reached by the researcher are scanned, examined, classified, and summarised, and in this way a systematic process flow is conducted (Demirci, 2014, p. 73).

In this study, in which the descriptive survey model was used, a problem existing in the relationship between solfege training and voice training was addressed. In studies conducted using descriptive survey models, situations existing in current or past time periods are examined. According to Karasar (2009, p. 77), in survey research, the aim is to present by describing a situation that existed in the past or that still continues as it is. According to Büyüköztürk et al., (2009, p.25), descriptive research is a research model frequently applied in studies related to education. It continues its work with data obtained from individuals or groups of participants regarding attitudes, abilities, preferences, behaviours, and achievement situations concerning school and educational environments.

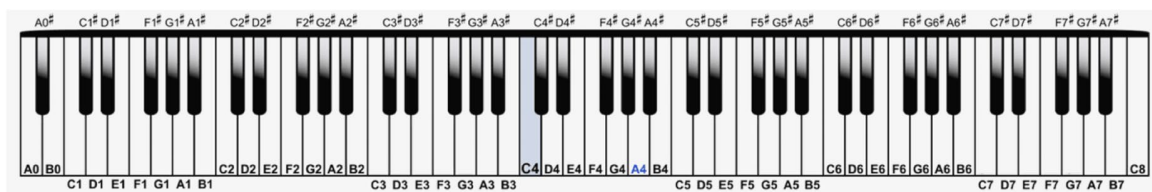
Based on this information, it can be stated that this study, which was an examination of a problem existing in the fields of voice training and solfege training—two important areas of music education—focused on contributing to the establishment of an effective relationship between voice and solfege training, creating opportunities so that they correctly support each other in terms of “achievement”, and presenting suggestions regarding the solution of the problem.

Data Collection Tools and Data Collection

First, Figure 1, which was used in every stage of the data collection process, was created. In determining the vocal limits of first-year undergraduate students in the low-voice types (alto, baritone, and bass), the labels in the figure were used.

Figure 1.

Naming of Notes on the Piano Keyboard with Internationally Accepted Letters



The collection of data consisted of two stages. The first stage can be explained as follows: A large number of solfege books were written by Albert Lavignac. Each of these books was named by assigning different numbers and letters. Due to the page-limit requirement of the study, the fact that the solfege pieces in all books written by Lavignac are not at the first-year undergraduate level in terms of musical content and musical notation, and the fact that the solfege books in Lavignac’s series numbered 1 are also among the books used in first-year undergraduate solfege training, only the solfege books suitable for the first-year (beginner) level—books numbered 1A, 1B, 1C, 1D, and 1E—were included in this study. The total of 707 solfege pieces contained in these books was examined in written form according to various musical criteria. The criteria used in the musical examination carried out were determined as: the clef of the solfege piece, the time signature, and the highest–lowest pitch range (using Figure 1), and these data were recorded in different data tables by listing them separately according to the books.

The second stage in the data collection consisted of two parts within itself. First, based on the sources obtained and analysed through the literature review conducted regarding the vocal limits of low-voice types (Çevik, 2013; Gürel, 2023; Güvenir, 2004; Helvacı, 2012; Kolçak, 1998; Özsan, 2010; Sabar, 2008), the researcher created the first draft of the vocal limits table of first-year undergraduate low voices. The vocal limits in this draft table were named with the codes representing pitch heights on the piano keyboard given in Figure 1, internationally. After this stage, because it was necessary to ensure content validity of the table as a data collection tool, the stage of collaborating with experts in the field of voice training was initiated.

The draft table of vocal limits for first-year undergraduate students in the low-voice types prepared by the researcher was examined, for the purpose of establishing content validity, by three voice-training lecturers who each had at least 10 years of experience in the field of voice training. To indicate that consensus had been reached among the experts who examined the table, Miles and Huberman’s (1994) formula for expert agreement was used.

The experts evaluated the vocal-limit data in the draft table created according to voice types separately, in accordance with the criteria “appropriate”, “partially appropriate” and “not appropriate”. To determine the consistency among the expert opinions, Miles and Huberman’s (1994) expert-agreement formula was used:

$$\text{Agreement} = \frac{\text{Number of agreements}}{\text{Number of agreements} + \text{Number of disagreements}} \quad \text{Agreement} = \frac{11}{11+1} = .916 (91.6\%)$$

Accordingly, when the expert opinions regarding the twelve items in the vocal-range table (Table 1, definitions of vocal limits using letters and numbers) were examined, agreement was found in eleven items and disagreement in one item. As a result of the calculation, the agreement rate was found to be 91.6%. Since this rate was above the threshold value of 80%, it was accepted that there was a prominent level of consistency among the expert opinions, and the table was considered valid.

After the completion of the content-validity stage, Table 1 took its final form.

Table 1.

Vocal Range of First-Year Undergraduate Students in With Low-Pitched Voice Types

Timbre	Treble clef		Bass clef	
	Lowest pitch	Highest pitch	Lowest pitch	Highest pitch
Alto	Bb3	D5	Bb2	D4
Baritone	Bb3	D5	Bb2	D4
Bass	A3	D5	A2	D4

In certain solfege pieces, in cases of excessive ascent towards the high register (for example G5–A5) or excessive descent towards the low register (for example A3–G3–F3), in order to prevent the vocal limits of those performing the solfege from being strained, Lavignac wrote octave alternatives of the same pitch towards the lower or higher register (for example A4 instead of A5, or F4 instead of F3), or within these measures he provided different higher–lower pitches that could be heard harmonically compatible within the tonality (for example, instead of G5 in the C-major key/chord, E5; or instead of F3 in the F-major key/chord, A3). In

the study, when analysing the highest or lowest pitches of the solfege pieces, in such measures offering optional pitches, the low or high pitches (the pitches not presented as options) were taken into account and these low or high pitches in those measures were recorded in the data.

Data Analysis

In the study, the solfege books named with different numbers and letters by Albert Lavignac were treated as source-documents providing data in line with the research problem and purpose. All of the solfege pieces in the five books in the series numbered 1 were analysed using the document-review/document-analysis technique, and were examined in line with certain categories-variables (the clef of the solfege piece, the time signature, the highest-lowest pitch range); the data were entered into tables using Figure 1 (data collection, stage 1).

The analysis of written materials containing information about events and phenomena related to the aims of research is called document analysis. Document analysis may be used as a method on its own in research, but it may also be used together with other data-collection methods (Yıldırım & Şimşek, 2021, pp. 189-190).

The data collected in Stage 1 were examined by making comparisons according to the vocal-range table (Table 1) in terms of their suitability to the alto, baritone and bass vocal limits (categorical analysis), and solfege pieces suitable for the vocal limits of these voice types were identified. The identified solfege pieces were presented in the findings section in the relevant tables according to voice types and books.

In certain solfege pieces, in cases of excessive ascent towards the high register (for example G5-A5) or excessive descent towards the low register (for example A3-G3-F3), in order to prevent the vocal limits of those performing the solfege from being strained, Lavignac wrote octave alternatives of the same pitch towards the lower or higher register (for example A4 instead of A5, or F4 instead of F3), or within these measures he provided different higher-lower pitches that could be heard harmonically compatible within the tonality (for example, instead of G5 in the C-major key/chord, E5; or instead of F3 in the F-major key/chord, A3). In the study, when analysing the highest or lowest pitches of the solfege pieces, in such measures offering optional pitches, the low or high pitches (the pitches not presented as options) were taken into account and these low or high pitches in those measures were recorded in the data.

In the categorical analysis, the clefs of the solfege pieces (treble clef or bass clefs), the time signatures (2/4, 3/4, 4/4, 6/8, 3/8, 9/8, 12/8, 2/2, 3/2, 9/4), and the highest and lowest pitches were examined as different variables, tabulated, and presented in the findings. After obtaining and tabulating the findings, descriptive analyses were conducted. The final analysis tables and descriptive analyses obtained were re-examined by another expert informed about the research, and approval of appropriateness was obtained.

Ethical Permits of Research:

In this study, all the rules specified to be followed within the scope of “Higher Education Institutions Scientific Research and Publication Ethics Directive” were complied with. None of the actions specified under the heading “Actions Contrary to Scientific Research and Publication Ethics”, which is the second part of the directive, have been taken.

Ethics Committee Permission Information:

This study, in terms of its purpose, research problem, methodology, and data collection process, constitutes a type of research that does not require ethics committee approval.

Findings

Table 2.

Data on the Total Number of Solfege Pieces in Albert Lavignac's Book Series Numbered 1

Book	Solfege piece number
1A	195
1B	165
1C	195
1D	76
1E	76
Total	707

As seen in Table 2, the total number of solfege pieces was highest in books 1A and 1C, and lowest in books 1D and 1E.

Table 3.

Data on the Clefs of the Solfege Pieces in Albert Lavignac's Book Series Numbered 1

Book	Solfege piece number	Number of solfege pieces in treble clef	Number of solfege pieces in bass clef
1A	195	166	29
1B	165	138	27
1C	195	0	195
1D	76	0	76
1E	76	76	0
Total	707	380	327

As seen in Table 3, books 1A and 1B contained solfege pieces in both clef systems. In contrast, in books 1C and 1D the solfege pieces were written entirely in the bass clef, and in book 1E they were written entirely in the treble clef.

Table 4.

Data on the Time Signatures of the Solfege Pieces in Albert Lavignac's Book Series Numbered 1

Book	1A	1B	1C	1D	1E
Time signature					
2/4 time	20	25	20	6	6
3/4 time	29	24	29	26	28
4/4 time	109	75	109	25	23
6/8 time	12	13	11	5	5
3/8 time	8	7	9	1	1
9/8 time	0	0	0	2	2
12/8 time	0	0	0	1	1
2/2 time (half time)	17	21	17	8	8
3/2 time	0	0	0	1	1
9/4 time	0	0	0	1	1
6/4 time	0	0	0	0	0
9/16 time	0	0	0	0	0
4/2 time	0	0	0	0	0
12/16 time	0	0	0	0	0
Total number of solfege pieces	195	165	195	76	76

As seen in Table 4, the most frequently preferred time signature in books 1A, 1B and 1C was 4/4, whereas in books 1D and 1E it was 3/4.

Table 5.

Data on the Numbers and Total Quantities of Solfege Pieces in the Treble Clef Suitable for Alto–Baritone Voice Types in Albert Lavignac’s Book Series Numbered 1

Book	Solfege piece number	Total
1A	2-10-12-16-17-20-24-25-27-28-29-30-173 pans-34-175 pans-35-37-41-48-53-59-60-177-178-67-179-71-72-74-180-181-82-84-85-86-96-97-99-100-182-183-187-113-119-123-126-128-129-134-137-144	51
1B	1-2-3-8-11-12-13-14-16-19-22-23-25-31-37-38-41-43-44-48-58-59-66-67-67-69-74-75-78-81-82-95-108-109-110-115-122-146-147-148	40
1E	1-5-6-9-13-14-15-16-19-21-24-28-30-32-46-52-69-70	18
Total		109

As seen in Table 5, in A. Lavignac’s book series numbered 1, the total number of solfege pieces in the treble clef suitable for the vocal limits of the alto–baritone voice types, from most to least, was as follows: 1A (51), 1B (40), 1E (18). Since there were no solfege pieces in the treble clef in books 1C and 1D, no data could be presented from these books.

Table 6.

Data on the Numbers and Total Quantities of Solfege Pieces in the Treble Clef Suitable for the Bass Voice Type in Albert Lavignac’s Book Series Numbered 1

Book	Solfege piece number	Total
1A	2-10-12-16-17-20-24-25-27-28-29-30-173 pans-34-175 pans-35-37-41-48-53-59-60-177-178-67-179-71-74-180-181-82-84-85-86-96-97-99-100-182-183-185-187-113-119-190-123-126-128-129-137-144	51
1B	1-2-3-8-11-12-13-14-16-19-22-23-25-31-37-38-41-43-44-48-58-59-66-67-67-69-74-75-78-81-82-95-108-109-110-115-122-146-147-148-149	40
1E	1-5-6-9-12-13-14-15-16-19-21-24-28-30-32-44-46-50-52-56-60-66-69-70	25
Total		116

As seen in Table 6, in A. Lavignac’s book series numbered 1, the total number of solfege pieces in the treble clef suitable for the vocal limits of the bass voice type, from most to least, was as follows: 1A (51), 1B (41), 1E (25). Since there were no solfege pieces in the treble clef in books 1C and 1D, no data could be presented from these books.

Table 7.

Data on the Numbers and Total Quantities of Solfege Pieces in the Bass Clef Suitable for Alto–Baritone Voice Types in Albert Lavignac’s Book Series Numbered 1

Book	Solfege piece number	Total
1A	147-148-149-150-151-153-192-154-156-158-160-163-164-193	14
1B	134-155-156	3
1C	2-10-11-12-16-17-20-24-25-28-29-30-34-35-37-41-48-53-50-60-67-71-74-82-84-85-86-96-99-99-100-113-118-119-123-126-128-129-134-137-144-147-148-149-150-151-153-154-156-158-160-163-164-173-175-177-178-179-180-181-182-183-185-187-190-192-193	67
1D	1-2-5-6-7-9-13-15-16-18-19-21-24-28-30-32-33-46-52-69	21
Total		105

As seen in Table 7, in terms of the total number of solfege pieces in the bass clef suitable for the alto–baritone voice types in Lavignac’s book series numbered 1, the ranking from most to least was as follows: 1C (67), 1D (21), 1A (14) and 1B (3).

Table 8.

Data on the Numbers and Total Quantities of Solfege Pieces in the Bass Clef Suitable for the Bass Voice Type in Albert Lavignac's Book Series Numbered 1

Book	Solfege piece number	Total
1A	147-148-149-150-151-153-192-154-156-158-160-163-164-193	14
1B	134-155-156	3
1C	2-10-11-12-16-17-20-24-25-27-28-29-30-34-35-37-41-48-53-59- 60-67-71-74-82-84-85-86-96-97-99-100-113-118-119-123-126-128-129-134-137- 144-147-148-149-150-151-153-154-156-158-160-163-164-173-175-177-178-179- 180-181-182-183-185-187-192-193	67
1D	1-2-5-6-7-9-12-13-15-16-19-21-24-28-29-30-32-33-46-50-52-56-60-66-69-70	27
Total		111

As seen in Table 8, in Lavignac's books numbered 1, in terms of the total number of solfege pieces in the bass clef suitable for the bass voice type, the ranking from most to least was as follows: 1C (67), 1D (27), 1A (14) and 1B (3).

Table 9.

Data on the Total Numbers of Solfege Pieces in the Treble and Bass Clefs Suitable for Alto–Baritone and Bass Voice Types in Albert Lavignac's Book Series Numbered 1

Solfege Book	Clef	Alto-baritone	Bass
1A	G	51	51
	F	14	14
1B	G	40	40
	F	3	3
1C	G	No solfege pieces	No solfege pieces
	F	67	67
1D	G	No solfege pieces	No solfege pieces
	F	21	27
1E	G	18	25
	F	No solfege pieces	No solfege pieces

As seen in Table 9, in terms of the total number of solfege pieces written in the treble and bass clefs suitable for the vocal limits of the alto–baritone and bass voice types, the ranking from most to least was 1A and 1B. In terms of the total number of solfege pieces written only in the bass clef, the ranking was 1C and 1D.

Discussion and Conclusion

Based on the findings obtained in the study:

It was determined that in Lavignac's book series titled *Solfege des Solfeges* numbered with the code "1", there were monophonic solfege pieces written only in the treble clef and the fourth-line bass clef.

It was concluded that the solfege pieces in the 1C and 1D solfege books were written entirely in the bass clef, that the solfege pieces in the 1E book were written entirely in the treble clef, and that the solfege pieces in the 1A and 1B books were written in both the treble and bass clefs; and that among the solfege pieces included in the solfege books 1A, 1B, 1C, 1D and 1E, the solfege pieces with the widest pitch range were those in the 1E book.

Based on the vocal limits specified in Table 1 for alto, baritone and bass individuals who had the competence to use their voices at the first-year undergraduate level:

It was concluded that in the solfege book numbered 1A, there was an equal number of solfege pieces for altos, baritones and basses; that in the solfege book numbered 1B, the numbers of solfege pieces suitable for the vocal limits of alto, baritone and bass voices were almost equal to one another; that in the solfege book numbered 1C, the numbers of solfege pieces suitable for the vocal limits of alto, baritone and bass voices were equal to one another; that in the 1D solfege book, individuals in the bass voice type had more solfege pieces in terms of vocal limits at the first-year level compared to students in the alto and baritone voice types; and that in the solfege book numbered 1E, the number of solfege pieces suitable for the vocal limits of bass voices was higher compared to alto–baritone voices.

In the academic literature, there are many completed studies in the fields of “solfege training” and “voice training” as subject tendencies. It may be stated that what distinguishes this study—in terms of its purpose, importance and findings—from other studies carried out in the relationship between “voice training” and “solfege training–solfege pieces” is that it offers voice trainers, solfege teachers and music education institutions a new understanding of practice and application; that through the use of the findings, it provides students receiving music education with the opportunity for healthy voice use; and that by performing the solfege pieces identified in the findings, students are able to focus solely on solfege development, free from the anxiety of ascending or descending to high or low pitches. Within the literature accessible to the researcher, no studies or data related to solfege training created by paying attention to the vocal limits of alto, baritone, bass, soprano, tenor, or other voices were encountered. It was determined during the literature-review stages that studies in the field of voice training have particularly concentrated on repertoire selection suitable for different voice types and on investigating voice types [Example: The examination of the countertenor voice type in the context of repertoire (Aladağ, 2021); repertoire selection based on class and gender in conservatory-level undergraduate opera departments (Aktakka, 2024); the usability of folk songs arranged with piano accompaniment for bass-baritone voices in voice training (Özdemir, 2010)]. Considering that the aim of music education at every stage is to ensure the best possible individual development, it is thought that through this study and similar studies on closely related topics, new initiatives may emerge for examining theories, practices, methods and resources that may contribute to the success of students and educational activities.

It is thought that the solfege books created by Albert Lavignac, with “solfege pieces for soprano voice” written on the cover, constitute a widely used book series within national and international solfege training. Apart from the Lavignac solfege books, there also exist many solfege books created by numerous national and international composers–theorists, as well as studies examining these books from different perspectives. When these sources are considered in terms of their general characteristics, it may be deduced that solfege book authors and theorists assume that the solfege pieces in their books may be read by individuals who possess a certain degree of vocal-usage ability/competence, and that they write their solfege pieces accordingly. Together with these inferences, it may also be concluded that solfege book authors planned to write solfege books compatible with the voice-training studies of students in the music education programmes of their own countries; that they wrote their solfege books with the aim of contributing to the music-instruction activities in their countries; that they wrote their solfege pieces without considering the vocal competencies of students within national–

international music education; and that many further inferences could be made. From these perspectives, the importance of countries creating educational programmes shaped according to their own music education curricula, in which solfege training and voice training are included, comes to the fore.

In the national context, in relation to the findings given above and to this study, it is thought that examining Kendüzler's (2023) study on the relationship between solfege and voice training is beneficial. According to Kendüzler's research (2023); in professional music education institutions there are students who begin solfege studies without having received any voice training. These students attempt to perform solfege in the way they know (correct–incorrect–insufficient) without having received the necessary knowledge for voice use. Since the existing resources used for beginner-level solfege training do not contain exercises aimed at teaching students “how to use their voices”, students may be negatively affected in terms of adequate performance. In addition, when the literature is reviewed, it is also found that there is no study aimed at solving the problem of students' inability to use their voices in beginner-level solfege training (Kendüzler, 2023, p. 452). It is thought that these two related studies—planned and carried out on solfege training, the materials and related elements used in solfege training, voice training, voice types, and correct voice use in various areas of music education—may offer example ideas for studies planned/planned to be conducted in music education, and may reveal other issues that should be considered. In such studies, it is considered important to adopt orientations that can be used for the benefit of all related elements—such as solfege training, voice training, the resources used in solfege training, solfege pieces, national–international curricula, instructional time and other programme elements, teachers and students—and that can contribute to ensuring multidirectional interaction among these elements.

There are numerous institutions in our country that provide undergraduate-level music education. Each of these institutions is known to offer music education within the framework of its own distinct mission and vision. From the perspective of solfege instruction, the fact that different solfege instructors work in each institution, that these instructors conduct their courses in line with various institutional characteristics as well as their own academic preferences, and that there is no nationally standardized solfege curriculum, makes it difficult to achieve a uniform approach to solfege education. In this regard, when analyses and inferences relating solfege practices to vocal training are required, it becomes necessary to take into careful consideration all the characteristics of institutions that share similar or differing qualities within the field of music education.

It may be a correct inference to say that it is impossible for the studies conducted on educational activities and the existing field-specific resources and practices to survive, be used and continue without being in relation to, or affected by, various developments existing in contemporary life. It can be observed that electronic–acoustic performances presented in music education, studies aimed at the transmission and teaching of traditional musical knowledge, and the musical–cultural accumulation coming from the past are affected by various contemporary developments. With the development of science and technology, it can also be observed that artificial intelligence and similar algorithms, mobile–PC applications or

autonomous systems (machines), which have become prominent in recent years, also engage with the existing accumulation in music, solfege and voice training. In this context, it is thought that in solfege training as well, professional applications and new innovations suitable for various vocal–voice characteristics of individuals may come to the agenda more frequently in the future.

Recommendations

It can be stated that two key areas working in unity and balance in musical reading/solfege courses are musical hearing competence–perception and the ability to use the voice. If one of these two areas remains insufficient, the balance in the healthy acquisition of musical skills may be disrupted, and it may become difficult to acquire the learning outcomes of the musical reading course adequately. It may be considered that one of the criteria providing data for the instructor to evaluate the student’s musical reading skills is the student’s voice. In this context, it is thought that if, prior to musical reading courses, students’ voice types are determined according to their vocal limits by specialist educators in the field of voice training and if attention is paid to the lists of solfege pieces prepared according to the voice types indicated in this study, students’ musical reading success may increase further. If the lists in the tables are followed, it is thought that students’ ability to read solfege pieces prepared according to their own vocal limits and class levels more comfortably, their ability to avoid potential negative situations in voice use, and their ability to focus more easily on musical reading performance may increase.

In certain sections of the melodies in solfege pieces, the composer wrote, as optional alternatives, the notes one octave lower or higher instead of the very high–very low pitches. The writing of such additional notes–options can provide a certain degree of convenience for those performing the solfege piece. It is thought that possible difficulties that may occur in such note-change applications include: the challenges that may arise when students reading the solfege piece must suddenly leap to much higher or lower pitches and give the pitch with correct intonation, and the difficulties in maintaining healthy transitions—at that moment—from real voice, falsetto, head voice, head register, chest register, etc. In order for such situations to occur less frequently, it is considered that solfege composers, when composing new solfege pieces, may provide convenience for students if they pay as much attention as possible to the vocal limits of undergraduate students and, if possible, receive input from specialists in voice training.

Another solution, which may require complex and long-term work, for enabling students to read solfege pieces comfortably is as follows: If copyright issues will not arise and if permission is obtained from the current rights holders/heirs of the books, all five solfege books in the series numbered 1 written by Albert Lavignac could be rewritten in notation software with technological support; solfege pieces that may cause difficulty in terms of tonality for students during reading could be identified; and the tonalities of these solfege pieces could be changed through modulations. Similarly, in this application, the pitches that are too high or too low according to the vocal limits of voice types could be brought within vocal limits through appropriate harmonic adjustments within the tonality. Completing these

processes may take a long time; however, when considered realistically, it may be accepted as one of the definitive solutions that can eliminate the problems.

If the working conditions of solfege teachers employed in institutions providing professional music education permit, students in the solfege classes may be divided into two groups according to whether they belong to the low-voice or high-voice groups. According to this distinction, solfege teachers may select the solfege pieces to be studied in the course according to voice types, and students' solfege reading may become easier, thereby increasing their success.

It is beneficial for students who will frequently use their voices in solfege–musical reading lessons to perform vocal warm-up exercises at the beginning of the lessons with their solfege teachers. Students whose voices are warmed and opened will be able to conduct solfege practices more easily. If possible, the solfege and voice instructors working in the institution could hold meetings at the beginning of semesters to share information about the students' vocal limits and course contents, contributing to the course flow of solfege lessons and the systematic progress of students.

If there is suitability in terms of the curriculum, objectives and teaching staff in institutions providing music education, it may be a beneficial practice to begin solfege lessons not from the first instructional term but from the second instructional term. If, in the first term of music education, there is teaching staff in the institution in the field of voice training, improving all students' vocal-usage skills to a certain degree before they take the solfege course may provide important gains. Students who have gained a certain degree of vocal-usage ability may more easily achieve effective voice use in solfege lessons.

In accordance with the purposes of this study, data were collected only from the five books in Lavignac's series numbered 1, which are frequently used solfege books in beginner-level solfege training. Other series of solfege books by Lavignac are also used in music education. It is thought that conducting novel studies with different books to examine the relationship between solfege and voice training with similar or different purposes and methods may support the same and similar studies. Through these studies, it is thought that the possibility of resolving existing or potential problems with contemporary approaches may increase.

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BIOGRAPHICAL NOTES

Contribution Rate of Researchers

Author 1: 100%

Conflict Statement

The author declare that there is no conflict of interest in the research.

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Solfej Eğitiminde Alto, Bariton ve Bas Ses Türlerine Göre Uygun Solfej Parçalarının Seçilememesi Problemi: Lavignac'ın Solfège des Solfèges Kitaplarının İncelenmesi

Özet

Solfej dersi öğretmenlerinin seçimleriyle solfej parçalarını seslendiren müzik bölümü öğrencilerin ses türleri birbirlerinden farklıdır. Solfej eğitiminde ses türü farklılıkları, solfej dersinin toplu biçimde yapılıyor olması ve solfej dersi öğretmenlerinin ses eğitimi alanı uzmanı olmamalarının etkisiyle öğrencilerin bireysel ses özelliklerine göre doğru solfej parçası seçimleri yapıp-yapamama ve öğrencilerin kendileri için seçilen solfej parçalarını yeterli başarıyla seslendirip-seslendirememesi problemleri ile karşılaşabilmektedir. Bu çalışmada, “Müzik eğitimi alan alto, bariton ve bas ses türlerindeki lisans 1. sınıf öğrencilerinin 1A, 1B, 1C, 1D ve 1E numaralı “Solfège des Solfèges” isimli solfej kitaplarıyla yaptıkları solfej çalışmalarında seslendirebilecekleri solfej parçaları hangileridir?” araştırma sorusundan yola çıkılmış ve bu solfejlerin tespit edilmesi amaçlanmıştır. Çalışmada betimsel tarama modelinden faydalanılmış, doküman incelemesi yöntemi kullanılmıştır. Ulusal ve uluslararası kapsamda yaygın olarak kullanılan Albert Lavignac'ın 1A, 1B, 1C, 1D ve 1E numaralı “Solfège des Solfèges” kitaplarındaki toplam 707 solfej parçası, araştırmacı tarafından müzik ile ilişkili çeşitli değişkenlere göre incelenmiş ve verilere ulaşılmıştır. Veriler araştırmacı tarafından hazırlanmış ve ses eğitimi alan uzmanları tarafından onaylanmış olan pes ses grubundaki lisans 1. sınıf öğrencilerinin ses sınırları tablosuna göre incelenmiştir. İnceleme sonrasında solfej parçaları ve solfej kitaplarına ilişkin çeşitli veriler bulgularda tablolar halinde sunulmuştur. 1A, 1B ve 1C solfej kitaplarında alto, bariton ve bas seslere uygun solfejlerin eşit sayıda olduğu, 1D kitabında alto-bariton seslere uygun ve 1E kitabında ise bas seslere uygun daha fazla sayıda solfej parçasının olduğu tespit edilmiş olan sonuçlardan bazılarıdır. Solfej eğitimi ve vokal eğitim almakta olan müzik bölümü lisans öğrencilerinin, ses türleri ve ses sınırlarına uygun solfej parçası seçimleri yapılması sayesinde, solfej başarılarının artabileceği düşünülmektedir.

Anahtar Kelimeler: Solfej, ses türleri, alto, bariton, bas, Lavignac solfej kitapları.

Giriş

Mesleki ve profesyonel müzik eğitimi alanında eğitim alan öğrenciler farklı niteliklerde müzik dersleri almaktadırlar. Müziksel işitme-yazma ve okuma dersi bu derslerden birisidir. Müziksel okuma dersi solfej dersi olarak da isimlendirilebilmektedir. Müzik eğitimi alan lisans seviyelerindeki öğrenciler, kendi müzikal seviyelerine uygun hedef kazanımlarla ilişkili olarak solfej dersi çalışmalarını çeşitli sayılardaki eğitim dönemlerinde sürdürmektedirler.

Notaların kullanıldığı ifade yöntemlerinden birisi olan solfej (Yuvacı, 2012, s. 1): Müzik yazısının, çeşitli süreler, ses yükseklikleri ve ölçü şekillerine uygun biçimde seslendirilmesi olarak tanımlanabilir (Yıldız, 2022, s. 10). Müziksel işitme çalışmalarının ve nota okuma pratiklerinin aynı anda yapıldığı eğitimdir (Ammer, 2004, s. 385). Ses ve çalgı eğitiminde etkili olan müziksel işitme teori derslerindeki teorik/kuramsal ve uygulamalı çalışmaların birliktelik içinde devam ettirilmesi önemlidir (Özbek, 2003, s. 8).

“Solfège des Solfèges” isimindeki solfej kitapları serisinin, uluslararası ve ulusal kapsamda verilen müzik eğitimi çalışmalarında sıklıkla kullanılan kitaplardan birisi olduğu

söylenbilir. Albert Lavignac (1846-1916) isminde Fransız müzik teorisi-armoni öğretmeni ve bestecisi tarafından çok sayıda ve müzikal içerik çeşitliliğinde yazılmıştır. “Solfege des Solfege” solfej kitaplarının, müzikal gelişim açısından farklı içerik ve kazanımları sunma amacıyla yazılmış olduğu ve müzik teorisi-solfej öğretmenlerinin önem verdiği kaynaklardan birisi olduğu söylenbilir. “Solfege des Solfege” kitaplarında farklı anahtarlarda, ölçü sistemlerinde, tonalitelerde, tempolarda tek sesli ve çoksesli solfej parçalarının içerikleri görülebilmektedir.

Lavignac solfej kitaplarının başında solfej parçalarının soprano sesler için yazıldığı belirtilmiştir. Bu özel durum solfej kitaplarındaki solfej parçalarını okumaya çalışacak olan diğer ses türleri için rahat okuma problemleri yaşatabilecektir. Solfej egzersizleri falset ses kullanım tekniği ve kafa sesi tonlarının kullanımı ile yorucu da olsa okunabilmektedir (Erol, 2019, s. 84). Solfej dersi öğretmenlerinin solfej çalışmalarında söyletmeyi planladıkları solfej eserlerinin ses aralıklarına dikkat etmeleri ve her öğrencinin ses sınırlarına uygun solfej parçaları belirlemeleri gerekmektedir. Solfej dersi hazırlıklarında da ses türlerine dikkat edilmelidir (Otacıoğlu, 2017, s. 61).

Bu düşünce ile doğru orantılı ve ilişkili olarak düşünceyi destekleyen öneri, solfej dersini alan öğrenciler için uygun repertuar seçimine dikkat edilmesinin gerekliliği olabilir. Ayrıca öğrencilerin doğru ses kullanımı ve solfej dersi başarısı açısından yeterli performans sunabilmesinde önemli olan diğer noktanın ise çalışmalarda kullanılması planlanan solfej parçalarının, öğrencilerin ses türlerine ve ses sınırlarına uygunluğunun sağlanabilmesi olduğu söylenbilir.

Başlangıç seviyesindeki solfej çalışmalarında karşılaşılan en önemli problem: Tiz-pes sesleri doğru verememe ve bundan dolayı doğru seslerle solfej yapamama durumudur (Kendüzler, 2023, s. 451). Ayrıca öğrencilerin lisans 1. sınıfta yeterli ses eğitimi almadan solfej parçalarını ses aralıklarına dikkat etmeden söylemeye başlamalarının da solfej eğitiminin sağlıklı yürütülmesi ve yeterli başarıya ulaşılması konusunda problemler oluşturabileceği düşünülmektedir.

Toplu olarak gerçekleştirilmekte olan solfej derslerinde, solfej dersi alan uzmanı olarak dersi yürüten öğretim elemanlarının ses eğitimi alanında uzman olmaması, solfej dersini toplu olarak yürütmek zorunluluğunda olması ve devam ettirilmesi gereken bir öğretim programı akışı olması nedenleriyle, öğrencilerin ses sınırlarını ve ses türlerini dikkate alamaması normal bir durum olarak görülebilir. Bu problemle ilişkili olarak sunulabilecek çözümlerden birisinin, başlangıç-lisans 1. sınıf seviyesinde olan pes ses grubundaki öğrencilerin ses sınırlarına uygun solfej parçalarının belirlenmesinin gerekliliği olduğu söylenbilir.

Solfej derslerinde öğrencilerin seslerini doğru-yeterli-sağlıklı kullanabilmelerinin gereğine ilişkin sunulmuş bilgilerden yola çıkılarak “Müzik eğitimi almakta olan lisans 1. sınıf seviyesindeki öğrencilerin solfej eğitimlerinde kullanılan Lavignac 1A-B-C-D-E kitaplarındaki solfej parçalarından hangileri pes ses karakterindeki öğrencilerin ses sınırlarına uygundur?” araştırma problemi ile çalışma sürdürülmüştür. Araştırmanın bulguları sayesinde: lisans 1. sınıf seviyesindeki alto, bariton ve bas ses türünde olan öğrencilerin solfej derslerinde kendi ses karakterlerine uygun olan solfej parçalarıyla pratikler yapabilmeleri için ayrı ayrı listeler

sunulması amaçlanmıştır. Sunulan listelerin dikkate alınması durumunda öğrencilerin, solfej entonasyonlarının ve tonal düşünme becerilerinin daha iyi olabileceği, bu sayede başarılarının artabileceği, varsa derse olan olumsuz tutumlarının olumlu yönde değişebileceği ve öğrencilerin ses sağlıklarının da olumlu yönde ilerleyebileceği düşünülmektedir. Araştırma bulgularının ilgili literatürde tespit edilmiş olan eksiliğe gerekli katkıları sunabilmesi açısından önem taşıdığı düşünülmektedir.

Makalenin ana araştırma problemi ile ilişkili olarak alt problemler şu şekilde belirtilebilir:

1. Albert Lavignac'ın 1 numaralı Solfège des Solfèges solfej kitapları içindeki hangi solfej parçaları lisans 1. Sınıf seviyesindeki alto ses türüne uygundur?

2. Albert Lavignac'ın 1 numaralı Solfège des Solfèges solfej kitapları içindeki hangi solfej parçaları lisans 1. Sınıf seviyesindeki bariton ses türüne uygundur?

3. Albert Lavignac'ın 1 numaralı Solfège des Solfèges solfej kitapları içindeki hangi solfej parçaları lisans 1. Sınıf seviyesindeki bas ses türüne uygundur?

Ses Eğitiminde Vokal Türler

Ses yüksekliklerine göre, en kalından en inceye doğru vokal müzikte kullanılan insan sesleri şu sırayı izler: Bas, bariton, tenor, konralto (alto), mezzo soprano, soprano (Sözer, 2005, s. 638). Peslik ve tizliğe göre altı sınıflamaya ayrılan seslerden ilk üç ses doğal erkek sesleridir ve sayılan ikinci üç ses de kadınlardır (Stainer & Barrett, 2009, s. 450).

Albert Lavignac (1846-1916) ve Solfej Kitapları

Müzik teorisyeni, besteci ve Paris Konservatuvarı'nda uzun yıllar öğretmenlik yapmış olan Albert Lavignac, neredeyse bütün dünya ülkelerindeki profesyonel müzik eğitimi kurumlarında kullanılmakta olan çok sayıda solfej kitabı ile önemli bir müzik eğitimcisidir. Solfej kitaplarında kendi bestelediği solfejlere yer vermekle birlikte, Klasik Batı Müziği repertuarının önemli örneklerini vokal partiyonlara düzenleyerek kitaplarına almış ve kitaplarını müzik eğitimi camiasına faydalı olması amacıyla sunmuştur. 1A, 1B, 1C, 2A..... gibi sıralı sayılar ve harflerle kodladığı kitapları 10'lu rakamlar da dahil devam etmektedir. Piyano eşlikli ve eşiksiz basımları olan solfej kitaplarında bazı solfejler çoksesli olarak düzenlenmiş ve çoksesli solfejlerin çalışılmasına da imkanlar sunmuştur.

Yöntem

Araştırmanın Modeli

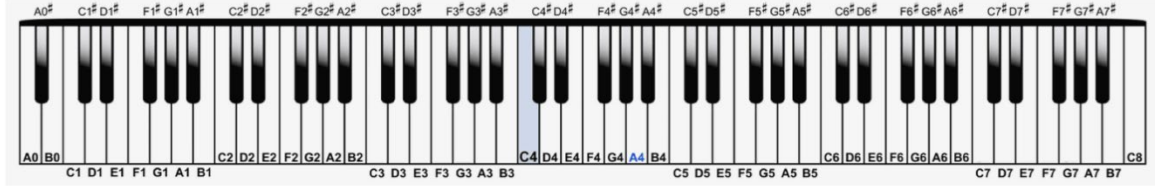
Betimsel tarama modeli kullanılmış olan bu çalışmada solfej eğitimi ve ses eğitimi ilişkisinde var olan bir sorunsal üzerinde durulmuştur. Karasar'a (2009, s. 77) göre tarama araştırmalarında geçmişte var olan veya hâlen sürekliliği olan bir durumun olduğu haliyle betimlenerek sunulması amaçlanır. Büyüköztürk vd.'ne (2009) göre betimsel araştırma, eğitim ile ilgili araştırmalarda yoğun biçimde uygulanan bir araştırma modelidir. Okul ve eğitim ortamlarını ilgilendiren tutum, yetenek, tercih, davranış ve başarı durumlarını, bireysel veya grup halindeki katılımcılardan edindiği verilerle çalışarak sürdürür.

Veri Toplama Araçları ve Verilerin Toplanması

Öncelikle veri toplama aşamalarının her bölümünde kullanılmış olan Şekil 1 oluşturulmuştur. Lisans-1 seviyesinde pes ses türlerinde olan (alto, bariton ve bas) öğrencilerin ses sınırlarının tespit edilmesinde şekildeki isimlendirmelerden yararlanılmıştır.

Şekil 1.

Piyano Klavyesinde Notaların Uluslararası Kabul Gören Harflerle İsimlendirilmeleri



Verilerin toplanması iki aşamadan oluşmaktadır. İlk aşama şu şekilde açıklanabilir: Araştırmada olması gereken sayfa sınırlaması, Lavignac tarafından yazılmış tüm kitaplardaki solfej parçalarının müzikal içerik ve müzik yazısı açısından lisans 1. sınıf seviyesinde olmaması ve lisans 1. sınıf seviyesinde solfej eğitiminde kullanılan kitaplar arasında Lavignac'ın yazmış olduğu 1 numaralı serideki solfej kitaplarının da olması nedeniyle bu araştırmaya sadece lisans 1 seviyesine (başlangıç) uygun solfej kitapları olan 1A, 1B, 1C, 1D, 1E numaralı solfej kitapları dahil edilmiştir. Bu kitaplarda mevcut olan toplam 707 solfej, çeşitli müzikal kriterler açısından yazılı olarak incelenmiştir. Yapılmış olan müzikal incelemedeki kriterler: Solfej parçasının anahtarı, ölçü sistemi, en tiz-en pes ses sınırı (Şekil 1 kullanılarak) olarak belirlenmiş ve bu veriler kitaplara göre ayrı ayrı listelenerek farklı veri tablolarına kaydedilmiştir.

Verilerin toplanmasında ikinci aşama da kendi içinde iki bölümden oluşmaktadır. Öncelikle araştırmacı pes ses türlerinin ses sınırları ile ilişkili yapılmış literatür taraması ile edindiği ve analiz ettiği kaynaklardan yola çıkarak (Çevik, 2013; Gürel, 2023; Güvenir, 2004; Helvacı, 2012; Kolçak, 1998; Özsan, 2010; Sabar, 2008) lisans 1 seviyesindeki pes seslerin ses sınırları tablosunun ilk taslağını oluşturmuştur. Bu taslak tablodaki ses sınırları Şekil 1' de verilmiş olan piyano klavyesi üzerindeki uluslararası kapsamda ses yüksekliklerini temsil eden kodlarla isimlendirilmiştir.

Araştırmacının hazırlamış olduğu lisans 1 seviyesinde pes ses türünde olan öğrencilerin ses sınırları taslak tablosu, kapsam geçerliğinin sağlanması için ses eğitimi alanında en az 10 yıllık çalışma deneyimi olan üç ses eğitimi öğretim elemanı tarafından incelenmiştir. Tabloyu inceleyen uzmanlar arasında görüş birliğine ulaşıldığının açıklanması için Miles ve Huberman'ın (1994) uzman görüş birliği formülüne başvurulmuştur (Görüş Birliği = Görüş Birliği Sayısı / (Görüş Birliği Sayısı + Görüş Ayrılığı Sayısı)). Buna göre ses sınırları tablosunda yer alan 12 maddeye (Tablo 1, ses sınırlarının harf ve rakamlarla yapılmış tanımlamaları) ilişkin uzman görüşleri incelendiğinde 11 maddede görüş birliği, 1 maddede görüş ayrılığı belirlenmiştir. Hesaplama sonucunda görüş birliği oranı %91.6 olarak bulunmuştur. Bu oran, %80 sınır değerinin üzerinde olduğundan uzman görüşleri arasında yüksek düzeyde tutarlılık olduğu kabul edilmiş ve tablo geçerli sayılmıştır.

Kapsam geçerliği aşamasının tamamlanmasından sonra Tablo 1 son halini almıştır.

Tablo 1.

Lisans 1 Kademesinde Pes Ses Türünde Olan Öğrencilerin Ses Sınırları

Ses rengi	Sol anahtarı		Fa anahtarı	
	En pes	En tiz	En pes	En tiz
Alto	Bb3	D5	Bb2	D4
Bariton	Bb3	D5	Bb2	D4
Bas	A3	D5	A2	D4

Verilerin Analizi

Araştırmada Albert Lavignac tarafından farklı rakam ve harflerle isimlendirilmiş olan solfej kitapları, araştırmanın problemi ve amacı doğrultusunda veri sağlayan kaynak-doküman olarak ele alınmıştır. Bu kitaplardan 1 numaralı seride olan 5 kitaptaki solfej parçalarının tamamı, doküman analizi tekniği ile analiz edilerek belirli kategoriler-değişkenler (solfej parçasının anahtarı, ölçü sistemi, en tiz-en pes ses sınırı) doğrultusunda incelenmiş, veriler görsel 1 kullanılarak tablolara işlenmiştir (Verilerin toplanması 1. aşama)

1. aşamada toplanan veriler, ses sınırları tablosuna göre (Tablo 1) alto, bariton ve bas ses sınırlarına uygunlukları açısından karşılaştırmalar yapılarak incelenmiş (kategorik analiz) ve bu ses türlerinin ses sınırlarına uygun solfej parçaları tespit edilmiştir. Tespit edilen solfej parçaları bulgularda ses türleri ve kitaplara göre ilgili tablolarda sunulmuştur.

Kategorik analizde solfej parçalarının anahtarlar (sol anahtarı ve fa anahtarları), ölçü sistemleri, en tiz ve en pes ses sesleri farklı değişkenler olarak incelenmiş ve tablolaştırılarak bulgularda sunulmuştur. Bulguların elde edilmesi ve tablolaştırılması sonrasında betimsel olarak analizler yapılmıştır. Elde edilen son analiz tabloları ve betimsel analizler araştırma hakkında bilgilendirilmiş başka bir alan uzmanı tarafından yeniden incelenmiş ve uygunluk onayı alınmıştır.

Araştırmanın Etik İzinleri:

Bu çalışmada “Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi” kapsamında uyulması gerektiği belirtilen tüm kurallara uyulmuştur. Yönergenin ikinci bölümü olan “Bilimsel Araştırma ve Yayın Etiğine Aykırı Eylemler” başlığı altında belirtilen eylemlerin hiçbiri gerçekleştirilmemiştir.

Etik Kurul İzin Bilgileri:

Bu araştırma amacı, problemi, yöntemi ve verilere ulaşılması açısından etik kurul iznine ihtiyaç durulmadan yapılandırılmış ve tamamlanmış bir araştırma özelliğindedir.

Bulgular

İncelenen kitaplarda alto, bariton ve bas ses türlerine ve sınırlarına uygun olan solfejler tespit edilmiştir. Bu ses türlerine uygun olduğu tespit edilen solfej numaraları 5, 6, 7, 8 ve 9 numaralı tablolarda verilmiştir. Bu tablolara göre Lavignac'ın 1 numaralı kitap serisinde:

Alto-bariton ses türlerinin ses sınırlarına uygun sol anahtarındaki solfej parçalarının toplam sayısının fazladan aza doğru 1-A (51), 1-B (40), 1-E (18) şeklinde sıralandığı; bas ses türünün ses sınırlarına uygun sol anahtarındaki solfej parçalarının toplam sayıları fazladan aza doğru 1-A (51), 1-B (41), 1-E (25) şeklinde sıralandığı (1-C ve 1-D solfej kitaplarında sol anahtarında solfej parçası olmadığı için bu kitaplardan veri sunulamamıştır) tespit edilmiştir.

Alto-bariton ses türlerine uygun fa anahtarındaki solfej parçalarının toplam sayısı bakımından çoktan aza doğru 1-C (67), 1-D (21), 1-A (14) ve 1-B (3) şeklinde sıralandığı; bas ses türüne uygun fa anahtarındaki solfej parçalarına ilişkin toplam sayı bakımından çoktan aza doğru sıralama 1-C (67), 1-D (27), 1-A (14) ve 1-B (3) şeklinde olduğu (1-E solfej kitaplarında fa anahtarında solfej parçası olmadığı için bu kitaptan veri sunulamamıştır) tespit edilmiştir.

Tartışma ve Sonuç

Lavignac'ın "1" kodu ile numaralanmış "Solfege des Solfeges" isimli kitap serisinde sadece sol anahtarı ve dördüncü çizgi fa anahtarı ile yazılmış tek sesli solfej parçalarının bulunduğu; 1-C ve 1-D solfej kitaplarındaki solfej parçalarının tamamen fa anahtarında, 1-E kitabındaki solfej parçalarının tamamen sol anahtarında ve 1-A ile 1-B kitaplarındaki solfej parçalarının da hem sol hem de fa anahtarlarında oldukları sonucuna 1-A, 1-B, 1-C, 1-D ve 1-E solfej kitaplarında verilmiş olan solfej parçaları arasında ses genişliği açısından en geniş aralıklı olan solfej parçalarının 1-E kitabında olduğu sonuçlarına ulaşılmıştır.

Lisans 1. sınıf seviyesinde ses kullanma yeterliğinde olan alto, bariton ve bas bireylerin, Tablo 1'de belirtilmiş olan ses sınırlarından yola çıkılarak, 1-A numaralı solfej kitabında alto, bariton ve baslar için eşit sayıda solfej parçasının olduğu; 1-B numaralı solfej kitabında alto, bariton ve bas seslerin ses sınırlarına uygun olan solfej parçası sayısının birbirleri ile neredeyse eşit olduğu; 1-C numaralı solfej kitabında alto, bariton ve bas seslerin ses sınırlarına uygun olan solfej parçası sayısının birbirlerine eşit olduğu; 1-D solfej kitabında lisans 1 seviyesinde ses sınırları açısından bas ses türünde olan bireylerin alto ve bariton ses türlerindeki öğrencilerden daha fazla solfej parçası olduğu; 1-E numaralı solfej kitabında bas seslerin ses sınırlarına uygun olan solfej parçası sayısının alto-bariton seslerine göre daha fazla olduğu sonuçlarına ulaşılmıştır.

Albert Lavignac ve diğer solfej kitabı yazarlarının kitaplarındaki solfej parçalarının belirli oranda ses kullanma becerisine-yeterliğine sahip olan bireyler tarafından okunabileceğini düşünmüş oldukları ve buna göre solfej parçalarını yazmış oldukları söylenebilir. Ayrıca solfej kitabı yazarlarının kendi ülkelerinde verilmekte olan müzik eğitimi programlarında bulunan öğrencilerin ses eğitimi çalışmalarına uyumlu solfej kitapları yazmayı planlayıp solfej kitaplarını yazdıkları; yazdıkları solfej kitaplarını kendi ülkelerindeki müzik öğretim faaliyetlerine faydalı olması amacıyla yazmış oldukları, ulusal-uluslararası müzik eğitimi kapsamındaki öğrencilerin ses yeterliklerini dikkate alma-almama düşüncesinde olmadan solfej parçalarını yazmış oldukları da düşünülebilir. Bu açılardan bakıldığında ülkelerin, içinde solfej eğitimi ve ses eğitimi de bulunan kendi müzik eğitimi programlarına göre şekillenecek eğitim programları oluşturmalarının önemliliği öne çıkmaktadır.

Ulusal kapsamda düşünüldüğünde yukarıda verilmiş olan tespitlerle ve bu araştırma ile ilişkili olarak Kendüzler'in (2023) yapmış olduğu solfej ve ses eğitimi ilişkisindeki araştırmanın incelenmesinde fayda olduğu düşünülmektedir. Kendüzler'in (2023) araştırmasına göre; profesyonel müzik eğitimi kurumlarında öğrenci olup hiç ses eğitimi almadan solfej çalışmalarına başlayan öğrenciler de mevcuttur. Bu öğrenciler ses kullanımı için gerekli bilgileri almadan kendi bildikleri (doğru-yanlış-yetersiz) şekilde solfej çalışmaları yapmaya çalışmaktadırlar. Başlangıç seviyesi solfej eğitimine uygun kullanılan mevcut

kaynaklarda öğrenciye “sesini kullanmayı” öğretmeye yönelik egzersizler yer almadığından, öğrenciler yeterli performans açısından olumsuz etkilenebilmektedirler. Ayrıca literatür tarandığında, başlangıç düzeyi solfej eğitiminde öğrencinin sesini kullanamama probleminin çözümüne yönelik herhangi bir çalışmanın olmadığı da tespit edilmiştir (Kendüzler, 2023, s. 452).

Ülkemizde lisans seviyesinde müzik eğitimi vermekte olan çok sayıda kurum bulunmaktadır. Bu kurumların her birisinin farklı misyon ve vizyonları ile müzik eğitimi verdikleri bilinmektedir. Solfej dersleri açısından bakıldığında her birisinde farklı solfej dersi öğretmenlerinin görev yapması, öğretmenlerin derslerini kurumun çeşitli özelliklerine ve kendi akademik seçimlerine bağlı olarak sürdürmesi ve ulusal düzeyde ortak bir solfej dersi öğretim programının bulunmaması nedeniyle solfej dersinde standartlaştırılmış bir eğitim anlayışında olunmasının zor olduğu söylenebilir. Bu açıdan bakıldığında solfej dersi uygulamalarının ses eğitimi ile ilişkilendirilerek incelemeler ve çıkarımlar yapılması istendiğinde müzik eğitimi açısından benzer ve farklı niteliklerdeki kurumların tüm özelliklerinin dikkatle alınması gerekliliği doğmaktadır.

Müzik eğitiminde sunulan elektronik-akustik performansların, geleneksel özellikte müzikal birikimlerin aktarımı ve öğretimine yönelik çalışmaların, geçmişten gelen müzikal-kültürel birikiminin çeşitli güncel gelişmelerden etkilendiği de görülebilmektedir. Bilim ve teknolojinin gelişimi ile son yıllarda öne çıkan yapay zekâ ve benzeri algoritmaların, mobil-PC uygulamalarının veya otonom sistemlerin (makinelerin) müzik, solfej-ses eğitimi alanındaki var olan birikimi de ele aldığı görülebilmektedir. Bu bağlamda solfej eğitiminde de insanların çeşitli vokal-ses özelliklerine uygun profesyonel anlayışta uygulama ve yeni buluşların bundan sonraki süreçlerde daha fazla gündeme gelebileceği düşünülmektedir.

Öneriler

Müziksel okuma dersleri öncesinde ses eğitimi alanında uzman eğitimciler tarafından öğrencilerin ses sınırlarına göre ses türlerinin belirlenmesi ve bu çalışmada belirtilmiş olan ses türlerine göre hazırlanmış solfej parçası listelerine dikkat edilmesi halinde, öğrencilerin müziksel okuma başarılarının daha da yükselebileceği düşünülmektedir.

Araştırmada sunulmuş tablolardaki listelere uyulması halinde öğrencilerin kendi ses sınırlarında ve sınıf seviyesine göre hazırlanmış olan solfej parçalarını rahatlıkla okuyabilme, ses kullanımında yaşanma ihtimali olan olumsuzluklardan uzak kalabilme ve müziksel okuma performansına daha kolay odaklanabilme oranlarının artabileceği düşünülmektedir.

Solfej bestecilerinin yeni solfej parçalarını bestelerken lisans öğrencilerinin ses sınırlarına mümkün olduğunca dikkat etmelerinin, mümkünse besteleme süreçlerinde ses eğitimi uzmanlarından fikirler almalarının, pes-orta-tiz ton seçenekleri olan çok tonlu solfej parçalarına kitaplarında yer vermelerinin öğrenciler için kolaylıklar sağlayabileceği düşünülmektedir.