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Teaching Methods for Music-Note Education in Students with Special Needs: A Proposed Model for Note Instruction

Mehmet Şahin AKINCI*, Zonguldak Bülent Ecevit University,
State Conservatory, Türkiye,
ORCID ID: 0000-0002-2404-330X, mehmetsahinakinci@hotmail.com

Abstract: Students with special needs receive music education either in groups or individually, depending on their needs and the resources available. This education is shaped by various factors, including the nature of the student's needs, the quality of the institutions providing the education, the teaching competencies of the educators, and the preferences of the student's parents. If students' physical and cognitive abilities are sufficient, it is crucial to include notation instruction in their music education to ensure its long-term impact and sustainability. This study employs document analysis, conducted after a comprehensive literature review, to identify effective teaching methods with general characteristics for integrating notation into the music education of students with special needs and to propose a teaching model. The findings include information on teaching notation through colour notation and approaches grounded in the Kodály and Suzuki music teaching methods. Additionally, technology-supported models for teaching notation were introduced. Music educators were also provided with a step-by-step beginner-level notation system that can be applied in piano instruction for students with special needs.

Keywords: *Students with Special Needs, Music Education, Teaching Method, Teaching Notation*

1. INTRODUCTION

In music education, a subfield of arts education, several areas of development are targeted, including ear training, individual and ensemble instrument training, individual and ensemble vocal training, and music theory. Just as in other fields, various pedagogical factors shape and define the music teaching process. These factors include the training program, the target audience, the purpose of the training, the physical learning environments, the materials used, the trainer's expertise, and the teaching methods and techniques.

It can be acknowledged that the two most important active elements in educational environments are the teachers and students. Given that the aim of educational activities—regardless of the field—is to provide students with a thorough and effective education and to enhance their achievements, it can be concluded that students, as the direct recipients of teaching outcomes, hold a unique degree of importance compared to teachers.

*** Corresponding Author**
Zonguldak Bülent Ecevit University, State Conservatory, Türkiye

Students grow up with diverse socio-cultural backgrounds and receive guidance from teachers throughout their schooling. In educational activities, some students may progress more quickly and easily, while others may develop at a slower pace and require additional time, indicating diversity in academic abilities and social skills.

It is highly unlikely to find students with identical social, cultural, cognitive, emotional, and physical characteristics, and academic achievements across all educational settings. However, from a medical perspective, specific developmental periods and general average characteristics are expected at each stage of human growth. While some individuals progress according to typical developmental timelines, others may display traits that either precede or lag these norms, indicating atypical development. Such individuals often require additional support in their social and academic lives and are referred to as "individuals" or "students with special needs" due to these characteristics.

In Türkiye, under the right and obligation of every individual to receive an education, students continue their education at appropriate levels. Students with special needs either participate in general education alongside typically developing students or attend specialized schools designed to meet their specific requirements.

Music education for students with special needs aims to enhance academic achievement, improve social skills, and foster physical and artistic development through carefully structured plans and programs. Depending on the type of special need and student preferences, these activities focus on rhythmic development (often using rhythm instruments and/or body percussion exercises), strengthening collective and individual singing skills, and advancing instrumental performance abilities. These activities incorporate music teaching methods tailored to the institution's standards, the student's type of special need, their receptiveness to education and communication, and the teacher's expertise. The same subject may need to be approached differently for each student with special needs, making it crucial that music educators reach a certain level of proficiency in teaching methods, techniques, and professional expertise.

General methods used in music education include lecture, discussion, question-and-answer, interactive dialogue, analytical approaches, presentation/response, discovery, creation and production, gamification, role-playing, case studies, inquiry, storytelling, collaboration, sharing, problem-solving, demonstration and performance, design and realization, and hands-on learning (Uçan, 1997). Music educators apply these methods based on the type of music education their institution offers, their professional competencies, the age and readiness of the students, the objectives of the musical education being delivered, as well as the physical environment and available resources.

Field methods for music teaching include numeric notation, tonic sol-fa, alphabetic notation, color notation, graphic notation, the ladder method, the Kodály Method for Music and Notation Teaching, alternative notation systems, Dalcroze, Orff, and experiential music teaching methods (Yıldız, 2002, pp. 54-68). Within the scope of childhood music education, methods such as Kodály, Suzuki, and Dalcroze's rhythm-based approach stand out for their unique

philosophies and teaching techniques (Mabini, 2024, pp. 956). These approaches, which may include the Carabo-Cone method, provide essential strategies to address the learning challenges of the curriculum that music teachers implement in their institutions. They enable educators to assess the competencies and diversity of the curriculum, understand the needs of students, and identify the most effective and appropriate strategies for delivering lessons (Tabuena, 2021, pp. 9). These approaches contribute to students' readiness to learn to play an instrument (Özen, 2004, pp. 61). As education, technology, social life, and science progress, music teaching methods may incorporate new techniques or adapt existing ones. The evolution of methods is evident through the publication dates of studies and the varied presentations of researchers on the topic. For example, Bulut (2020) lists music teaching methods as lecture, analysis, simulation, discovery, drama, observation, demonstration, modelling and practice, group work, collaboration, micro-teaching, case study, problem-solving, programmed teaching, project, role-playing, presentation, question-answer, discussion, and distance learning for music education (Bulut, 2020, pp. 6-139). In addition to these methods, music learning-teaching strategies should also be explored to enhance students' understanding of the education provided. Examples of such strategies include cooperative learning and case-based teaching (Conway, 2020).

In music education, it is commonly believed that applied studies dominate the field. However, this idea should not be considered an absolute truth, except in the case of certain music teaching methods. In practice, music theory studies are integrated throughout the education process—spanning pre-practice, in-practice, and post-practice phases.

The note training practiced in music theory studies varies depending on the type of music education. Topics in early note education include examining and writing note-rest forms; recognizing note durations and measure types concerning note lengths and practicing writing these; and identifying clefs used in musical works, practicing writing them, and exercises that apply simple note-writing techniques to pieces that may be suitable for instrument training.

In some music education programs, instruction may utilize methods such as "modelling and practice" or "modelling and repetition," which are also known as aural teaching methods. These methods often reflect teacher and student preferences. However, musical notation remains fundamental to music education, as it provides a more permanent foundation and supports advanced teaching stages. According to Güler and Bulut (2020, pp. 31), the primary function of learning notation is to ensure the validity, scope, and effectiveness of musical activities at the highest level.

In music notation, notes indicate the duration of sounds in the string in music writing (Özgül, 2014, pp. 3). In music writing, notes serve as markers of sound (Beşevli, 2021, pp. 48). Several methods exist for teaching musical notation in music education. The method chosen depends on the institution's program (professional or amateur), the music educator’s expertise, and the student’s developmental characteristics (academic-cognitive-physical and typical or non-typical). In music education, various notation teaching methods exist, such as the classical education approach (presentation-based), colour notation, and international methods like Kodály or Suzuki. Some of these methods focus solely on theory without involving any

instruments, while others integrate instruments into the notation process. One of the most used instruments for teaching notation to children in Türkiye and abroad is the organ or piano, as it provides a clear and straightforward structure for learning music.

As children learn the notes on the piano instrument, their musical perception and intelligence will support each other with a holistic understanding. The use of correct methods and appropriate expressions by educators will facilitate the teaching of notes to children (Kurtuldu, 2010, pp. 763). Some of these are: Teaching notes through tongue twisters (Kurtuldu, 2010); "The Middle C" approach, which allows students to practice both piano and notes (Doğan & Tecimer, 2019); The Montessori teaching method (Kaya, 2011) has been presented in various studies. Another type of note teaching is teaching is teaching notes with the classical approach.

Notation teaching with the classical education approach: This method is teacher-centered and can be divided into two distinct periods. Before the development of modern technology, this approach involved writing the musical notes one by one or in a specific sequence on the classroom board, followed by question-and-answer sessions, written repetition exercises, and homework assignments. After the development and widespread use of technology, teaching activities have been conducted using video clips and presentations on various devices such as computers, tablets, and smart boards. In this approach, the teacher still presents the information (such as the names and positions of the notes). During this process, students typically adopt a passive role, taking notes based on the information provided without actively engaging in the learning process. They write down the notes as instructed, complete written assignments, and do not engage in research or comparison activities.

It is undeniable that teachers use a variety of teaching methods for students with special needs in educational settings. While some of these methods are shared through academic publications, others are introduced and implemented through seminars, presentations, and virtual platforms with the support of various institutions and volunteers. An example of this is the note-reading and writing program for the visually impaired, "GOODFEEL," provided to educators by Marmara University's Disabled Student Unit Coordinator ship in 2005.

Regardless of the target audience, the basic principles of note-teaching studies have remained largely consistent. The goal is to deliver information gradually, following a structured plan, step by step, in sequence, and with the flexibility to adapt to various influencing factors. This study introduces multiple methods for advancing notation teaching, an essential aspect of music education and theory for students with special needs. It also provides progressive information and a model proposal developed by the researcher, which is considered valuable for offering music educators practical support.

1.1. Research Problem

What are the teaching methods that can be used in notation teaching, which is a part of music education with students with special needs, and what are the application stages of the sample model presented in the research?

1.2. Research Purpose

This study aims to examine existing teaching methods applicable to notation teaching, a component of music education for students with special needs, and to propose a staged teaching model developed by the researcher.

2. THEORETICAL FRAMEWORK

Education comprises several primary fields, including sciences, mathematics, and social sciences, each with various sub-fields. All these fields apply distinct teaching methods and techniques within their scope. "Special education," a sub-field within education, addresses the characteristics and learning needs of students with special needs. According to Akıncı (2017, pp. 78-83), students who do not exhibit typical mental, social, or physical development are categorized within special education and identified as students with special needs. This group includes individuals with visual, hearing, physical, orthopedic, or speech impairments, chronic disabilities, intellectual disabilities, autism spectrum disorder, and emotional or behavioral disorders.

In special education, field-specific teaching methods are adapted to both the educational field and students' needs. Methods include "errorless teaching," "direct instruction," "natural teaching," "teaching with visual support," and "student-centered teaching" (URL-1). Students with special needs receive education across all fields, though typically less intensively and frequently than their peers (excluding gifted students). In music education, these students engage in group or individual activities under the "Individualized Education Program" (IEP), which music educators tailor to their unique needs. Some students may have multiple needs, adding further complexity to the already challenging teaching activities.

In Türkiye, both national and international methods are used to teach musical notation to students with special needs. Some of these methods are designed solely for individual instruction, while others suit both group and individual teaching. The literature reviewed in this study highlights a wide range of notation teaching methods. The methods included here are presented with the limitation that they are specifically applicable to teaching musical notation to students with special needs, the target audience of this research.

3. METHODOLOGY

3.1. Research Model

For this study, the qualitative method of "document analysis" was used to collect data. It entails reviewing written materials pertinent to the research objectives and can serve both as an independent method and alongside other qualitative data collection techniques (Yıldırım & Şimşek, 2021, pp. 189).

3.2. Data Collection and Analysis

During the document review phase, resources such as completed theses, articles, printed books, PDFs, papers, curricula, and content related to categories including “music teaching,” “notation teaching,” “music education for students with special needs,” “students with special needs and music,” “music education for students with autism,” “music education for students with intellectual disabilities,” “music education for inclusive students,” “music teaching methods,”

and “teaching methods in special education” were examined. These are accessible on educational institution websites and were reviewed to present information pertinent to the proposed teaching model in this study and to facilitate various comparisons for educator-readers.

Based on the survey conducted in the research area, along with a review of relevant literature and documents, methods deemed suitable for teaching musical notation to students with mild autism, mild to moderate intellectual disabilities, and inclusive students were incorporated and presented in the findings section. Individuals with visual impairment, hearing impairment and orthopaedic disabilities were not included in this study. The criteria for selecting notation methods in music education for this target group included the following: methods should have a history of use in music education, be more frequently preferred over other notation methods, engage children enjoyably, and facilitate intuitive learning. Additionally, these methods should incorporate technology and allow movement during use. The findings section also includes a model proposal developed by the researcher for practical field application.

4. FINDINGS

4.1. Teaching through Color Notation

A nationally adopted method in notation teaching is "Color Notation," which uses different colors to guide, distinguish, and facilitate students’ understanding of note types during the application phase. This approach, introduced by Salih Aydoğan, a Turkish academic and music educator, was specifically recommended for primary school students (typically aged 6-13). International adaptations of this method also exist.

In the teaching process, note shapes and durations are presented through direct instruction. However, colors are added to make the activity more engaging and age-appropriate, enhancing the effectiveness of notation instruction. Color Notation, widely used by many music educators, is a simple yet effective method. When adapted to meet the unique needs of students with special needs, this approach can significantly improve their success in learning musical notation.

The approach to notation teaching begins not with the traditional five-line staff, but with a single horizontal line and a quarter note, which is colored blue to aid in future understanding of the staff. Quarter notes are introduced with monosyllabic words and syllables like “şıp,” “çal,” and “güm,” which help illustrate the concept. Quarter rests are taught as both a visual shape and duration, in their original form. After a period of practice with quarter notes and rests, the teaching progresses to eighth notes. Instead of single eighth notes, two connected eighth notes are introduced with the syllable grouping “ta ta ta,” and these, like all notes at this stage, are colored blue. Once these exercises are practiced, the G note (a blue quarter note) is introduced on the five-line staff, and instruction continues with the G note in blue.

The repertoire of children’s songs incorporates quarter rests, quarter notes, and eighth note groupings in rhymes, songs, counting games, lullabies, and nursery rhymes, complete with musical notation and lyrics. This notation teaching process uses these elements to train learners.

Gradually, notes are introduced in specific colors—G (blue), A (yellow), F (red), E (purple), and D (green). Once certain learning milestones are reached, these notes are recorded, and the instruction progresses to the next note type.

Figure 1. *An Example of a Working Document on Teaching Using Color Notation (Aydoğan, 2003, pp. 61).*

Teaching through color-coded notation has limitations in music education for students with special needs, as it may not be suitable for all. For example, if a student has visual impairment, this method becomes impractical. For students with multiple special needs, music educators must explore alternative methods to identify a suitable approach.

4.2. Kodály Method for Music and Notation Teaching

The Kodály method, developed by Hungarian composer Zoltán Kodály, is valued internationally for its impact on music education. Rooted in traditional children's songs, nursery rhymes, and lullabies, this approach aims to teach both Hungarian folk music and theoretical music concepts through Kodály's unique, child-friendly framework.

Kodály advocated that for a solid foundation in music, education should begin systematically in preschool. Delayed instruction in these early years may hinder musical progress in later stages. His teaching initially focused on Hungarian melodies, as foreign languages and melodies tend to slow musical learning (Yıldırım, 1995, pp. 13). According to Türkmen (2016), the Kodály approach emphasizes three key elements: tonic sol-fa, hand signs, and rhythm syllables. In tonic sol-fa, notes are represented by syllables. In Turkish adaptation, "sol" becomes "so," and "si" becomes "ti." Kodály's method treats all major keys as C major and minor keys as A minor, standardizing the naming of notes.

Rhythm, a core element in Kodály's approach, is taught using syllables and familiar words. For example, city names like "Van," "Ankara," and "Karaman" are used in Türkiye to illustrate rhythmic concepts (Altun, 2020, pp. 38).

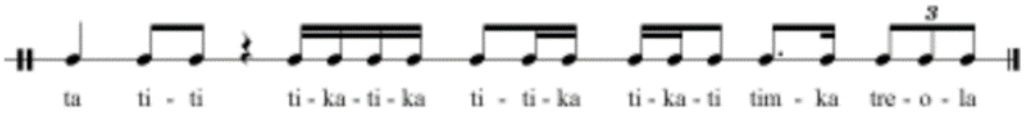

Figure 2. *Rhythm Patterns Used in Kodály Method and Their Nomenclature (URL-2)*

Ear training and pitch accuracy are developed through hand signs, as shown in Figure 3. Teachers initially focus on middle tones, like A, G, and F, and gradually expand to other notes using hand gestures. In some sessions, both hands are used simultaneously, with the right hand and left hand showing distinct signs to enable polyphonic hearing practice.

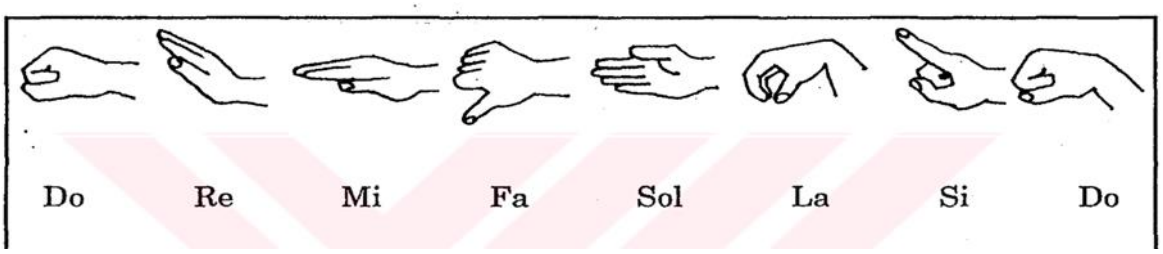

Figure 3. *Hand Signs used in Kodály Method for Music and Notation Teaching Music Teaching for Theoretical and Auditory Training of Notes (Yıldırım, 1995, pp. 31).*

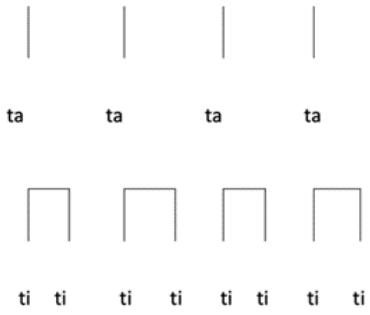

Figure 4. *Basic Working Patterns in Stick Notation Exercises*

Stick notation is adapted to suit the learner's age and musical development, as shown in Figure 4. Linear notation with a rhythmic focus emphasizes rhythmic theory over pitch, allowing students to grasp the foundational rhythm structure before learning specific pitches.

In the Kodály method, using stick notation, hand signs, and rhythm syllables is especially recommended for this study's target audience. This approach simplifies musical theory, aligning with students' unique learning styles and potentially boosting comprehension and success rates among students with special needs.

For students with special needs, incremental gains across education and development areas are essential. While Kodály's symbols, signs, stick notations, and rhythm concepts enrich learning, they may challenge students with additional needs, such as learning disabilities. For these students, it is crucial to reinforce the rhythmic elements in Kodály's teaching, particularly at the basic level. Using simple stick notation with only quarter and eighth notes can help build foundational competence in rhythm.

4.3. The Suzuki Method and Notation Teaching

In Shinichi Suzuki's teaching model, music education starts early with listening and instrument activities, primarily through violin training (Türkmen, 2016, pp. 96). Listening activities immerse children in a natural musical environment, fostering early recognition of musical elements. Suzuki's method, which focuses on violin education, suggests children begin formal violin training around age 3 when they can physically manage the instrument. At this point, they start learning by listening to simple melodies and practicing by ear to develop violin techniques through musical pieces (Saraç, 2016, pp. 166). Suzuki emphasizes daily practice, even recommending that families acquire basic musical knowledge to support their children effectively (Kara & Pirgon, 2013, pp. 7).

After a foundational phase, students who have been learning by ear begin to use printed sheet music, advancing to reading and analyzing the notes of pieces they have already practiced aurally. This discovery-based learning method encourages students to solidify their skills by connecting playing techniques to written notation. Through continued practice, students fill theoretical gaps, acquire new knowledge, and perform pieces by reading notated music.

Suzuki's approach can be adapted for students with special needs who have reached a basic musical proficiency, though it is particularly suitable for gifted students. Gifted learners familiar with piano techniques and basic notation can be encouraged to listen to simple children's songs and play them on the piano by ear. By selecting appropriate songs and nursery rhymes from children's repertoire to support musical growth, educators can positively influence students' progress.

4.4. Technology Supported Theory-Notation Teaching

Changing conditions in society's physical and social environments create new needs. When addressed to improve lives, these needs drive further technological advancements, with education being one of the fields profoundly affected (Maraşlı & Değirmencioğlu, 2023, pp. 1486). The advantages of technology in achieving more effective, rapid educational results are indisputable (Şen, 2011, pp. 1). As science and technology progress, educational approaches, tools, and equipment continuously evolve, with computers playing a major role. The concept of Computer-Assisted Education (CAE) emerged with the integration of computers into educational practices (Lehimler, 2016, pp. 441).

Teachers now carry the responsibility of equipping individuals with essential knowledge, skills, and resources to participate in society. Consequently, adapting to rapidly advancing technology has become critical for educators (Ayhan & Aydınlı Gürler, 2023, pp. 306). In technology-enhanced learning environments, students benefit from hands-on learning, critical thinking,

analysis, and presentation skills. This model shifts the teacher's role from providing rote knowledge to guiding students on how and where to find information, with teachers expected to continually update their own knowledge and tech skills. These advancements in educational technology have notably influenced music education, promoting transformative practices (Levendoğlu, 2004, p. 123).

Since the late 20th century, electronic and digital environments have become central, greatly impacting the music field. Innovations in composing, arranging, performing, and sharing music, as well as creating software and publishing sheet music, have emerged (Koç, 2004). Computers, tablets, and smartphones now support individual and group music education for all ages, enhancing teaching through interactive audio-visual tools. The latest advances allow for audio and video files that stimulate sensory engagement and can be easily integrated into music education.

In music education for students with special needs, using technology-supported theory and notation teaching can provide significant benefits. These include frequent reproducibility, enhanced auditory and visual engagement, and easy customization to the unique needs and interests of these students. By positively stimulating their interest in music and reinforcing theoretical knowledge, students with special needs may progress more rapidly than anticipated. arious music and notation teaching methods, as well as some distinct “approaches,” have been identified in the field. Kalkanoğlu (2020) compiled and summarized these approaches, offering a comprehensive resource suitable for teaching notation to students with special needs. The main approaches are outlined below:

C4 Approach: It begins with the C4 note due to its unique shape and distinctiveness. Once mastered, students learn additional notes progressively.

Interval Approach: This approach begins with practicing black keys using specific fingers across the keyboard, initially without staff notation. In later stages, all five fingers are used on the staff, focusing primarily on hand technique rather than notation theory.

Multi-Tone Approach: Notation education starts with fourth intervals, practicing tonalities through a five-finger model and short melodies (Kalkanoğlu, 2000, pp. 417-420).

An important consideration in this teaching approach is the sensitivity some students with autism have to high or medium-decibel sounds. Learners with autism exhibit such sensitivities, it is essential to check the sound output of electronic devices used in music education. Additionally, students’ behavior and responses should be monitored closely during sessions.

4.5. A Model Proposal for Notation Teaching in Music Education of Students with Special Needs

It is not feasible to apply all teaching methods described in the findings section to every student with special needs enrolled in individualized education programs. The primary reasons are the diverse abilities of each student, variations among educational institutions, and differences in teachers' professional competencies in both music and special education. To strengthen the model's validity, this study was conducted with a specific focus group. The teaching model is

designed for individuals physically suited to play instruments like the piano or organ, including those with non-severe autism, mild intellectual disabilities, and students in inclusive settings. Additionally, the model allows educators flexibility, enabling them to implement it fully or adapt it based on their professional judgment.

Music education activities are closely tied to the educator's approach, impacting lesson structure, time efficiency, and overall effectiveness. For example, one educator might introduce the quarter note first, while another may start with the whole note. These instructional choices vary not only across countries but also between individual educators.

According to Güler and Bulut (2020, pp. 45), in notated music teaching, the quarter note and rest, each lasting one beat, are introduced first, followed by the eighth note and rest, which are valued at half a beat. The sequence of notes commonly practiced is F, G, A, D, E, C, and B.

Unfortunately, art and music education—as well as certain other academic fields—are often provided at minimal levels for students with special needs, with training focused primarily on social skills development over other academic areas. This study proposes a model for teaching music theory and notation specifically designed for students with mild to moderate intellectual disabilities, inclusion students, and those with moderate to non-advanced autism.

4.6. Beginner Graded Notation and Piano Teaching Model for Students with Special Needs (ANPÖM)

Education shapes every aspect of our lives and is a fundamental element that adds meaning to human experience. As individuals and societies inevitably evolve, education must support these positive transformations (Şen, 2011, pp. 1). With the renewal of educational practices, each subfield adapts to incorporate combined teaching methods. Over the years, educational activities have enriched their content, allowing for the integration of diverse instructional methods. While methods used in music education for typically developing students may not entirely suit students with special needs, they can be adapted with adjustments to principles and timelines to enhance success. The model proposed below offers an adaptable framework for educators, with modifications such as simplifying or advancing targeted learning outcomes.

Considering music education for both typically developing students and students with special needs, starting with instruments like the piano or organ proves beneficial, providing smoother musical progress. Instruments such as the recorder, commonly used in children’s music education, may present challenges with correct posture, breath control, and note hole coverage. Likewise, the melodica can be difficult for students due to requirements in holding, key pressing, and breathe control. These instruments demand complex physical and cognitive skills, which may exceed some students' developmental abilities. In contrast, with visible and easy-to-press keys, the piano or organ offers students a more accessible path to success in music education and performance. This study, therefore, proposes teaching musical notes through association with simpler instruments like the piano and organ, emphasizing practical over theoretical instruction.

1- Teaching correct sitting, arm, and wrist position on the piano

This stage can be adapted based on the presence of physical disabilities. For students without impairments in their hands, fingers, or upper body, the teacher should begin by guiding them on correct piano posture, including relaxed arm positioning, proper wrist movement, and correct foot placement. It's essential that they follow these instructions as precisely as possible. Initially, students may not achieve the ideal posture or technique. Therefore, regular checks are crucial to ensure they develop appropriate physical habits for piano playing.

2- Teaching finger numbers

In the proposed model, students begin piano practice with their right hand, learning finger numbers in sequential order: 2nd, 3rd, 4th, 1st, and finally 5th. Each lesson should start by reviewing these finger numbers. If they have no physical limitations, the teacher can incorporate hand and finger games to reinforce this learning, using a question-answer approach for added engagement. For learners with cognitive or learning difficulties, right-hand finger numbers should be introduced gradually and over an extended period.

3- Teaching A4 using simplified staff (three lines) and piano

The staff, consisting of five lines and four spaces, positions note by pitch—higher-pitched notes appear higher on the staff, and lower-pitched notes are placed lower. Introducing students with special needs to a full five-line staff at the outset may be confusing, as identifying note placement and counting lines or spaces can cause visual challenges.

In the process of teaching beginner level notes and practicing working with notes on the staff, it is thought that practicing on the three lines staff may be easier for students and teachers and the targeted success may be better. This approach reduces visual complexity and can enhance note recognition and practice outcomes. Given that pianos and organs share a similar key layout (a stable arrangement of black and white keys), understanding the instrument's structure and internalizing its key scheme may take time. Visual cues can help students, especially those with special needs; navigate the instrument more effectively, and aiding teachers in guiding note learning.

To facilitate learning, A can serve as a reference point for building note recognition. Temporarily marking A on the piano or organ, perhaps with colored tape, offers students an orientation cue. This marker should be subtle and minimally distracting to maintain focus on the learning process.

Starting note training on the piano with A has several advantages: It is one of the initial notes taught in the globally recognized Kodály music teaching method and frequently appears in nursery rhymes, counting games, lullabies, and traditional children's songs. Additionally, its pitch is easy for children to vocalize.

Different approaches in early piano and notation teaching use varying starting points. Some methods recommend starting with a quarter note, while others with a whole note. In this study, beginning with the whole note was chosen as it aligns with the whole-to-part approach, transitioning from longer to shorter notes. This progression supports students in understanding

note duration, musical timing, and rhythm flow. At this stage, a whole note is counted as four beats, though this may be adjusted for the intended audience.

The concept of a beat is introduced to students by demonstrating that a beat completes as the hand moves up and down. Students then practice gradually, progressing from one to two, three, and finally four beats. Since introducing A on both the staff and piano and asking students to hold it for four beats from the start may cause confusion, teachers should progress slowly, allowing ample time for understanding.

At this stage, the teacher demonstrates by playing note A4 on the piano, using the same finger the students will, while marking four beats with their left hand and counting aloud, "1-2-3-4." Since this is the students' first attempt, the count should be at a slow tempo. Once students seem comfortable, they can be invited to try exercise. When students play A4 for the first time, the teacher counts along (if the student can count). This practice helps students understand note durations, count, and explore tempo (fast and slow). While students play the note, the teacher should continue marking beats, count aloud, and point to the notes on the page with a pencil at intervals, making it easier for students to follow.

4- Teaching G4 on staff (three-line) and piano with whole note shape

The same approach applied to the A note is used for the G note. On the G clef, G is introduced on a three-line staff as a whole note. From this lesson onward, exercises should include both A and G, allowing students to practice combining them. Teachers should tailor these exercises to match the learning abilities and interests of each student with special needs. After this stage, teachers should continue planning and organizing exercises after each lesson to reinforce skills and concepts introduced in previous lessons.

5- Teaching F4 on staff (three-line) and piano with whole note shape

In line with previous lessons, the F note is introduced on the three-line staff in the G clef, using a whole note. At this stage, a new concept is introduced: drawing the measure lines without yet writing the time signature on the staff. The explanation is that the lines drawn on the staff are measure lines and that the spaces between them are measures. This information should not be presented to students in a direct manner but rather contextualized with relatable real-life examples to help them understand easily. For instance, the staff can be presented as the "house" of the notes, with each measure acting as a "room" within this house. Referring to measures as "rooms" in this way will help facilitate learning without causing confusion.

6- Teaching E4 on the staff (four-line) and piano with whole note shape

As the range of notes on the piano keyboard and staff expands, additional lines should gradually be added to complete the staff structure. In this lesson, the fourth line is introduced, after which it is essential to use the four-line staff for a set period to allow students time to visually adapt.

7- Teaching D4 on the staff (four-line) and piano with whole note shape

At this stage, the same approach and methodology used in the previous lessons should be followed.

8- Teaching C4 with the whole note shape on the five-line staff and piano
At this stage, the staff is complete with five lines. Worksheets should now be organized and used with the full staff. At the start of each new lesson, prior knowledge should be reinforced through level-appropriate exercises and songs arranged for the piano's right hand.

9- Transition to Stick Notation: "ta" and "ti ti" in Kodály Music Teaching
Until this stage, basic note training has focused on practicing whole note shapes and developing right-hand skills on the piano. In the next step, note education progresses to a higher level by introducing rhythmic patterns shown in Figure 4. Here, the primary goal is for students to visually perceive new note patterns without note heads, focusing solely on stems (linear notation).

Additionally, this step introduces "ta" (quarter note) and "ti ti" (two eighth notes) through both theoretical and practical rhythmic exercises. After a period, note heads are added to the stick notation for reinforcement.

In exercises with “ta” and “ti ti” symbols in stick notation, previously learned whole notes are also incorporated. These exercises are practiced on specific pages, where students, either alone or with the teacher, point to the symbols, verbally identify the rhythm, and for whole notes, count "1-2-3-4" while tapping to keep time.

At this stage, teachers should continue reinforcing “ta” and “ti ti” patterns, using hand claps or tapping to support students in exercises and songs. This approach familiarizes students with rhythmic flow and note durations while receiving guidance. If the students’ needs allow, they should also practice beats independently to physically and mentally internalize musical concepts.

10- Whole note, "ta" (quarter note), and "ti ti" (two side-by-side eighth notes) learned on the keyboard, with the introduction of the quarter rest
On the exercise sheets prepared by the teacher, students' progress should be clearly and systematically displayed. Notes and rhythmic patterns learned so far should not be presented on the same staff simultaneously. Before combining all learned notes on a single staff, students should demonstrate proficiency in playing the whole note, "ta" pattern, and "ti ti" pattern individually through exercises and simple songs with minimal errors and sufficient accuracy.

The exercise sheets should start with staffs focused on whole notes and corresponding beats, followed by exercises using only "ta" patterns with familiar notes, and then practice on "ti ti" patterns with known notes. Lastly, the quarter rest, which matches the duration of "ta" or a quarter note, can be introduced as a new concept. When teaching the quarter rest, sounds like "susss" or "şişşşş" can help vocalize the silence, and students should practice the rest's duration accordingly. After its introduction, frequent use of the quarter rest in exercises is generally unnecessary.

11- Transition to the F clef and C4

After learning several notes in the G clef and practicing the right-hand technique, students reach a stage where they can engage in higher-level cognitive activities. At this point, if students show sufficient understanding and perception, storytelling or drama techniques may be introduced. For example, when teaching the F clef, the location of C4 on the piano can be explained with a story: two houses on the piano share one door—C4. After telling the story, the teacher introduces the F clef by saying, "If we go down from middle C, we open the door using the F clef and descend," and then students practice C4, the first note in the F clef. From this stage onward, lessons continue with the classical two-staff piano notation.

When transitioning to the F clef, students can practice on the full staff, as they have already become familiar with its structure while working with the G clef. Teachers can employ various methods to help students cognitively distinguish between notes in the right and left hands and the use of separate staffs. Initially, practice sheets for F clef notes should exclude G clef notes to avoid confusion.

Once students have learned the notes C4, B3, and A3 in the F clef using whole notes, left-hand key concepts can be reinforced. As they make progress, teachers can prepare exercises with varied note patterns based on what has been learned.

12- Practicing B3, A3, G3, F3 in the clef of F3, respectively

When beginning the study of descending notes in the F clef, teaching can incorporate storytelling and relatable, real-life analogies. For example: "The notes have two houses. One house opens with the G clef, where you go upstairs. The other opens with the F clef, leading you down to lower floors." Teaching can progress with narratives that mirror real-life scenarios.

Developing left-hand skills and theoretical knowledge in the F clef can take time. During the period when both clefs (G and F) are practiced together, even more time and extensive practice are required. It's essential to work on engaging pieces that sustain students' interest, foster a positive learning attitude, and align with their musical abilities.

13- Practicing B4 and C5 (high pitch) in the G clef

Students who have successfully completed the model's stages and sustained their interest in music and piano education will gain a stronger grasp of musical learning, allowing them to overcome previous challenges. Once these achievements are met, the notes B4 and C5, which have not yet been introduced in the first octave in the G clef, are practiced through targeted exercises and pieces.

14- Switching to E3, D3, and C3 notes in the F clef

Students with special needs who reach this final stage in the model are expected to successfully master new skills moving forward. At this level, the goals include practicing new pieces, fostering a love for music, developing ease with musical expression, and confidently performing. Students are encouraged to present their music confidently, whether to family, friends, or larger audiences, supporting both musical and personal growth.

Not all students with special needs may complete every step of this structured notation and piano teaching model. Some may remain within the initial six steps, while others may progress further in their musical journey. It is important for the music educator to ensure each step is fully grasped before advancing. If new content disrupts prior learning or fails to solidify over time, it is recommended to revisit or pause the current step.

4.7. Additional Important Information to be Implemented in the Lesson During the Use of Teaching of the Beginner Graded Notation and Piano Teaching Model for Students with Special Needs

If there are no limitations due to the student's special needs, singing, and rhythmic activities can be incorporated to support language development and enhance essential rhythmic skills. These activities, often featuring melodic rhymes in a pitch range of 3-4, or occasionally 5 notes, engage students in ear training, often without their conscious awareness.

After learning each new note, it is essential to review and practice notes from previous lessons. This ensures that skills acquired earlier are retained and that new abilities build upon and reinforces prior learning. Music educators should select suitable examples from children's song repertoires, such as nursery rhymes, counting games, and lullabies, organizing them according to the student's musical development. If necessary, songs without existing sheet music should be notated, and finger numbers can be included on the sheet music for an extended period to aid learning.

Knowledge and skills acquired through question-answer and demonstration methods should be reinforced through repetition. This solid foundation facilitates future musical development.

For students with special needs who do not have physical disabilities and are willing, note-writing exercises on blank staff sheets provided by the teacher should be practiced. This helps minimize the risk of forgetting the notes. Repeatedly writing "ta" and "ti ti" may positively influence success in future lessons.

The exercises, nursery rhymes, counting games, simple children's songs, and similar pieces selected by the music educator during lessons should remain in a quadruple time signature for an extended period at the beginning of notation training. This is crucial in the suggested model, as practice starts with whole notes. Exercises in two-four and three-four-time signatures can be incorporated later, once the half note form is introduced.

The topics and skills outlined in the sequentially numbered model should progress through repetition, adjusted to each student's level of success relative to their mental or physical disability. As each student has unique comprehension, achievement, and learning characteristics, the teacher may need to revisit and repeat some lessons based on individual needs.

After they have learned the note scale of an octave above C4 in the G clef and the scale of an octave below C4 in the F clef, they should practice sample pieces from the children's song repertoire within these pitch ranges for an extended period. Teachers should first demonstrate

the new exercises and songs, playing the right and left hands separately. This method enhances students' visual and auditory skills through social learning, allowing them to improve their technique and correct mistakes more easily, regardless of the instrument being learned.

Additionally, showing various performance videos that demonstrate the pieces or exercises with correct technical and musical proficiency is highly important. Children can acquire many skills through virtual social learning as well.

5. CONCLUSIONS AND RECOMMENDATIONS

If there are no limitations related to a student's needs, maximizing note training and related activities is crucial to make learning gains permanent in music education for students with special needs. This approach also supports future education in other areas of music.

After reviewing the literature, this study highlights various national and international models easily adaptable for special needs music education, such as color notation, the Kodály Method, the Suzuki music teaching framework, and technology-supported models. Additionally, this study introduces The Beginner Graded Notation and Piano Teaching Model for Students with Special Needs, structured in phases to provide valuable insights for educators, contribute to the field, and serve as a practical model.

Music educators working with both typically developing students and those with special needs are ideally proficient in both music education and pedagogy. However, they should also pursue continuous research, skill development, and direct experience with special needs students.

Effective education depends on a deep understanding of both general pedagogical methods and specialized techniques in each field. Educators should also be familiar with methods from related disciplines as these may be applied in various contexts. This required competency is influenced by evolving technology, adding nuances to the teaching profession.

In the context of this research—music education for students with special needs—educators should be proficient in both special education and music education methodologies to apply them effectively. Thus, undergraduate training programs for music and special education teachers should include comprehensive coursework across both domains.

Publishing accessible academic resources aimed at helping educators develop their teaching practice, as well as organizing practical seminars by educational institutions, could greatly support the field. To achieve effective outcomes, the perspectives of academics and practitioners in music and special education are essential for assessing current needs and opportunities.

Educational activities may not always proceed as planned. Students may lose focus, face challenges, or experience boredom during musical activities. Teachers should recognize these moments, use strategies to re-engage students and be prepared with alternative approaches to support both mental and physical breaks as needed.

If students have instruments or practice options outside the classroom, they may be assigned out-of-class exercises. Independent work is encouraged if possible; however, if parental involvement is needed, the teacher should provide guidance, emphasizing the importance of supervision. Some parents of special needs students may need to participate in their child's music education activities regularly.

Education with children—especially in group settings or with special needs students—requires patience and careful attention. Any progress, even small, in academics or social skills is considered a success. Such achievements boost hope and confidence among educators, parents, and students, reinforcing future educational endeavours. In music education, where physical and mental development converges, teachers should demonstrate patience and closely monitor all aspects of each student's growth.

Participation in art, sports, and music activities supports personal development in children. Art and music contribute positively to psychological well-being (Kurtuldu, 2020, pp. 760), as these fields enhance physical, cognitive, emotional, and social growth. For young people especially, engaging in these activities offers essential benefits. Guiding them toward these areas at an early age can help them avoid the negative effects associated with excessive use of technology, the internet, and social media.

6. ABOUT THE AUTHOR

Mehmet Şahin AKINCI: He is an associate professor at the Opera Department of State Conservatory. His areas of expertise and research: music education, vocal and choral training, music teaching of children with special needs.

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